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**ARCHITECTURAL STANDARD
FOR NITROGLYCERIN, NITROC
SINGLE BASE & MULTIBASE
AT ARMY AMMUNITION P**

PREPARED FOR

U.S. ARMY MUNITIONS PRODUCTION BASE MODERNIZATION A

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**NDARD DETAILS
NITROCELLULOSE,
BASE FACILITIES
TION PLANTS**

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**U.S. ARMY
CORPS OF ENGINEERS
HUNTSVILLE DIVISION**

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CORPS OF ENGINEERS

INTRODU

PURPOSE AND OBJECTIVE

THE PURPOSE OF THIS MANUAL IS TO PROVIDE ARCHITECTURAL STANDARD DETAILS FOR USE IN THE DESIGN AND CONSTRUCTION OF FACILITIES USED IN THE MANUFACTURE, MAINTENANCE, MODIFICATION, INSPECTION, AND STORAGE OF EXPLOSIVE MATERIALS.

THE PRIMARY OBJECTIVES ARE TO PROVIDE ARCHITECTURAL STANDARD DETAILS FOR THE VARIOUS METHODS OF FACILITIES CONSTRUCTION UTILIZED IN ARMY AMMUNITION PLANTS TODAY AND TO DEVELOP DETAILS UTILIZING NEW MATERIALS OF RECENT DEVELOPMENT SUCCESSFULLY USED IN SIMILAR INDUSTRIES AND HAVING THE POTENTIAL TO INCREASE SAFETY, INCREASE ENERGY CONSERVATION, REDUCE MAINTENANCE, AND REDUCE COSTS.

THE SECONDARY OBJECTIVE IS TO ESTABLISH A PROCEDURE WHEREBY THE ARCHITECTURAL STANDARD DETAILS CAN BE UPDATED TO REFLECT "LESSONS LEARNED" AND/OR NEW MATERIALS AND TECHNIQUES WHICH MAY BE INCORPORATED AS THEY BECOME AVAILABLE.

BACKGROUND

1. THE DARCOM PROJEL, MANAGER'S OFFICE (PMO) US ARMY MUNITIONS PRODUCTION BASE MODERNIZATION AGENCY REQUESTED HUNTSVILLE DIVISION, CORPS OF ENGINEERS (HND) TO PREPARE A SET OF ARCHITECTURAL STANDARD DETAILS FOR USE IN THE DESIGN AND CONSTRUCTION OF FACILITIES IN WHICH NITROGLYCERIN (NG), NITROCELLULOSE (NC), SINGLE BASE (SB), AND MULTIBASE (MB) PROPELLANTS ARE MANUFACTURED. SUCH DETAILS MUST REPRESENT A WELL BALANCED DESIGN WHICH REFLECTS CURRENT BUILDING TECHNOLOGY CONTRIBUTING TO SAFETY, ENERGY CONSERVATION, EASE OF CONSTRUCTION AND MAINTENANCE, AND COST EFFECTIVENESS. THE SAFETY APPROVED ARCHITECTURAL STANDARD DETAILS WILL BE BASELINED FOR USE IN SUBSEQUENT FACILITY DESIGNS.

REQUIREMENTS

1. THE REQUIREMENTS FOR THE DEVELOPMENT OF ARCHITECTURAL STANDARD DETAILS FOR USE IN AAPs INCLUDED CONVENTIONAL CONSTRUCTION AND INNOVATIVE CONSTRUCTION TECHNIQUES. CONVENTIONAL CONSTRUCTION INCLUDES WOOD FRAME, CONCRETE MASONRY UNIT (CMU), PRECAST AND POURED-IN-PLACE CONCRETE, AND PREENGINEERED STEEL FRAME BUILDINGS. INNOVATIVE CONSTRUCTION TECHNIQUES INCLUDES THE USE OF FIBERGLASS REINFORCED PLASTIC STRUCTURES WITH AND WITHOUT RIGID INSULATION AND INSULATED METAL CLAD WALL PANELS WITH EXTERIOR STEEL FRAMING.
2. ARCHITECTURAL STANDARD DETAILS WERE DEVELOPED FOR FOUR TYPES OF CONSTRUCTION WHEN SUBJECTED TO NG LIQUIDS AND VAPORS. WHERE FACILITIES ARE SUBJECTED TO NC, SB AND MB DUSTS, DETAILS FOR SIX TYPES OF CONSTRUCTION WERE DEVELOPED. WHERE THE DETAILS ARE EQUALLY ACCEPTABLE IN ALL AREAS IT IS SO NOTED IN THE TITLE BLOCK OF THE DRAWING.

USE OF STANDARD DETAILS

1. ARCHITECTURAL STANDARD DETAILS ARE THE PROPERTY OF THE COGNIZANT DESIGN AGENCY REQUIRING THE DESIGN. THE SUPPORT STRUCTURE, DETAIL OR FACILITY IS THE PROPERTY OF THE DESIGN AGENCY DEPENDING UPON THE LOCATION OF THE DETAIL OR FACILITY. THE METHODS OF APPLICATION ARE THE APPROPRIATE CE GUIDE SPECIFICATIONS.
2. IN THE DEVELOPMENT OF THE CRITICAL DETAIL, THE CRITICAL DETAIL SHALL BE DESIGNED IN THE MANNER AS ANY OTHER STANDARD DETAIL (BLAST DESIGN OF STRUCTURES). THE CRITICAL DETAIL TO MEET FUNCTIONAL REQUIREMENTS IS THE FUNCTIONAL DETAIL. THE DESIGN AGENCY, THE DESIGN AGENCY, SHALL UTILIZE THE STANDARD DETAILS TO ATTAINING A WELL BALANCED COST EFFECTIVE DESIGN. ANY CHANGES TO STANDARD DETAILS NECESSARY FOR A PARTICULAR FACILITY SHALL BE IN A TIMELY MANNER FOR ECP ACTION AT THE COMPLETION OF FINAL DESIGN.
3. THE AGENCIES HAVING CONSTRUCTION RESPONSIBILITY ARE NOT PERMITTED TO DEVIATE FROM THE ARCHITECTURAL STANDARD DETAIL CONSTRUCTION DRAWINGS WITHOUT THE APPROVAL OF OPERATORS AND SAFETY OFFICERS. THE DESIGN AGENCY SHOULD PROVIDE PERIODIC FEEDBACK TO THE PERFORMANCE OF THE ARCHITECTURAL DETAIL THAT HAVE BEEN INSTALLED AT THE FACILITY. THE DIVISION WILL EVALUATE THE PERFORMANCE WITH VARIOUS CONCERNED AGENCIES.
4. ALTHOUGH THESE ARCHITECTURAL STANDARD DETAILS ARE APPROVED BY SAFETY FOR USE IN THE OVERALL FACILITY MUST RECEIVE A SPECIFIC HAZARDOUS OPERATIONS APPROVAL.

CHANGES TO ARCHITECTURAL STANDARD DETAILS

1. TO AVOID TECHNICAL OBSOLESCENCE IN TECHNOLOGIES, ARCHITECTURAL/ENGINEERING DETAIL CHANGES AS A RESULT OF EXPERIENCE GAINED THROUGH THE USE OF CERTAIN STANDARD DETAIL PROPOSED CHANGES AND ADDITION OF NEW DETAIL BASELINED STANDARD DETAILS ARE BE DISCOURAGED. ALL PROPOSED CHANGES, REGARDLESS OF THEIR NATURE AND PURPOSE OF CHANGE, SHALL BE APPROVED THROUGH AS ECPs FOR NECESSARY CONCERNED AGENCIES AND FOR APPROVAL BY THE HUNTSVILLE DIVISION. THE DIVISION WILL SERVE AS THE COORDINATING ALL ACTIVITIES ASSOCIATED WITH THE ARCHITECTURAL STANDARD DETAIL CHART INDICATED IN FIGURE 1 W.

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INTRODUCTION

USE OF STANDARD DETAILS

1. ARCHITECTURAL STANDARD DETAILS ARE PROVIDED FOR USE BY THE COGNIZANT DESIGN AGENCY RESPONSIBLE FOR THE FACILITY DESIGN. THE SUPPORT STRUCTURE REQUIRED FOR A PARTICULAR DETAIL OR FACILITY IS THE RESPONSIBILITY OF THE DESIGN AGENCY DEPENDING UPON THE LOAD REQUIREMENTS FOR THAT DETAIL OR FACILITY. THE MATERIALS TO BE USED AND METHODS OF APPLICATION ARE TO BE FULLY COVERED BY THE APPROPRIATE CE GUIDE SPECIFICATION.
2. IN THE DEVELOPMENT OF THE CRITERIA PACKAGE, THE ARCHITECTURAL STANDARD DETAILS SHOULD BE INVOKED IN THE SAME MANNER AS ANY OTHER STANDARD OR TM (E. G., TM 5-1300 FOR BLAST DESIGN OF STRUCTURES). THE SELECTION OF A PARTICULAR DETAIL TO MEET FUNCTIONAL REQUIREMENTS FOR A SPECIFIC DESIGN IS THE FUNCTION AND RESPONSIBILITY OF THE DESIGN AGENCY. THE DESIGN AGENCIES ARE OBLIGATED TO UTILIZE THE STANDARD DETAILS TO FULFILL THE OBJECTIVE OF ATTAINING A WELL BALANCED COST EFFECTIVE, AND SAFETY-APPROVED DESIGN. ANY CHANGES TO THE ARCHITECTURAL STANDARD DETAILS NECESSARY FOR A PARTICULAR DESIGN SITUATION OTHER THAN THE STRUCTURAL SUPPORT MUST BE SUBMITTED IN A TIMELY MANNER FOR ECP ACTION AND CCB APPROVAL PRIOR TO COMPLETION OF FINAL DESIGN.
3. THE AGENCIES HAVING CONSTRUCTION SUPERVISION RESPONSIBILITY ARE NOT PERMITTED TO DEVIATE FROM THE BASELINED ARCHITECTURAL STANDARD DETAILS IDENTIFIED IN THE CONSTRUCTION DRAWINGS WITHOUT CCB APPROVAL. THE PLANT OPERATORS AND SAFETY OFFICERS AT ALL AGENCIES INVOLVED SHOULD PROVIDE PERIODIC FEEDBACK TO CE (HND) REGARDING THE PERFORMANCE OF THE ARCHITECTURAL STANDARD DETAILS THAT HAVE BEEN INSTALLED AT AAPs. THE HUNTSVILLE DIVISION WILL EVALUATE THE PERFORMANCE DATA IN CONJUNCTION WITH VARIOUS CONCERNED AGENCIES FOR POSSIBLE ECP ACTION.
4. ALTHOUGH THESE ARCHITECTURAL STANDARD DETAILS WILL BE APPROVED BY SAFETY FOR USE IN HAZARDOUS OPERATIONS THE OVERALL FACILITY MUST RECEIVE SAFETY APPROVAL FOR USE IN A SPECIFIC HAZARDOUS OPERATIONS ON A CASE-BY-CASE BASIS.

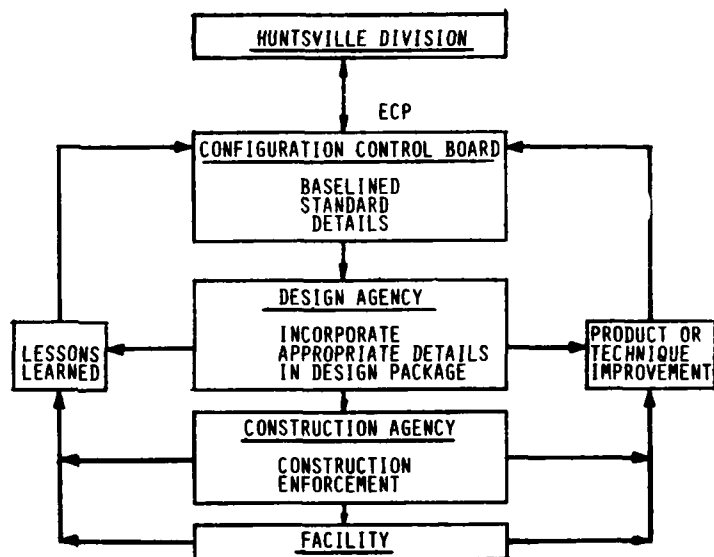


FIGURE 1

CHANGES TO ARCHITECTURAL STANDARD DETAILS

1. TO AVOID TECHNICAL OBSOLESCENCE AS A RESULT OF ADVANCES IN TECHNOLOGIES, ARCHITECTURAL/ENGINEERING PRACTICES, OR AS A RESULT OF EXPERIENCE GAINED FROM THE ACTUAL PERFORMANCE OF CERTAIN STANDARD DETAILS INSTALLED AT AAPs, PROPOSED CHANGES AND ADDITIONS TO OR DELETIONS FROM BASELINED STANDARD DETAILS ARE INEVITABLE AND SHOULD NOT BE DISCOURAGED. ALL PROPOSED CHANGES, ADDITIONS OR DELETIONS, REGARDLESS OF THEIR ORIGINATING AGENCIES OR OF THE NATURE AND PURPOSE OF CHANGE, MUST BE PROCESSED THROUGH AS ECPs FOR NECESSARY REVIEW BY VARIOUS CONCERNED AGENCIES AND FOR APPROVAL BY THE CCB. THE CE (HUNTSVILLE DIVISION) WILL SERVE AS THE FOCAL POINT FOR COORDINATING ALL ACTIVITIES ASSOCIATED WITH THE MODIFICATION OF THE ARCHITECTURAL STANDARD DETAILS. THE FLOW CHART INDICATED IN FIGURE 1 WILL SERVE THIS PURPOSE.

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		STANDARD DETAILS	
		NITROGLYCERIN, NITROCELLULOSE, SINGLE BASE, AND MULTIBASE FACILITIES	
		INTRODUCTION	
DATE:		0000	
REV. BY	REV. BY	REV. BY	

DRAWING INDEX

NITROGLYCERIN FACILITIES

<u>DRAWING NO.</u>	<u>DESCRIPTION</u>
<u>WOOD FRAME CONSTRUCTION</u>	
19401	LEAD CONDUCTIVE FLOOR - DOOR SILL/FLOOR INTERFACE
19402	LEAD CONDUCTIVE FLOOR - FLOOR GUTTER/FLOOR INTERFACE
19403	LEAD CONDUCTIVE FLOOR - FLOOR PENETRATION INTERFACE
19404	LEAD CONDUCTIVE FLOOR - INTERIOR WALL/FLOOR INTERFACE
19405	LEAD CONDUCTIVE FLOOR - WALL/FLOOR INTERFACE
19406	FRP EQUIPMENT DOOR DETAILS
19407	WOOD EQUIPMENT DOOR
19408	FRP PERSONNEL ESCAPE DOOR
19409	WOOD PERSONNEL ESCAPE DOOR
19410	EXTERIOR WALL DETAILS
19411	INTERIOR FINISHES
19412	JOINT SEALING
19413	FRP LOUVER DETAILS
19414	WOOD DOOR AND WALL LOUVERS
19415	FRP WALL VENT
19416	WALL PENETRATIONS
19417	EXTERIOR LIGHTING WINDOW DETAILS

CONCRETE CONSTRUCTION

19418	LEAD CONDUCTIVE FLOOR - DOOR SILL/FLOOR INTERFACE
19419	LEAD CONDUCTIVE FLOOR - FLOOR GUTTER/FLOOR INTERFACE
19420	LEAD CONDUCTIVE FLOOR - FLOOR PENETRATION INTERFACE
19421	LEAD CONDUCTIVE FLOOR - INTERIOR WALL/FLOOR INTERFACE
19422	LEAD CONDUCTIVE FLOOR - WALL/FLOOR INTERFACE
19423	FRP EQUIPMENT DOOR DETAILS
19424	WOOD EQUIPMENT DOOR
19425	FRP PERSONNEL ESCAPE DOOR
19426	WOOD PERSONNEL ESCAPE DOOR
19427	INTERIOR FINISHES
19428	JOINT SEALING
19429	FRP LOUVER DETAILS
19430	WOOD DOOR AND WALL LOUVERS
19431	FRP WALL VENT
19432	WALL PENETRATIONS
19433	EXTERIOR LIGHTING WINDOW DETAILS

FRP PANEL CONSTRUCTION

19434	LEAD CONDUCTIVE FLOOR - INTERIOR WALL/FLOOR INTERFACE
19435	LEAD CONDUCTIVE FLOOR - WALL/FLOOR INTERFACE
19436	FRP EQUIPMENT DOOR DETAILS
19437	WOOD EQUIPMENT DOOR DETAILS
19438	FRP PERSONNEL ESCAPE DOOR
19439	WOOD PERSONNEL ESCAPE DOOR
19440	WALL/CEILING INTERFACE
19441	INTERIOR FINISHES
19442	JOINT SEALING
19443	LOUVER DETAILS
19444	WOOD DOOR AND WALL LOUVERS
19445	FRP WALL VENT
19446	WALL PENETRATIONS
19447	EXTERIOR LIGHTING WINDOW DETAILS

SANDWICH PANEL CONSTRUCTION

19448	LEAD CONDUCTIVE FLOOR - INTERIOR WALL/FLOOR INTERFACE
19449	LEAD CONDUCTIVE FLOOR - WALL/FLOOR INTERFACE
19450	FRP EQUIPMENT DOOR DETAILS
19451	WOOD EQUIPMENT DOOR DETAILS
19452	FRP PERSONNEL ESCAPE DOOR
19453	WOOD PERSONNEL ESCAPE DOOR
19454	CEILING/WALL INTERFACE
19455	INTERIOR FINISHES
19456	JOINT SEALING
19457	FRP LOUVER DETAILS
19458	WOOD DOOR AND WALL LOUVERS
19459	FRP WALL VENT
19460	WALL PENETRATIONS
19461	EXTERIOR LIGHTING WINDOW DETAILS
19462 THRU 19479	NOT USED

NITROCELLULOSE SINGLE BASE & MULTIBASE FACILITIES

<u>DRAWING NO.</u>	<u>DESCRIPTION</u>
<u>WOOD FRAME CONSTRUCTION</u>	
19480	SLIDING EQUIPMENT DOOR
19481	SWINGING EQUIPMENT DOOR

CONCRETE CONSTRUCTION

19482	SLIDING EQUIPMENT DOOR
19483	SWINGING EQUIPMENT DOOR
19484	METAL PERSONNEL ESCAPE DOOR
19485	METAL DOOR LOUVER
19486	METAL WALL VENT

FRP PANEL CONSTRUCTION

19487	SLIDING EQUIPMENT DOOR
19488	SWINGING EQUIPMENT DOOR

SANDWICH PANEL CONSTRUCTION

19489	SLIDING EQUIPMENT DOOR
19490	SWINGING EQUIPMENT DOOR
19491 THRU 19499	NOT USED

SINGLE BASE & MULTIBASE FACILITIES ONLY

<u>DRAWING NO.</u>	<u>DESCRIPTION</u>
<u>WOOD FRAME CONSTRUCTION</u>	
19500	TROWEL ON CONDUCTIVE FLOOR - DOOR SILL/FLOOR INTERFACE
19501	TROWEL ON CONDUCTIVE FLOOR - FLOOR GUTTER/FLOOR INTERFACE
19502	TROWEL ON CONDUCTIVE FLOOR - FLOOR PENETRATION INTERFACE
19503	TROWEL ON CONDUCTIVE FLOOR - FLOOR/WALL INTERFACE
19504	WOOD WALL VENT

CONCRETE CONSTRUCTION

19505	TROWEL ON CONDUCTIVE FLOOR - DOOR SILL/FLOOR INTERFACE
19506	TROWEL ON CONDUCTIVE FLOOR - FLOOR GUTTER/FLOOR INTERFACE
19507	TROWEL ON CONDUCTIVE FLOOR - FLOOR PENETRATION INTERFACE
19508	TROWEL ON CONDUCTIVE FLOOR - FLOOR/WALL INTERFACE
19509	WOOD WALL VENT

FRP PANEL CONSTRUCTION

19510	TROWEL ON CONDUCTIVE FLOOR - WALL/FLOOR INTERFACE
19511	WOOD WALL VENT

SANDWICH PANEL CONSTRUCTION

19512	TROWEL ON CONDUCTIVE FLOOR - WALL/FLOOR INTERFACE
19513	WOOD WALL VENT
19514 THRU 19519	NOT USED

INDEX

SINGLE BASE & MULTIBASE FACILITIES

DESCRIPTION

EQUIPMENT DOOR -
EQUIPMENT DOOR
EQUIPMENT DOOR
EQUIPMENT DOOR
PERSONNEL ESCAPE DOOR
DOOR LOUVER
WALL VENT

EQUIPMENT DOOR
EQUIPMENT DOOR

OR

EQUIPMENT DOOR
EQUIPMENT DOOR
USED

SINGLE BASE & MULTIBASE FACILITIES ONLY

DESCRIPTION

CONDUCTIVE FLOOR - DOOR SILL/FLOOR INTERFACE
CONDUCTIVE FLOOR - FLOOR GUTTER/FLOOR INTERFACE
CONDUCTIVE FLOOR - FLOOR PENETRATION INTERFACE
CONDUCTIVE FLOOR - FLOOR/WALL INTERFACE
VENT

CONDUCTIVE FLOOR - DOOR SILL/FLOOR INTERFACE
CONDUCTIVE FLOOR - FLOOR GUTTER/FLOOR INTERFACE
CONDUCTIVE FLOOR - FLOOR PENETRATION INTERFACE
CONDUCTIVE FLOOR - FLOOR/WALL INTERFACE
VENT

CONDUCTIVE FLOOR - WALL/FLOOR INTERFACE
VENT

OR

CONDUCTIVE FLOOR - WALL/FLOOR INTERFACE
VENT
USED

NITROCELLULOSE FACILITIES ONLY

DRAWING NO.

DESCRIPTION

CONCRETE MASONRY UNIT CONSTRUCTION

19520 WALL/FLOOR INTERFACE
19521 SLIDING EQUIPMENT DOOR
19522 SWINGING EQUIPMENT DOOR
19523 METAL PERSONNEL ESCAPE DOOR
19524 WALL/CEILING INTERFACE
19525 INTERIOR FINISHES
19526 JOINT SEALING
19527 METAL DOOR LOUVER
19528 METAL WALL VENT
19529 WALL PENETRATIONS
19530 FIXED WINDOW DETAILS

MODIFIED PRE-ENGINEERED BUILDING CONSTRUCTION

19531 WALL/FLOOR INTERFACE
19532 SLIDING EQUIPMENT DOOR DETAILS
19533 SWINGING EQUIPMENT DOOR DETAILS
19534 PERSONNEL ACCESS DOOR
19535 WALL/CEILING INTERFACE
19536 INTERIOR FINISHES
19537 JOINT SEALING
19538 METAL DOOR LOUVER
19539 METAL WALL LOUVER
19540 WALL PENETRATIONS
19541 WINDOW DETAILS
19542 THRU 19548 NOT USED

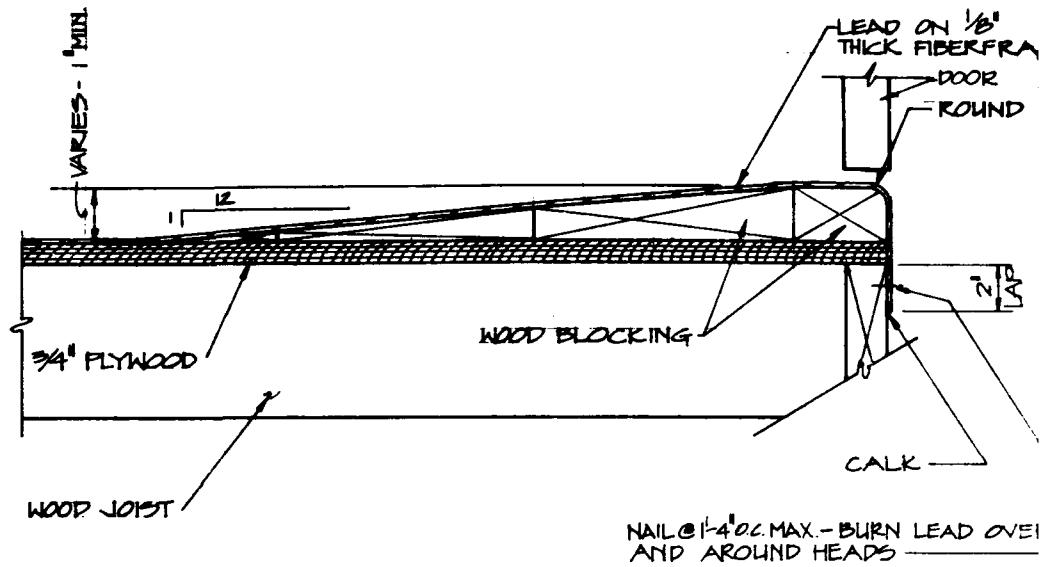
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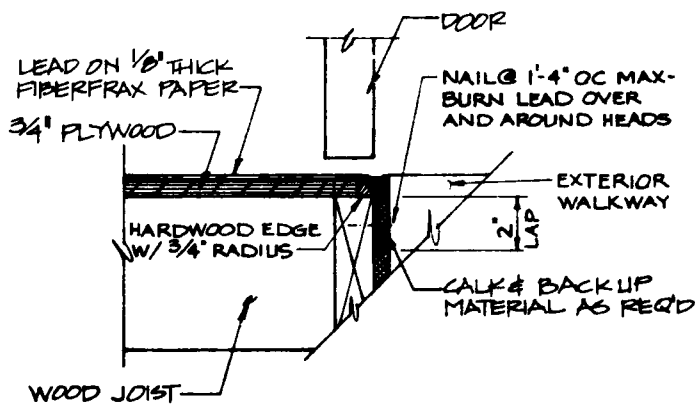
19549 WOOD PIN DETAIL AND LATCH BAR DETAILS
19550 FRP ESCAPE CHUTE

REVISIONS	
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DATE: 17 MARCH 51	OFFICE OF THE PROJECT MANAGER FOR HUNTSVILLE PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY
DATE: 17 MARCH 51	STANDARD DETAILS
DATE: 17 MARCH 51	NITROGLYCERIN, NITROCELLULOSE, SINGLE BASE, AND MULTIBASE FACILITIES
DATE: 17 MARCH 51	DRAWING INDEX
DATE: 17 MARCH 51	00000



DOOR SILL - PEDESTRIAN

SCALE: 3" = 1'-0"



NOTE:

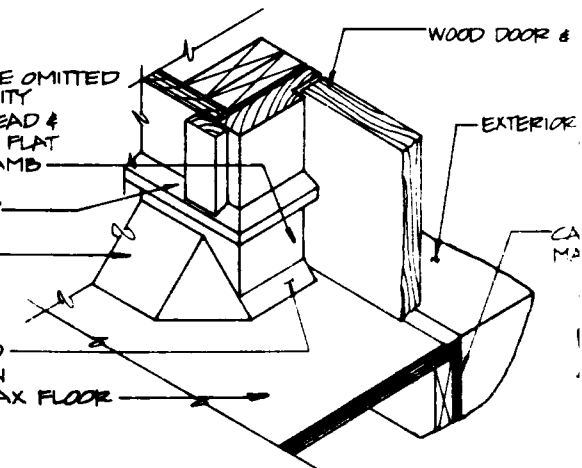
JOINT TAPE OMITTED FOR CLARITY
RETURN LEAD & FIBERFRAX FLAT TO DOOR JAMB

WOOD CAP

CANT

1" HIGH WOOD CANT W/ 1:1 SLOPE UNDER LEAD

LEAD ON FIBERFRAX FLOOR



DOOR SILL - WHEELED EQUIPMENT

SCALE: 3" = 1'-0"

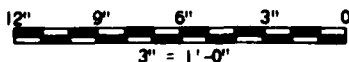
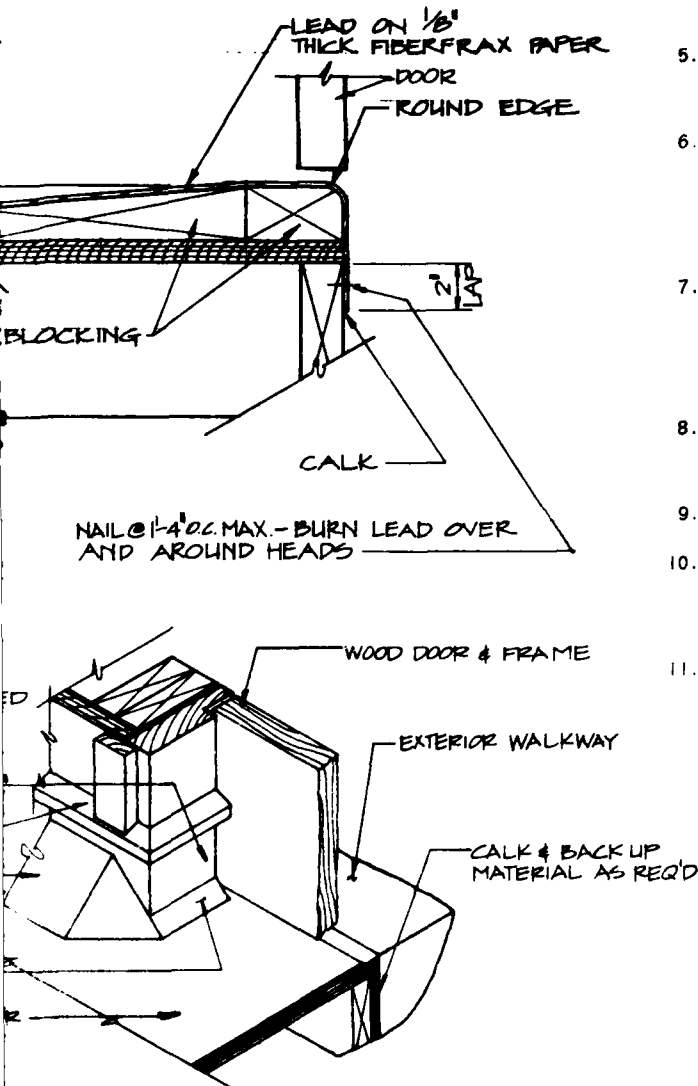
ISOMETRIC WHEELED EQUIPMENT SILL

NO SCALE

GRAPHIC

GENERAL NOTES:

1. LEAD ON FLOOR SHALL BE 8 TO 20 POUND, 4 TO 6% ANTIMONY DEPENDING ON FLOOR LOADING.
2. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
3. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
4. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
5. THE SURFACES OF ALL JOINTS TO BE WELDED AND THE WELDING ROD ITSELF SHALL BE "SHAVED" OR WIRE BRUSHED TO REMOVE ALL OXIDE AND PRESENT A BRIGHT METALLIC SURFACE.
6. ALL HORIZONTAL JOINTS IN THE LEAD SHALL BE BUTT JOINTS. ALL VERTICAL JOINTS SHALL BE BUTT JOINTS EXCEPT WHERE A LAP JOINT IS THE ONLY TYPE POSSIBLE. ALL WELDS SHALL BE FULL PENETRATION. NO JOINTS SHALL BE WITHIN 8" OF WALL/FLOOR INTERSECTION. LAP JOINTS SHALL BE 5" LAP MIN.
7. ALL INTERIOR WOOD SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
8. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON GRADE B FABRIC WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH, WITH PINKED EDGES OF 8 PINKS PER INCH.
9. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER/RESIN SOLUTION.
10. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U. S. ARMY MATERIAL COMMAND AMCR 385-100.
11. SIZE OF STRUCTURAL MEMBERS SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.



GRAPHIC SCALE

METRIC
EQUIPMENT SILL
SCALE

SYMBOL		DATE	APPROVED
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS SARASOTA CITY, FLORIDA		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
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		NITROGLYCERIN FACILITY WOOD FRAME CONSTRUCTION LEAD CONDUCTIVE FLOOR DOOR SILL/FLOOR INTERFACE	
DATE: 17 MARCH 81			
DRAWN BY: PTH		CHECKED BY: TCH	
		19401	



SCALE: 3" = 1'-0"

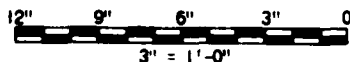
GENERAL NOTES:

1. NO HORIZONTAL JOINTS IN THE LEAD SHALL BE ALLOWED IN OR NEARER THAN 6" TO TRENCH AREA. ALL JOINTS WITHIN THE TRENCH AREA SHALL BE BUTT JOINTS. ALL WELDS SHALL BE FULL PENETRATION.
2. THE SURFACES OF ALL JOINTS TO BE WELDED AND THE WELDING ROD ITSELF SHALL BE "SHAVED" OR WIRE BRUSHED TO REMOVE ALL OXIDE AND PRESENT A BRIGHT METALLIC SURFACE
3. ALL FASTENERS SHALL BE NON-SPARKING (BRASS, COPPER, ALUMINUM OR STAINLESS STEEL)
4. SEAL ALL CRACKS AND JOINTS WITH NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
5. LEAD ON FLOOR SHALL BE 8 TO 20 POUND 4 TO 6% ANTIMONY DEPENDING ON FLOOR LOADING. LEAD IN TRENCH SHALL BE 6 POUND MIN., 4 TO 6% ANTIMONY.
6. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
7. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR AND OPTIONAL METAL GRATING IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.
8. SIZE OF STRUCTURAL MEMBERS SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.

2x12, ALUMINUM GRATINGS
OR FRP GRATING (ROUND
EDGES OF BEARING SURFACES
TO PREVENT DAMAGE TO LEAD)

PLYWOOD FLOORING
HARDWOOD EDGE
3/4" RADIUS (TYP)

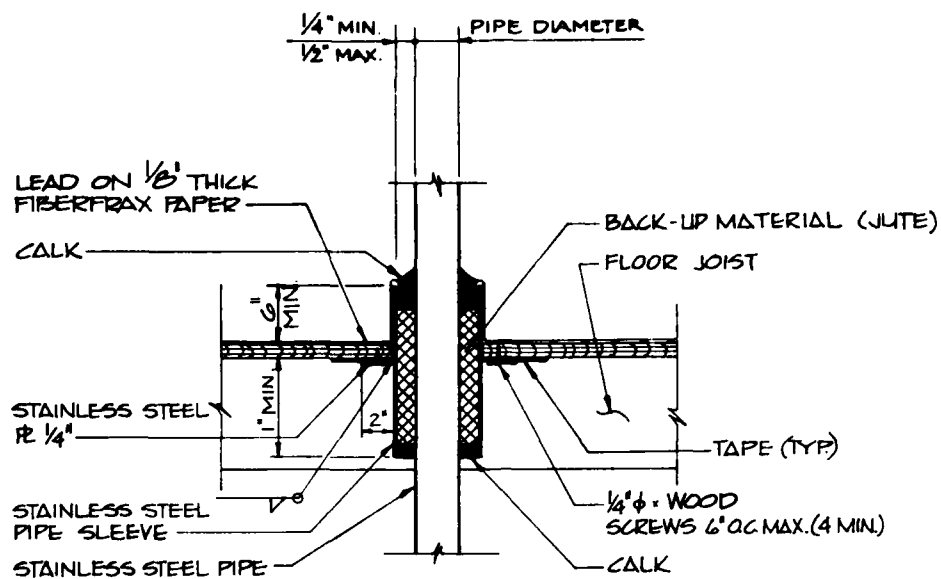
FLOOR JOIST
WOOD BLOCKING
3/4" PLYWOOD
8" x 6" PINE
THRU-BOLT
(CALK HEADS)



GRAPHIC SCALE

SYMBOL		DATE APPROVED
REVISIONS		
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
	OFFICE OF THE PROJECT MANAGER FOR BRITISH PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
	STANDARD DETAILS	
	NITROGLYCERIN FACILITY WOOD FRAME CONSTRUCTION LEAD CONDUCTIVE FLOOR FLOOR GUTTER/FLOOR INTERFACE	
DATE 17 MARCH '81	BY JET	CHK BY TCH
		DOC NO. 19402

2



PIPE SLEEVE THROUGH WOOD FLOOR

SCALE: 1 1/2" = 1'-0"

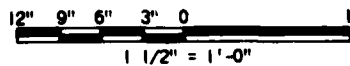
NOT TO BE USED FOR HOT LIQUID
OR STEAM PIPING

12" 9" 6"

GRAPH

GENERAL NOTES:

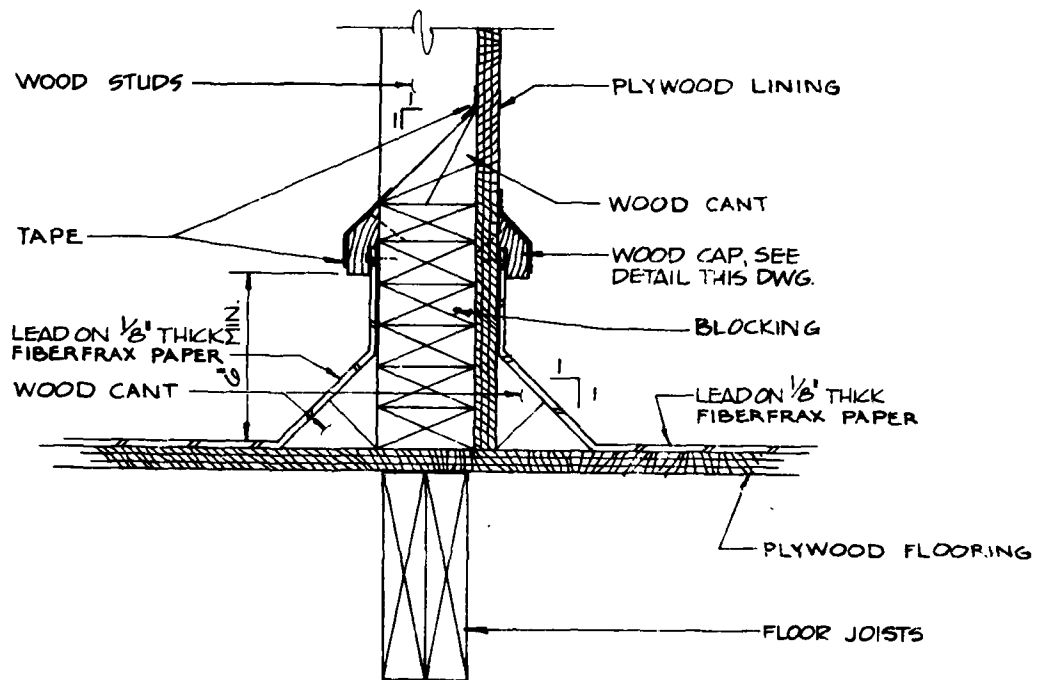
1. ALL HORIZONTAL JOINTS IN THE LEAD SHALL BE BUTT JOINTS. ALL VERTICAL JOINTS SHALL BE BUTT JOINTS EXCEPT WHERE A LAP JOINT IS THE ONLY TYPE POSSIBLE. ALL WELDS SHALL BE FULL PENETRATION. LAP JOINTS SHALL BE 5" LAP MIN.
2. THE SURFACES OF ALL JOINTS TO BE WELDED AND THE WELDING ROD ITSELF SHALL BE "SHAVED" OR WIRE BRUSHED TO REMOVE ALL OXIDE AND PRESENT A BRIGHT METALLIC SURFACE.
3. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
4. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
5. LEAD ON FLOOR SHALL BE 8 TO 20 POUND, 4 TO 6% ANTIMONY DEPENDING ON FLOOR LOADING. LEAD UP PIPE SLEEVE SHALL BE 6 POUND MIN., 4 TO 6% ANTIMONY.
6. ALL INTERIOR WOOD SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
7. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH WITH PINKED EDGES OF 8 PINKS PER INCH.
8. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER/ RESIN SOLUTION.
9. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
10. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.
11. PIPE THROUGH FLOOR SHOULD BE AVOIDED IF POSSIBLE.



GRAPHIC SCALE

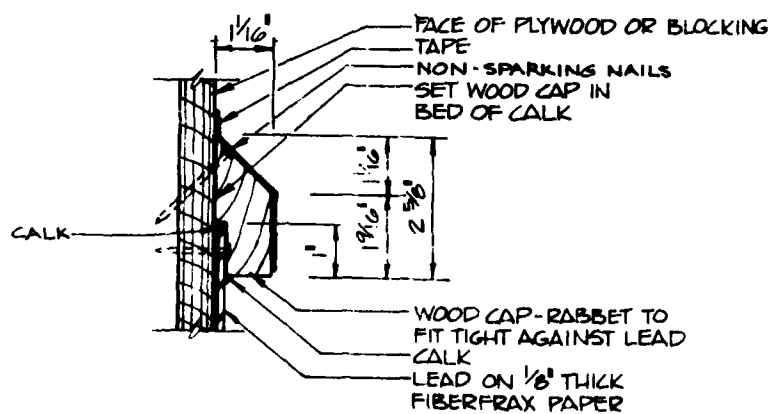
2

SYNOPSIS		DATE APPROVED
REVISIONS		
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
	OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
	STANDARD DETAILS	
	NITROGLYCERIN FACILITY WOOD FRAME CONSTRUCTION LEAD CONDUCTIVE FLOOR FLOOR PENETRATION INTERFACE	
DATE: 19 MARCH 81	DESIGNED BY: ETT	DATE NO: 19403



INTERIOR WALL @ LEAD FLOOR

SCALE: 3" = 1'-0"



WOOD CAP DETAIL

HALF SIZE

GENERAL NOTES:

1. ALL HORIZONTAL JOINTS IN THE LEAD SHALL BE BUTT JOINTS. ALL VERTICAL JOINTS SHALL BE BUTT JOINTS EXCEPT WHERE A LAP JOINT IS THE ONLY TYPE POSSIBLE. ALL WELDS SHALL BE FULL PENETRATION. NO JOINTS SHALL BE WITHIN 8" OF WALL/FLOOR INTERSECTION. LAP JOINTS SHALL BE 5" LAP MIN.
2. THE SURFACES OF ALL JOINTS TO BE WELDED AND THE WELDING ROD ITSELF SHALL BE "SHAVED" OR WIRE BRUSHED TO REMOVE ALL OXIDE AND PRESENT A BRIGHT METALLIC SURFACE.
3. ALL FASTENERS SHALL BE NON-SPARKING (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
4. INTERIOR CANT STRIPS TO BE 1:1 PITCH.
5. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
6. LEAD ON FLOOR SHALL BE 8 TO 20 POUND, 4 TO 6% ANTIMONY DEPENDING ON FLOOR LOADING.
7. ALL INTERIOR WOOD SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
8. TAPE SHALL BE 3" WIDE, 2 PLY 100% COTTON, GRADE B FABRIC WITH WARP AND FILL OF APPROXIMATELY 78X78 72 LBS BREAKING STRENGTH WITH PINKED EDGES OF 8 PINKS PER INCH.
9. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER/RESIN SOLUTION.
10. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
11. FOR FINISHES SEE DRAWING 19411.
12. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.
13. SIZE OF STRUCTURAL MEMBERS SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.

D LINING

CANT

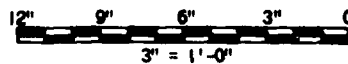
AP, SEE
THIS DWG.

BLOCKING

LEAD ON 1/8" THICK
FIBERFRAX PAPER

PLYWOOD FLOORING

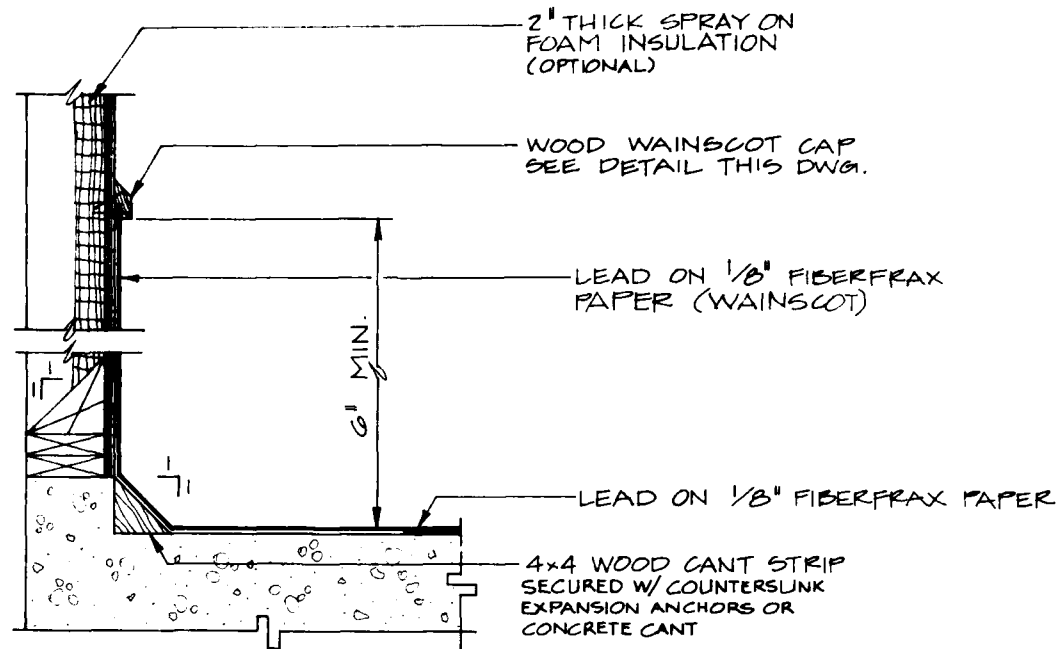
FLOOR JOISTS

FACE OF PLYWOOD OR BLOCKING
TAPE
NON-SPARKING NAILS
SET WOOD CAP IN
BED OF CALKWOOD CAP-RABBET TO
FIT TIGHT AGAINST LEAD
CALK
LEAD ON 1/8" THICK
FIBERFRAX PAPER

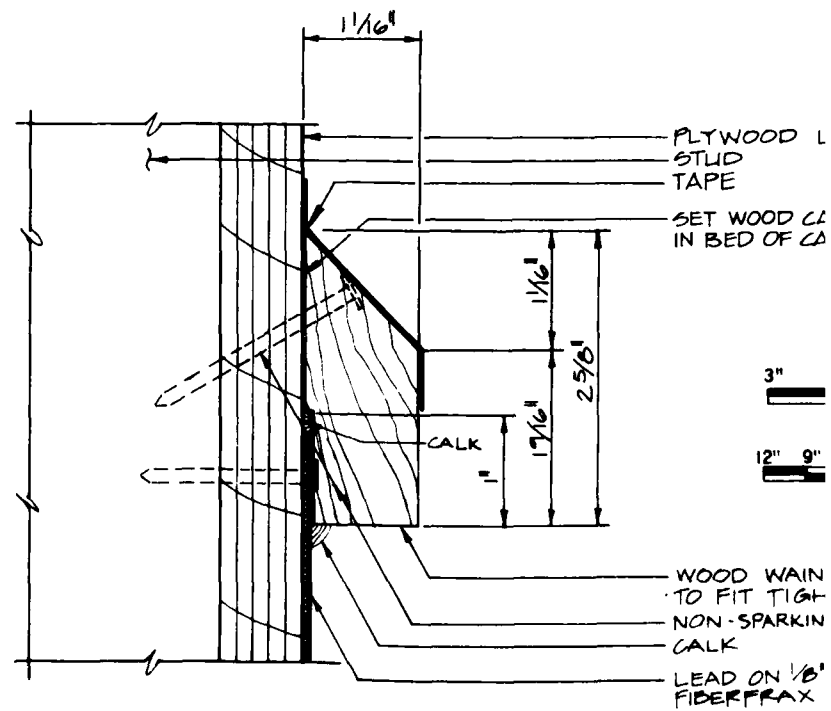
GRAPHIC SCALE

2

SYMBOL		DATE APPROVED
REVISIONS		
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
	OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
	STANDARD DETAILS	
	NITROGLYCERIN FACILITY WOOD FRAME CONSTRUCTION	
	LEAD CONDUCTIVE FLOOR INTERIOR WALL/FLOOR INTERFACE	
DATE: 17 MARCH '81	DESIGN BY: JSS	DATE: 19404



LEAD WAINSCOT DETAIL
SCALE: 1 1/2" = 1'-0"



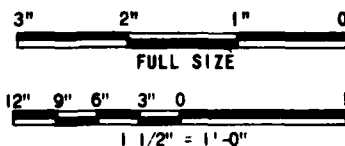
WAINSCOT CAP DETAIL
FULL SIZE

GENERAL NOTES:

1. LEAD ON FLOOR SHALL BE 8 TO 20 POUND, 4 TO 6% ANTIMONY DEPENDING ON FLOOR LOADING. LEAD WAINSCOT SHALL BE 6 POUND MIN., 4 TO 6% ANTIMONY.
2. ALL HORIZONTAL JOINTS IN THE LEAD SHALL BE BUTT JOINTS. ALL VERTICAL JOINTS SHALL BE BUTT JOINTS EXCEPT WHERE A LAP JOINT IS THE ONLY TYPE POSSIBLE. ALL WELDS SHALL BE FULL PENETRATION. LAP JOINTS SHALL BE 5" LAP MIN. NO JOINTS SHALL BE WITHIN 8" OF WALL/FLOOR INTERSECTION.
3. THE SURFACES OF ALL JOINTS TO BE WELDED AND THE WELDING ROD ITSELF SHALL BE "SHAVED" OR WIRE BRUSHED TO REMOVE ALL OXIDE AND PRESENT A BRIGHT METALLIC SURFACE.
4. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
5. FOR FINISHES SEE DRAWING 19411.
6. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
7. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
8. LEAD WAINSCOT SHALL BE NAILED TO PLYWOOD LINING WITH COPPER NAILS @ 1'-0" O.C. VERTICALLY AND 1'-4" O.C. HORIZONTALLY. LEAD SHALL BE BURNED OVER AND AROUND NAIL HEADS.
9. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.
10. ALL INTERIOR WOOD SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
11. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH, WITH PINKED EDGES OF 8 PINKS PER INCH.
12. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER RESIN SOLUTION.
13. OPTIONAL SPRAY ON INSULATION SHALL BE TYPE REQUIRED TO MEET THERMAL AND SAFETY REQUIREMENTS. FLAME SPREAD SHALL BE LESS THAN 25 WHEN TESTED BY ASTM E-84 USING SAMPLES OBTAINED AT TIME OF APPLICATION.

PLYWOOD LINING
STUD
TAPE

SET WOOD CAP
IN BED OF CALK



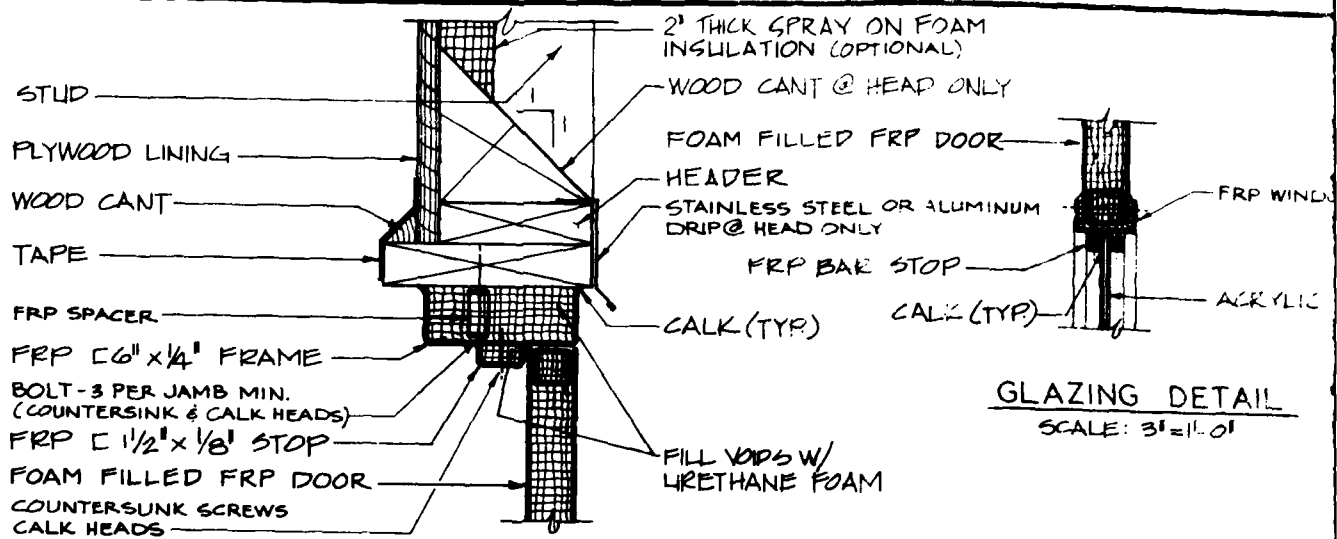
GRAPHIC SCALE

WOOD WAINSCOT CAP-RABBIT
TO FIT TIGHT AGAINST LEAD
NON-SPARKING NAILS (INTO STUDS)
CALK
LEAD ON 1/8" THICK
FIBERFRAX PAPER

2

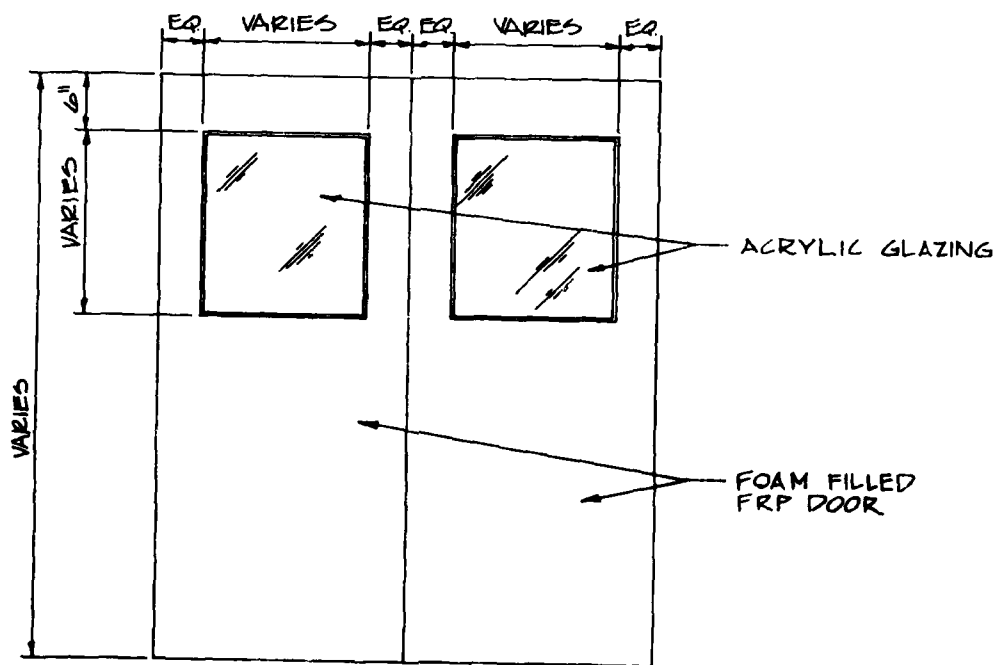
SYNOPSIS		DATE APPROVED
REVISIONS		
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
	OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
	STANDARD DETAILS	
	NITROGLYCERIN FACILITY WOOD FRAME CONSTRUCTION	
	LEAD CONDUCTIVE FLOOR WALL/FLOOR INTERFACE	
DATE: 19 MARCH 54	DESIGN BY: E6	ORD. BY: TCH
	DWG. NO.	19405

CORPS OF ENGINEERS



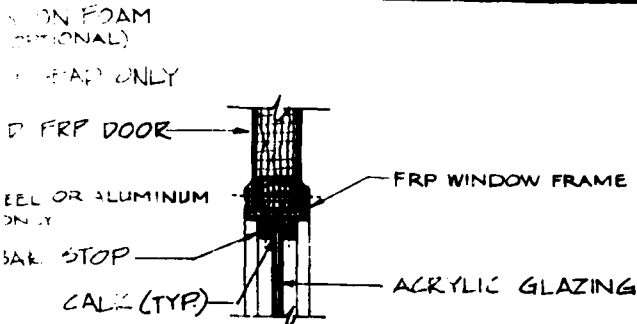
GLAZING DETAIL
SCALE: 3" = 1'-0"

HEAD & JAMB DETAIL
SCALE: 3" = 1'-0"



DOOR ELEVATION
NO SCALE





GLAZING DETAIL

SCALE: 3" = 1'-0"

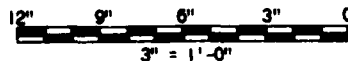
FOAM

ACRYLIC GLAZING

FOAM FILLED
FRP DOOR

GENERAL NOTES:

- FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS 1, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMMISHES.
- ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
- CANT STRIPS SHALL BE 1:1 PITCH MIN.
- CAULK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CAULKING COMPOUND.
- ALL INTERIOR WOOD SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED WITH A PUTTY KNIFE.
- TAPE SHALL BE 2 PLY, 100% COTTON, GRADE 40, WARP AND FILL OF APPROXIMATELY 75% WARP AND 25% FILL, WITH PINKED EDGES AT 1 PINKS PER INCH.
- ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER 4:1 SOLUTION.
- DOOR HARDWARE SHALL BE NON-SPARKING.
- FRP DOORS AND FRAMES SHALL BE REINFORCED FOR HARDWARE AND MECHANICAL OPERATING DEVICES.
- FRP DOOR EDGES SHALL BE SEALED WITH RESIN.
- ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
- ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
- GLAZING SHALL BE SHADED TO PREVENT THE ENTRY OF DIRECT SUNLIGHT.
- FOR FINISHES SEE DRAWING 19411.
- SIZE OF STRUCTURAL MEMBERS SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
- OPTIONAL SPRAY ON INSULATION SHALL BE TYPE REQUIRED TO MEET THERMAL AND SAFETY REQUIREMENTS. FLAME SPREAD SHALL BE LESS THAN 25 WHEN TESTED BY ASTM D-84 USING SAMPLES OBTAINED AT TIME OF APPLICATION.
- DOOR OPENING SHALL BE 30"x78" MINIMUM.
- AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.



GRAPHIC SCALE

2

SYNOPSIS		DATE APPROVED
REVISIONS BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		
US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA		OFFICE OF THE PROJECT MANAGER FOR HUNTSVILLE PRODUCTION BASE MODERNIZATION AND EXPANSION COVER, NEW JERSEY
STANDARD DETAILS		
NITROGLYCERIN FACILITY WOOD FRAME CONSTRUCTION FRP EQUIPMENT DOOR DETAILS		
DATE: 19 MARCH 61	DESIGNED BY: JEM	DRAWN BY: JEM
NO. 19406		

CORPS OF ENGINEERS

2" THICK SPRAY ON
FOAM INSULATION
(OPTIONAL)

STUDS

PLYWOOD LINING

WOOD CANT

2x HEADER

CALK

ALUMINUM OR
STAINLESS STL DRIP

WOOD FRAME

SOLID WOOD OR
PANEL DOOR

TAPE

WOOD
TRIM

SHIM
AS REQD

HEAD

2" THICK SPRAY ON FOAM
INSULATION (OPTIONAL)

PLYWOOD LINING

CALK

DOUBLE STUDS
@ JAMB

WOOD FRAME

CALK

SOLID WOOD OR
PANEL DOOR

TAPE

WOOD
TRIM

SHIM AS
REQUIRED

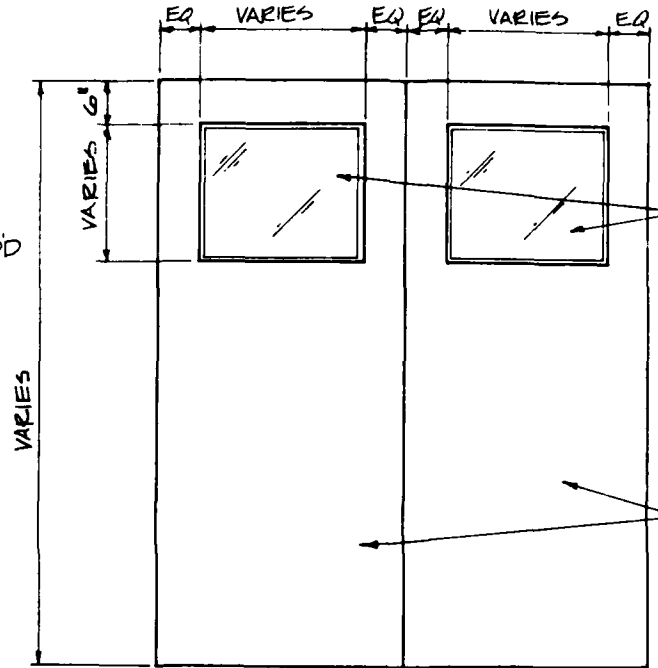
FILL VOID W/ JUTE
BACKUP MATERIAL
& CALK (TYP)

COUNTERSUNK SCREWS
@ 2'-0" O.C. MAX (TYP).
CALK HEADS.

JAMB

DOOR DETAILS

SCALE: 3" = 1'-0"



INTERIOR ELEVATION

NO SCALE

SOLID WOOD OR
PANEL DOOR

WOOD FRAME

SEX BOLT
(CALK HEADS)

CALK (TYP)

CALK (TYP)

ACRYLIC
GLAZING

WINDOW DETAIL

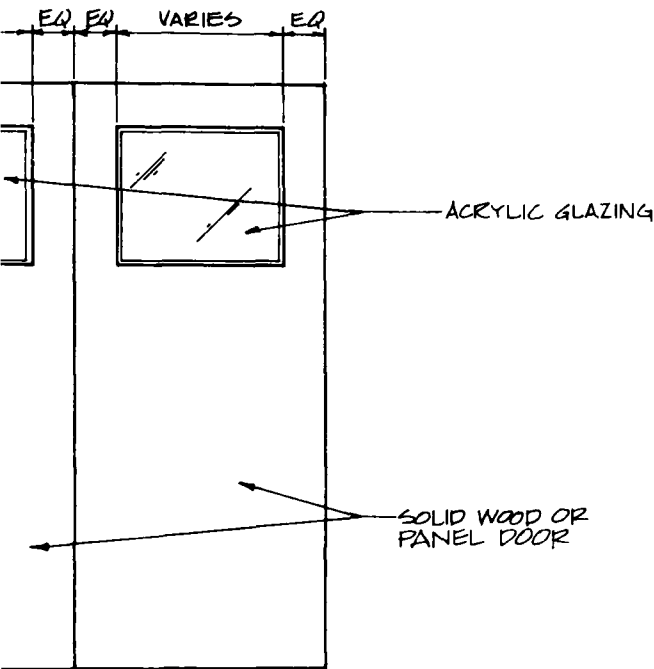
SCALE: 3" = 1'-0"

12"

G1

GENERAL NOTES:

- 1 ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM OR STAINLESS STEEL)
- 2 EXTERIOR CANT STRIPS TO BE 1:1 PITCH MIN
- 3 CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND
- 4 ALL INTERIOR WOOD SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER THE ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
5. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH, WITH PINKED EDGES OF 8 PINKS PER INCH.
6. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER-RESIN SOLUTION.
7. DOOR HARDWARE SHALL BE NON-SPARKING.
8. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
9. ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
10. GLAZING SHALL BE SHADED TO PREVENT THE ENTRY OF DIRECT SUNLIGHT.
11. FOR FINISHES SEE DRAWING 19411.
12. SIZE OF STRUCTURAL MEMBERS SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
13. OPTIONAL SPRAY ON INSULATION SHALL BE TYPE REQUIRED TO MEET THERMAL AND SAFETY REQUIREMENTS. FLAME SPREAD SHALL BE LESS THAN 25 WHEN TESTED BY ASTM E-84 USING SAMPLES OBTAINED AT TIME OF APPLICATION.
14. DOOR OPENING SHALL BE 30"X78" MINIMUM.

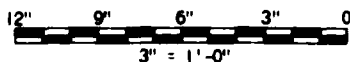


RIOR ELEVATION
NO SCALE

LK (TYP)

ACRYLIC
GLAZING

IL

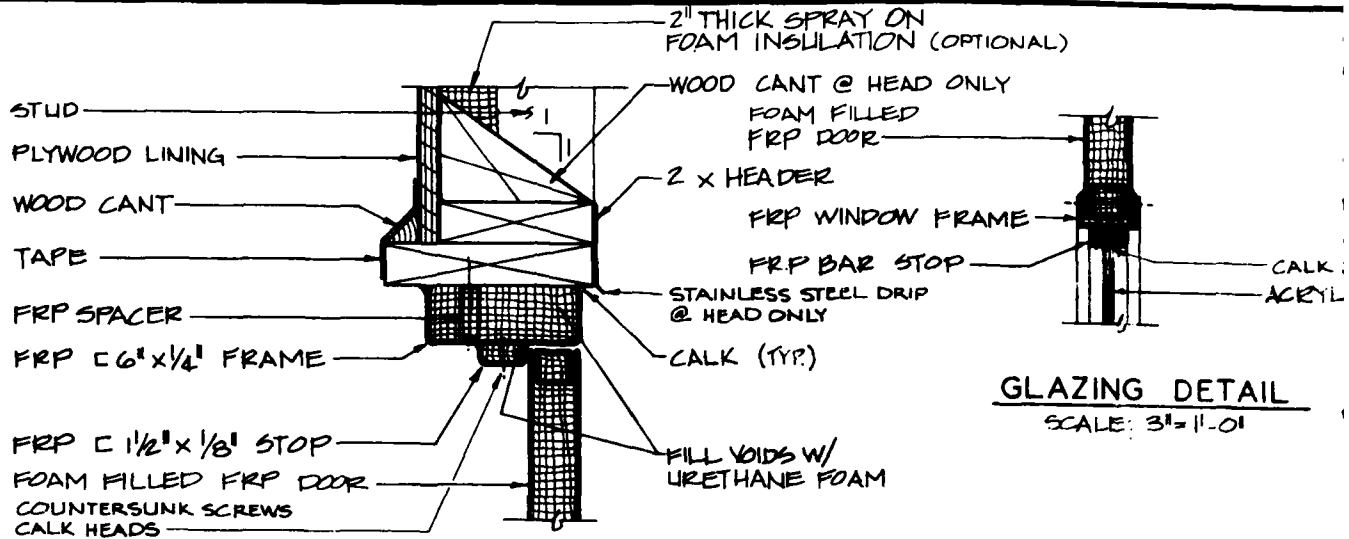


GRAPHIC SCALE

2

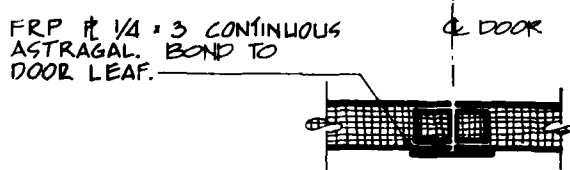
SYMBOLS		DATE	APPROVED
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY WOOD FRAME CONSTRUCTION	
		WOOD EQUIPMENT DOOR	
DATE	19 MARCH '81		
DESIGN BY	FTT	CHECKED BY	TDH
		DWG. NO.	19407

CORPS OF ENGINEERS

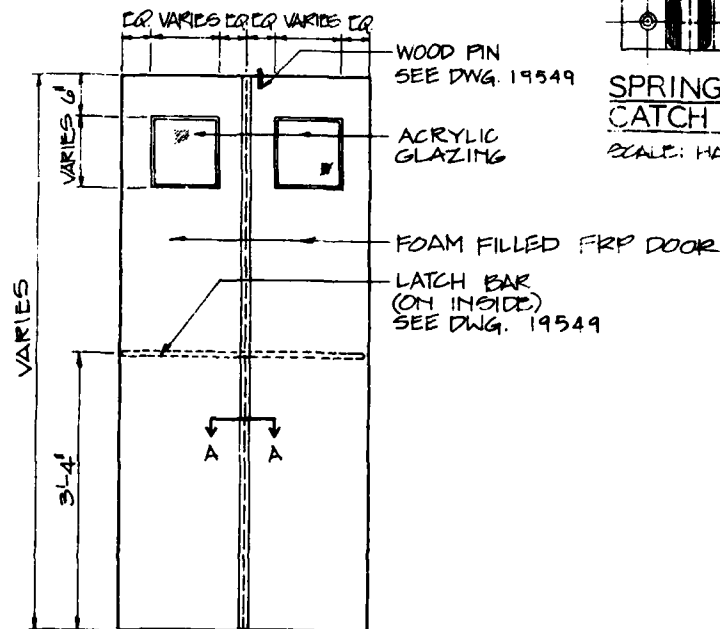


GLAZING DETAIL
SCALE: 3" = 1'-0"

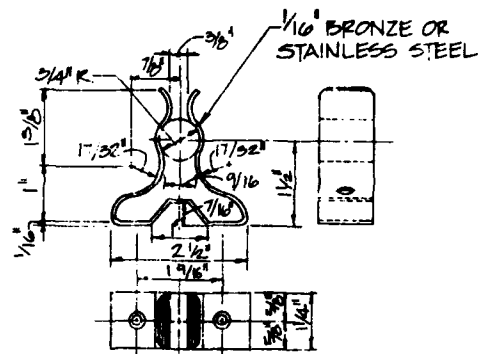
HEAD & JAMB DETAIL
SCALE: 3" = 1'-0"



SECTION A-A
SCALE: 3" = 1'-0"



EXTERIOR DOOR ELEVATION
NO SCALE



SPRING TYPE CATCH DETAIL
SCALE: HALF SCALE



ON
N (OPTIONAL)

AD ONLY

D

W FRAME

STOP

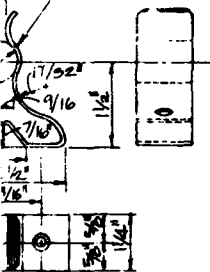
RIP

CALK (TYP.)

ACRYLIC GLAZING

GLAZING DETAIL

SCALE: 3" = 1'-0"

1/16" BRONZE OR
STAINLESS STEEL

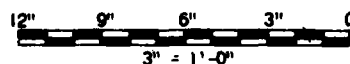
NG TYPE

-I DETAIL

HALF SCALE

GENERAL NOTES:

1. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL.)
2. EXTERIOR CANT STRIPS TO BE 1:1 PITCH MIN.
3. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
4. ALL INTERIOR WOOD SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
5. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH, WITH PINKED EDGES OF 8 PINKS PER INCH.
6. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER/RESIN SOLUTION.
7. DOOR HARDWARE SHALL BE NON-SPARKING.
8. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS 1, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
9. FRP DOORS AND FRAMES SHALL BE REINFORCED FOR HARDWARE AND MECHANICAL OPERATING DEVICES
10. FRP DOOR EDGES SHALL BE SEALED WITH RESIN.
11. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY
12. ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
13. FOR FINISHES SEE DRAWING 19411.
14. GLAZING SHALL BE SHADED TO PREVENT ENTRY OF DIRECT SUNLIGHT.
15. SIZE OF STRUCTURAL MEMBERS SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
16. OPTIONAL SPRAY ON INSULATION SHALL BE TYPE REQUIRED TO MEET THERMAL AND SAFETY REQUIREMENTS. FLAME SPREAD SHALL BE LESS THAN 25 WHEN TESTED BY ASTM E-84 USING SAMPLES OBTAINED AT TIME OF APPLICATION.
17. DOOR OPENING SHALL BE 30"x78" MINIMUM.
18. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.

HALF SIZE
GRAPHIC SCALES

SYNOPSIS		DATE	APPROVED
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY WOOD FRAME CONSTRUCTION FRP PERSONNEL ESCAPE DOOR	
DATE: 19 MARCH 81			
DESIGNED BY: ES		DWS NO: 19408	

CORPS OF ENGINEERS

2" THICK SPRAY ON
FOAM INSULATION
(OPTIONAL)

STUDS

PLYWOOD LINING

WOOD CANT

2 x HEADER

CALK

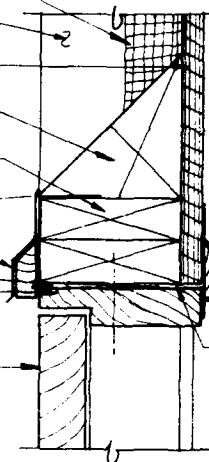
STAINLESS

STEEL DRIP

SHIM AS REQ'D

WOOD FRAME

SOLID WOOD
OR PANEL DOOR



HEAD

2" THICK SPRAY ON
FOAM INSULATION
(OPTIONAL)

DOUBLE STUDS
@ JAMB

CALK (TYP)

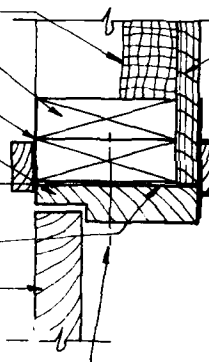
WOOD FRAME

SHIM AS REQ'D

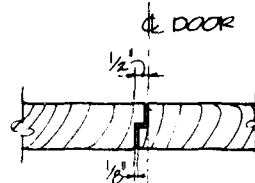
FILL VOIDS W/ JUTE BACK
UP MATERIAL & CALK (TYP)

SOLID WOOD OR
PANEL DOOR

COUNTERSUNK SCREWS
@ 2'-0" O.C. MAX. (TYP)
CALK HEADS



JAMB



SECTION A-A

SCALE: 3" = 1'-0"

SOLID WOOD
OR PANEL DOOR

WOOD FRAME

SEX BOLT
(CALK HEADS)

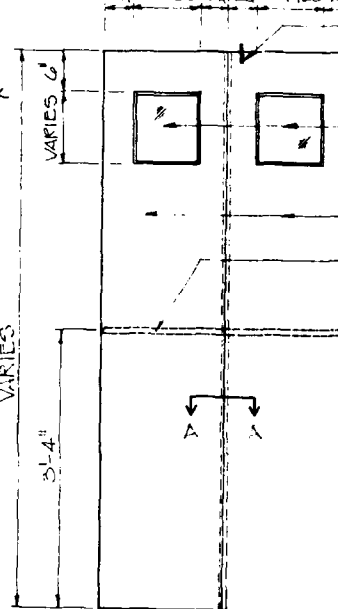
CALK (TYP)



WINDOW

SCALE:

EG VARIES EG EG VARIES EG



WOOD P.N.
SEE DWG
9549

ACRYLIC
GLAZING

SOLID WOOD OR
PANEL DOOR
LATCH BAR
(ON INSIDE)
SEE DWG 19549

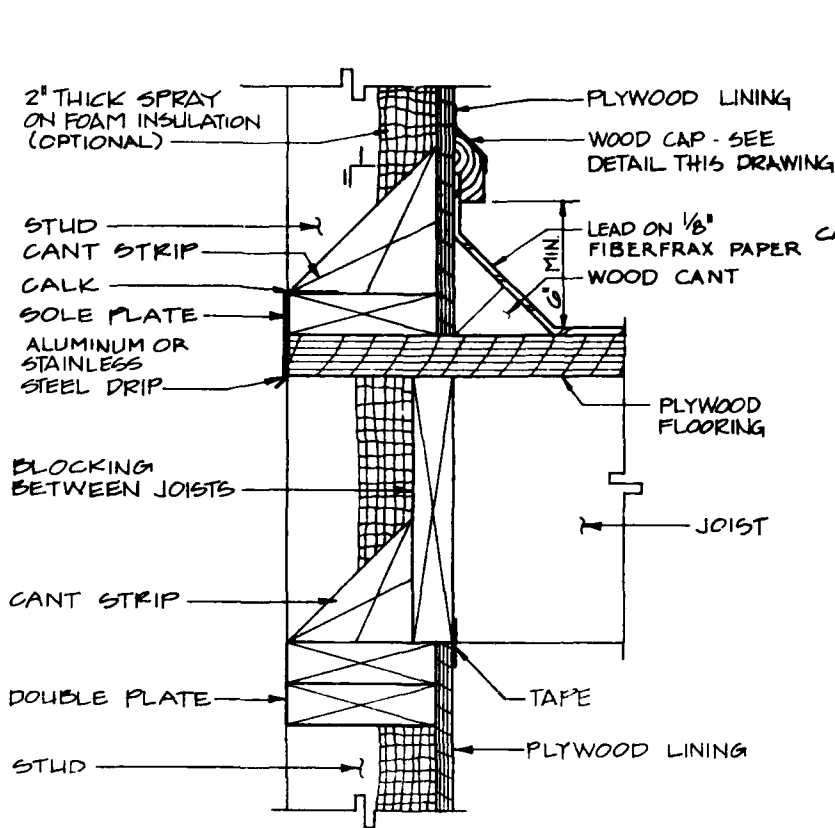
EXTERIOR
DOOR ELEVATION
NO SCALE

DOOR DETAILS

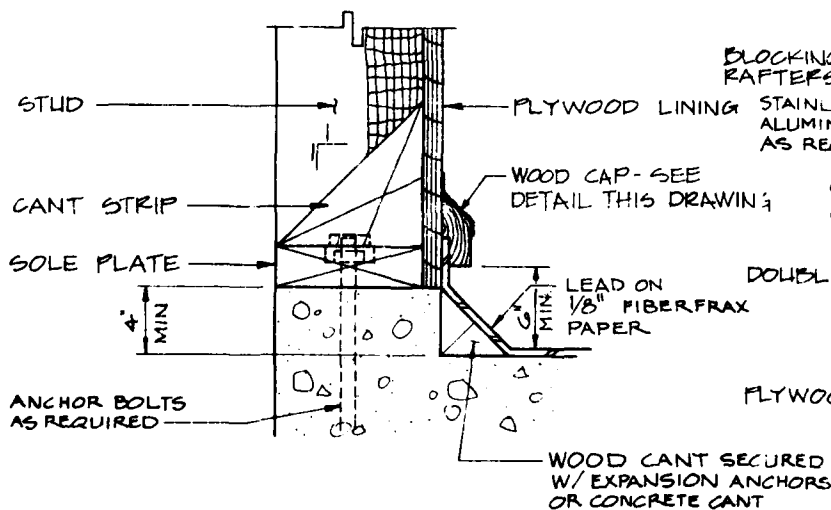
SCALE: 3" = 1'-0"

12"

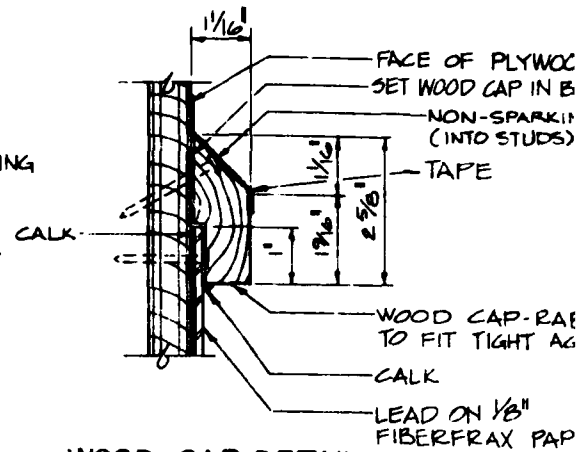
6"



EXTERIOR WALL @ SECOND FLOOR
SCALE: 3" = 1'-0"

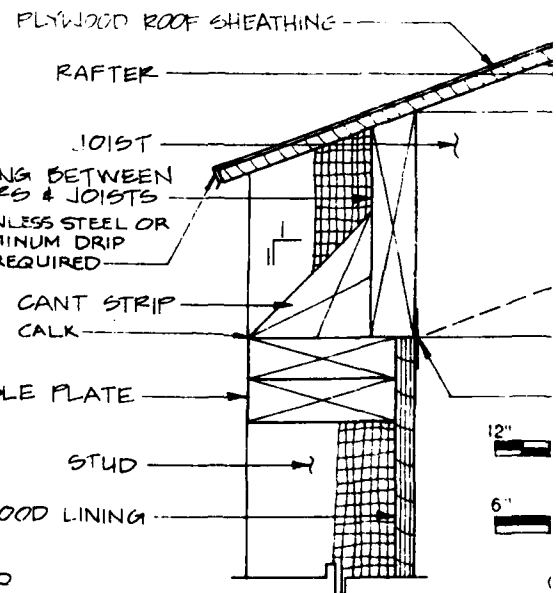


EXTERIOR WALL @ CONCRETE SLAB
SCALE: 3" = 1'-0"



WOOD CAP DETAIL
HALF SIZE

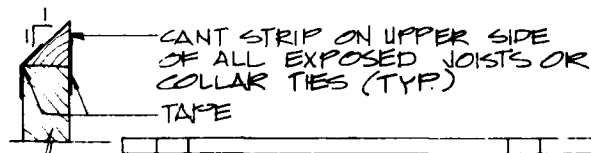
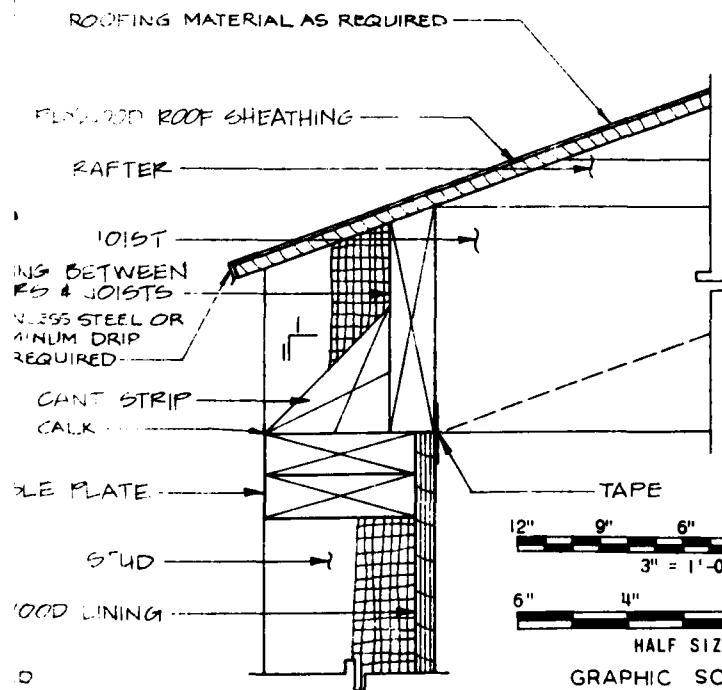
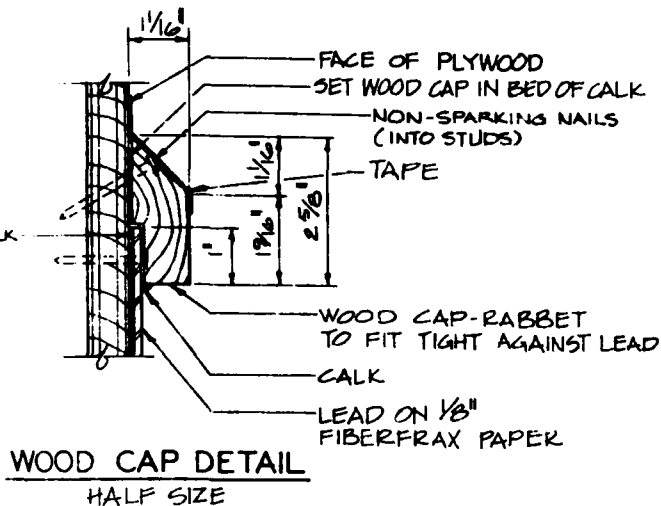
ROOFING MATERIAL AS REQUIRED



EXTERIOR WALL @ ROOF
SCALE: 3" = 1'-0"

GENERAL NOTES:

1. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
2. EXTERIOR CANT STRIPS TO BE 1:1 PITCH MIN.
3. INTERIOR CANT STRIPS TO BE 1:1 PITCH.
4. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
5. ALL INTERIOR WOOD SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
6. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X73, 72 LBS. BREAKING STRENGTH WITH PINKED EDGES OF 8 PINKS PER INCH.
7. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER RESIN SOLUTION.
8. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
9. FOR FINISHES SEE DRAWING 19411.
10. ALL HORIZONTAL JOINTS IN THE LEAD SHALL BE BUTT JOINTS. ALL VERTICAL JOINTS SHALL BE BUTT JOINTS EXCEPT WHERE A LAP JOINT IS THE ONLY TYPE POSSIBLE. ALL WELDS SHALL BE FULL PENETRATION. NO JOINTS SHALL BE WITHIN 8" OF FLOOR/WALL INTERSECTION. LAP JOINTS SHALL BE 5" LAP MIN.
11. LEAD ON FLOOR SHALL BE 8 TO 20 POUND, 4 TO 6% ANTIMONY DEPENDING ON FLOOR LOADING.
12. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR ACCORDING TO APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.
13. SIZE OF STRUCTURAL MEMBERS SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
14. OPTIONAL SPRAY ON INSULATION SHALL BE TYPE REQUIRED TO MEET THERMAL AND SAFETY REQUIREMENTS. FLAME SPREAD SHALL BE LESS THAN 25 WHEN TESTED BY ASTM E-84 USING SAMPLES OBTAINED AT TIME OF APPLICATION.



SYNOPSIS		REVISIONS	
DATE	APPROVED	DATE	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY WOOD FRAME CONSTRUCTION	
		EXTERIOR WALL DETAILS	
DATE	19 MARCH 54	DATE	
DESIGNED BY	ES	CHECKED BY	TDH
DRAWN BY		DWG. NO.	19410

CORPS OF ENGINEERS

ROOM FINISH SCHEDULE

ROOM TYPE	FINISH			
	FLOOR	BASE	WALL	C
CONTROL ROOMS, TOILETS AND NON-EXPLOSIVE AREAS	1 8" VINYL ASBESTOS TILE, PAINTED, EXPOSED WOOD OR EXPOSED CONCRETE	4" VINYL OR WOOD PAINTED	WOOD PAINTED	WOOD P
NITROGLYCERIN PROCESS AREAS AND EXPLOSIVE AREAS	LEAD OR TROWEL ON CONDUCTIVE FLOOR	LEAD OR TROWEL ON CONDUCTIVE BASE	NITROGLYCERIN RESISTANT PAINT	NITROG PAINT

PAINTING NOTES:

1. THE FOLLOWING ITEMS SHALL NOT BE PAINTED:
 - STAINLESS STEEL.
 - INTERIOR ALUMINUM, BRASS, OR BRONZE SURFACES.
 - ACRYLIC GLAZING.
 - DOOR AND WINDOW HARDWARE EXCEPT DOOR OPERATORS COVERS.
 - LEAD FLOORING AND BASES, EXCEPT FIRST AND LAST STAIR TREADS, CURBS, AND DOOR THRESHOLDS, WHICH SHALL BE PAINTED AS REQUIRED.

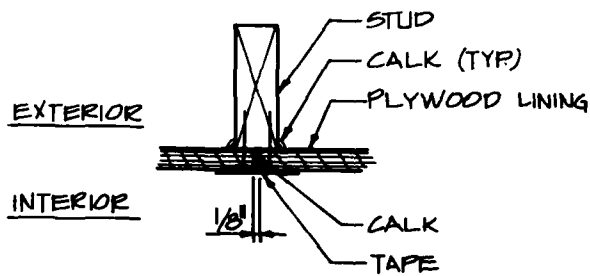
SCHEDULE

FINISH		
BASE	WALL	CEILING
WOOD PAINTED	WOOD PAINTED	WOOD PAINTED
TROWEL ON E BASE	NITROGLYCERIN RESISTANT PAINT	NITROGLYCERIN RESISTANT PAINT

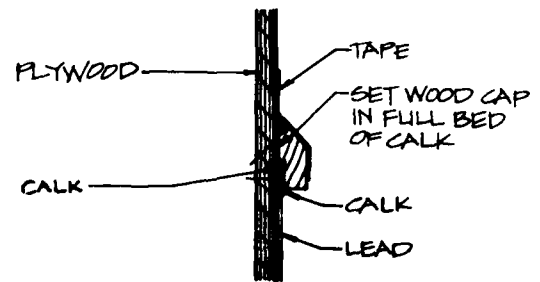
GENERAL NOTES:

1. ALL INTERIOR DOORS, INTERIOR SURFACES OF EXTERIOR DOORS (INCLUDING EDGES), INTERIOR SURFACES OF WINDOWS, INTERIOR CARPENTRY ITEMS, EXPOSED STRUCTURE AND INTERIOR TRIM SHALL BE PAINTED THE SAME PAINT SYSTEM AS THE ROOM OR BUILDING IN WHICH SAME OCCURS.
2. ALL INTERIOR NITROGLYCERIN PROCESS AREAS AND EXPLOSIVE AREAS SHALL BE LINED WITH AMERICAN PLYWOOD ASSOCIATION EXTERIOR TYPE GRADE A-A PLYWOOD. ALL JOINTS AND NAIL HEADS SHALL BE COVERED WITH A 4" WIDE COAT OF ADHESIVE. TAPE SHALL BE PLACED OVER THE ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
3. TAPE SHALL BE 3" WIDE, 2 PLY 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH WITH PINKED EDGES OF 8 PINKS PER INCH.
4. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER RESIN SOLUTION.
5. NITROGLYCERIN RESISTANT PAINT SHALL BE A CHLORINATED RUBBER ENAMEL WITH A MAXIMUM NITROGLYCERIN ABSORPTION OF 1%.
6. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
7. TROWEL ON CONDUCTIVE FLOOR SHALL BE A TROWELED, JOINTLESS, STATIC CONDUCTIVE FLOOR. IT SHALL BE A WATER-PHASE RESIN MATERIAL WITH ACETYLENE CARBON BLACK, AND IT SHALL BE APPLIED IN A SERIES OF COATS TO ACHIEVE A SMOOTH FINISH. THICKNESS AND INSTALLATION OF CONDUCTIVE FLOOR SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
8. LEAD ON FLOOR AND BASE SHALL BE 8 TO 20 POUND, 4 TO 6% ANTIMONY DEPENDING ON FLOOR LOADING. LEAD IN TRENCH AND ON WAINSCOT SHALL BE 6 POUND MIN., 4 TO 6% ANTIMONY.
9. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.
10. DETAILS OF TROWEL ON CONDUCTIVE FLOOR FOR NITROGLYCERIN FACILITIES SHALL BE THE SAME AS FOR SINGLE BASE AND MULTIBASE FACILITIES. SEE DRAWINGS 19500, 19501, 19502, AND 19503.

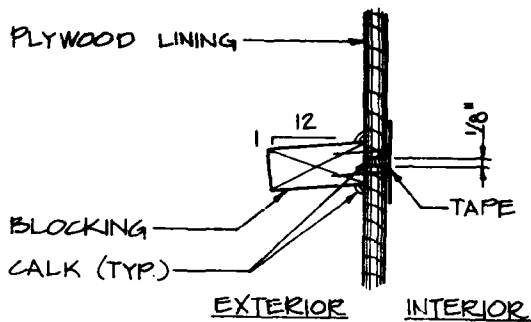
SYNOPSIS		DATE	APPROVED
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY WOOD FRAME CONSTRUCTION	
		INTERIOR FINISHES	
DATE	19 MARCH 51		
OWN. BY	216	CHK. BY	TDH
		DWG. NO.	19411



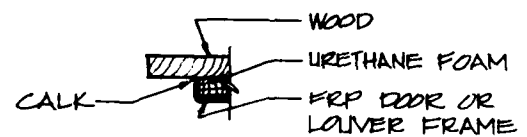
VERTICAL PLYWOOD JOINT



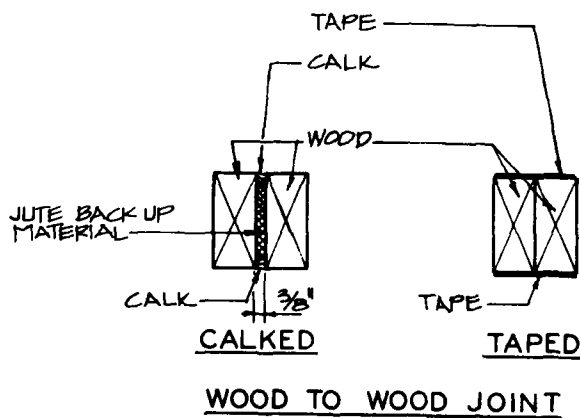
LEAD TO WOOD JOINT



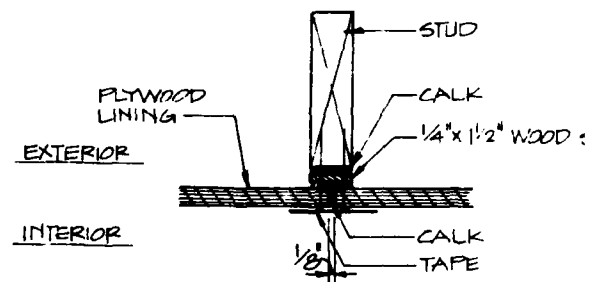
HORIZONTAL PLYWOOD JOINT



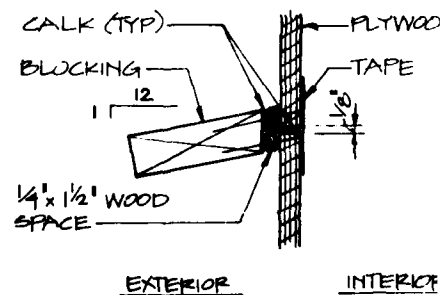
FRP TO WOOD JOINT



WOOD TO WOOD JOINT



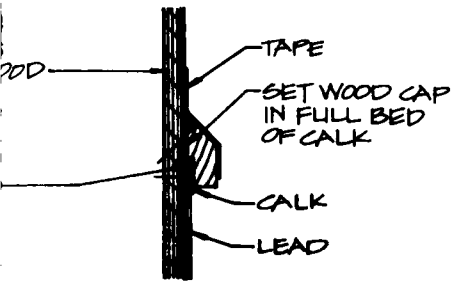
OPTIONAL-VERTICAL PLYWOOD JOINT



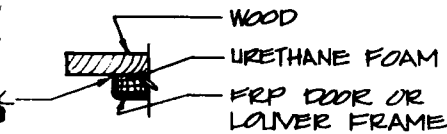
OPTIONAL-HORIZONTAL PLYWOOD JOINT

GENERAL NOTES:

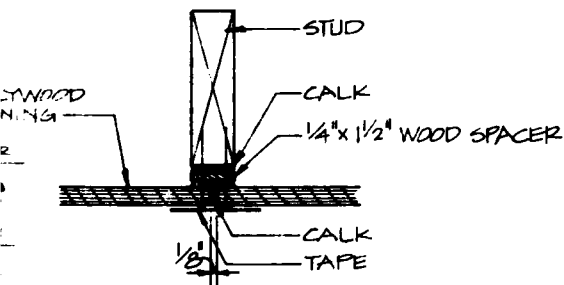
1. GLUE PLYWOOD TO STUDS WITH ADHESIVE.
2. ALL TAPED JOINTS AND NAIL HEADS SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
3. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH, WITH PINKED EDGES OF 8 PINKS PER INCH.
4. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER/RESIN SOLUTION.
5. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
6. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND. ALL CALK SHALL BE APPLIED IN ACCORDANCE WITH DEPARTMENT OF THE ARMY TECHNICAL MANUAL TM 5-805-6.
7. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)



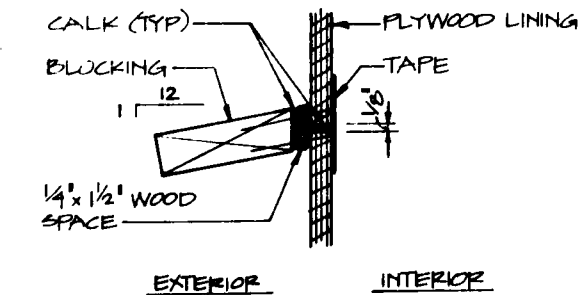
LEAD TO WOOD JOINT



FRP TO WOOD JOINT

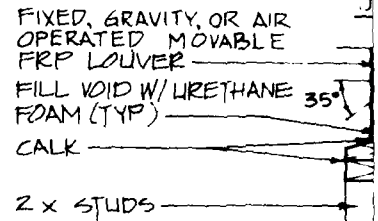
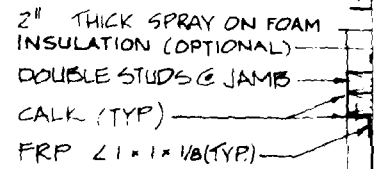
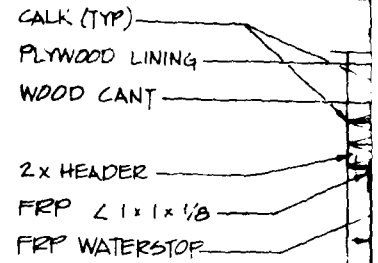
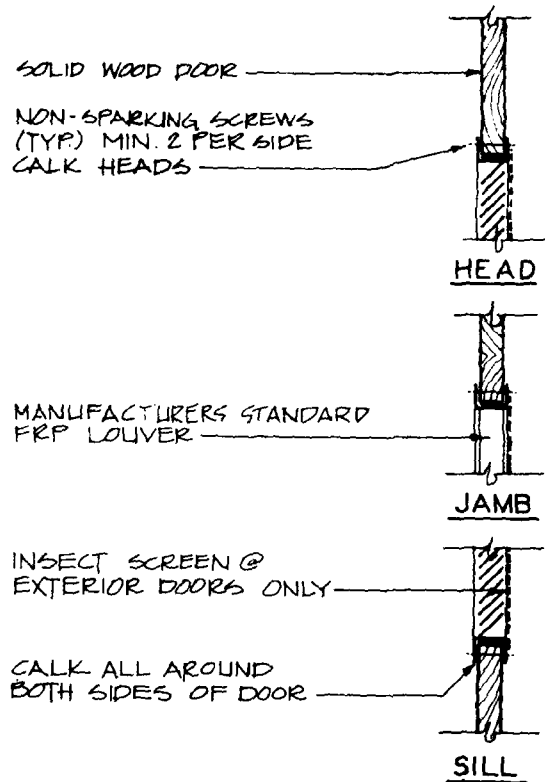


OPTIONAL-VERTICAL PLYWOOD JOINT



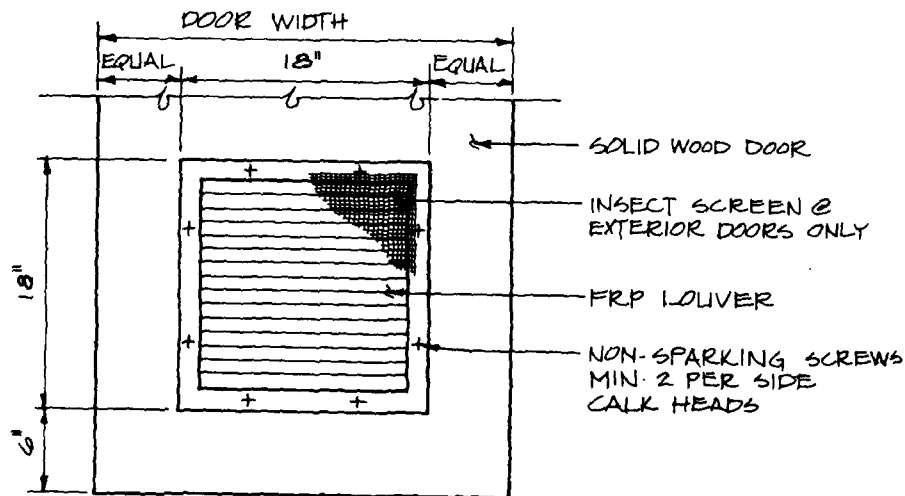
OPTIONAL-HORIZONTAL PLYWOOD JOINT

SYNOPSIS		DATE APPROVED
REVISIONS BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		
US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA		
OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY		
STANDARD DETAILS		
NITROGLYCERIN FACILITY WOOD FRAME CONSTRUCTION JOINT SEALING		
DATE: 19 MARCH '81	DESIGNED BY: JTH	DWG. NO. 19412



FRP DOOR LOUVER DETAILS

SCALE: $1\frac{1}{2}" = 1'-0"$

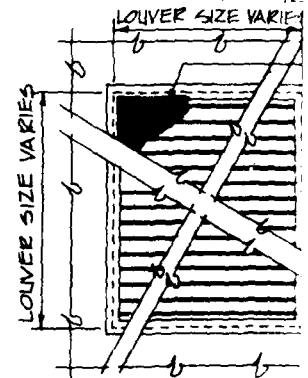


INTERIOR ELEVATION
FRP DOOR LOUVER

SCALE: $1\frac{1}{2}" = 1'-0"$

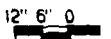
FRP WALL LOUVER

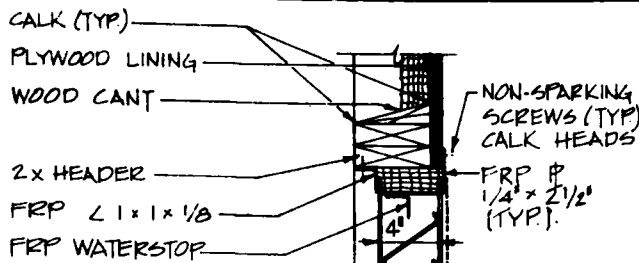
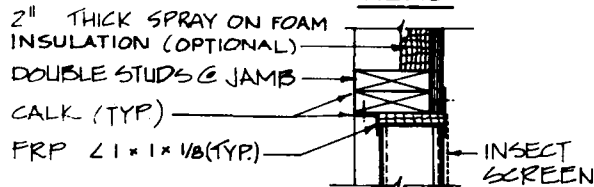
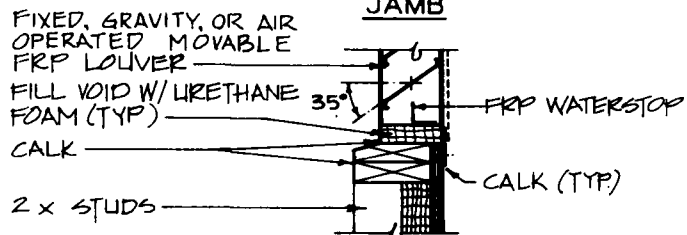
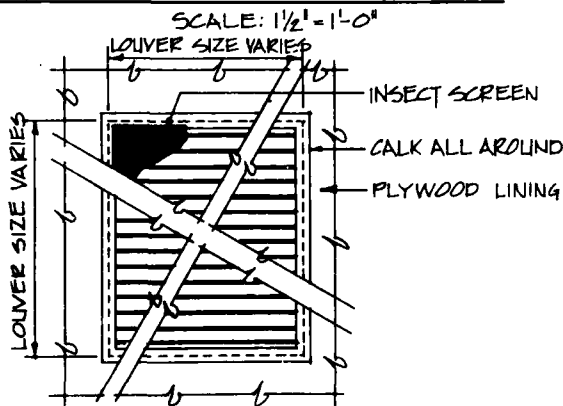
SCALE: $1\frac{1}{2}" = 1'-0"$



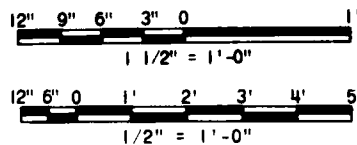
INTERIOR EL
FRP WALL L

SCALE: $\frac{1}{2}" = 1'$



**HEAD****JAMB****SILL****FRP WALL LOUVER DETAILS****INTERIOR ELEVATION
FRP WALL LOUVER**

SCALE: 1/2" = 1'-0"



GRAPHIC SCALE

GENERAL NOTES:

1. FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
2. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
3. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS 1 AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
4. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
5. FOR FINISHES SEE DRAWING 19411
6. INSECT SCREEN SHALL BE PVC COATED FIBERGLASS. (16x16 MESH) INSECT SCREEN SHALL BE LOCATED ON INTERIOR OR EXTERIOR SURFACE OF LOUVERS AS REQUIRED.
7. SIZE OF STRUCTURAL MEMBERS SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
8. OPTIONAL SPRAY ON INSULATION SHALL BE TYPE REQUIRED TO MEET THERMAL AND SAFETY REQUIREMENTS. FLAME SPREAD SHALL BE LESS THAN 25 WHEN TESTED BY ASTM E-84 USING SAMPLES OBTAINED AT TIME OF APPLICATION.
9. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.

WOOD DOOR

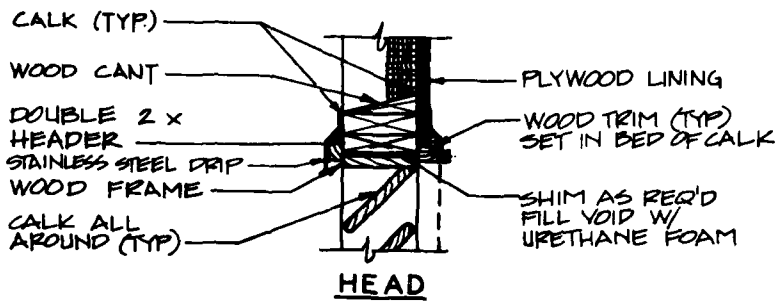
SCREEN @
OR DOORS ONLY

LOUVER

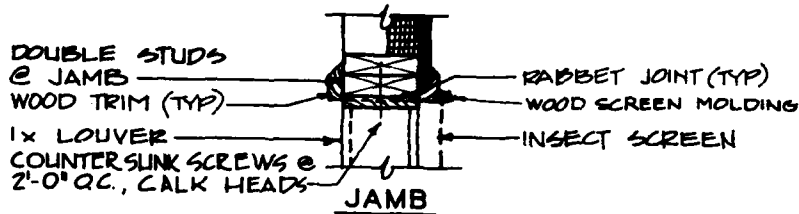
NON-SPARKING SCREWS
PER SIDE
HEADS

SYNOPSIS		DATE APPROVED	
REVISIONS BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI			
US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA		OFFICE OF THE PROJECT MANAGER FOR REVISIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
STANDARD DETAILS			
NITROGLYCERIN FACILITY WOOD FRAME CONSTRUCTION			
FRP LOUVER DETAILS			
DATE	19 MARCH '81	DESIGNED BY	TDH
DRAWN BY	ES	CHECKED BY	TDH
DWG. NO.		19413	

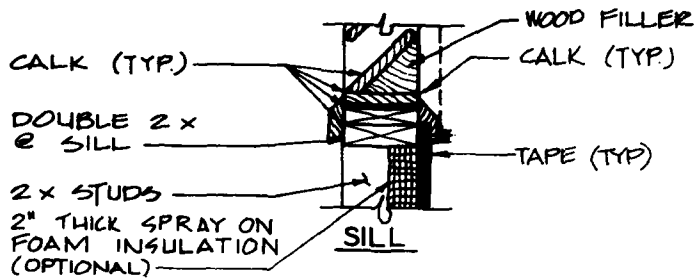
CORPS OF ENGINEERS



HEAD



JAMB



SILL

WOOD WALL LOUVER DETAILS

SCALE: 1 1/2" = 1'-0"

SOLID WOOD DOOR

CALK ALL AROUND (TYP)



HEAD



JAMB



SILL

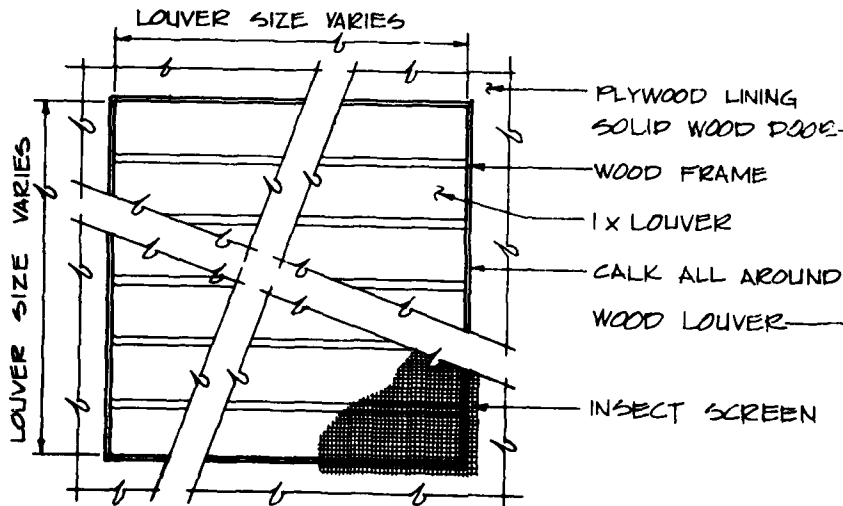
WOOD LOUVER

INSECT SCREEN @ EXTERIOR DOORS ONLY

CALK ALL AROUND BOTH SIDES OF DOOR

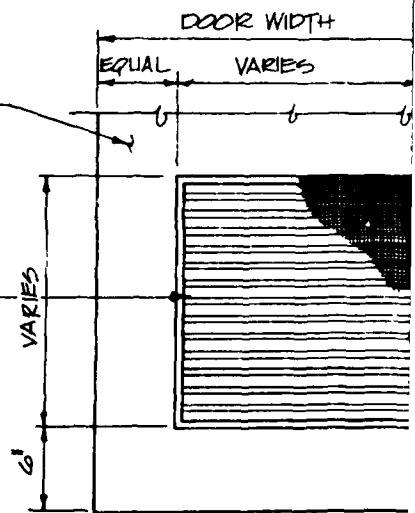
WOOD DOOR LOUVER

SCALE: 1 1/2" = 1'-0"



INTERIOR ELEVATION
WOOD WALL LOUVER

SCALE: 1 1/2" = 1'-0"

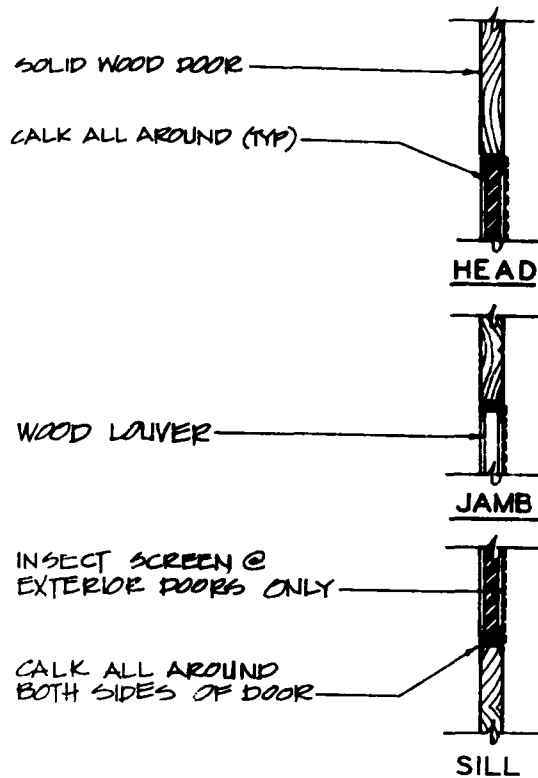


INTERIOR ELEVAT
WOOD DOOR LOUV

SCALE: 1 1/2" = 1'-0"



GRA

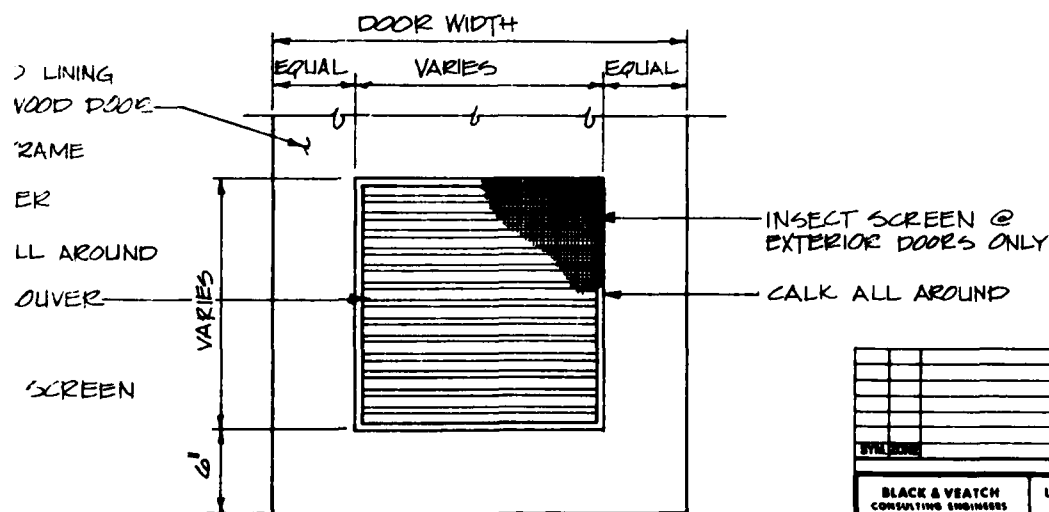
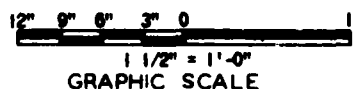


WOOD DOOR LOUVER DETAILS

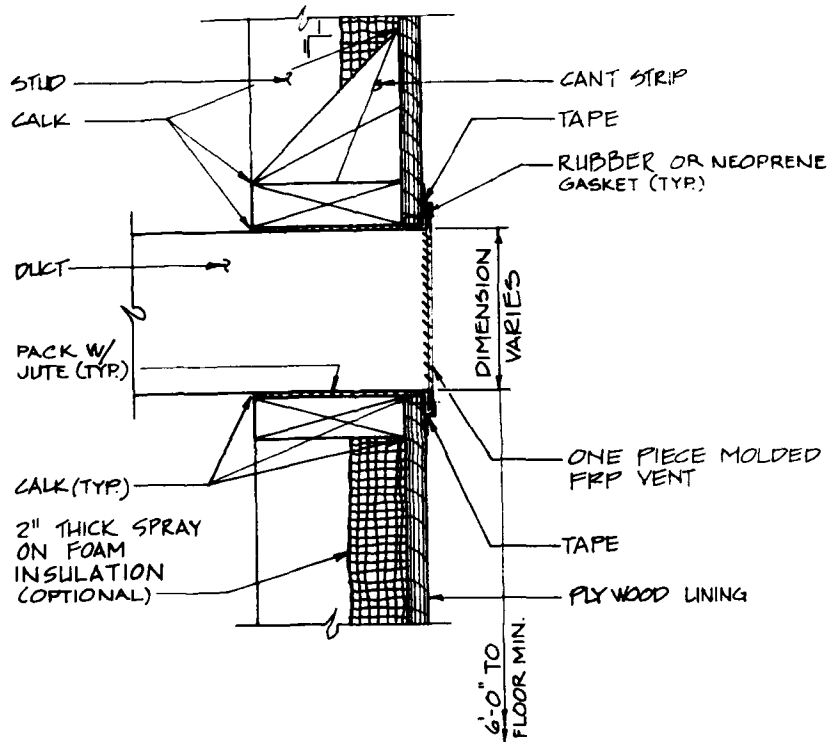
SCALE: $1\frac{1}{2}'' = 1'-0''$

GENERAL NOTES:

1. INSECT SCREEN SHALL BE PVC COATED FIBERGLASS. (16x16 MESH) INSECT SCREEN SHALL BE LOCATED ON INTERIOR OR EXTERIOR SURFACE OF LOUVERS AS REQUIRED.
2. FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
3. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINT-ABLE SILICONE CALKING COMPOUND.
4. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
5. FOR FINISHES SEE DRAWING 19411.
6. SIZE OF STRUCTURAL MEMBERS SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
7. OPTIONAL SPRAY ON INSULATION SHALL BE TYPE REQUIRED TO MEET THERMAL AND SAFETY REQUIREMENTS. FLAME SPREAD SHALL BE LESS THAN 25 WHEN TESTED BY ASTM E-84 USING SAMPLES OBTAINED AT TIME OF APPLICATION.

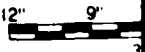
INTERIOR ELEVATION
WOOD DOOR LOUVERSCALE: $1\frac{1}{2}'' = 1'-0''$ 

REVISIONS		DATE	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR HUNTSVILLE PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
NITROGLYCERIN FACILITY WOOD FRAME CONSTRUCTION		WOOD DOOR AND WALL LOUVERS	
DATE: 19 MARCH 61	DESIGN BY: ES	CHECK BY: TDH	DRAWING NO. 19414



FRP VENT DETAIL

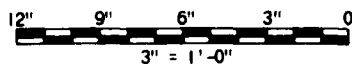
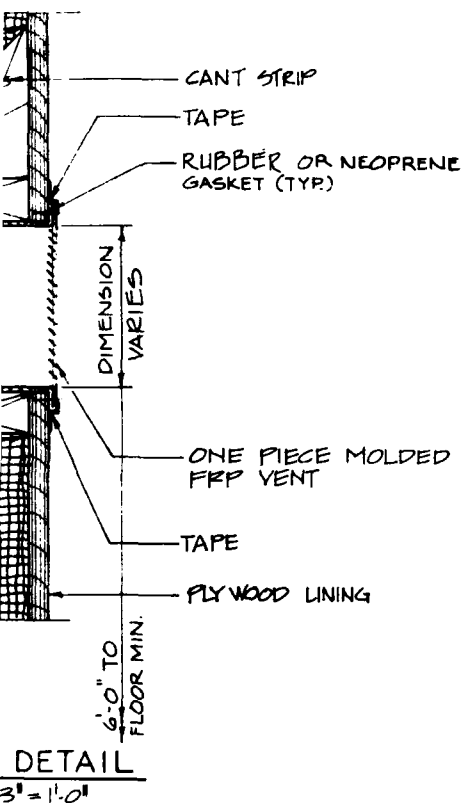
SCALE: 3" = 1'-0"



GRAPH

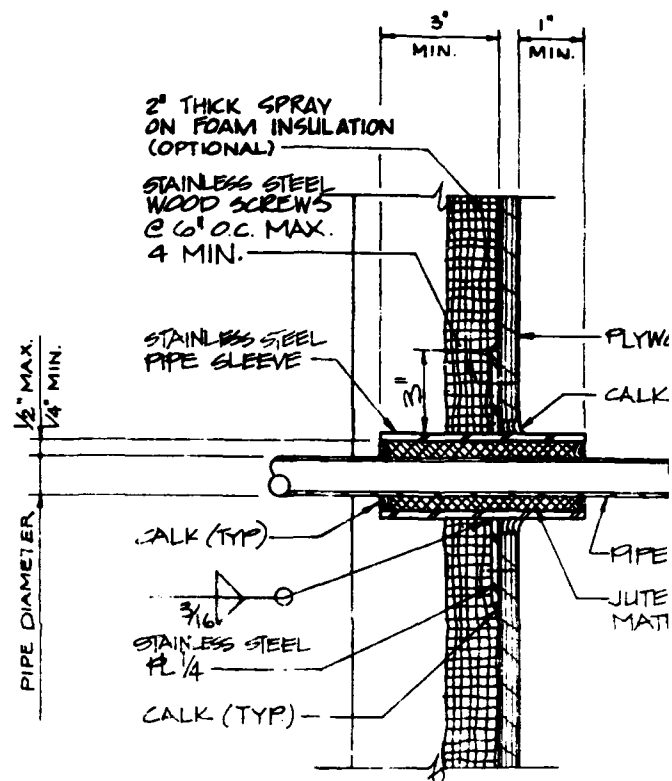
GENERAL NOTES:

1. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT CLASS 1, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
2. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
3. EXTERIOR CANT STRIPS TO BE 1:1 PITCH MIN.
4. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
5. ALL INTERIOR WOOD SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
6. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH, WITH PINKED EDGES OF 8 PINKS PER INCH.
7. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER RESIN SOLUTION.
8. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
9. FOR FINISHES SEE DRAWING 19411.
10. SIZE OF STRUCTURAL MEMBERS SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
11. OPTIONAL SPRAY ON INSULATION SHALL BE TYPE REQUIRED TO MEET THERMAL AND SAFETY REQUIREMENTS. FLAME SPREAD SHALL BE LESS THAN 25 WHEN TESTED BY ASTM E-84 USING SAMPLES OBTAINED AT TIME OF APPLICATION.
12. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.



GRAPHIC SCALE

SYMBOL		DATE APPROVED	
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION MUNTSTVILLE CORPS OF ENGINEERS MUNTSTVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY WOOD FRAME CONSTRUCTION	
		FRP WALL VENT	
DATE: 19 MARCH '81	DESIGN BY: JPT	CHECKED BY: JDM	DWG. NO. 19415

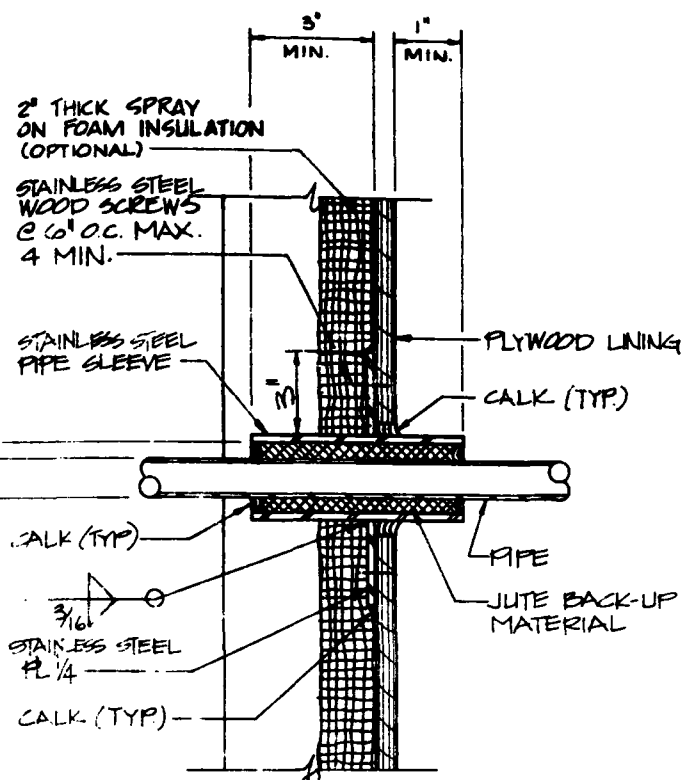


NOT TO BE USED FOR STEAM
OR HOT LIQUID PIPING

PIPE PENETRATION
SCALE: 3" = 1'-0"

GENERAL NOTES:

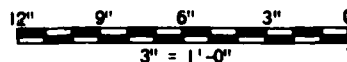
1. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
2. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
3. ALL INTERIOR WOOD SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
4. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH, WITH PINKED EDGES OF 8 PINKS PER INCH.
5. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER/ RESIN SOLUTION.
6. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
7. FOR FINISHES SEE DRAWING 19411.
8. OPTIONAL SPRAY ON INSULATION SHALL BE TYPE REQUIRED TO MEET THERMAL AND SAFETY REQUIREMENTS. FLAME SPREAD SHALL BE LESS THAN 25 WHEN TESTED BY ASTM E-84 USING SAMPLES OBTAINED AT TIME OF APPLICATION.



NOT TO BE USED FOR STEAM
OR HOT LIQUID PIPING

PIPE PENETRATION

SCALE: 3" = 1'-0"



GRAPHIC SCALE

2

SYMBOL		REVISED		DATE APPROVED	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS		NITROGLYCERIN FACILITY WOOD FRAME CONSTRUCTION	
DATE: 19 MARCH 61		DRAWN BY: TDM		CHECKED BY: TDM	
				19416	

2" THICK SPRAY
ON FOAM INSULATION
(OPTIONAL)

STUD

CANT STRIP

CALK

DRIP

CALK

LIGHT FIXTURE

ACRYLIC GLAZING

CALK

CANT STRIP

DOUBLE SILL PLATE

PLYWOOD

HEADER

TAPE JOINT
ALL AROUND

HEAD

4'-10"

SILL

WOOD FRAME

COUNTERSUNK SCREWS @
12" O.C. MAX. FILL COUNTERSINK
W/CALK & TAPE (TYP.)

PLYWOOD

WOOD FRAME

TAPE

PLYWOOD

1-7" CLR ONG

CALK

DOUBLE STUD @ JAMB

CALK

LIGHT FIXTURE BRACKET

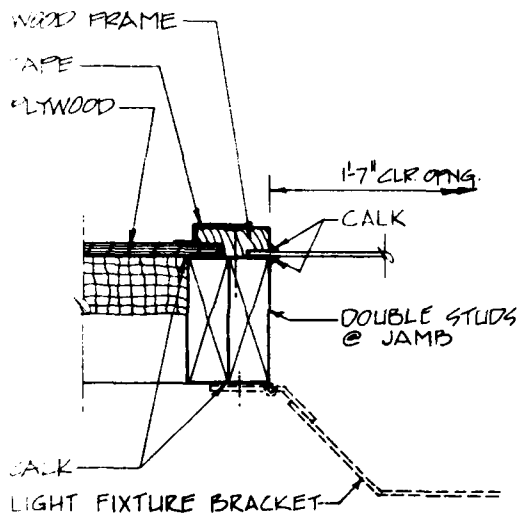
JAMB

WINDOW DETAILS
SCALE: 3" = 1'-0"



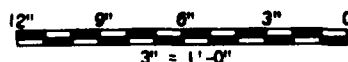
GENERAL NOTES:

1. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
2. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
3. ALL INTERIOR WOOD SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
4. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH, WITH PINKED EDGES OF 8 PINKS PER INCH.
5. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER RESIN SOLUTION.
6. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
7. ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
8. GLAZING SHALL BE SHADED TO PREVENT THE ENTRY OF DIRECT SUNLIGHT.
9. FOR FINISHES SEE DRAWING 19411.
10. SIZE OF STRUCTURAL MEMBERS SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
11. OPTIONAL SPRAY ON INSULATION SHALL BE TYPE REQUIRED TO MEET THERMAL AND SAFETY REQUIREMENTS. FLAME SPREAD SHALL BE LESS THAN 25 WHEN TESTED BY ASTM E-84 USING SAMPLES OBTAINED AT TIME OF APPLICATION.



JAMB

ME
INK SCREWS @
FILL COUNTERSINK
& TAPE (TYP)

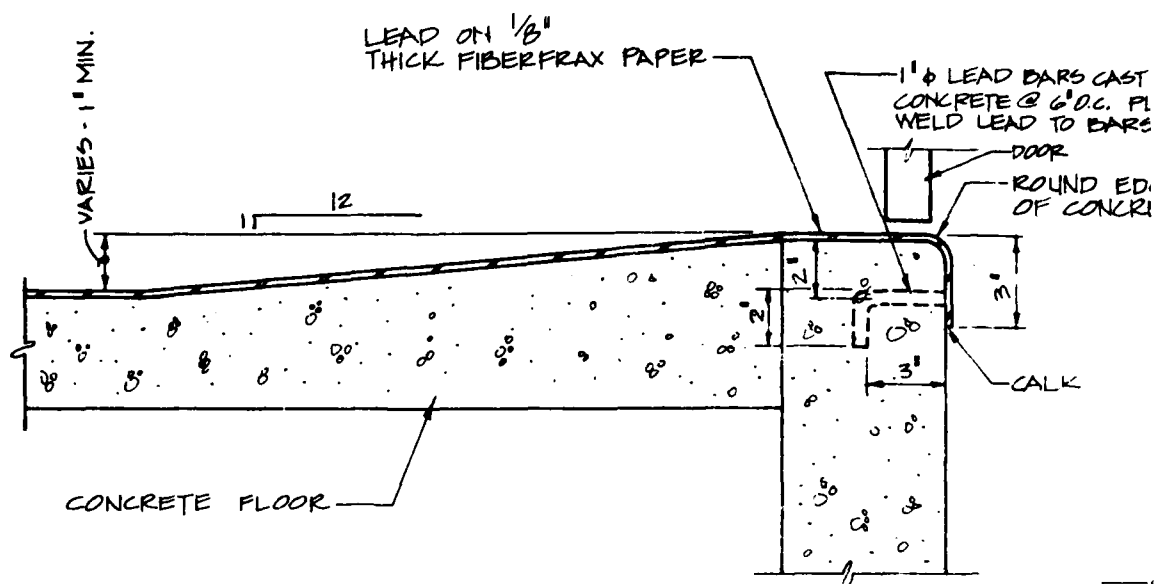


GRAPHIC SCALE

2

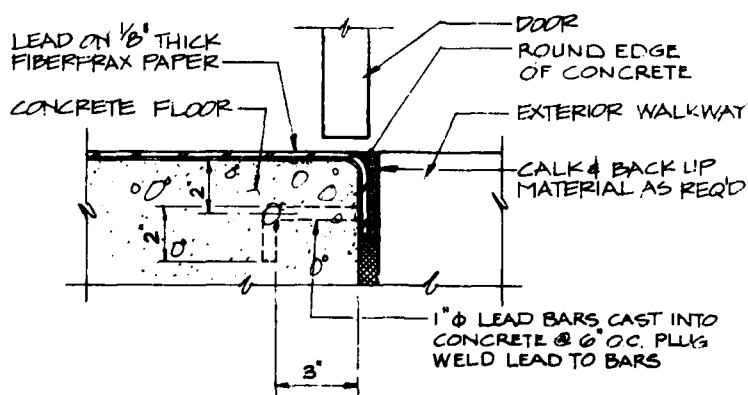
SYMBOL		DATE APPROVED
REVISIONS		
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
	OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
	STANDARD DETAILS	
	NITROGLYCERIN FACILITY WOOD FRAME CONSTRUCTION EXTERIOR LIGHTING WINDOW DETAILS	
DATE: 19 MARCH 51	DESIGNED BY: JCH	DRAWN BY: JCH
SHEET NO. 19417		

TAILS



DOOR SILL - PEDESTRIAN

SCALE 3" = 1'-0"



DOOR SILL - WHEELED EQUIPMENT

SCALE 3" = 1'-0"

WOOD CAP

LEAD BASE
1" HIGH CONCRETE
OR WOOD CANT
SECURED W/ EXPANSION
ANCHORS - 1:1 SLOPE

LEAD ON FIBERFRAX FLOOR

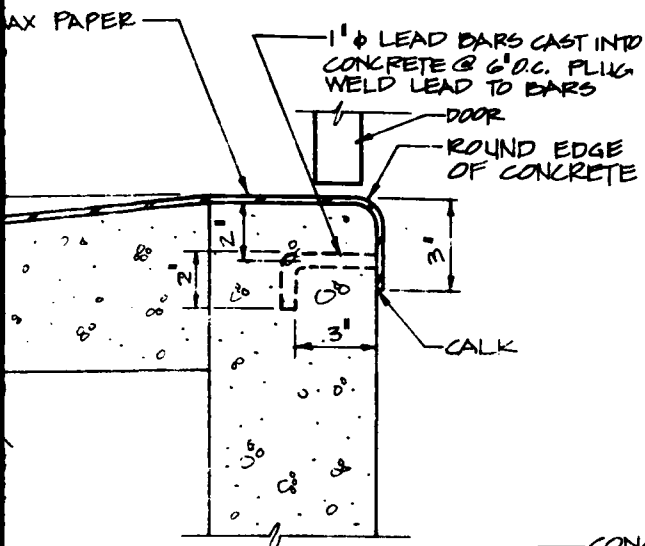
ISOMET
WHEELED EQUIP

NO 50

12"

GENERAL NOTES:

1. ALL HORIZONTAL JOINTS IN THE LEAD SHALL BE BUTT JOINTS. ALL VERTICAL JOINTS SHALL BE BUTT JOINTS EXCEPT WHERE A LAP JOINT IS THE ONLY TYPE POSSIBLE. ALL WELDS SHALL BE FULL PENETRATION. NO JOINTS SHALL BE WITHIN 8" OF WALL/FLOOR INTERSECTION. LAP JOINTS SHALL BE 5" LAP MIN.
2. THE SURFACES OF ALL JOINTS TO BE WELDED AND THE WELDING ROD ITSELF SHALL BE "SHAVED" OR WIRE BRUSHED TO REMOVE ALL OXIDE AND PRESENT A BRIGHT METALLIC SURFACE.
3. LEAD ON FLOOR SHALL BE 8 TO 20 POUND, 4 TO 6% ANTIMONY DEPENDING ON FLOOR LOADING.
4. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINT-ABLE SILICONE CALKING COMPOUND.
5. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
6. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.



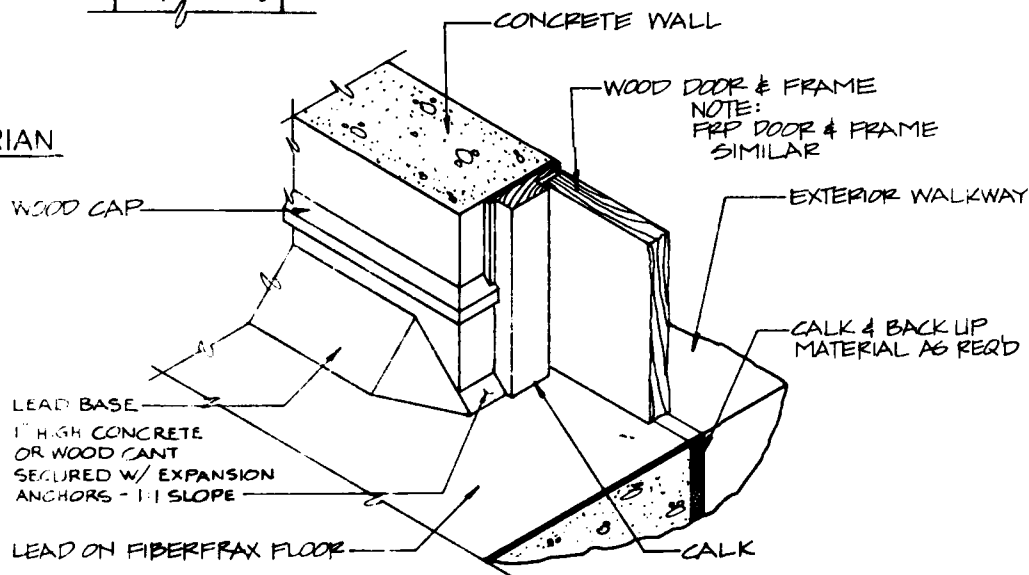
PEDESTRIAN

WALKWAY

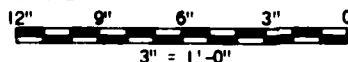
TO REQ'D

TO

REQ'D



ISOMETRIC
WHEELED EQUIPMENT SILL
NO SCALE



GRAPHIC SCALE

2

REVISIONS		DATE	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY CONCRETE CONSTRUCTION	
		LEAD CONDUCTIVE FLOOR DOOR SILL/FLOOR INTERFACE	
DATE: 19 MARCH 81	BY: JTY	CHKD BY: TCM	19418

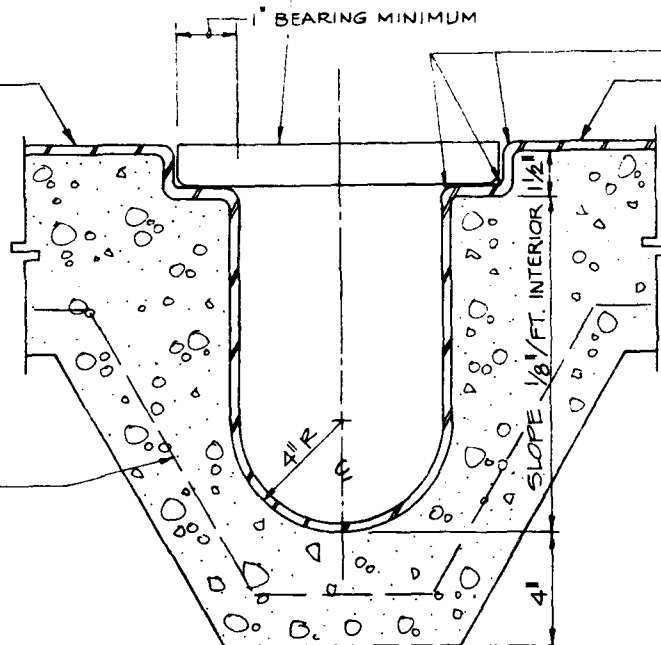
2x12, FRP GRATING OR ALUMINUM
GRATING (ROUND EDGES OF BEARING
SURFACES TO PREVENT DAMAGE TO LEAD)

LEAD ON $\frac{1}{8}$ "
FIBERFRAX PAPER

1" BEARING MINIMUM

$\frac{3}{8}$ " RADIUS (TYP)
FLOOR LEVEL

REINFORCING AS REQUIRED

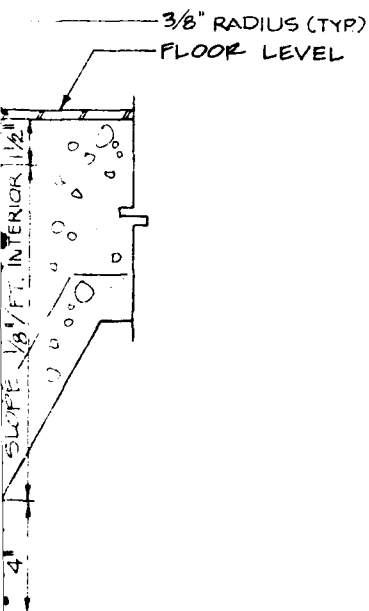


INTERIOR TRENCH W/ LEAD LINING

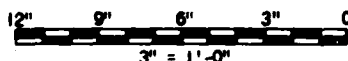
SCALE: 3" = 1'-0"

GENERAL NOTES:

1. NO HORIZONTAL JOINTS IN THE LEAD SHALL BE ALLOWED IN OR NEARER THAN 6" TO TRENCH AREA. ALL JOINTS WITHIN THE TRENCH AREA SHALL BE BUTT JOINTS. ALL WELDS SHALL BE FULL PENETRATION.
2. LEAD ON FLOOR SHALL BE 8 TO 20 POUND, 4 TO 6% ANTIMONY DEPENDING ON FLOOR LOADING. LEAD IN TRENCH SHALL BE 6 POUND MIN., 4 TO 6% ANTIMONY.
3. THE SURFACES OF ALL JOINTS TO BE WELDED AND THE WELDING ROD ITSELF SHALL BE "SHAVED" OR WIRE BRUSHED TO REMOVE ALL OXIDE AND PRESENT A BRIGHT METALLIC SURFACE.
4. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
5. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR AND OPTIONAL METAL GRATING IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.



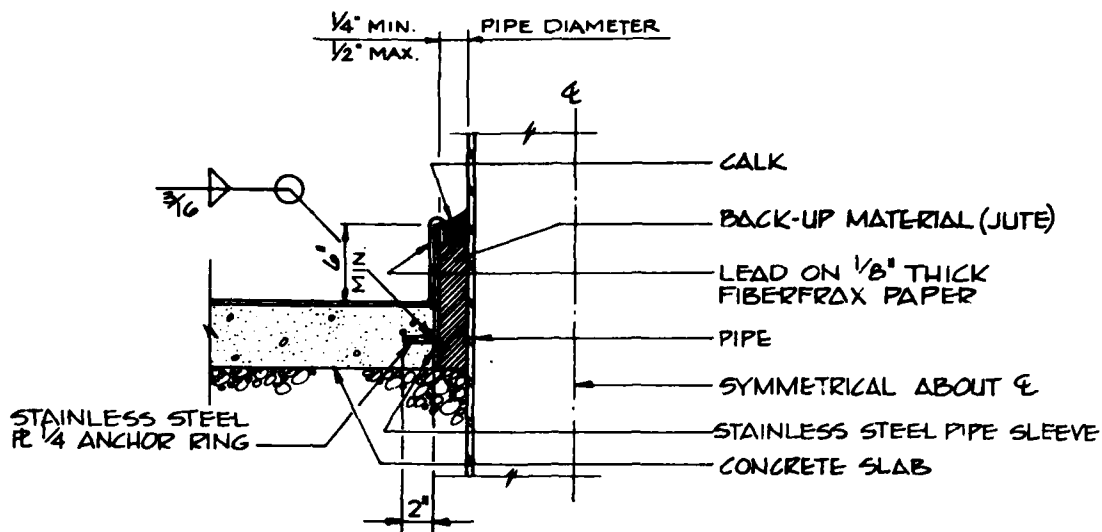
LEAD LINING



GRAPHIC SCALE

2

SYNOPSIS		DATE	APPROVED																						
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REVISIONS																									
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BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA																							
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY																							
		STANDARD DETAILS																							
		NITROGLYCERIN FACILITY CONCRETE CONSTRUCTION																							
		LEAD CONDUCTIVE FLOOR FLOOR GUTTER/FLOOR INTERFACE																							
DATE: 19 MARCH '81	DESIGNED BY: ETT	CHECKED BY: TOW	DWG. NO. 19419																						



PIPE SLEEVE THROUGH SLAB

SCALE: $1\frac{1}{2}" = 1'-0"$

12" 9" 6"

GRA

GENERAL NOTES:

1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. THE SURFACES OF ALL JOINTS TO BE WELDED AND THE WELDING ROD ITSELF SHALL BE "SHAVED" OR WIRE BRUSHED TO REMOVE ALL OXIDE AND PRESENT A BRIGHT METALLIC SURFACE.
3. LEAD ON FLOOR SHALL BE 8 TO 20 POUND, 4 TO 6% ANTIMONY. LEAD ON PIPE SLEEVE SHALL BE 6 POUND MIN., 4 TO 6% ANTIMONY.
4. NO HORIZONTAL JOINTS IN THE LEAD SHALL BE ALLOWED IN OR NEARER THAN 8" TO PIPE SLEEVE. ALL JOINTS SHALL BE BUTT JOINTS. ALL WELDS SHALL BE FULL PENETRATION.
5. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
6. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.
7. PIPE THROUGH FLOOR SHOULD BE AVOIDED IF POSSIBLE.

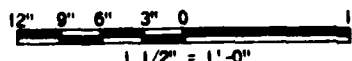
UP MATERIAL (JUTE)

ON 1/8" THICK
FRAX PAPER

METRICAL ABOUT 4

LESS STEEL PIPE SLEEVE
CONCRETE SLAB

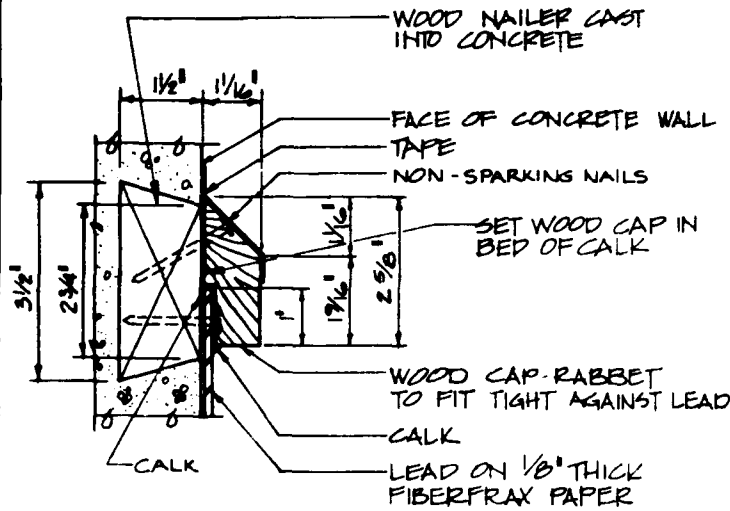
AB



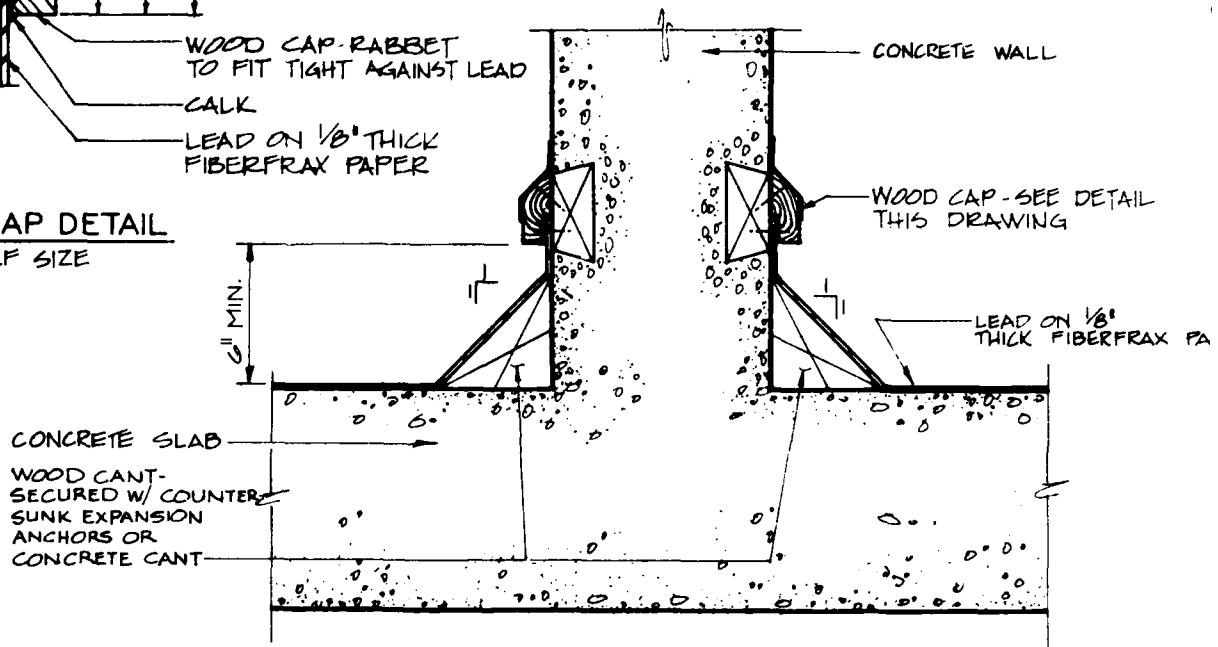
GRAPHIC SCALE

2

SYMBOLS		DATE APPROVED
REVISIONS		
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
	OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
	STANDARD DETAILS	
	NITROGLYCERIN FACILITY CONCRETE CONSTRUCTION LEAD CONDUCTIVE FLOOR FLOOR PENETRATION INTERFACE	
DATE 19 MARCH 61	DESIGN BY KTY	DATE NO. 19420



WOOD CAP DETAIL
HALF SIZE



INTERIOR WALL / FLOOR INTERFACE W/ LEAD LINING

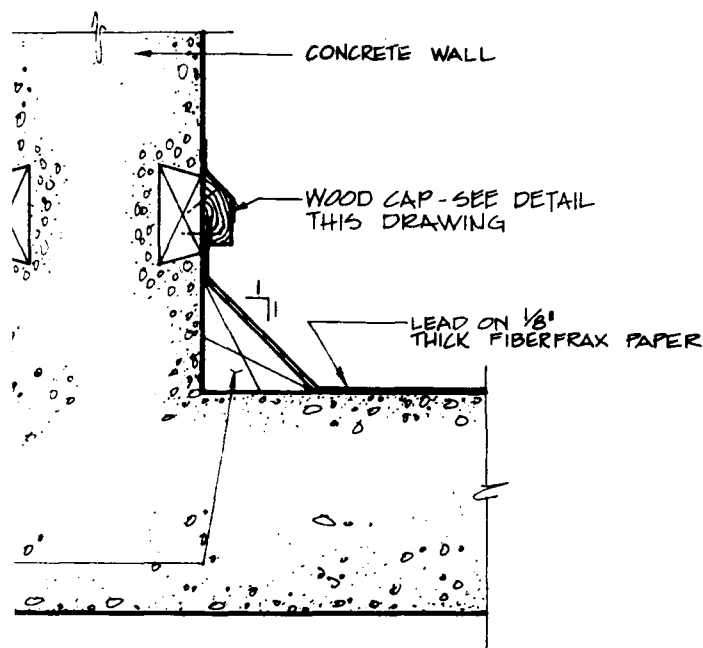
SCALE: 3" = 1'-0"



GRA

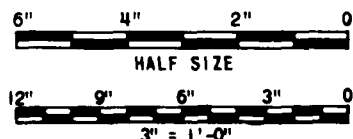
GENERAL NOTES:

1. ALL HORIZONTAL JOINTS IN THE LEAD SHALL BE BUTT JOINTS. ALL VERTICAL JOINTS SHALL BE BUTT JOINTS EXCEPT WHERE A LAP JOINT IS THE ONLY TYPE POSSIBLE. ALL WELDS SHALL BE FULL PENETRATION. NO WELDS SHALL BE WITHIN 8" OF FLOOR/WALL INTERSECTION. LAP JOINTS SHALL LAP 5" MINIMUM.
2. THE SURFACES OF ALL JOINTS TO BE WELDED AND THE WELDING ROD ITSELF SHALL BE "SHAVED" OR WIRE BRUSHED TO REMOVE ALL OXIDE AND PRESENT A BRIGHT METALLIC SURFACE.
3. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
4. LEAD ON FLOOR SHALL BE 8 TO 20 POUND, 4 TO 6% ANTIMONY DEPENDING ON FLOOR LOADING. LEAD ON WALL SHALL BE 6 POUND MIN., 4 TO 6% ANTIMONY.
5. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
6. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
7. FOR FINISHES SEE DRAWING 19427.
8. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.



FLOOR INTERFACE W/ LEAD LINING

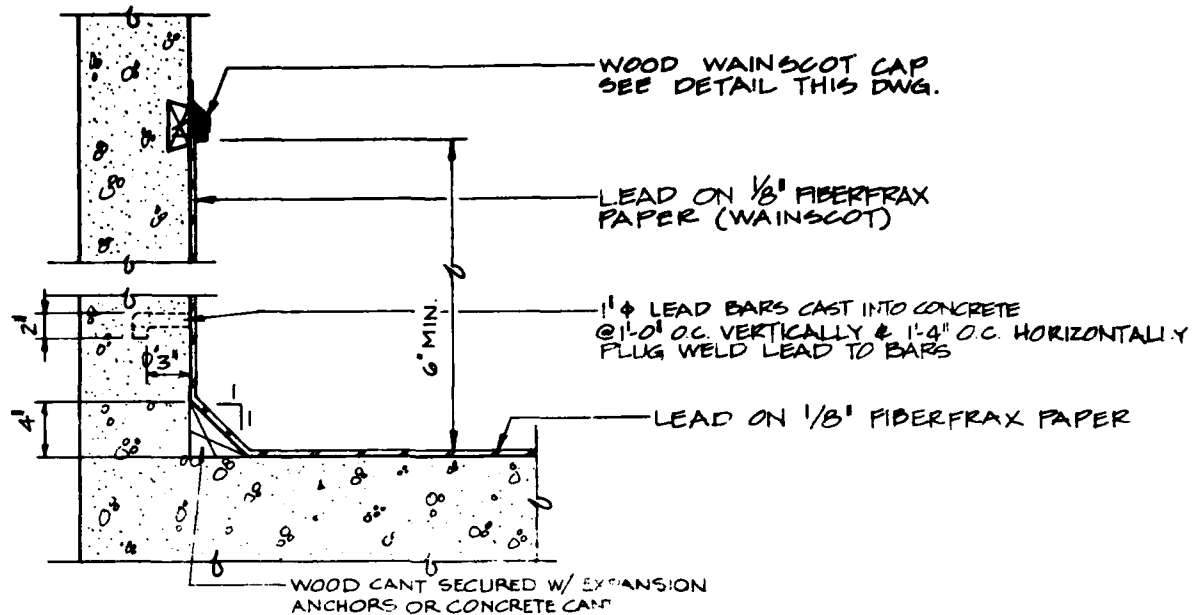
SCALE: 3" = 1'-0"



GRAPHIC SCALE

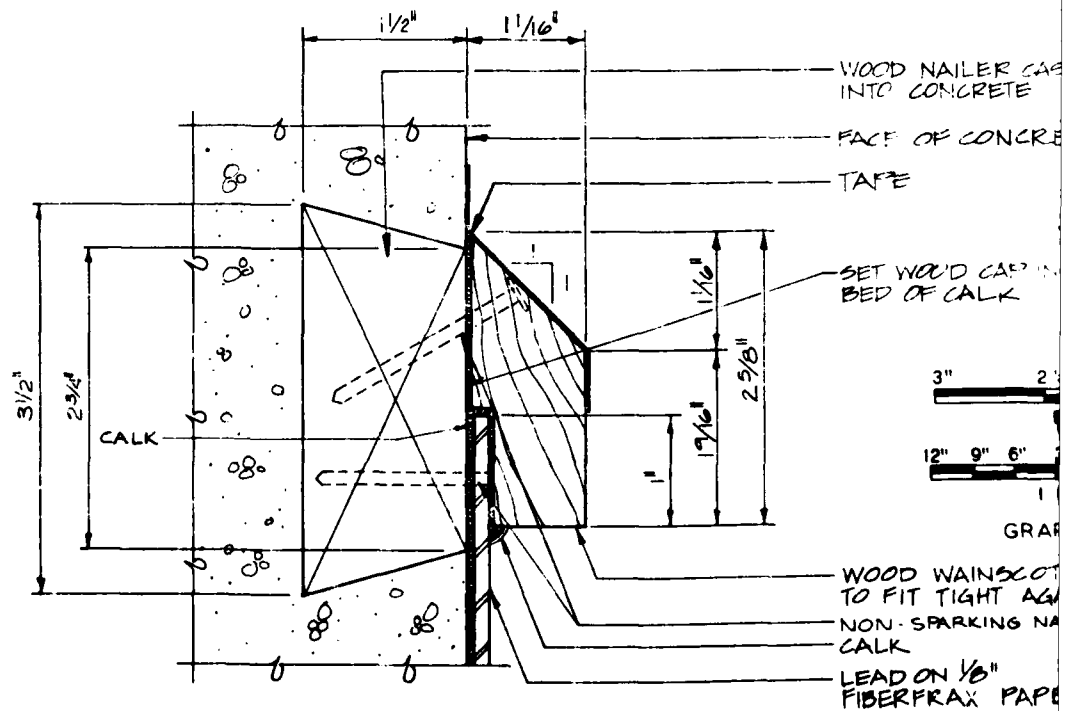
DATE: 19 MARCH '61		BY: [Signature]		CHECKED BY: [Signature]	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA			
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY			
		STANDARD DETAILS			
		NITROGLYCERIN FACILITY CONCRETE CONSTRUCTION			
		LEAD CONDUCTIVE FLOOR INTERIOR WALL/FLOOR INTERFACE			
DATE: 19 MARCH '61		BY: [Signature]		CHECKED BY: [Signature]	
19421					

2



LEAD WAINSCOT DETAIL

SCALE: $1\frac{1}{2}'' = 1'0''$



WAINSCOT CAP DETAIL

FULL SIZE

GENERAL NOTES:

1. ALL HORIZONTAL JOINTS IN THE LEAD SHALL BE BUTT JOINTS. ALL VERTICAL JOINTS SHALL BE BUTT JOINTS EXCEPT WHERE A LAP JOINT IS THE ONLY TYPE POSSIBLE. ALL WELDS SHALL BE FULL PENETRATION. NO WELDS SHALL BE WITHIN 8" OF FLOOR/WALL INTERSECTION. LAP JOINTS SHALL LAP 5" MIN.
2. THE SURFACES OF ALL JOINTS TO BE WELDED AND THE WELDING ROD ITSELF SHALL BE "SHAVED" OR WIRE BRUSHED TO REMOVE ALL OXIDE AND PRESENT A BRIGHT METALLIC SURFACE.
3. LEAD ON FLOOR SHALL BE 8 TO 20 POUND, 4 TO 6% ANTIMONY DEPENDING ON FLOOR LOADING. LEAD ON WALL SHALL BE 6 POUND MIN., 4 TO 6% ANTIMONY.
4. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
5. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
6. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
7. FOR FINISHES SEE DRAWING 19427.
8. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.
9. ALL JOINTS DESIGNATED TO RECEIVE TAPE SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
10. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH, WITH PINKED EDGES OF 8 PINKS PER INCH.
11. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER/RESIN SOLUTION.

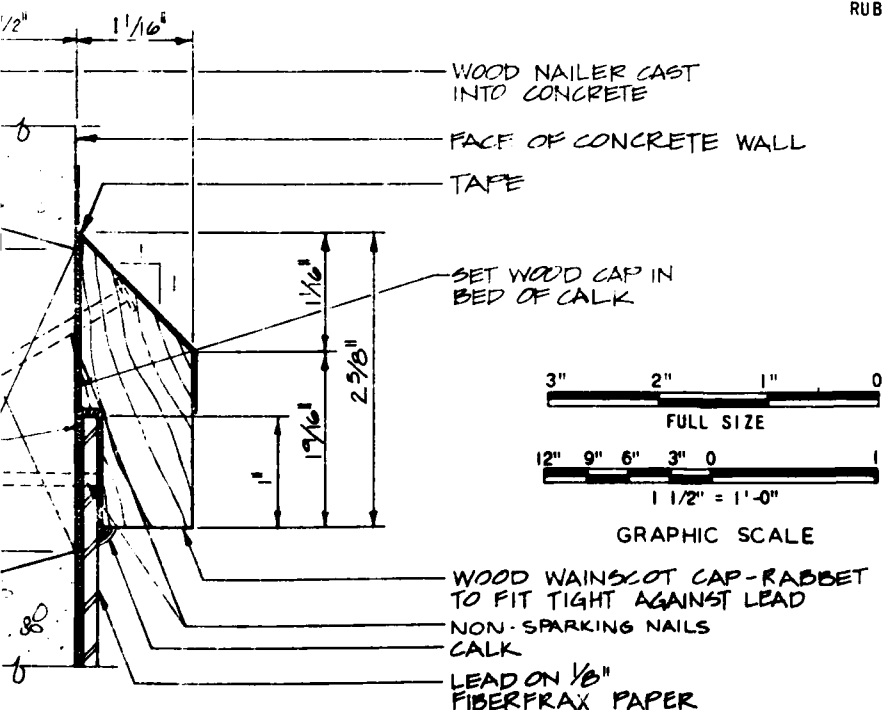
WOOD WAINSCOT CAP
SEE DETAIL THIS DWG.

LEAD ON $\frac{1}{8}$ " FIBERFRAX
PAPER (WAINSCOT)

1" ϕ LEAD BARS CAST INTO CONCRETE
@ 1'-0" O.C. VERTICALLY & 1'-4" O.C. HORIZONTALLY
FLUG WELD LEAD TO BARS

LEAD ON $\frac{1}{8}$ " FIBERFRAX PAPER

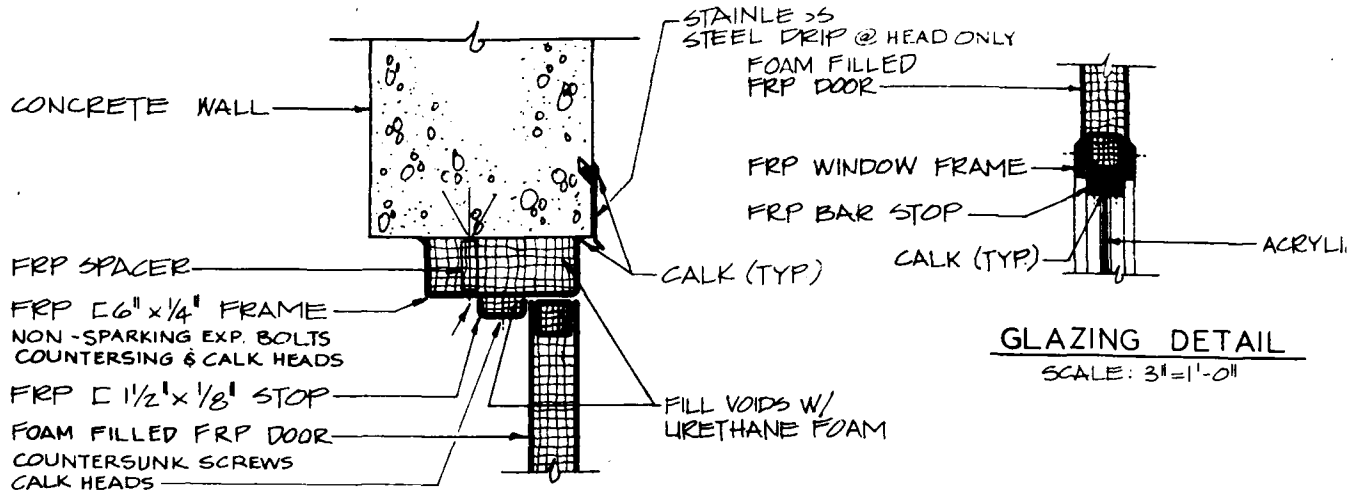
W/ EXPANSION
E CAP



WAINSCOT CAP DETAIL
FULL SIZE

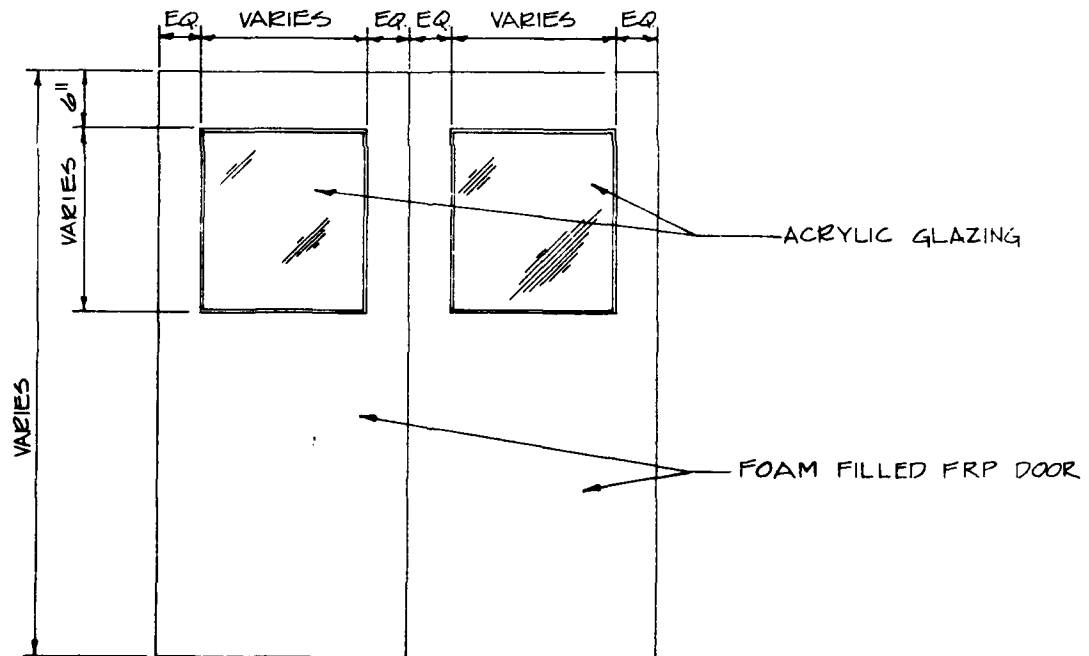
SYMBOL		REVISIONS		DATE	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA			
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY			
		STANDARD DETAILS			
		NITROGLYCERIN FACILITY CONCRETE CONSTRUCTION			
		LEAD CONDUCTIVE FLOOR WALL/FLOOR INTERFACE			
DATE	19 MARCH '81	BY	MTT	CHKD BY	TPW
DRW. NO.	13422				

2



HEAD & JAMB DETAIL

SCALE: 3" = 1'-0"



FRP HEAD ONLY
FILLED
DOOR

WINDOW FRAME

BAR STOP

CALK (TYP)

ACRYLIC GLAZING

GLAZING DETAIL

SCALE: 3" = 1'-0"

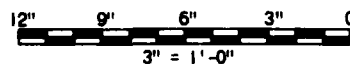
FOAM

ACRYLIC GLAZING

FOAM FILLED FRP DOOR

GENERAL NOTES:

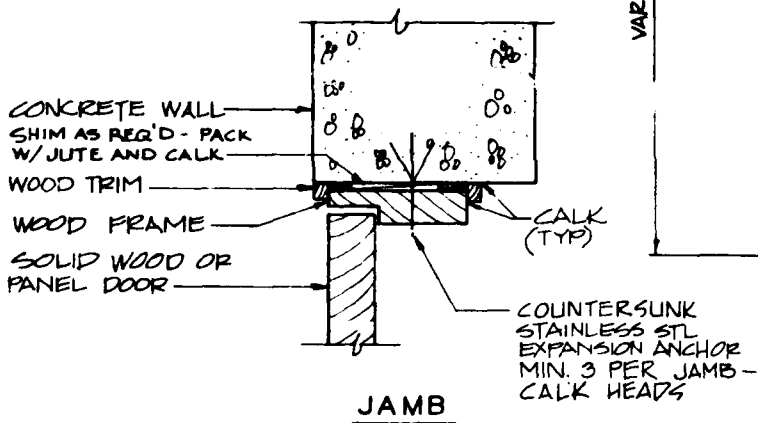
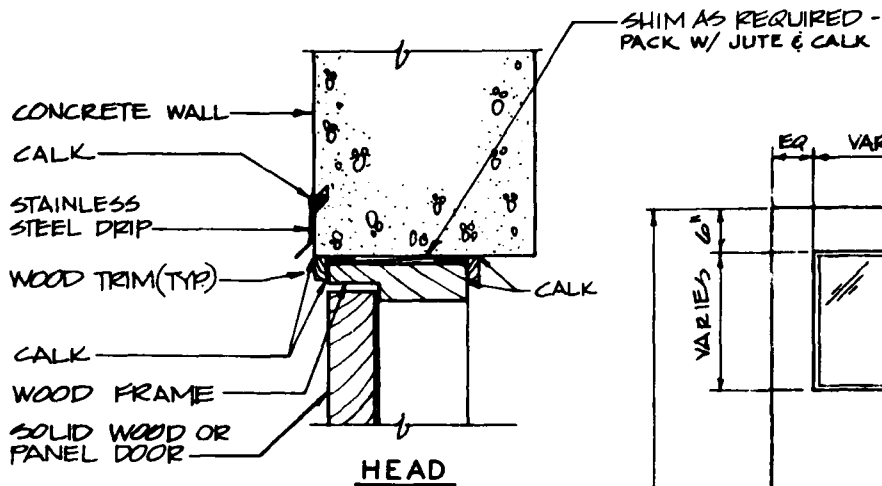
1. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS I, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
2. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
3. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
4. DOOR HARDWARE SHALL BE NON-SPARKING.
5. FRP DOORS AND FRAMES SHALL BE REINFORCED FOR HARDWARE AND MECHANICAL OPERATING DEVICES.
6. FRP DOOR EDGES SHALL BE SEALED WITH RESIN.
7. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
8. ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
9. GLAZING SHALL BE SHADED TO PREVENT THE ENTRY OF DIRECT SUNLIGHT.
10. FOR FINISHES SEE DRAWING 19427.
11. DOOR OPENING SHALL BE 30"X78" MINIMUM.
12. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.



GRAPHIC SCALE

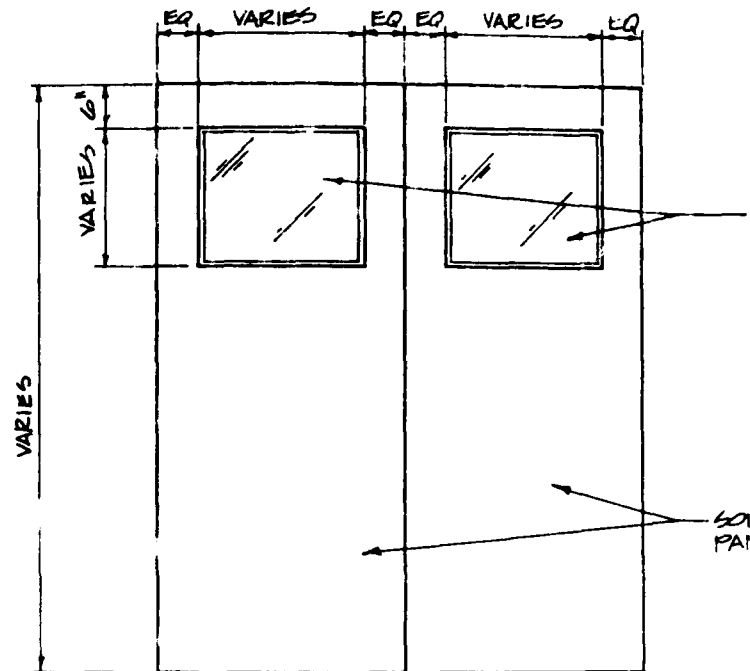
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SYNOPSIS		DATE APPROVED
REVISIONS		
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
	OFFICE OF THE PROJECT MANAGER FOR HUNTSVILLE PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
	STANDARD DETAILS	
	NITROGLYCERIN FACILITY CONCRETE CONSTRUCTION FRP EQUIPMENT DOOR DETAILS	
DATE: 19 MARCH '01	DES. BY: TDH	DWG. NO. 19423



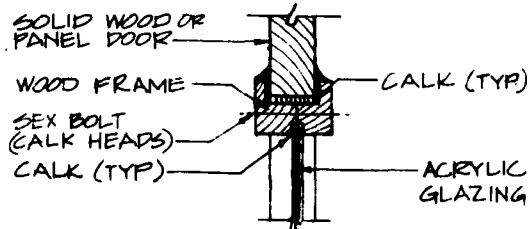
DOOR DETAILS

SCALE: 3" = 1'-0"



INTERIOR ELEVATION

NO SCALE



WINDOW DETAIL

SCALE: 3" = 1'-0"

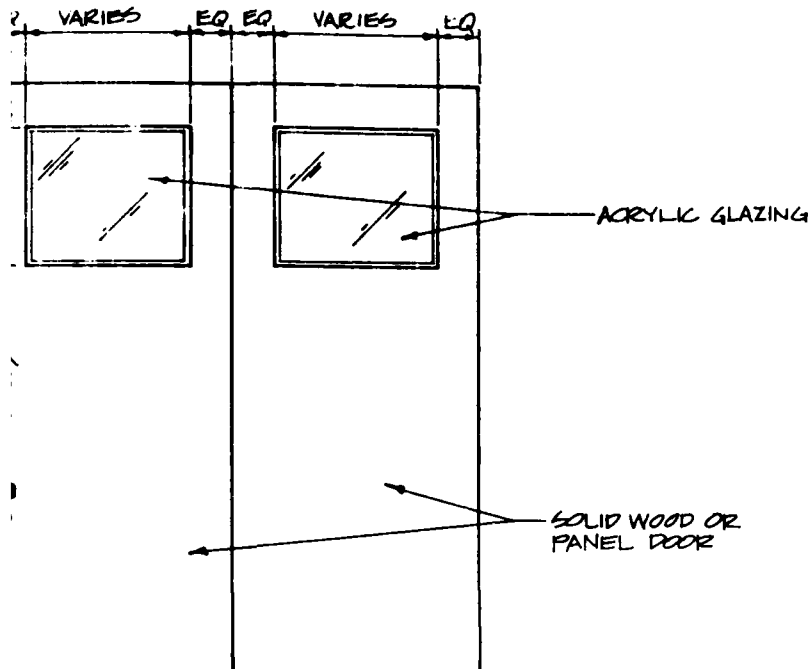


GRAPH

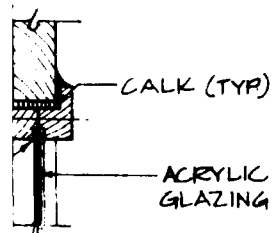
GENERAL NOTES:

1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. DOOR HARDWARE SHALL BE NON-SPARKING.
3. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
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5. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
6. ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
7. GLAZING SHALL BE SHADED TO PREVENT THE ENTRY OF DIRECT SUNLIGHT.
8. DOOR OPENING SHALL BE 30"x78" MINIMUM.

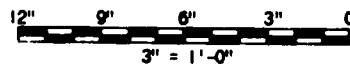
REQUIRED -
CALK



INTERIOR ELEVATION
NO SCALE



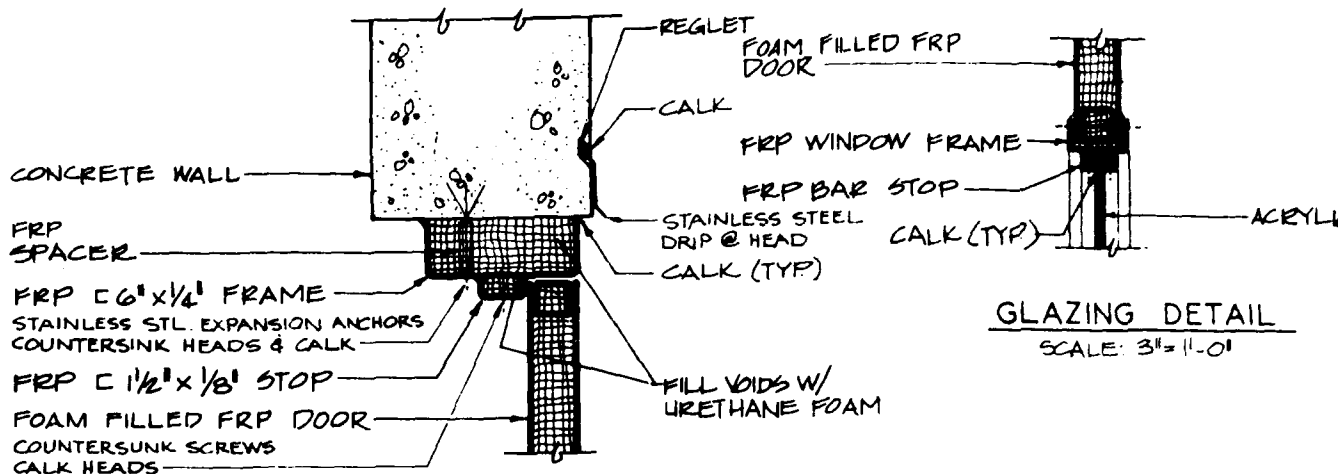
DOOR DETAIL
E 3" = 1'-0"



GRAPHIC SCALE

SYMBOLS		DATE APPROVED	
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY CONCRETE CONSTRUCTION WOOD EQUIPMENT DOOR	
DATE: 19 MARCH '61	DESIGNED BY: JTH	DRAWN BY: JTH	DWG. NO. 19424

2

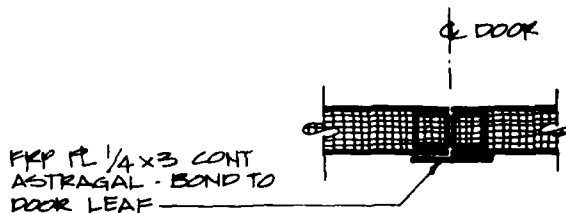


GLAZING DETAIL

SCALE: 3" = 1'-0"

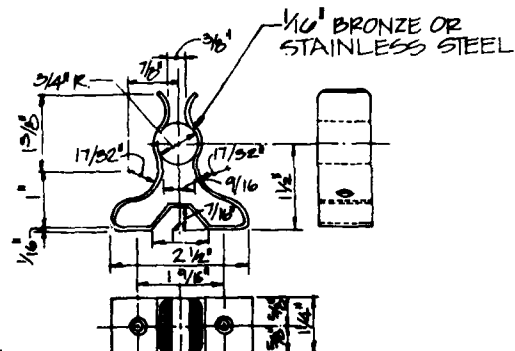
HEAD & JAMB DETAIL

SCALE: 3" = 1'-0"



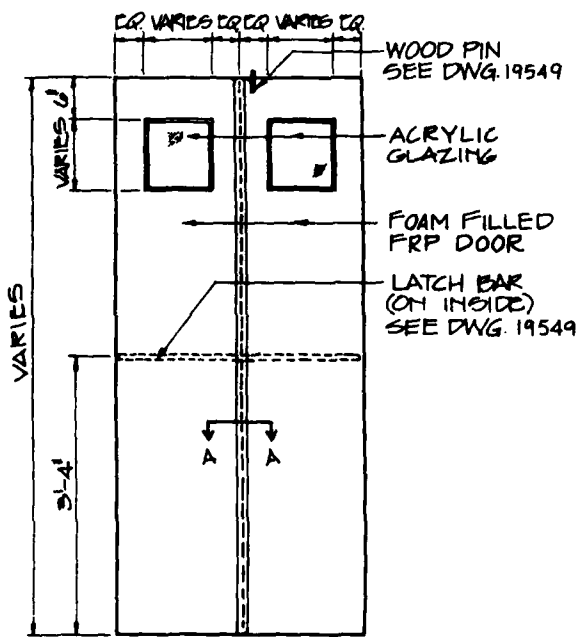
SECTION A-A

SCALE: 3" = 1'-0"



SPRING TYPE CATCH DETAIL

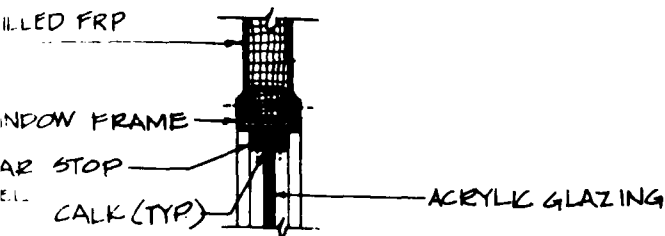
SCALE: HALF SCALE



EXTERIOR DOOR ELEVATION

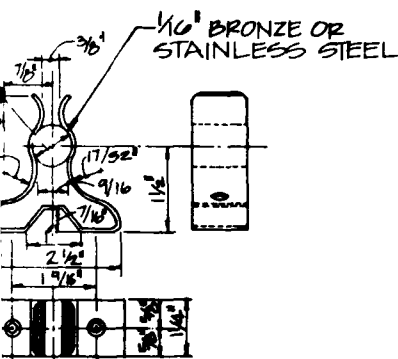
NO SCALE



**GLAZING DETAIL**

SCALE: 3" = 1'-0"

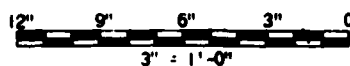
2AM

**SPRING TYPE
LATCH DETAIL**

SCALE: HALF SCALE

GENERAL NOTES:

1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. DOOR HARDWARE SHALL BE NON-SPARKING.
3. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS I, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
4. FRP DOORS AND FRAMES SHALL BE REINFORCED FOR HARDWARE AND MECHANICAL OPERATING DEVICES.
5. FRP DOOR EDGES SHALL BE SEALED WITH RESIN.
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7. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
8. FOR FINISHES SEE DRAWING 19427.
9. ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
10. GLAZING SHALL BE SHADED TO PREVENT ENTRY OF DIRECT SUNLIGHT.
11. DOOR OPENING SHALL BE 30"x78" MINIMUM.
12. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.



2

SYMBOLS		REVISIONS		DATE APPROVED	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA			
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY			
		STANDARD DETAILS			
		NITROGLYCERIN FACILITY CONCRETE CONSTRUCTION			
		FRP PERSONNEL ESCAPE DOOR			
DATE 19 MARCH 81		DRAWN BY ES		CHECKED BY TDP	
				19425	

CONCRETE WALL
CALK

REGLET

STAINLESS STEEL DRIP

WOOD FRAME

WOOD TRIM

SOLID WOOD OR
PANEL DOOR

SHIM AS REQ'D - PACK
W/ JUTE AND CALK

CALK (TYP.)

HEAD

CONCRETE WALL

SHIM AS REQ'D - PACK
W/ JUTE & CALK

CALK (TYP.)

WOOD FRAME

SOLID WOOD OR
PANEL DOOR

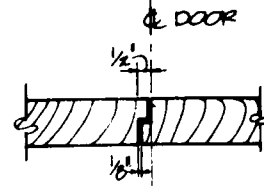
WOOD TRIM
(TYP.)

COUNTERSUNK
STAINLESS STEEL
EXPANSION ANCHOR
(MIN. 3 PER JAMB)
CALK HEADS.

JAMB

DOOR DETAILS

SCALE: 3" = 1'-0"

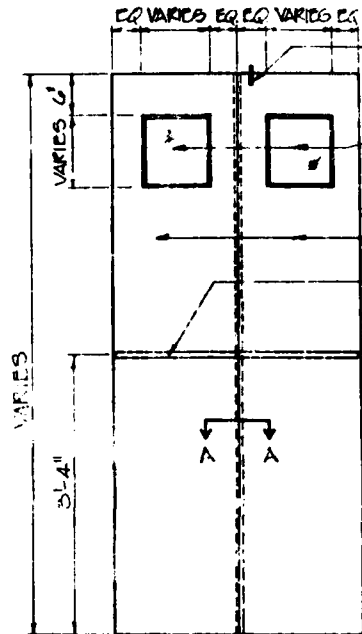
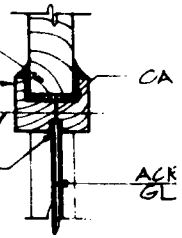


SOLID WOOD OR
PANEL DOOR

WOOD FRAME

SEX BOLT
(CALK HEADS)

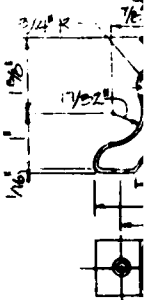
CALK (TYP.)



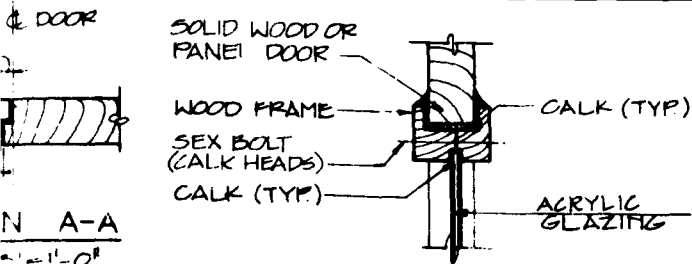
WOOD PIN
SEE DWG 19549

ACRYLIC
GLAZING

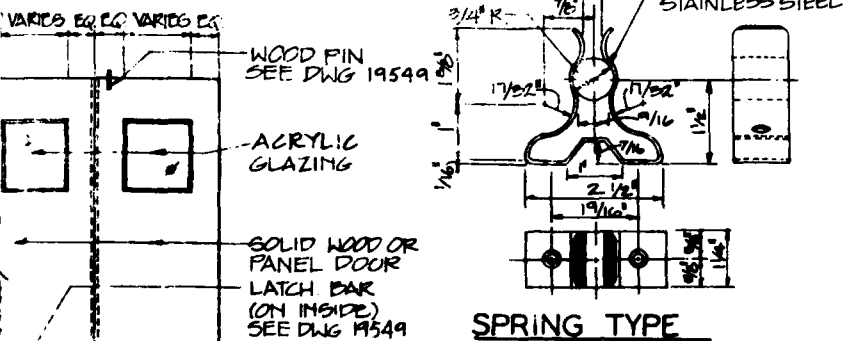
SOLID WOOD OR
PANEL DOOR
LATCH BAR
(ON INSIDE)
SEE DWG 19549



GRAPHIC

**WINDOW DETAIL**

SCALE: 3/4" = 1'-0"

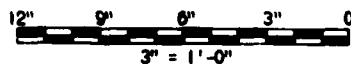
**SPRING TYPE
CATCH DETAIL**

SCALE: HALF SIZE

GENERAL NOTES:

1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. DOOR HARDWARE SHALL BE NON-SPARKING.
3. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
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5. FOR FINISHES SEE DRAWING 19427.
6. ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
7. GLAZING SHALL BE SHADED TO PREVENT ENTRY OF DIRECT SUNLIGHT.
8. DOOR OPENING SHALL BE 30"X78" MINIMUM.

**EXTERIOR
OR ELEVATION**
NO SCALE



GRAPHIC SCALES

2

SYMBOL		DATE APPROVED
REVISIONS		
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
	OFFICE OF THE PROJECT MANAGER FOR SEVENTH PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
	STANDARD DETAILS	
	NITROGLYCERIN FACILITY CONCRETE CONSTRUCTION	
DATE: 19 MARCH 61	WOOD PERSONNEL ESCAPE DOOR	
DESIGN BY: ES	CHECK BY: TCH	DWG NO. 19426

CORPS OF ENGINEERS

ROOM FINISH SCHEDULE

ROOM TYPE	FINISH			
	FLOOR	BASE	WALL	CEILING
CONTROL ROOMS, TOILETS AND NON-EXPLOSIVE AREAS	1/8" VINYL ASBESTOS TILE, EXPOSED CONCRETE OR PAINTED	4" VINYL OR PAINTED	PAINTED	PAINTED
NITROGLYCERIN PROCESS AREAS AND EXPLOSIVE AREAS	LEAD OR TROWEL ON CONDUCTIVE FLOOR	LEAD OR TROWEL ON CONDUCTIVE BASE	NITROGLYCERIN RESISTANT PAINT	NITROGLYCERIN PAINT

PAINTING NOTES:

1. THE FOLLOWING LISTED ITEMS SHALL NOT BE PAINTED:
 - STAINLESS STEEL
 - INTERIOR ALUMINUM, BRASS, BRONZE SURFACES.
 - ACRYLIC GLAZING.
 - DOOR AND WINDOW HARDWARE EXCEPT DOOR OPERATORS COVER.
 - LEAD FLOORING AND BASES, EXCEPT FIRST AND LAST STAIR TREADS, CURBS, AND DOOR THRESHOLDS, WHICH SHALL BE PAINTED AS REQUIRED.

H SCHEDULE

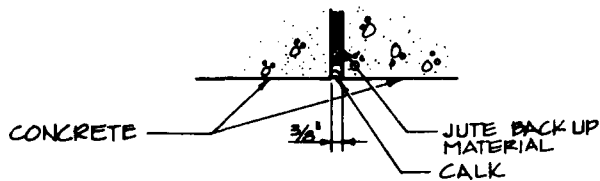
FINISH

BASE	WALL	CEILING
OR PAINTED	PAINTED	PAINTED
TROWEL ON VE BASE	NITROGLYCERIN RESISTANT PAINT	NITROGLYCERIN RESISTANT PAINT

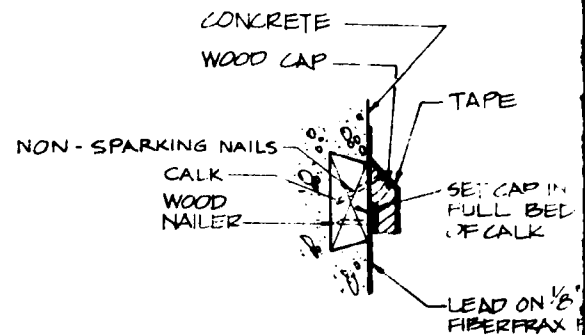
GENERAL NOTES:

1. ALL INTERIOR DOORS, INTERIOR SURFACES OF EXTERIOR DOORS (INCLUDING EDGES), INTERIOR SURFACES OF WINDOWS, INTERIOR CARPENTRY ITEMS, EXPOSED STRUCTURE AND INTERIOR TRIM SHALL BE PAINTED THE SAME PAINT SYSTEM AS THE ROOM OR BUILDING IN WHICH SAME OCCURS.
2. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
3. NITROGLYCERIN RESISTANT PAINT SHALL BE A CHLORINATED RUBBER ENAMEL WITH A MAXIMUM NITROGLYCERIN ABSORPTION OF 1%.
4. TROWEL ON CONDUCTIVE FLOOR SHALL BE A TROWELED, JOINTLESS, STATIC CONDUCTIVE FLOOR. IT SHALL BE A WATER-PHASE RESIN MATERIAL WITH ACETYLENE CARBON BLACK, AND IT SHALL BE APPLIED IN A SERIES OF COATS TO ACHIEVE A SMOOTH FINISH. THICKNESS AND INSTALLATION OF CONDUCTIVE FLOOR SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
5. LEAD ON FLOOR AND BASE SHALL BE 8 TO 20 POUND, 4 TO 6% ANTIMONY DEPENDING ON FLOOR LOADING. LEAD ON WAINSCOT SHALL BE 6 POUND MIN., 4 TO 6% ANTIMONY.
6. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.
7. DETAILS OF TROWEL ON CONDUCTIVE FLOOR FOR NITROGLYCERIN FACILITIES SHALL BE THE SAME AS FOR SINGLE BASE AND MULTIBASE FACILITIES. SEE DRAWINGS 19505, 19506, 19507 AND 19508.

BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR HUNTSVILLE PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY CONCRETE CONSTRUCTION	
		INTERIOR FINISHES	
DATE: 19 MARCH 1961		19427	
DRAWN BY: CJS		CHECKED BY: TDPH	

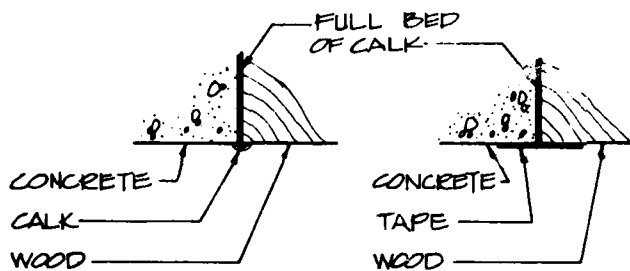


CONCRETE TO CONCRETE JOINT



TAPED

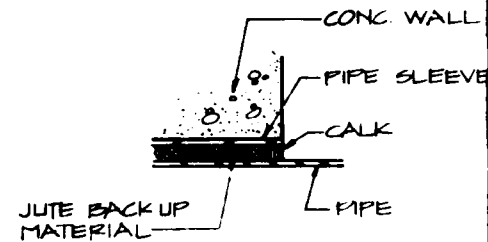
CONCRETE TO LEAD JOINT



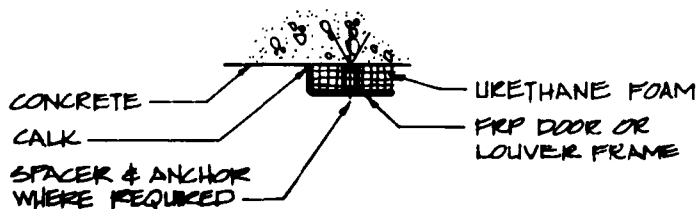
CALKED

TAPED

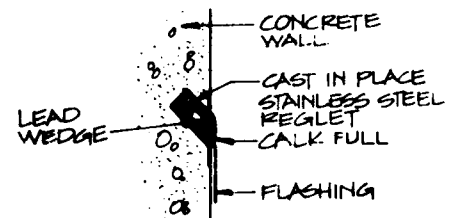
CONCRETE TO WOOD DETAIL



PIPE SLEEVE



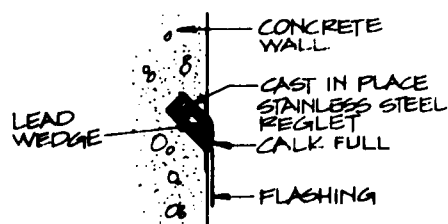
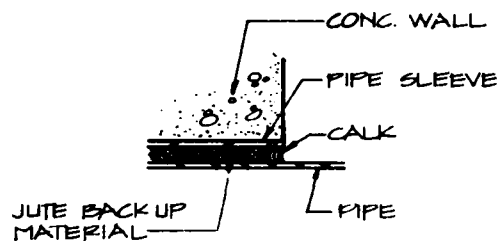
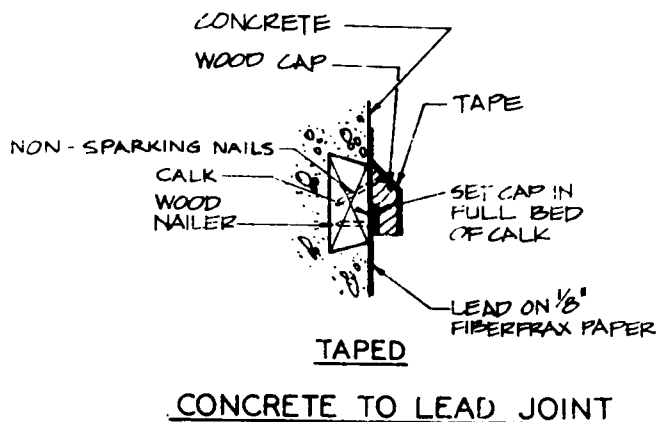
CONCRETE TO FRP JOINT



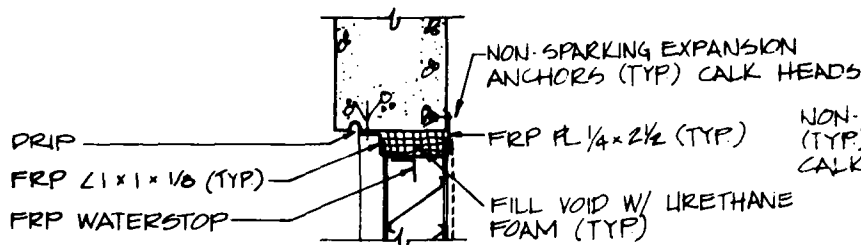
REGLET

GENERAL NOTES:

1. ALL TAPED JOINTS AND NAIL HEADS SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
2. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH, WITH PINKED EDGES OF 8 PINKS PER INCH.
3. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER/RESIN SOLUTION.
4. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
5. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
6. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINT-ABLE SILICONE CALKING COMPOUND. ALL CALK SHALL BE APPLIED IN ACCORDANCE WITH DEPARTMENT OF THE ARMY TECHNICAL MANUAL TM 5-805-6.



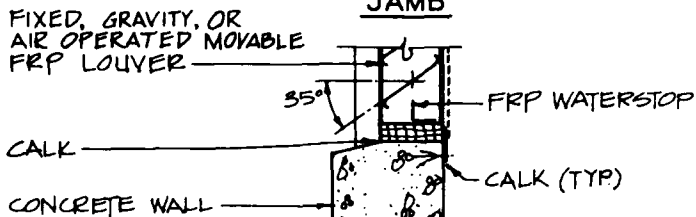
SYMBOL		DATE APPROVED	
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
DATE: 17 MARCH 61		NITROGLYCERIN FACILITY CONCRETE CONSTRUCTION JOINT SEALING	
DESIGNED BY: MTT	CHECKED BY: TEN	DOWNS NO. 19428	



HEAD



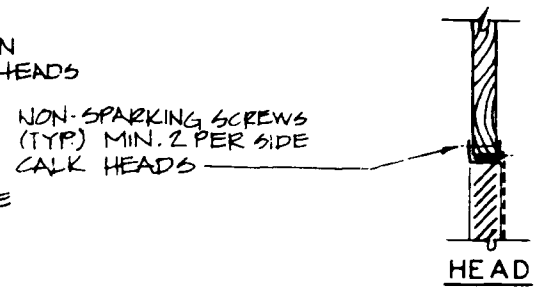
JAMB



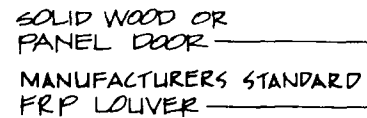
SILL

FRP WALL LOUVER DETAILS

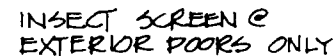
SCALE: $\frac{1}{2}" = 1'-0"$



HEAD



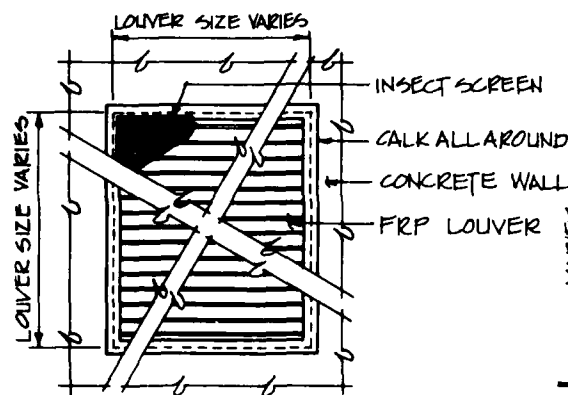
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SILL

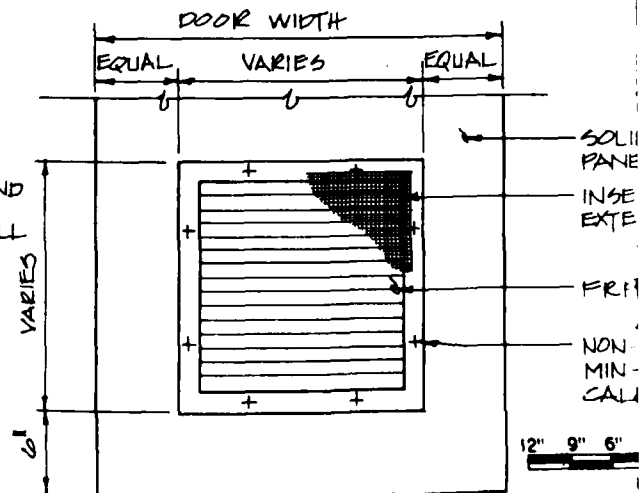
FRP DOOR LOUVER

SCALE: $\frac{1}{2}" = 1'-0"$



INTERIOR ELEVATION
FRP WALL LOUVER

SCALE: $\frac{1}{2}" = 1'-0"$



INTERIOR ELEVATION
FRP DOOR LOUVER

SCALE: $\frac{1}{2}" = 1'-0"$

GRA

NON-SPARKING
CALK HEADS

NON-SPARKING SCREWS
(TYP) MIN. 2 PER SIDE
CALK HEADS

HANE

SOLID WOOD OR
PANEL DOOR

MANUFACTURERS STANDARD
FRP LOUVER

INSECT SCREEN @
EXTERIOR DOORS ONLY

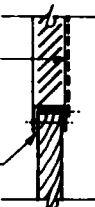
CALK ALL AROUND
BOTH SIDES OF DOOR



HEAD



JAMB



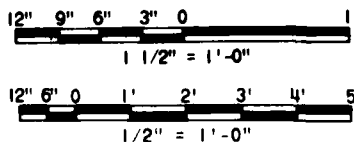
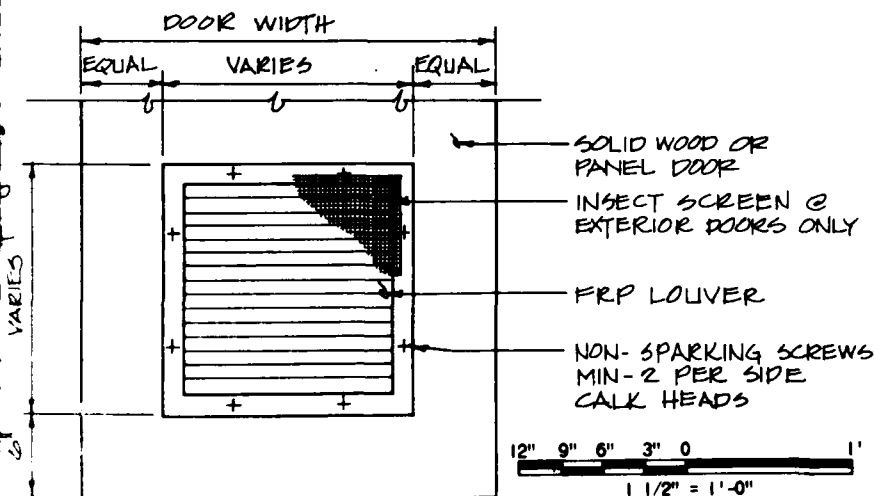
SILL

FRP DOOR LOUVER DETAILS

SCALE: 1/2" = 1'-0"

GENERAL NOTES:

1. INSECT SCREEN SHALL BE PVC COATED FIBER-GLASS. (16x16 MESH) INSECT SCREEN SHALL BE LOCATED ON INTERIOR OR EXTERIOR SURFACE OF LOUVERS AS REQUIRED.
2. FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
3. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
4. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS I, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
5. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
6. FOR FINISHES SEE DRAWING 19427.
7. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.



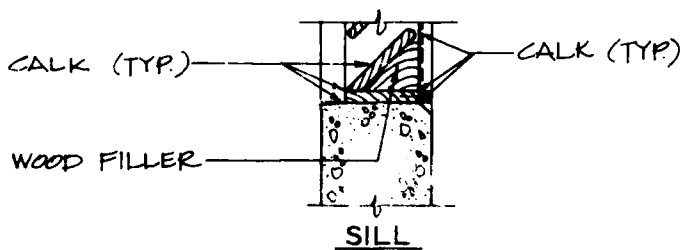
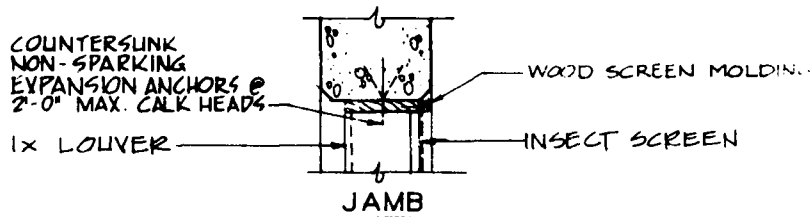
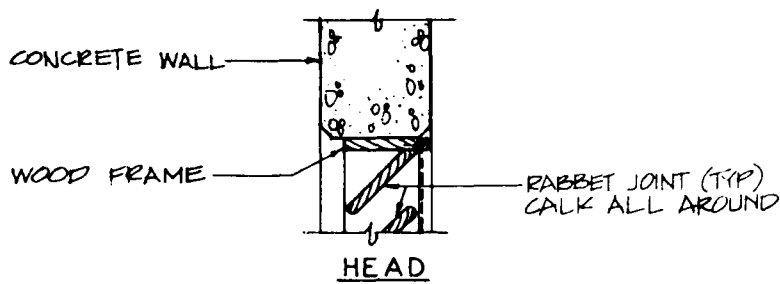
INTERIOR ELEVATION FRP DOOR LOUVER

SCALE: 1/2" = 1'-0"

GRAPHIC SCALE

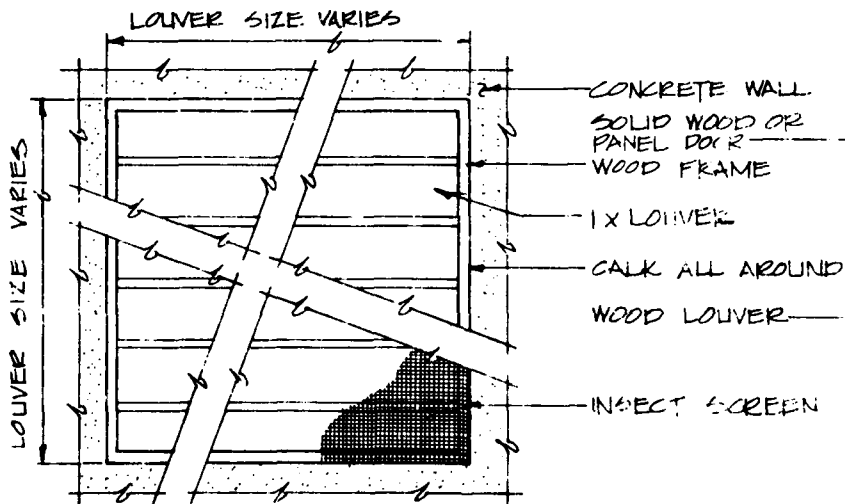
2

SYNOPSIS		DATE	APPROVED
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY CONCRETE CONSTRUCTION	
DATE: 19 MARCH 61		FRP LOUVER DETAILS	
DESIGNED BY: E6	CHECKED BY: TDH	DWG NO. 19429	



WOOD WALL LOUVER DETAILS

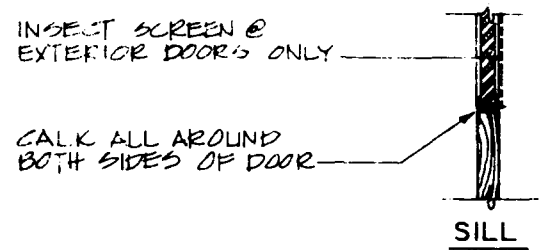
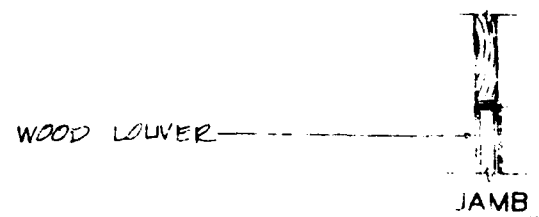
SCALE: 1 1/2" = 1'-0"



INTERIOR ELEVATION

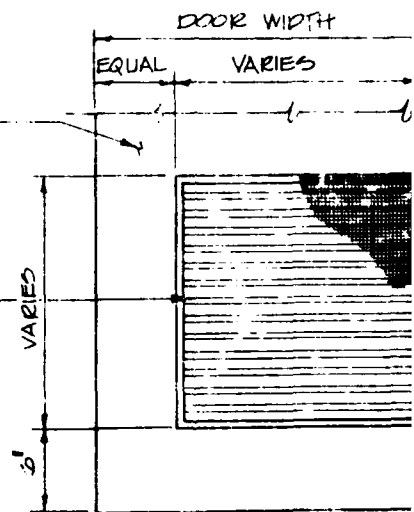
WOOD WALL LOUVER

SCALE: 1 1/2" = 1'-0"



WOOD DOOR LOUVER

SCALE: 1 1/2" = 1'-0"



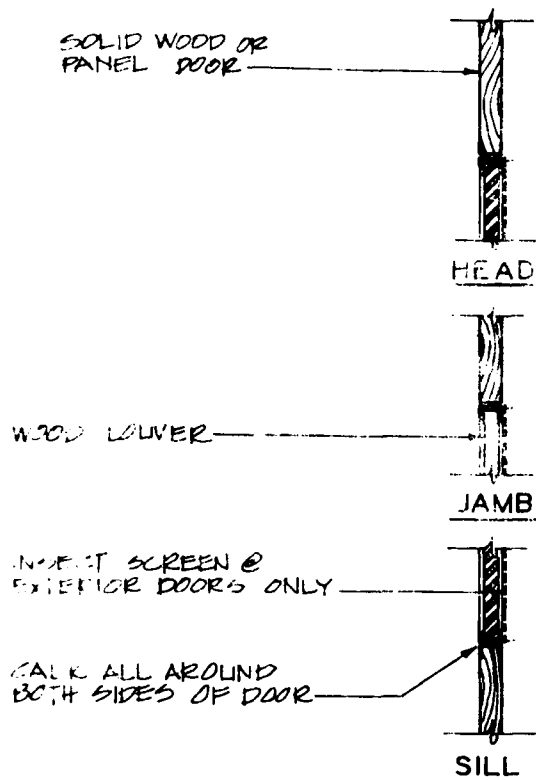
INTERIOR ELEVATION

WOOD DOOR LOUVER

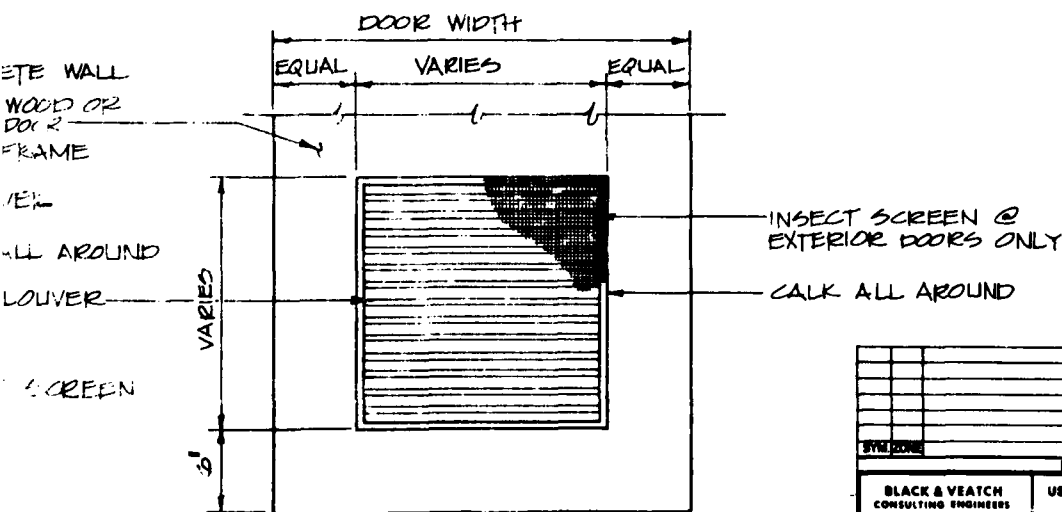
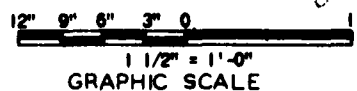
SCALE: 1 1/2" = 1'-0"

GENERAL NOTES:

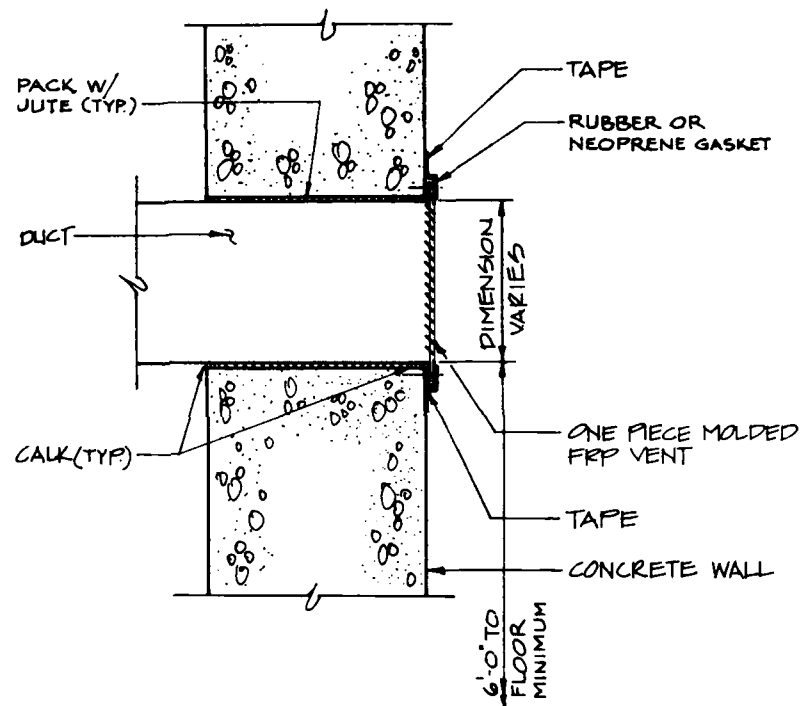
1. INSECT SCREEN SHALL BE PVC COATED FIBERGLASS. (16x16 MESH) INSECT SCREEN SHALL BE LOCATED ON INTERIOR OR EXTERIOR SURFACE OF LOUVERS AS REQUIRED.
2. FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
3. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINT-ABLE SILICONE CALKING COMPOUND.
4. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
5. FOR FINISHES SEE DRAWING 19427.



WOOD DOOR LOUVER DETAILS

SCALE: $1\frac{1}{2}" = 1'-0"$ INTERIOR ELEVATION
WOOD DOOR LOUVERSCALE: $1\frac{1}{2}" = 1'-0"$ 

SYNOPSIS		DATE APPROVED	
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY CONCRETE CONSTRUCTION	
DATE: 19 MARCH 64		WOOD DOOR AND WALL LOUVERS	
DESIGNED BY: BJS	CHECKED BY: JDPH	DATE: 19430	



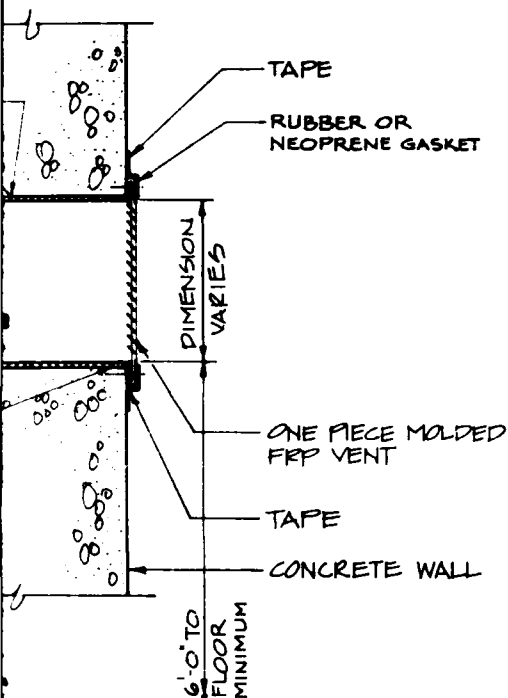
FRP VENT DETAIL
SCALE: 3" = 1'-0"



GRAPH

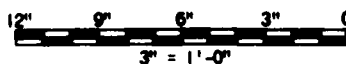
GENERAL NOTES:

1. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT CLASS 1, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
2. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
3. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
4. FOR FINISHES SEE DRAWING 19427.
5. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.



VENT DETAIL

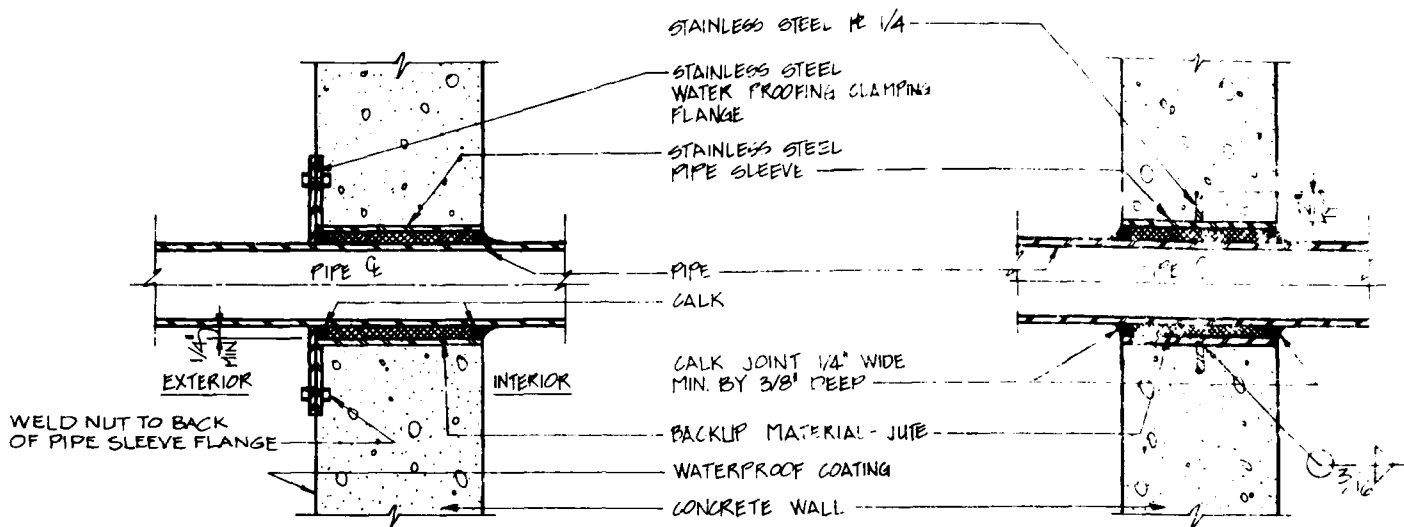
SCALE 3" = 1'-0"



GRAPHIC SCALE

SYMBOLS		DATE APPROVED
REVISIONS		
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
	OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
	STANDARD DETAILS	
	NITROGLYCERIN FACILITY CONCRETE CONSTRUCTION	
FRP WALL VENT		
DATE: 19 MARCH '81	DESIGNED BY: JEM	CHECKED BY: JDM
DRAWING NO. 19431		

2

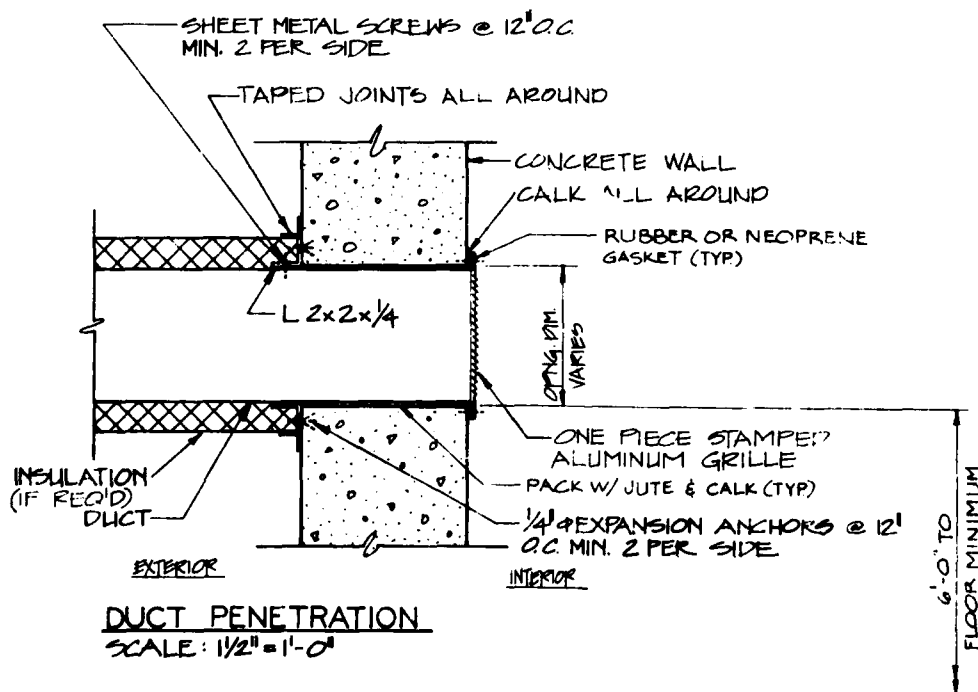


PIPE SLEEVE THROUGH CONCRETE WALL BELOW GRADE

SCALE: 1 1/2" = 1'-0"

PIPE SLEEVE THROUGH CONCRETE WALL ABOVE GRADE

SCALE: 1 1/2" = 1'-0"



DUCT PENETRATION

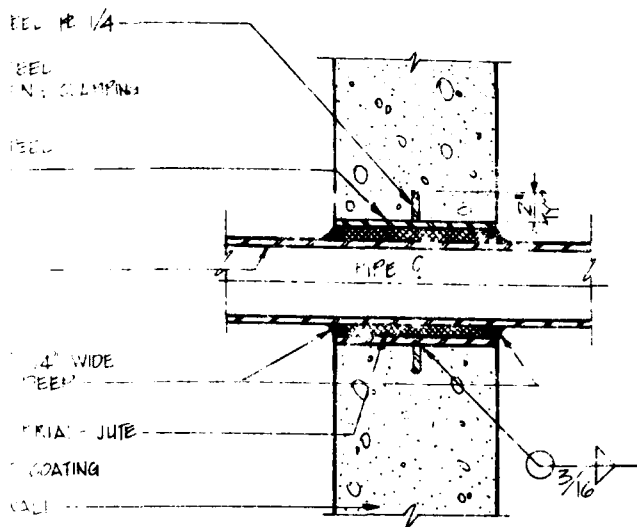
SCALE: 1 1/2" = 1'-0"

12" 9" 6"

GRA

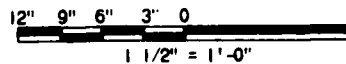
GENERAL NOTES:

1. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
2. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
3. ALL TAPED JOINTS SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
4. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH, WITH PINKED EDGES OF 9 PINKS PER INCH.
5. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER/RESIN SOLUTION.
6. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
7. FOR FINISHES SEE DRAWING 19427.



PIPE SLEEVE THROUGH
CONCRETE WALL ABOVE GRADE

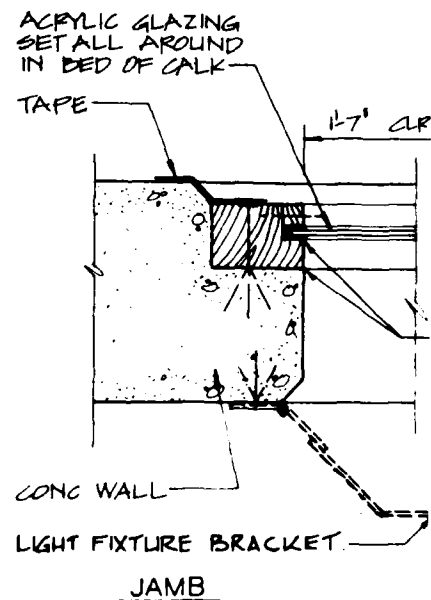
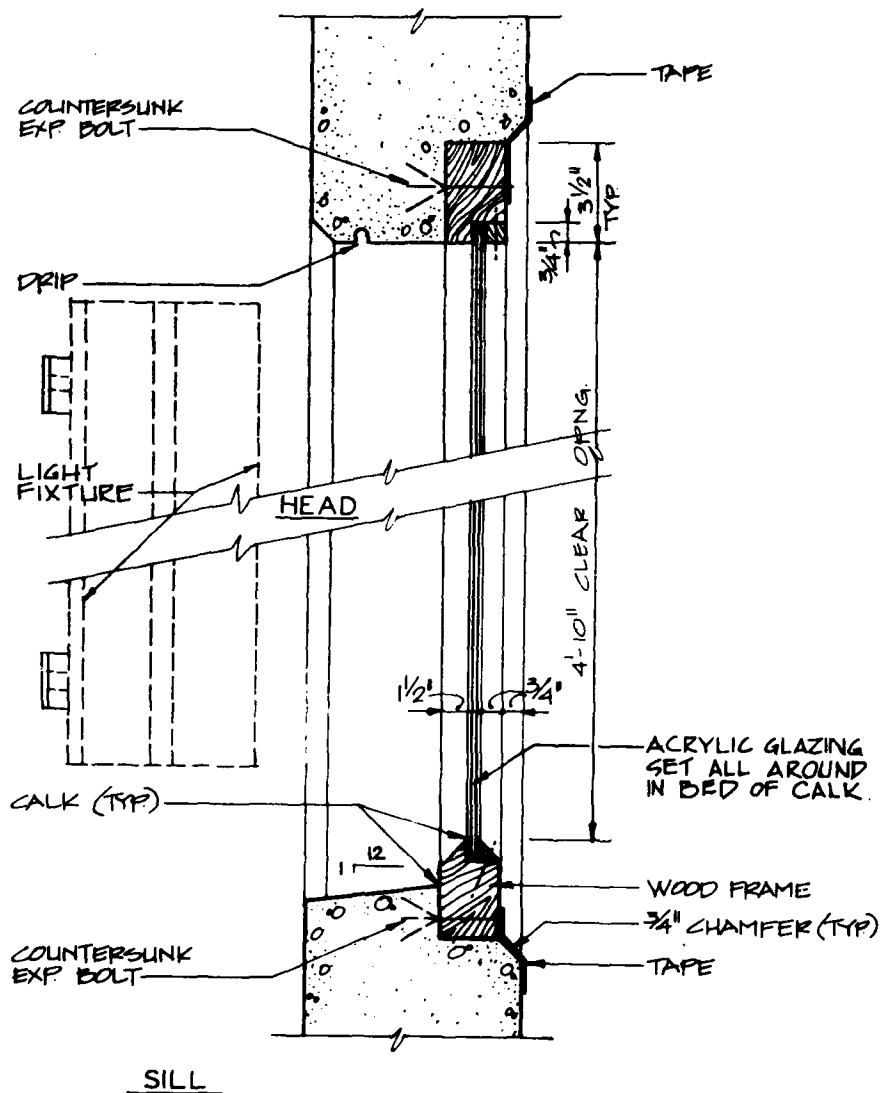
SCALE: 1/2" = 1'-0"



GRAPHIC SCALE

SYMBOLS		DATE APPROVED
REVISIONS		
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
	OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
	STANDARD DETAILS	
	NITROGLYCERIN FACILITY CONCRETE CONSTRUCTION	
	WALL PENETRATIONS	
DATE: 19 MARCH '81		
DESIGNED BY: JET	CHECKED BY: TDH	DWG. NO. 19432

2

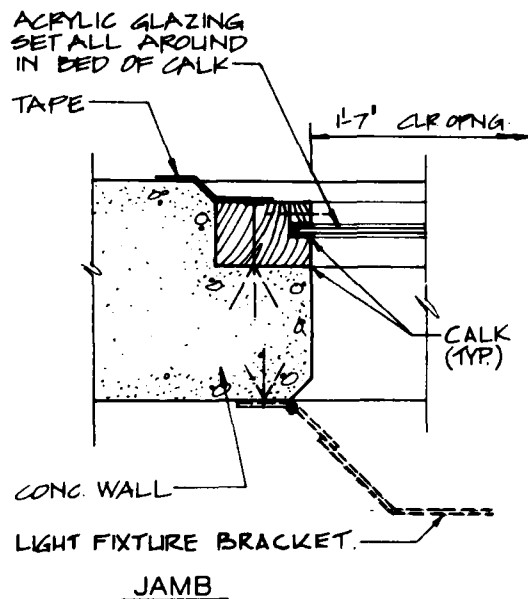
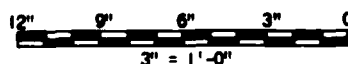


WINDOW DETAILS
SCALE: 3/8" = 1'-0"



GENERAL NOTES:

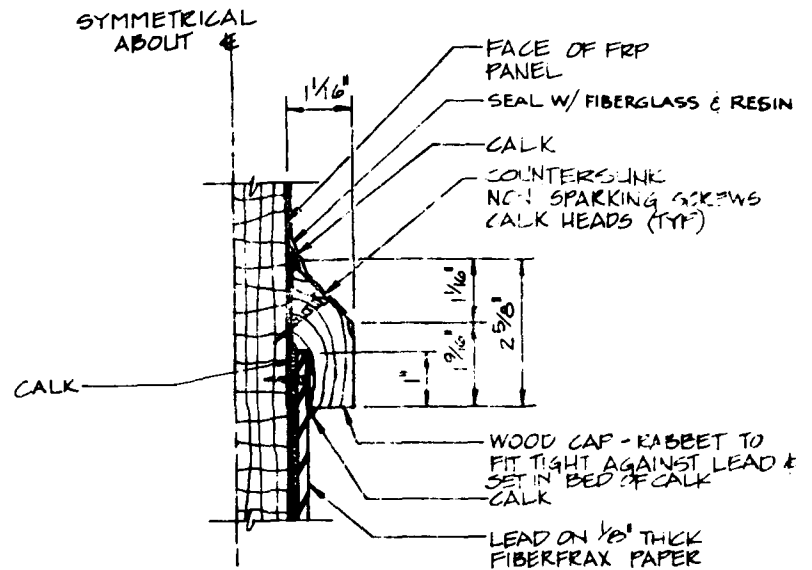
1. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
2. INTERIOR CANT STRIPS TO BE 1:1 PITCH MIN.
3. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
4. ALL TAPED JOINTS AND NAIL HEADS SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
5. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH, WITH PINKED EDGES OF 8 PINKS PER INCH.
6. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER/RESIN SOLUTION.
7. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
8. ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
9. CLEAR ACRYLIC GLAZING SHALL BE SHADED TO PREVENT THE ENTRY OF DIRECT SUNLIGHT.
10. FOR FINISHES SEE DRAWING 19427.

GLAZING
AROUND
F CALKAME
FER (TYP)DETAILS
120

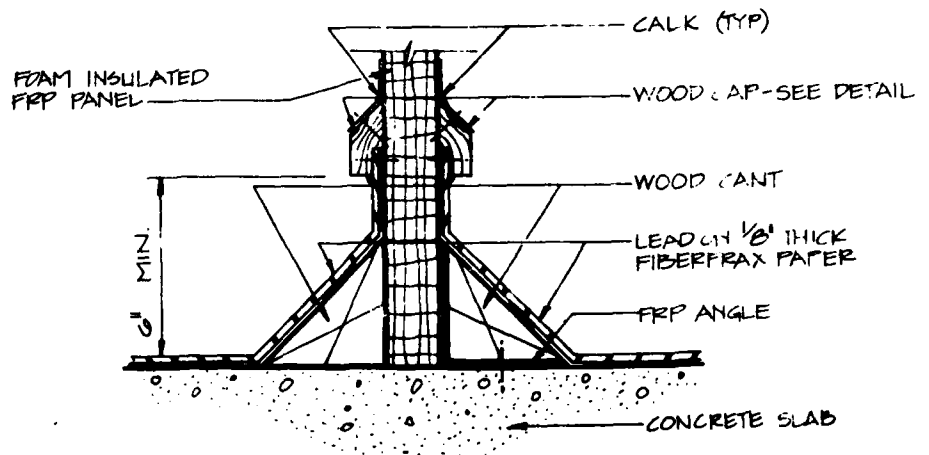
GRAPHIC SCALE

2

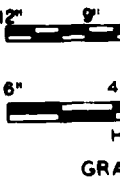
SYMBOLS		REVISIONS		DATE APPROVED	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA			
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY			
		STANDARD DETAILS			
		NITROGLYCERIN FACILITY CONCRETE CONSTRUCTION			
		EXTERIOR LIGHTING WINDOW DETAILS			
DATE: 19 MARCH 64		DRAWN BY: KTY		CHECKED BY: YCH	
				PUB. NO. 19433	



WOOD CAP DETAIL
HALF SCALE



INTERIOR WALL / FLOOR INTERFACE DETAIL
SCALE: 3"=1'-0"

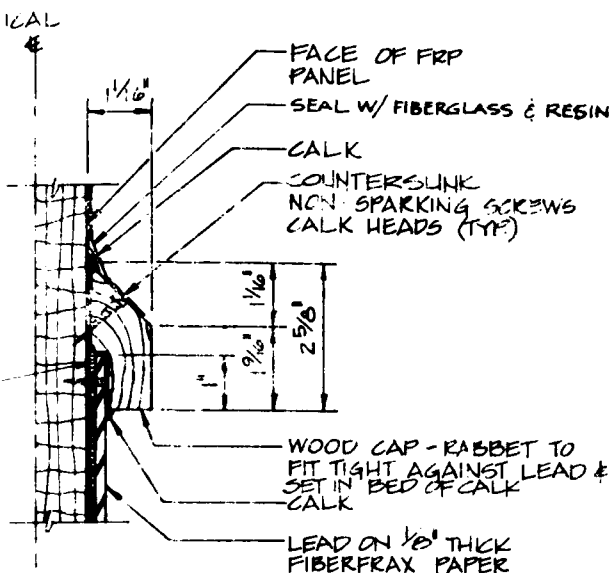


H

GRA

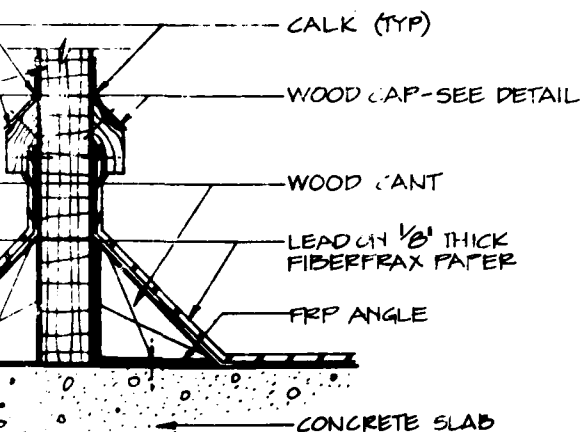
GENERAL NOTES:

1. ALL HORIZONTAL JOINTS IN THE LEAD SHALL BE BUTT JOINTS. ALL VERTICAL JOINTS SHALL BE BUTT JOINTS EXCEPT WHERE A LAP JOINT IS THE ONLY TYPE POSSIBLE. ALL WELDS SHALL BE FULL PENETRATION. LAP JOINTS SHALL BE 5" LAP MIN. NO JOINTS SHALL BE WITHIN 8" OF WALL/FLOOR INTERSECTION.
2. THE SURFACES OF ALL JOINTS TO BE WELDED AND THE WELDING ROD ITSELF SHALL BE "SHAVED" OR WIRE BRUSHED TO REMOVE ALL OXIDE AND PRESENT A BRIGHT METALLIC SURFACE.
3. LEAD ON FLOOR SHALL BE 8 TO 20 POUND, 4 TO 6% ANTIMONY DEPENDING ON FLOOR LOADING. LEAD ON WALL SHALL BE 6 POUND MIN., 4 TO 6% ANTIMONY.
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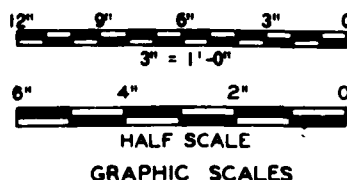
WOOD CAP DETAIL

HALF SCALE



FLOOR INTERFACE DETAIL

SCALE 3"=1'-0"

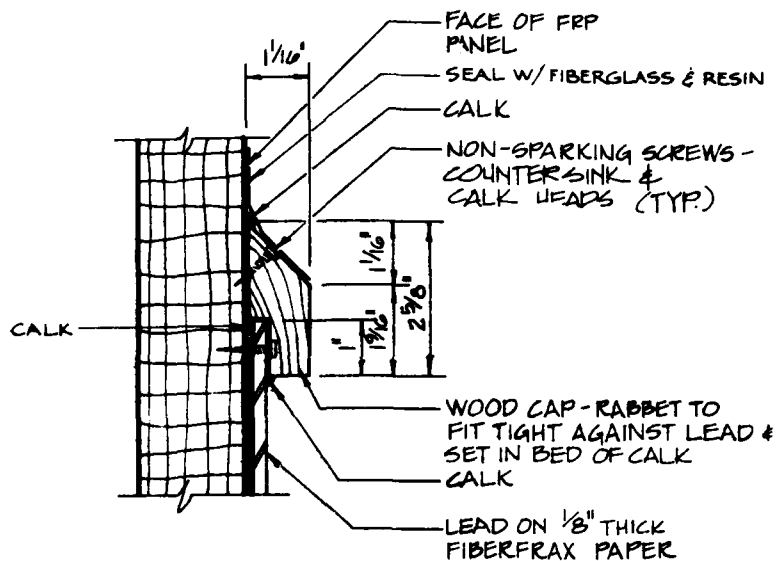


HALF SCALE

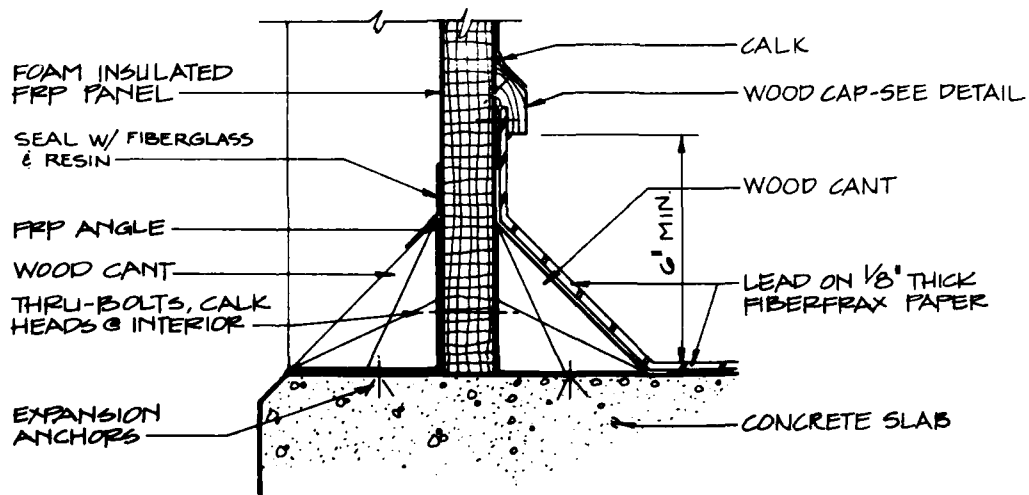
GRAPHIC SCALES

SYMBOL		DATE	APPROVED
REVISIONS BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI			
US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA			
OFFICE OF THE PROJECT MANAGER FOR HUNTSVILLE PRODUCTION BASE MODERNIZATION AND EXPANSION DOWEN, NEW JERSEY			
STANDARD DETAILS			
NITROGLYCERIN FACILITY FRP PANEL CONSTRUCTION			
LEAD CONDUCTIVE FLOOR INTERIOR WALL/FLOOR INTERFACE			
DATE: 19 MARCH 81	DESIGN BY: JET	CHECK BY: TFW	SCALE: 19434

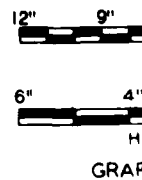
2



WOOD CAP DETAIL
HALF SIZE

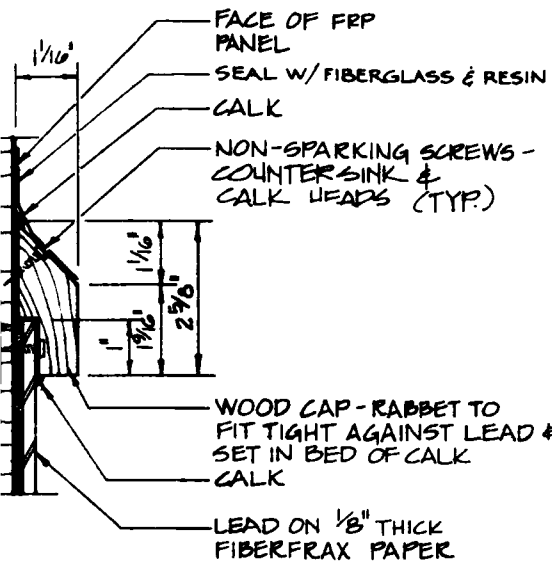
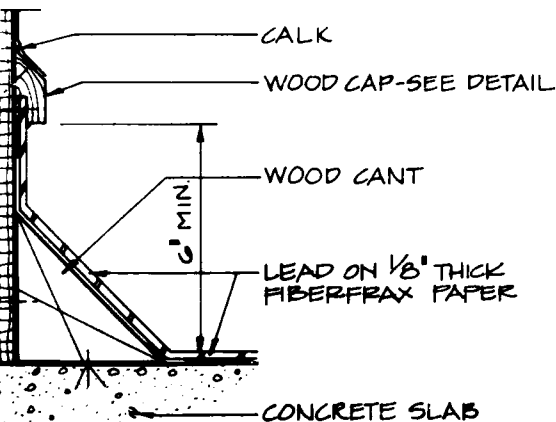


WALL/FLOOR INTERFACE DETAIL
SCALE: 3"=1'-0"



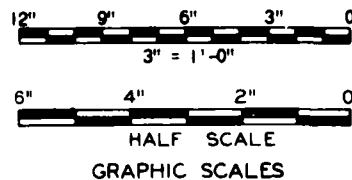
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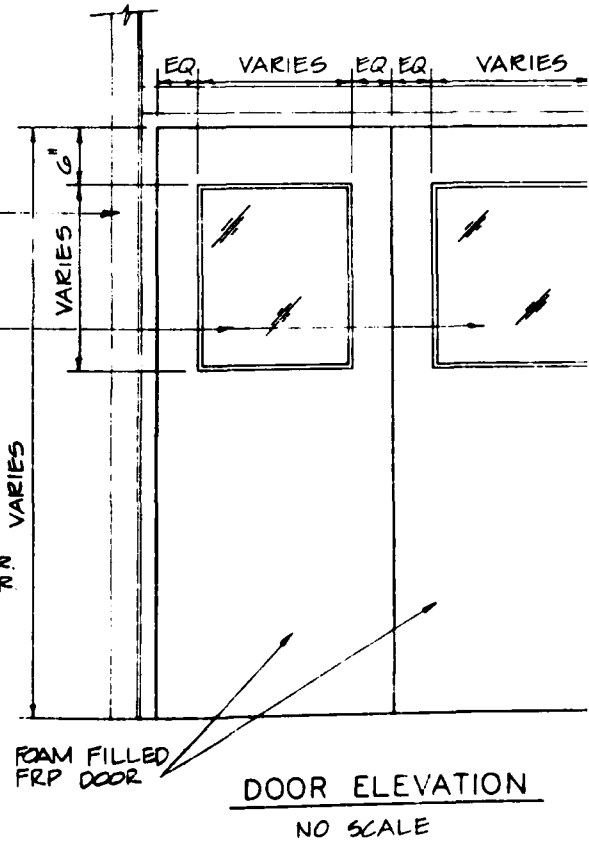
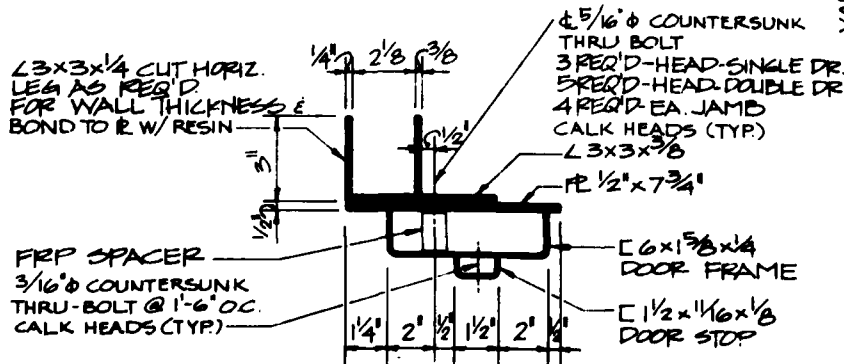
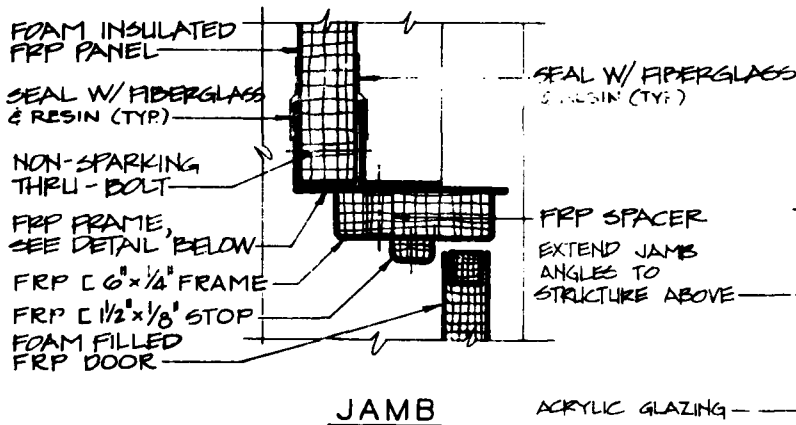
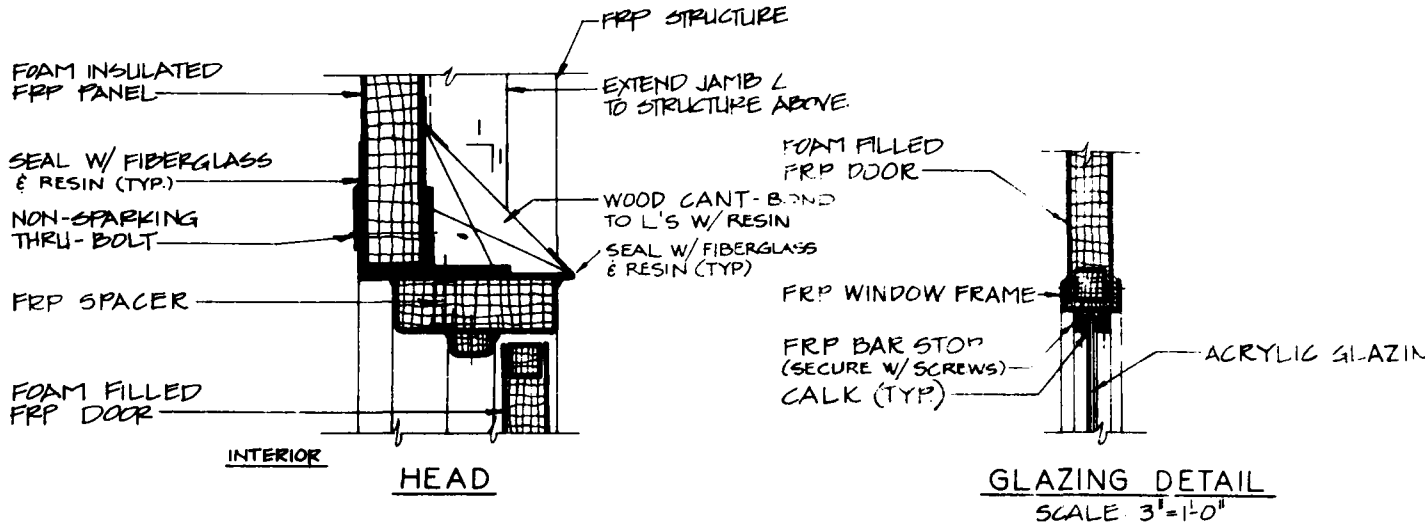
DETAIL
SIZE

INTERFACE DETAIL

3'-1'-0"

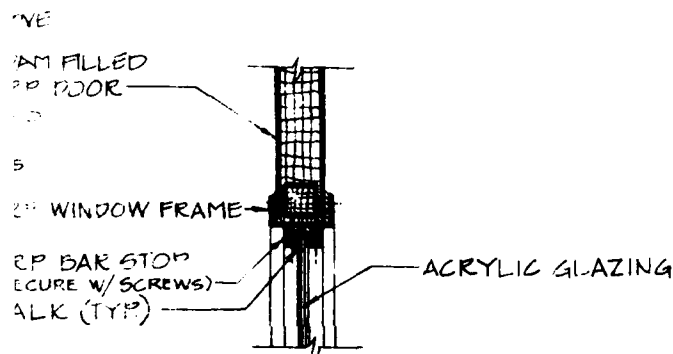


DATE: 19 MARCH 81		DATE APPROVED	
BY: ETY		BY: [Signature]	
CHKD BY: 12H		CHKD BY: [Signature]	
DWN. NO. 19435		DWN. NO. 19435	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY		STANDARD DETAILS	
NITROGLYCERIN FACILITY FRP PANEL CONSTRUCTION		LEAD CONDUCTIVE FLOOR WALL/FLOOR INTERFACE	

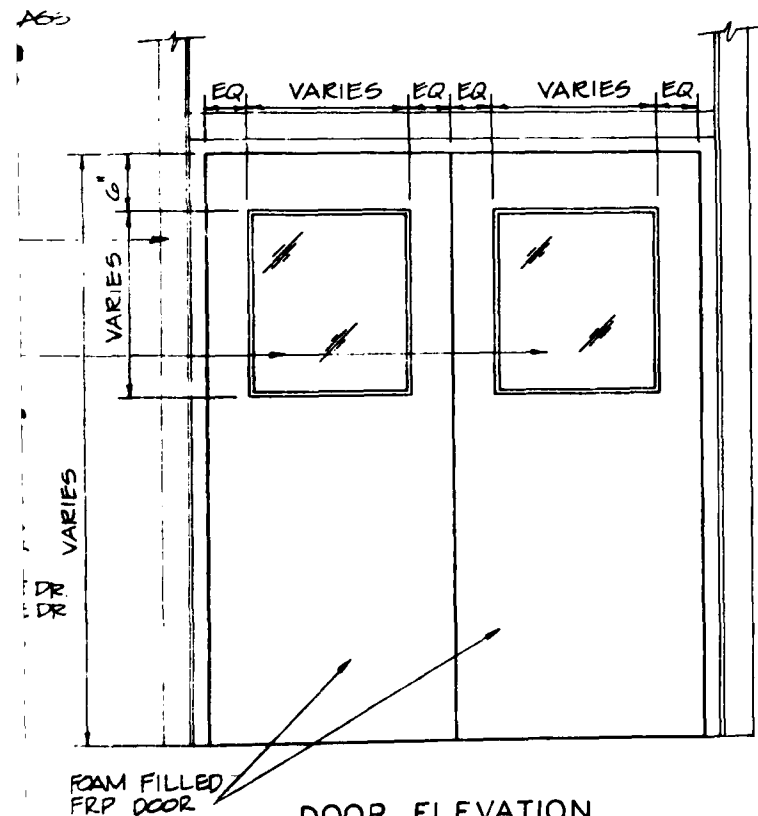


GENERAL NOTES:

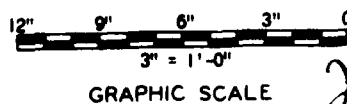
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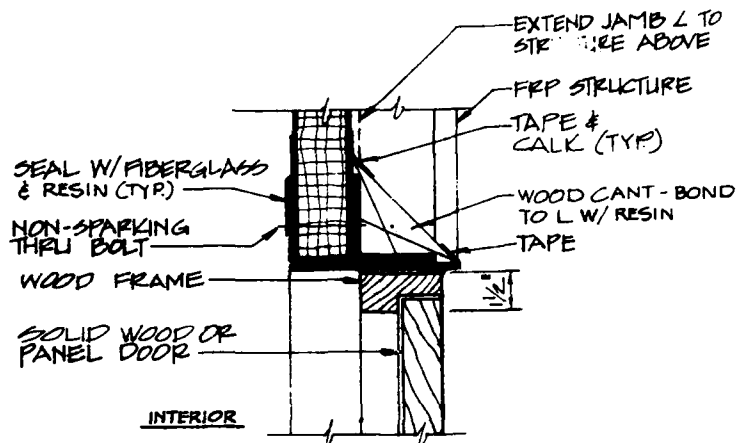
GLAZING DETAIL
SCALE: 3" = 1'-0"



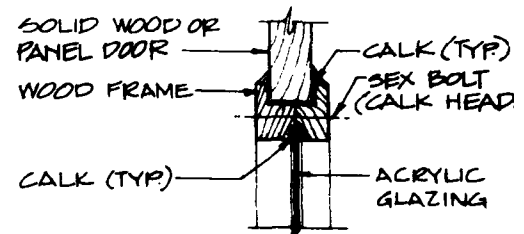
DOOR ELEVATION
NO SCALE



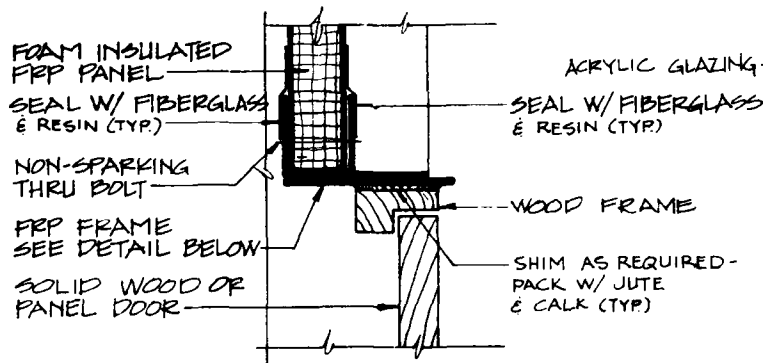
SYMBOLS		DATE APPROVED
REVISIONS		
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
	OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
	STANDARD DETAILS	
	NITROGLYCERIN FACILITY FRP PANEL CONSTRUCTION	
	FRP EQUIPMENT DOOR DETAILS	
DATE: 19 MARCH '81	DESIGNED BY: ETI	DRAWN BY: TCH
		FIG. NO. 19436



HEAD

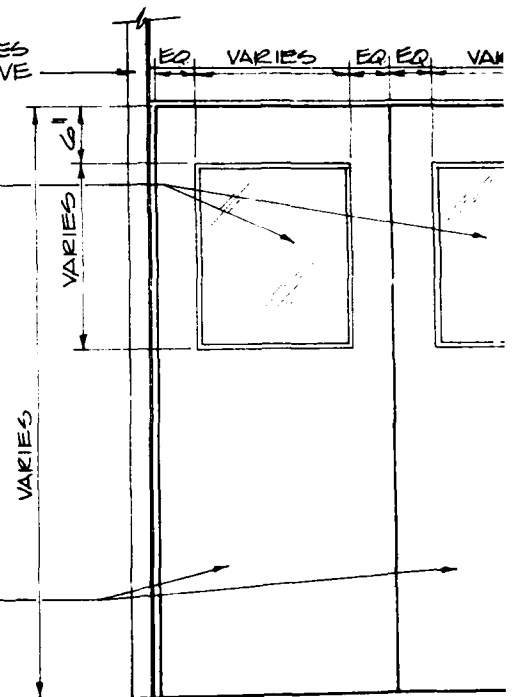


GLAZING DETAIL
SCALE: 3" = 1'-0"

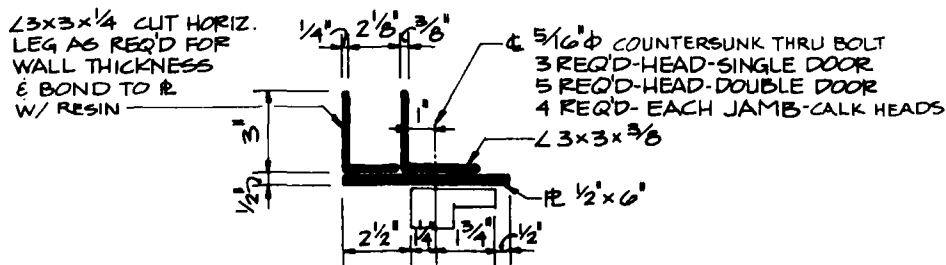


JAMB

EXTEND JAMB ANGLES TO STRUCTURE ABOVE



DOOR DETAILS
SCALE: 3" = 1'-0"



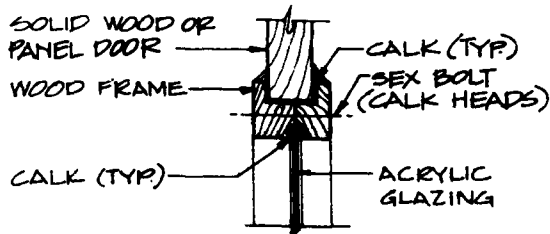
FRAME DETAIL
SCALE: 3" = 1'-0"

DOOR ELEVATION
NO SCALE



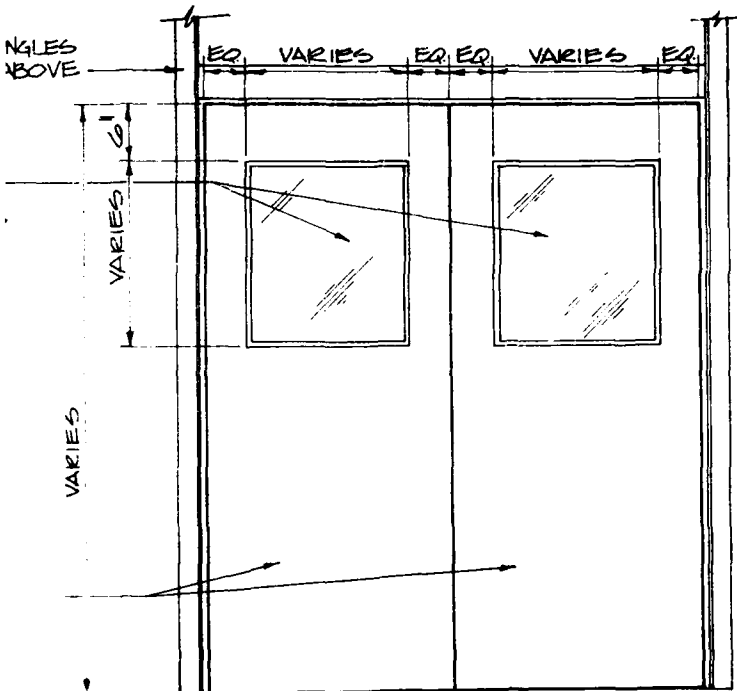
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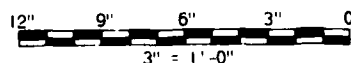
GLAZING DETAIL

SCALE: 3" = 1'-0"



DOOR ELEVATION

NO SCALE



GRAPHIC SCALE

SYNOPSIS		DATE APPROVED	
REVISIONS 1. BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI 2. US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA 3. OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY 4. STANDARD DETAILS 5. NITROGLYCERIN FACILITY FRP PANEL CONSTRUCTION 6. WOOD EQUIPMENT DOOR DETAILS			
DATE: 19 MARCH 1964		DWS. NO. 19437	
OWN. BY: ETT	CHK. BY: TDH		

EXTEND JAMB ANGLES
TO STRUCTURE ABOVE

FOAM INSULATED
FRP PANEL

SEAL W/ FIBERGLASS
& RESIN (TYP)

NON-SPARKING
THRU BOLT

FRP SPACER

FOAM FILLED
FRP DOOR

INTERIOR

HEAD

FRP $\frac{1}{4} \times 3$ CONT
ASTRAGAL, BOND
TO DOOR LEAF

FRP STRUCTURE

SEAL W/ FIBERGLASS & RESIN (T/R)

WOOD CANT - BOND TO L/W/ RESIN

SECTION A-A

SCALE: 3" = 1'-0"

FOAM FILLED
FRP DOOR

FRP WINDOW FRAME

FRP BAR STOP -
SECURE W/ SCREWS

CAULK (TYP)

GLAZING DET

SCALE 3" = 1'-0"

FOAM INSULATED
FRP PANEL

SEAL W/ FIBERGLASS
& RESIN (TYP)

NON-SPARKING
THRU BOLT

FRP SPACER

FRP $\frac{1}{2} \times 6 \times \frac{1}{4}$ FRAME

FRP $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{8}$ STOP

SEAL W/
FIBERGLASS
& RESIN

FRP FRAME,
SEE DETAIL
BELOW

FOAM FILLED
FRP DOOR

JAMB

FILL VOIDS W/
URETHANE FOAM (TYP)

EXTERIOR
DOOR ELEVATION

NO SCALE

WOOD PIN
SEE DWG M549

ACRYLIC
GLAZING

$\frac{1}{8}$ " BRONZE OR
STAINLESS STEEL

FOAM FILLED
FRP DOOR

LATCH BAR
(ON INSIDE)
SEE DWG 19549

SPRING
CATCH

SCALE 4"

DOOR DETAILS

SCALE: 3" = 1'-0"

FRP $3 \times 3 \times \frac{1}{4}$
CUT HORIZ. LEG AS
REQ'D FOR WALL
THICKNESS & BOND
TO R W/ RESIN

FRP SPACER

$\frac{3}{16}$ " ϕ THRU BOLT @ 1'-6" OC.
COUNTERSINK & CALK HEADS

$\frac{1}{4}$ " $2 \frac{1}{8}$ " $\frac{3}{8}$ "

$\frac{5}{16}$ " ϕ THRU COUNTERSUNK THRU BOLTS
3 REQ'D-HEAD-SINGLE DOOR
5 REQ'D-HEAD-DOUBLE DOOR
4 REQ'D-EA JAMB-CALK HEADS

FRP $3 \times 3 \times \frac{3}{8}$
FRP $\frac{1}{2} \times 7 \times \frac{3}{4}$

FRP $6 \times 1 \frac{5}{8} \times \frac{1}{4}$ FRAME

FRP $\frac{1}{2} \times \frac{1}{2} \times \frac{1}{8}$ STOP

$\frac{1}{4}$ " $2 \frac{1}{8}$ " $\frac{3}{8}$ " $2 \frac{1}{2}$ " $2 \frac{1}{2}$ " $6 \frac{1}{2}$ "

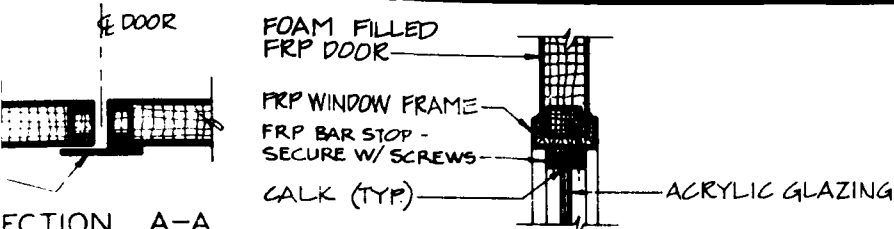
FRP FRAME DETAIL

SCALE: 3" = 1'-0"

12" 9" 3

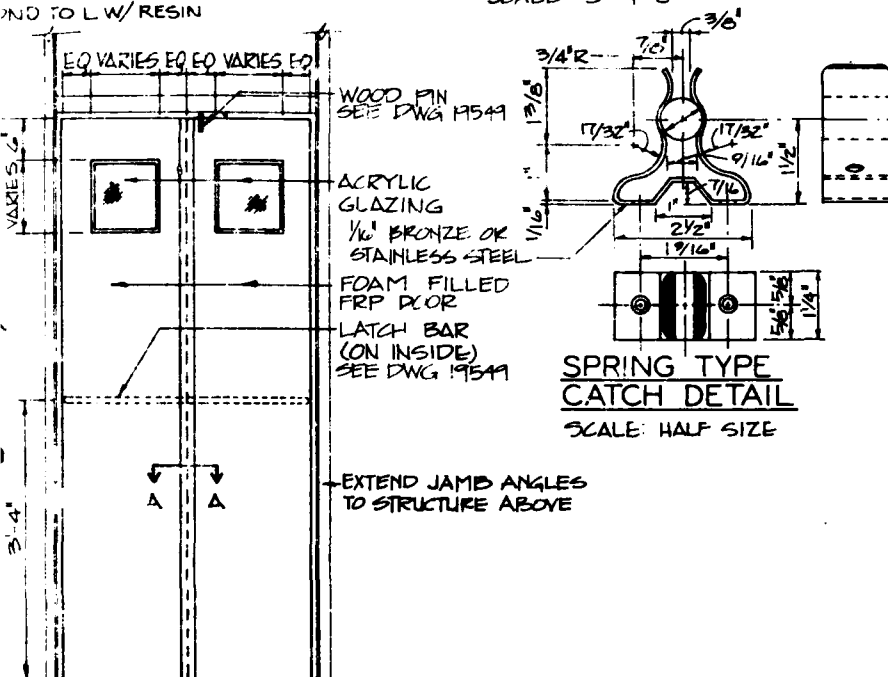
6" 4" HA

GRAPH



GLAZING DETAIL

SCALE: 3" = 1'-0"



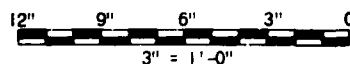
EXTERIOR DOOR ELEVATION

NC SCALE

COUNTERSUNK THRU BOLTS
D-SINGLE DOOR
D-DOUBLE DOOR
JAMB-CALK HEADS

x 1/4 FRAME

1/16 x 1/8 STOP



GRAPHIC SCALES

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BY: [] DATE: []		DATE: [] APPROVED: []	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY FRP PANEL CONSTRUCTION	
DATE: 19 MARCH 81		FRP PERSONNEL ESCAPE DOOR	
DRN. BY: []	CRD. BY: []	DWG. NO.	19438

EXTEND JAMB ANGLES
TO STRUCTURE ABOVE

FOAM INSULATED
FRP PANEL

SEAL W/ FIBERGLASS
& RESIN (TYP.)

NON-SPARKING
THRU BOLT

WOOD FRAME

SOLID WOOD OR
PANEL DOOR

INTERIOR

HEAD

FOAM INSULATED
FRP PANEL

SEAL W/ FIBERGLASS
& RESIN (TYP.)

FRP FRAME,
SEE DETAIL BELOW

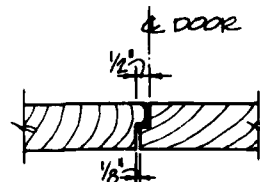
SOLID WOOD OR
PANEL DOOR

NON-SPARKING
THRU BOLT

WOOD FRAME

SHIM AS REQUIRED -
PACK W/ JUTE &
CALK BOTH SIDES
(TYP.)

JAMB



SECTION A-A

SCALE: 3" = 1'-0"

SOLID WOOD OR
PANEL DOOR

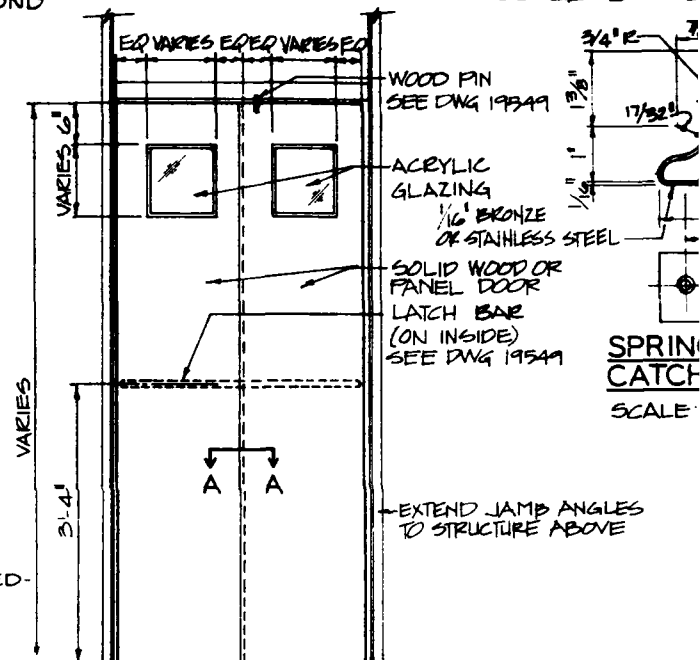
WOOD FRAME

SEX BOLTS
(CALK HEADS)

CALK (TYP.)

WINDOW DETAIL

SCALE: 3" = 1'-0"



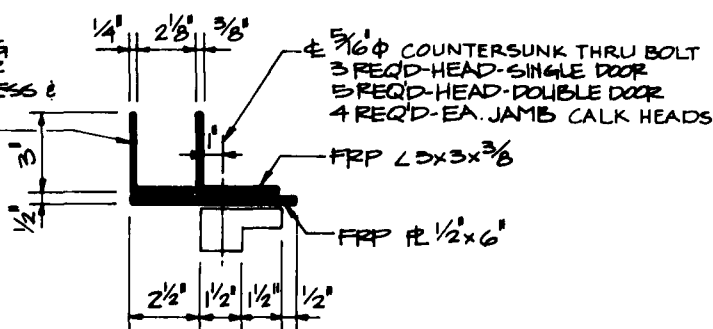
EXTERIOR
DOOR ELEVATION

NO SCALE

DOOR DETAILS

SCALE: 3" = 1'-0"

FRP $2 \times 3 \times \frac{1}{4}$
CUT HORIZ. LEG
AS REQ'D FOR
WALL THICKNESS &
BOND TO R.
W/ RESIN

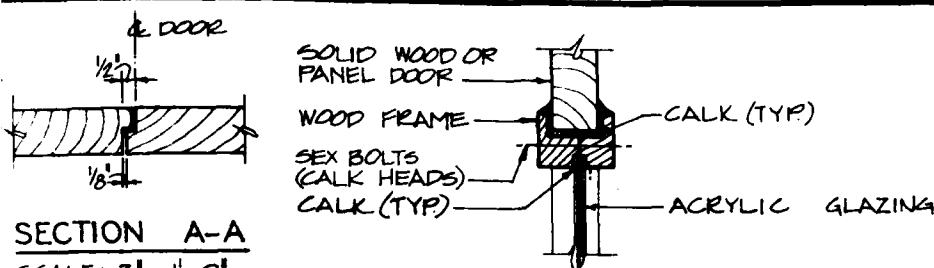


FRP FRAME DETAIL

SCALE: 3" = 1'-0"

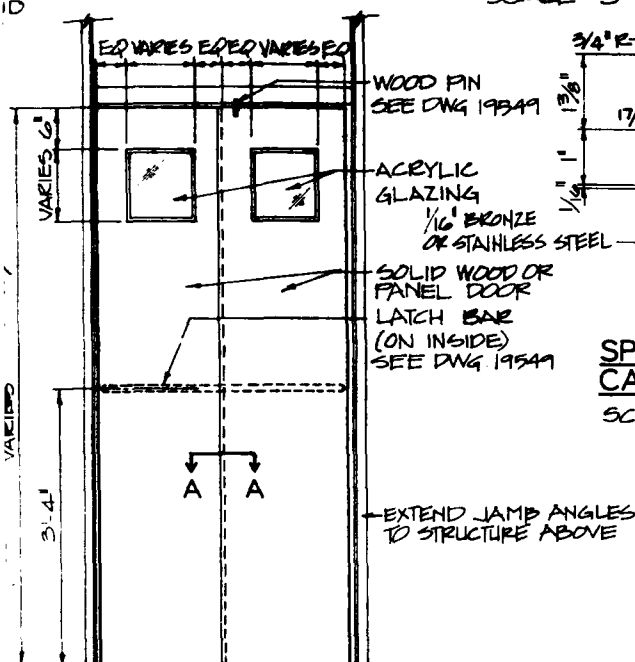


GRAPH



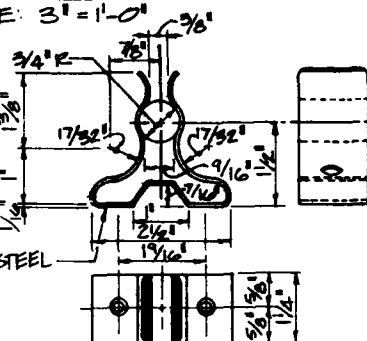
SS & RESIN (TYP)

ID



WINDOW DETAIL

SCALE: 3" = 1'-0"



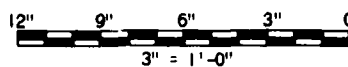
SPRING TYPE CATCH DETAIL

SCALE: HALF SIZE

GENERAL NOTES:

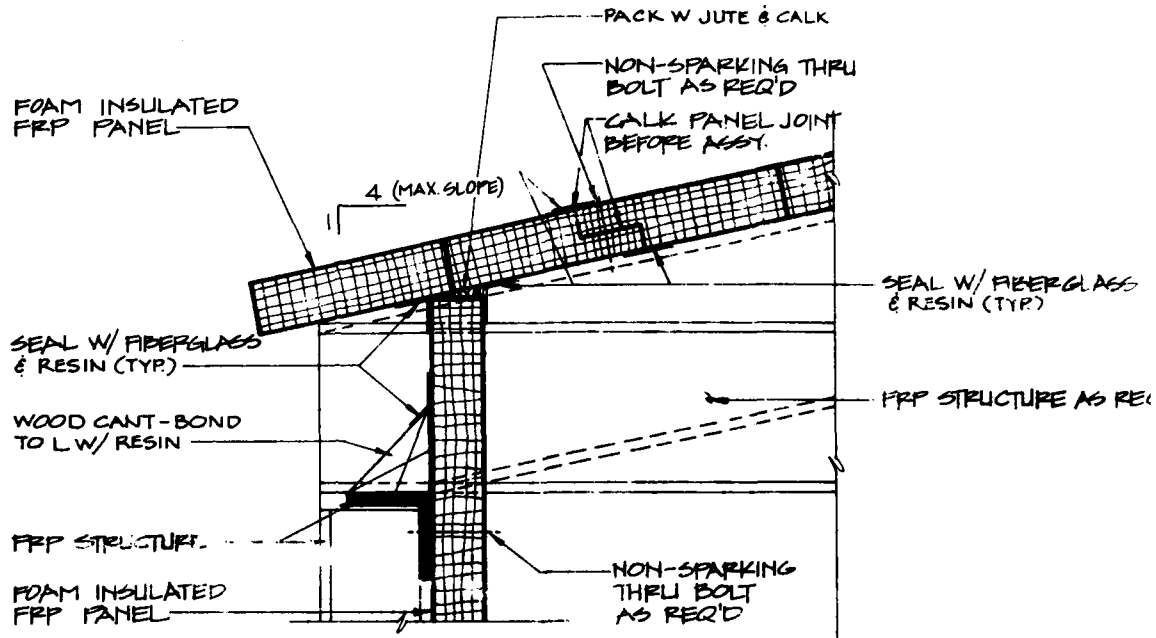
1. DOOR HARDWARE SHALL BE NON-SPARKING.
2. CANT STRIPS SHALL BE 1:1 PITCH MIN.
3. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS I, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
4. FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
5. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
6. ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
7. GLAZING SHALL BE SHADED TO PREVENT THE ENTRY OF DIRECT SUNLIGHT.
8. FOR FINISHES SEE DRAWING 19441.
9. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
10. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
11. DOOR OPENING SHALL BE 30"x78" MINIMUM.
12. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
13. FIBERGLASS MAT SHALL BE 1 1/2 OUNCE PER SQUARE FOOT CHOPPED STRAND MAT.
14. SURFACING VEIL SHALL BE 0.010" THICK CONTINUOUS FIBER MAT.
15. RESIN SHALL BE POLYESTER RESIN, FIRE RETARDANT, CLASS I AS PER ASTM D-635 AND E-84 TESTS.
16. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.

THRU BOLT
E DOOR
LE DOOR
CALK HEADS



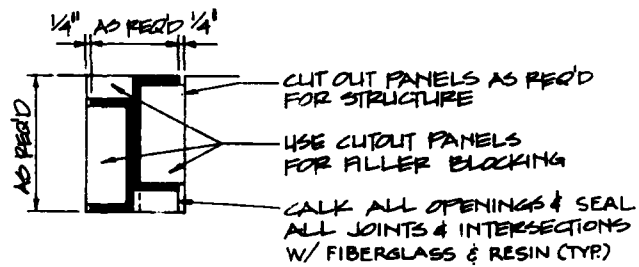
GRAPHIC SCALE

REVISIONS		DATE	APPROVED
1	BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		
2	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA		
3	OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY		
4	STANDARD DETAILS		
5	NITROGLYCERIN FACILITY FRP PANEL CONSTRUCTION		
6	WOOD PERSONNEL ESCAPE DOOR		
DATE: 19 MARCH '81			
DRN. BY: EG	CHK. BY: TDH	DWG. NO.	19439



WALL / CEILING INTERFACE

SCALE: 3" = 1'-0"



STRUCTURE PENETRATION
ELEVATION

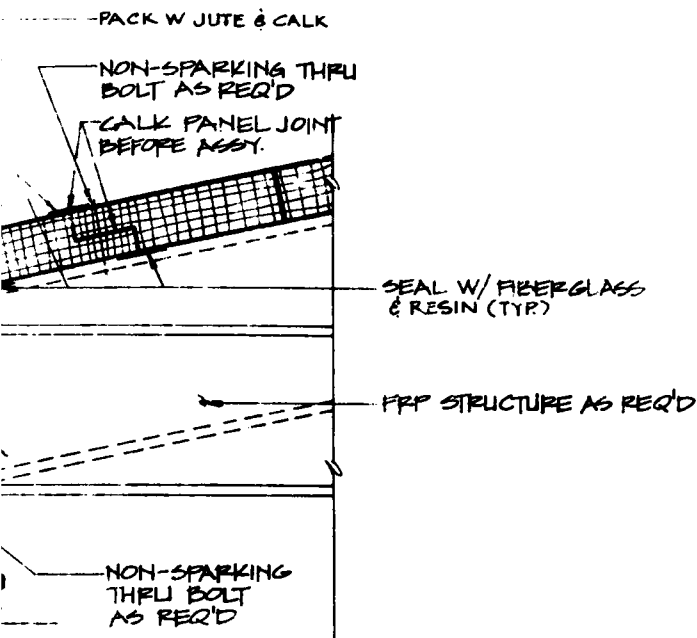
N.T.S.

12" 9"

GRAPH

GENERAL NOTES:

1. CANT STRIPS SHALL BE A 1:1 PITCH MIN.
2. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
3. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
4. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS 1, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
5. FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
6. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
7. FOR FINISHES SEE DRAWING 19441.
8. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
9. FIBERGLASS MAT SHALL BE 1 1/2 OUNCE PER SQUARE FOOT CHOPPED STRAND MAT.
10. SURFACING VEIL SHALL BE 0.010" THICK CONTINUOUS FIBER MAT.
11. RESIN SHALL BE POLYESTER RESIN, FIRE RETARDANT, CLASS 1 AS PER ASTM D-635 AND E-84 TESTS.
12. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.



INTERFACE

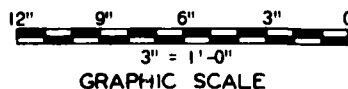
150"

CUT OUT PANELS AS REQ'D FOR STRUCTURE

USE CUTOUT PANELS FOR FILLER BLOCKING

CALK ALL OPENINGS & SEAL ALL JOINTS & INTERSECTIONS W/ FIBERGLASS & RESIN (TYR)

RATION



SYNOPSIS		DATE APPROVED	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI			
US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA			
OFFICE OF THE PROJECT MANAGER FOR MUNITIONS /MODERNIZATION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY			
STANDARD DETAILS			
NITROGLYCERIN FACILITY FRP PANEL CONSTRUCTION			
WALL/CEILING INTERFACE			
DATE	14 MARCH 81	DESIGN BY	TDH
CHKD BY	FTY	APP. NO.	19440

CORPS OF ENGINEERS

ROOM FINISH SCHEDULE

ROOM TYPE	FINISH			
	FLOOR	BASE	WALL	CEILING
CONTROL ROOMS, TOILETS AND NON-EXPLOSIVE AREAS	1/8" VINYL ASBESTOS TILE EXPOSED CONCRETE OR PAINTED	4" VINYL OR PAINTED CONCRETE	FRP-GELCOAT (INTERIOR)	FRP-GELCOAT
NITROGLYCERIN PROCESS AREAS AND EXPLOSIVE AREAS	LEAD OR TROWEL ON CONDUCTIVE FLOOR	LEAD OR TROWEL ON CONDUCTIVE BASE	FRP-GELCOAT (INTERIOR)	FRP-GELCOAT

PAINTING NOTES:

1. THE FOLLOWING ITEMS SHALL NOT BE PAINTED:

STAINLESS STEEL SURFACES.
 INTERIOR ALUMINUM, BRASS, OR BRONZE SURFACES.
 ACRYLIC GLAZING.
 DOOR AND WINDOW HARDWARE EXCEPT DOOR OPERATOR
 COVERS.
 LEAD FLOORING AND BASES, EXCEPT FIRST AND LAST
 STAIR TREADS, CURBS, AND DOOR THRESHOLDS, WHICH
 SHALL BE PAINTED AS REQUIRED.

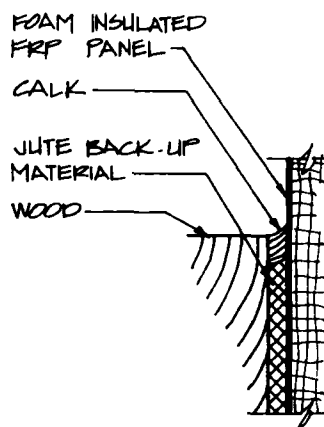
SCHEDULE

FINISH		
BASE	WALL	CEILING
VINYL OR PAINTED CRETE	FRP-GELCOAT (INTERIOR)	FRP-GELCOAT (INTERIOR)
TROWEL ON DUCTIVE BASE	FRP-GELCOAT (INTERIOR)	FRP-GELCOAT (INTERIOR)

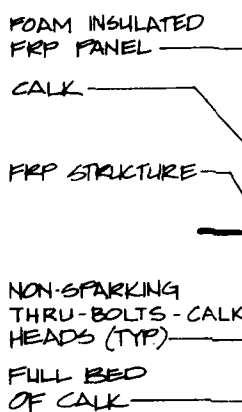
GENERAL NOTES:

- ALL EXPOSED INTERIOR WOOD SHALL BE PAINTED. EXPOSED WOOD IN NITROGLYCERIN PROCESS AREAS AND EXPLOSIVE AREAS SHALL BE PAINTED WITH NITROGLYCERIN RESISTANT PAINT WHICH SHALL BE A CHLORINATED RUBBER ENAMEL WITH A MAXIMUM NITROGLYCERIN ABSORPTION OF 1%.
- FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS I, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
- LEAD ON FLOOR AND BASE SHALL BE 8 TO 20 POUND, 4 TO 6% ANTIMONY DEPENDING ON FLOOR LOADING.
- TROWEL ON CONDUCTIVE FLOOR AND BASE SHALL BE A TROWELED, JOINTLESS, STATIC CONDUCTIVE FLOOR. IT SHALL BE A WATER-PHASE RESIN MATERIAL WITH ACETYLENE CARBON BLACK, AND IT SHALL BE APPLIED IN A SERIES OF COATS TO ACHIEVE A SMOOTH FINISH. THICKNESS AND INSTALLATION OF CONDUCTIVE FLOOR SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
- PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.
- ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
- DETAILS OF TROWEL ON CONDUCTIVE FLOOR FOR NITROGLYCERIN FACILITIES SHALL BE THE SAME AS FOR SINGLE BASE AND MULTIBASE FACILITIES. SEE DRAWING 19510.

SYMBOL		REVISIONS		DATE APPROVED	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA			
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY			
		STANDARD DETAILS			
		NITROGLYCERIN FACILITY FRP CONSTRUCTION			
		INTERIOR FINISHES			
DATE: 19 MARCH 61		DRAWN BY: JCH		DWG. NO. 19441	

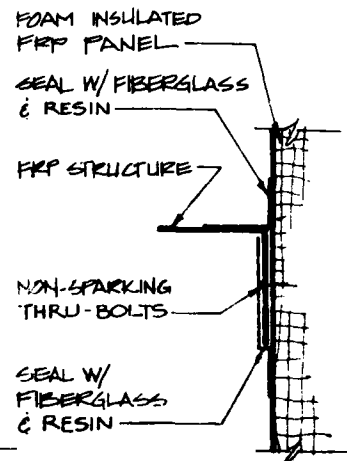


WOOD TO FRP JOINT

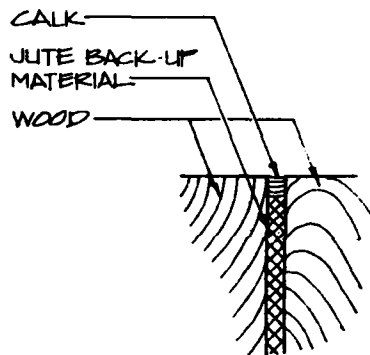


CALKED

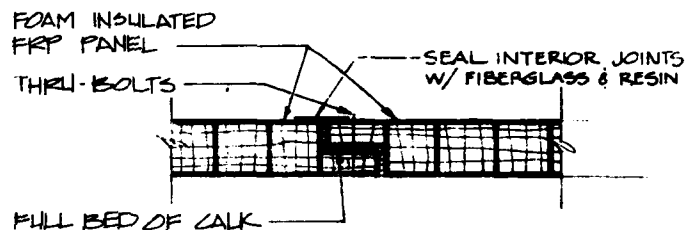
FRP TO FRP JOINT



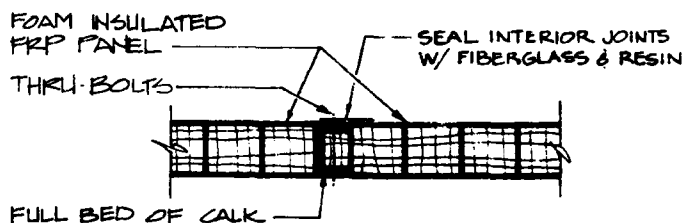
RESINED



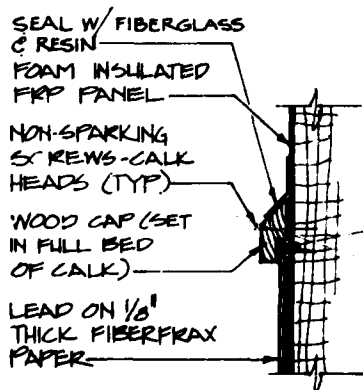
WOOD TO WOOD JOINT



OVERLAP PANEL JOINT



TONGUE & GROOVE PANEL JOINT

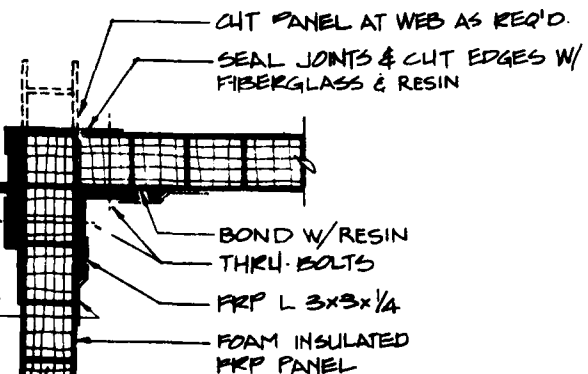


LEAD TO FRP JOINT

SIZE & LOCATION OF STRUCTURE AS REQ'D

CALK

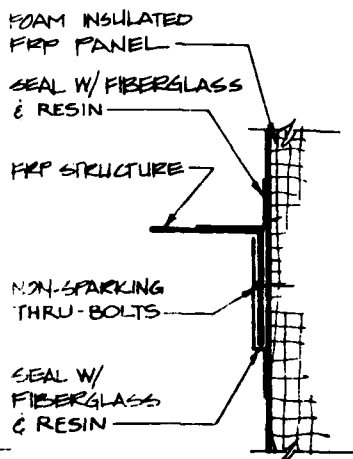
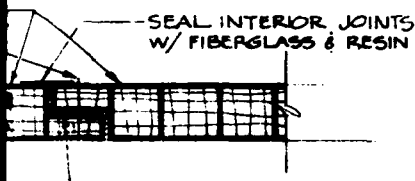
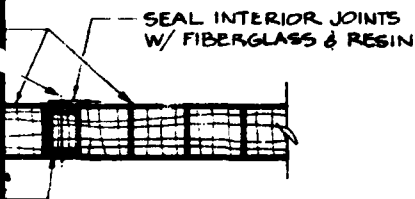
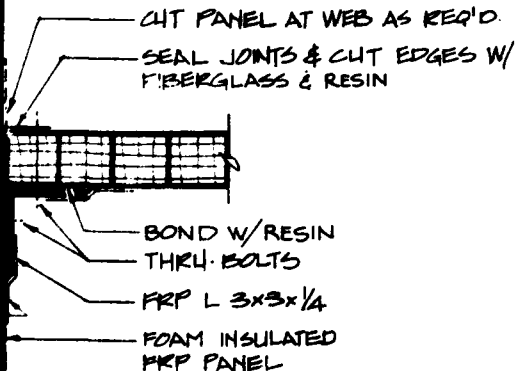
SEAL INTERIOR JOINTS W/ FIBERGLASS & RESIN (TYP)



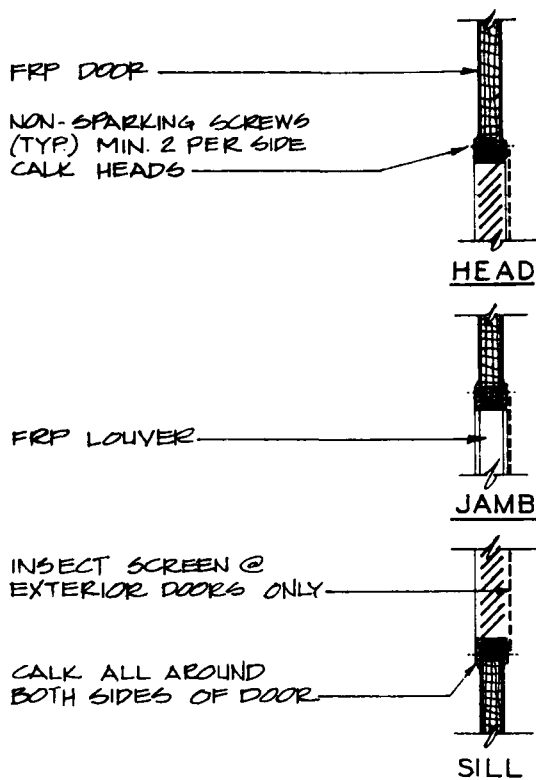
PANEL CORNER JOINT

GENERAL NOTES:

1. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
2. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND. ALL CALK SHALL BE APPLIED IN ACCORDANCE WITH DEPARTMENT OF THE ARMY TECHNICAL MANUAL TM 5-805-6.
3. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
4. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS I, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
5. FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
6. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
7. FIBERGLASS MAT SHALL BE 1 1/2 OUNCE PER SQUARE FOOT CHOPPED STRAND MAT.
8. SURFACING VEIL SHALL BE 0.010" THICK CONTINUOUS FIBER MAT.
9. RESIN SHALL BE POLYESTER RESIN, FIRE RETARDANT, CLASS I AS PER ASTM D-635 AND E-84 TESTS.
10. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.

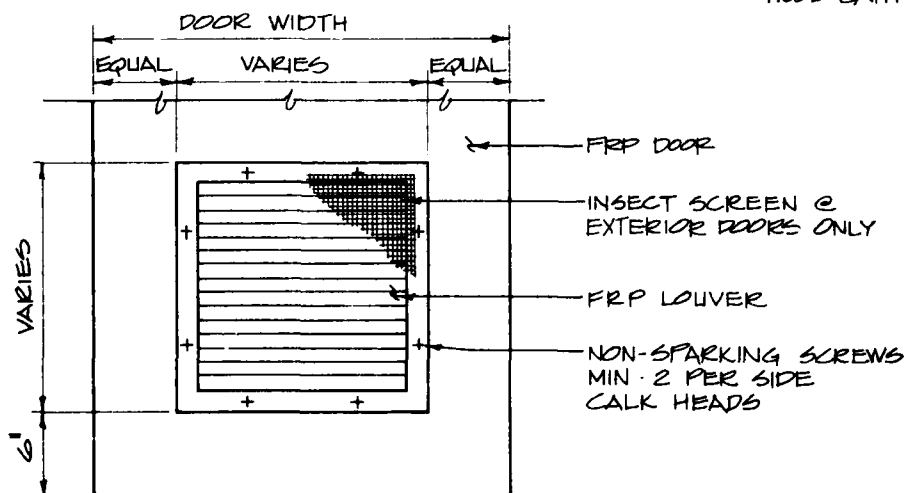
RESINEDTO FRP JOINTPANEL JOINTMOOVE PANEL JOINTNER JOINT

SYMBOL		REVISED	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
DATE: 19 MARCH '84		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
DRAWN BY: RY		STANDARD DETAILS	
CHECKED BY: TDM		NITROGLYCERIN FACILITY FRP PANEL CONSTRUCTION	
DATE: 19 MARCH '84		JOINT SEALING	
DRAWN BY: RY		19442	



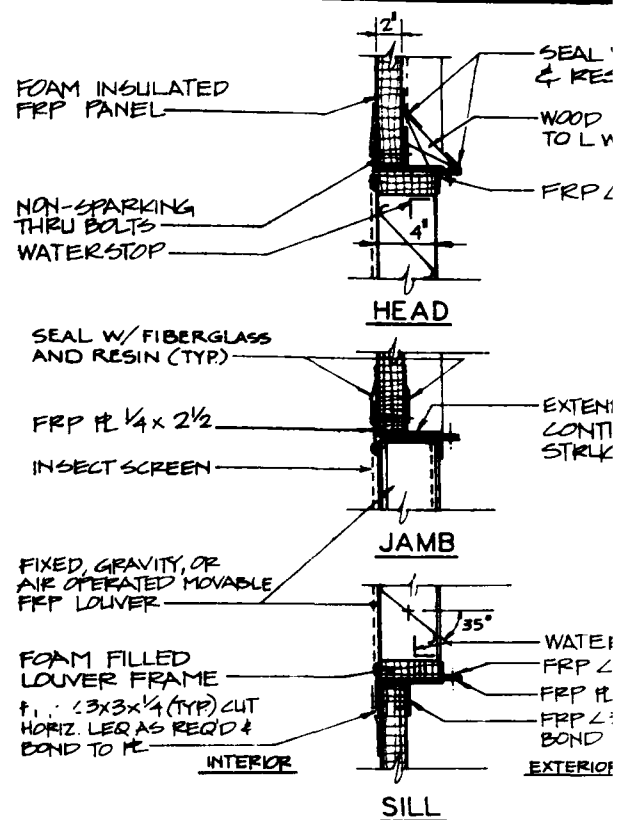
FRP DOOR LOUVER DETAILS

SCALE: 1 1/2" = 1'-0"



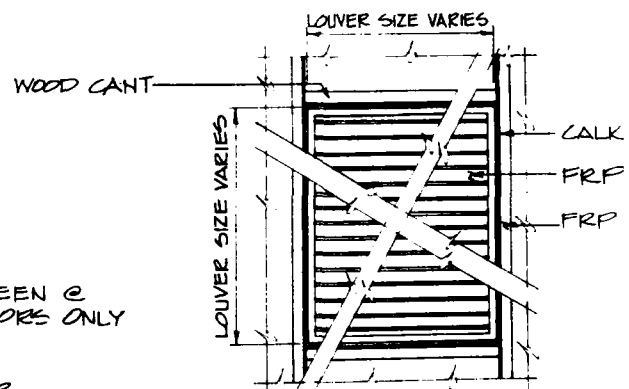
INTERIOR ELEVATION
FRP DOOR LOUVER

SCALE 1 1/2" = 1'-0"



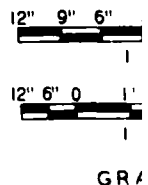
FRP WALL LOUVER DETAILS

SCALE: 1 1/2" = 1'-0"



EXTERIOR ELEVATION
FRP WALL LOUVER

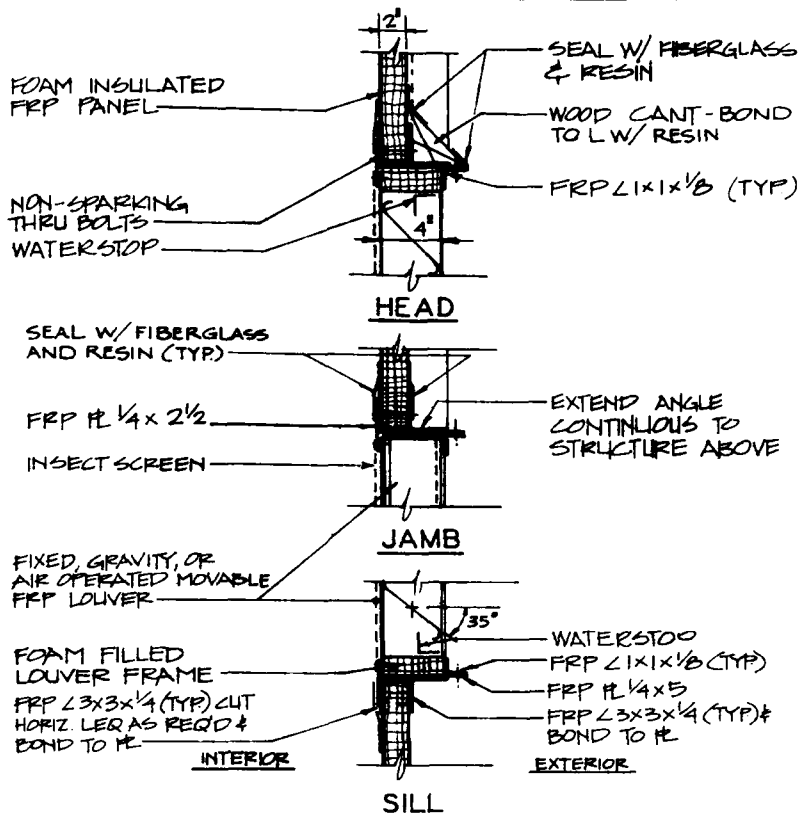
SCALE 1 1/2" = 1'-0"



GRA

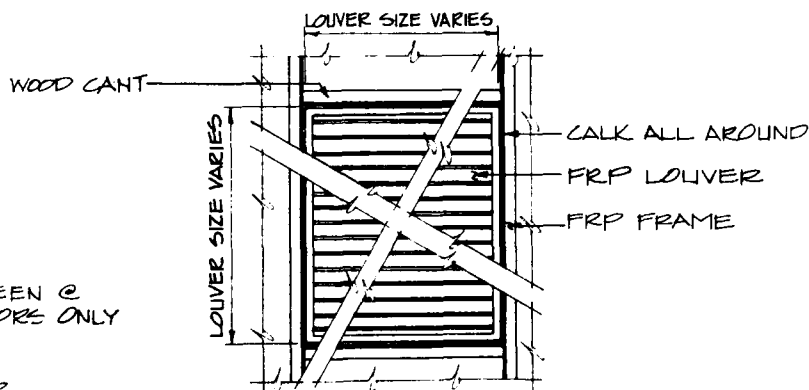
GENERAL NOTES:

1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS 1, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
3. FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOAD-IND FOR EACH BUILDING DESIGN.
4. INSECT SCREENS SHALL BE PVC COATED FIBERGLASS. (16x16 MESH) INSECT SCREEN SHALL BE LOCATED ON INTERIOR OR EXTERIOR SURFACE OF LOUVERS AS REQUIRED.
5. CANT STRIPS SHALL BE A 1:1 PITCH MINIMUM.
6. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
7. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
8. FOR FINISHES SEE DRAWING 19441.
9. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
10. FIBERGLASS MAT SHALL BE 1 1/2 OUNCE PER SQUARE FOOT CHOPPED STRAND MAT.
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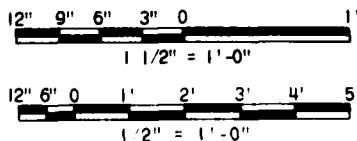


FRP WALL LOUVER DETAILS

SCALE: 1/2" = 1'-0"

EXTERIOR ELEVATION
FRP WALL LOUVER

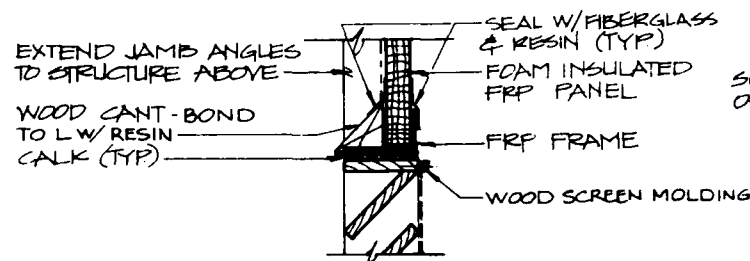
SCALE 1/2" = 1'-0"



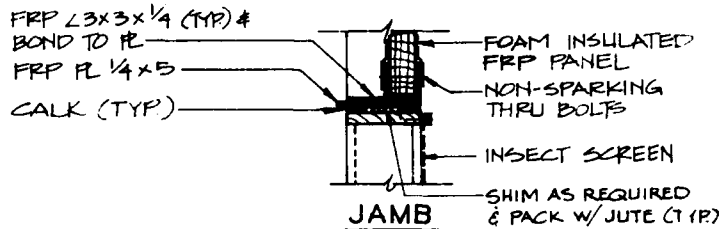
GRAPHIC SCALE

SYMBOLS		REVISIONS	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY		STANDARD DETAILS	
NITROGLYCERIN FACILITY FRP PANEL CONSTRUCTION		FRP LOUVER DETAILS	
DATE	19 MARCH 61	OWN. BY	ED
DESIGNED BY	TPH	CHKD BY	TPH
OWB NO.	19443		

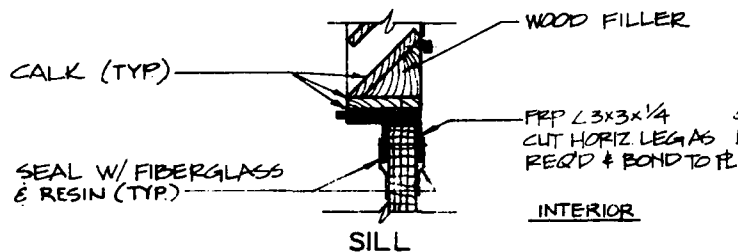
CORPS OF ENGINEERS



HEAD



JAMB



SILL

WOOD WALL LOUVER DETAILS

SCALE: 1/2" = 1'-0"

SOLID WOOD OR PANEL DOOR



HEAD



JAMB



SILL

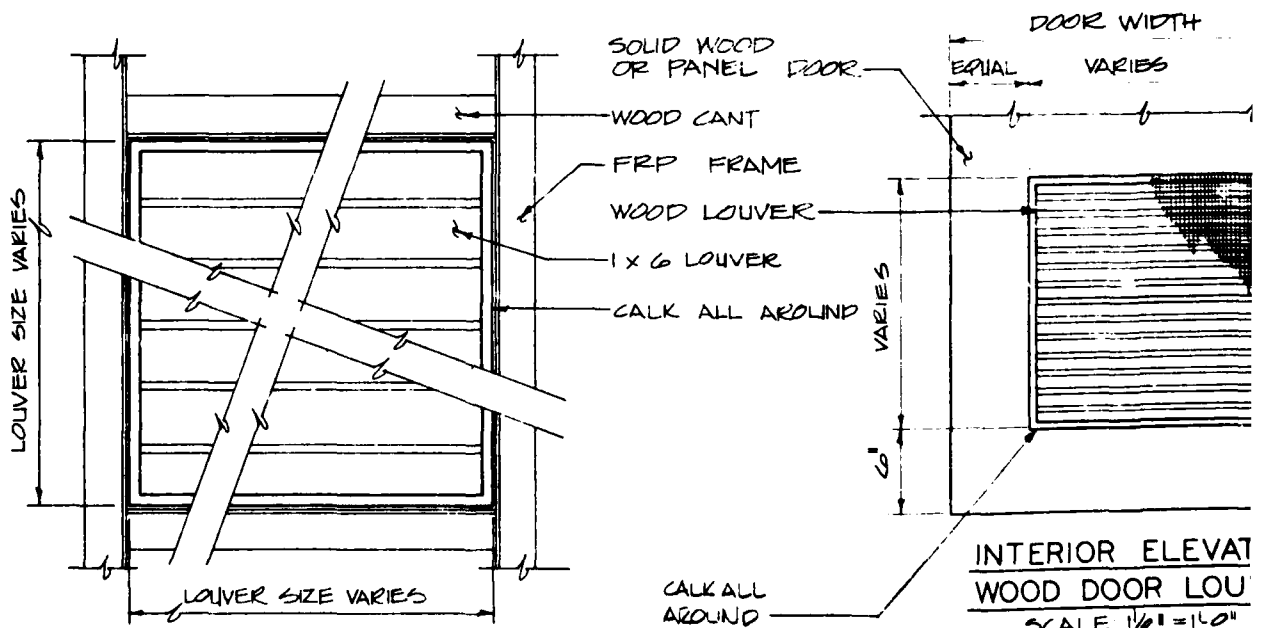
WOOD LOUVER

INSECT EXTER

CALK ALL AROUND BOTH SIDES OF DOOR

WOOD DOOR LOUVER DETAIL

SCALE: 1/2" = 1'-0"



EXTERIOR ELEVATION
WOOD WALL LOUVER

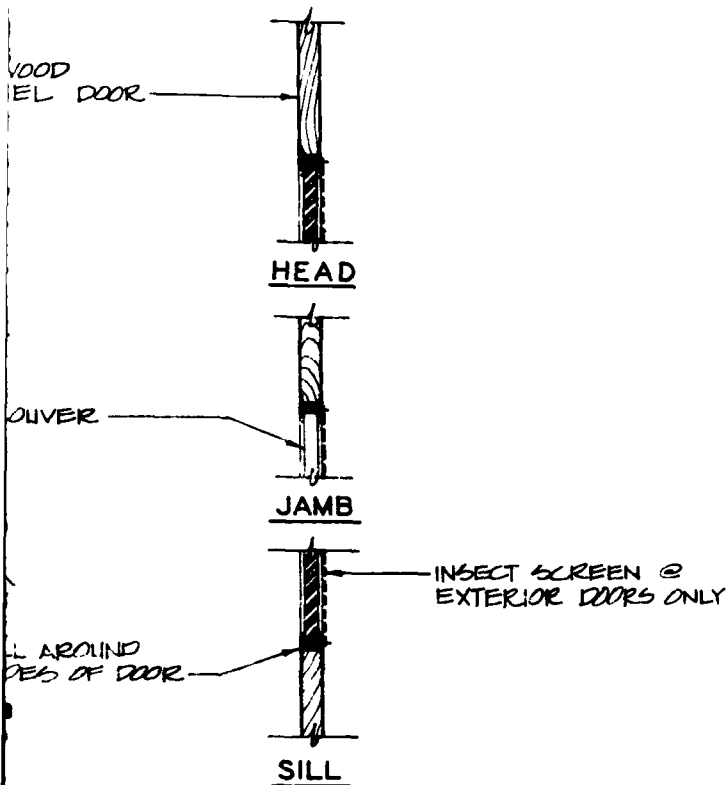
SCALE: 1/2" = 1'-0"

INTERIOR ELEVAT
WOOD DOOR LOU

SCALE 1/2" = 1'-0"

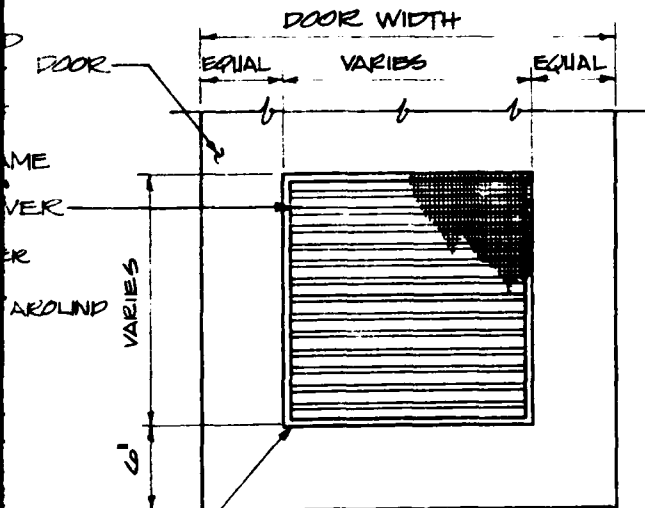
12" 9"

GR

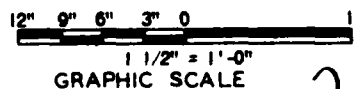


WOOD DOOR LOUVER DETAILS

SCALE: 1/2" = 1'-0"

INTERIOR ELEVATION
WOOD DOOR LOUVER

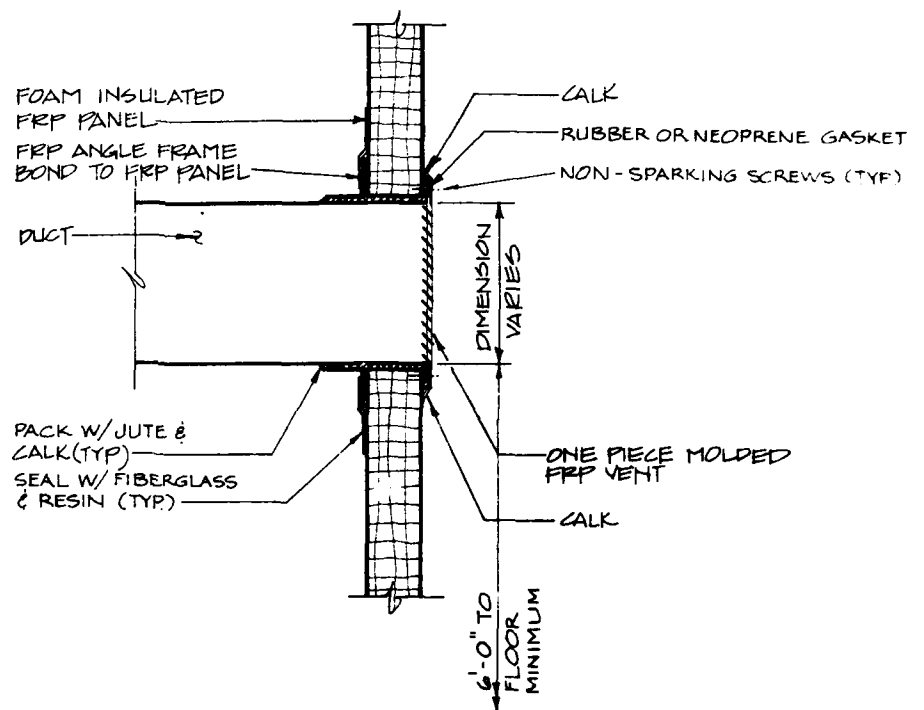
SCALE: 1/2" = 1'-0"



GENERAL NOTES:

1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. CANT STRIPS SHALL BE A 1:1 PITCH MIN.
3. INSECT SCREENS SHALL BE PVC COATED FIBER-GLASS. (16x16 MESH) INSECT SCREEN SHALL BE LOCATED ON INTERIOR OR EXTERIOR OF LOUVER SURFACES AS REQUIRED.
4. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS 1, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
5. FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
6. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
7. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
8. FOR FINISHES SEE DRAWING 19441.
9. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
10. FIBERGLASS MAT SHALL BE 1 1/2 OUNCE PER SQUARE FOOT CHOPPED STRAND MAT.
11. SURFACING VEIL SHALL BE 0.010" THICK CONTINUOUS FIBER MAT
12. RESIN SHALL BE POLYESTER RESIN, FIRE RETARDANT, CLASS 1 AS PER ASTM D-635 AND E-84 TESTS.
13. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DAFCON AMCR 385-100.

SYMBOLS		DATE	APPROVED
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASF MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY FRP PANEL CONSTRUCTION	
		WOOD DOOR AND WALL LOUVERS	
DATE	19 MARCH 61	DESIGNED BY	TDH
DRAWN BY	ES	CHECKED BY	TDH
		19444	



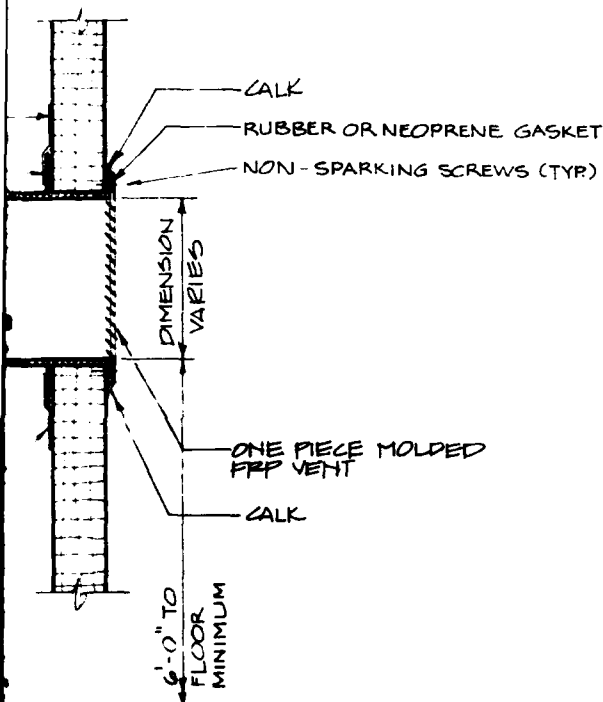
FRP VENT DETAIL

SCALE: 3" = 1'-0"



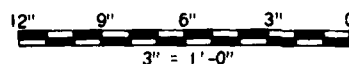
GENERAL NOTES:

1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS 1, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
3. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
4. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
5. FOR FINISHES SEE DRAWING 19441.
6. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
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8. SURFACING VEIL SHALL BE 0.010" THICK CONTINUOUS FIBER MAT.
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10. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.



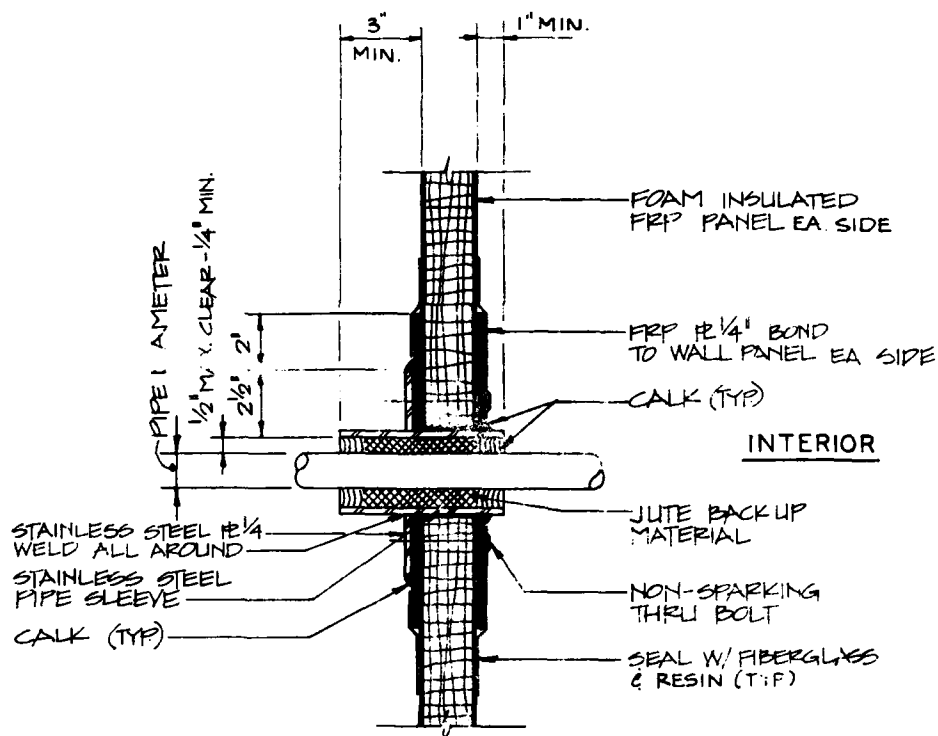
NT DETAIL

SCALE: 3" = 1'-0"



GRAPHIC SCALE

SYNOPSIS		DATE	APPROVED
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY FRP PANEL CONSTRUCTION	
		FRP WALL VENT	
DATE: 19 MARCH 81	DESIGNED BY: JPH	DWS NO. 19445	



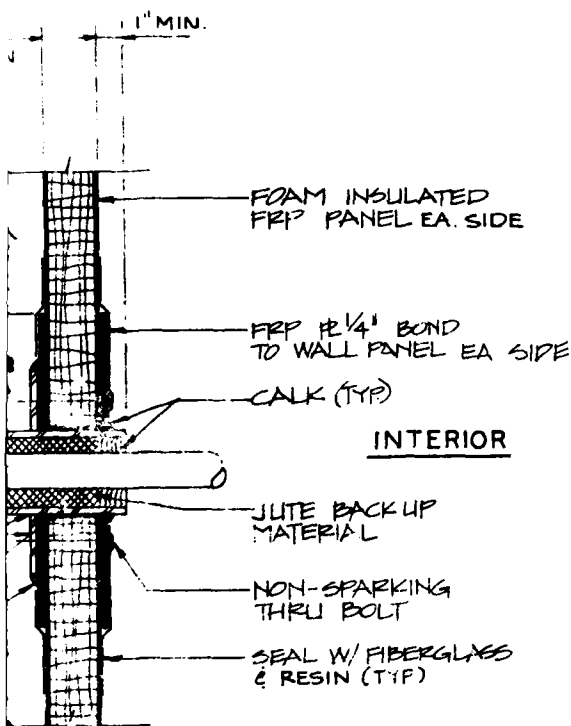
PIPE PENETRATION DETAIL

SCALE: 3" = 1'-0"

12" 9" 3"
GRAP

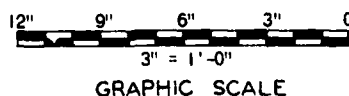
GENERAL NOTES:

1. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
2. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
3. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
4. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS 1, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
5. FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
6. FOR FINISHES SEE DRAWING 19441.
7. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
8. FIBERGLASS MAT SHALL BE 1 1/2 OUNCE PER SQUARE FOOT CHOPPED STRAND MAT.
9. SURFACING VEIL SHALL BE 0.010" THICK CONTINUOUS FIBER MAT.
10. RESIN SHALL BE POLYESTER RESIN, FIRE RETARDANT, CLASS 1 AS PER ASTM D-635 AND E-84 TESTS.
11. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.

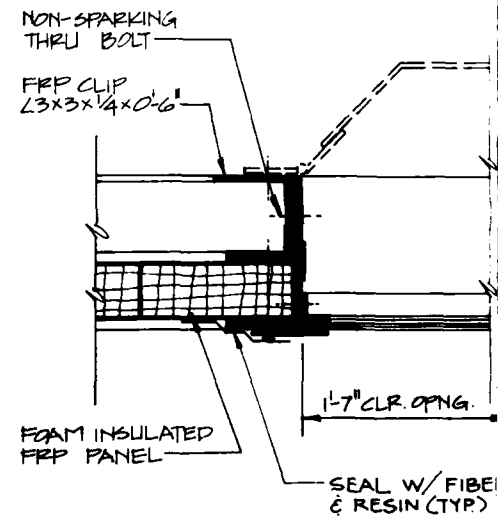
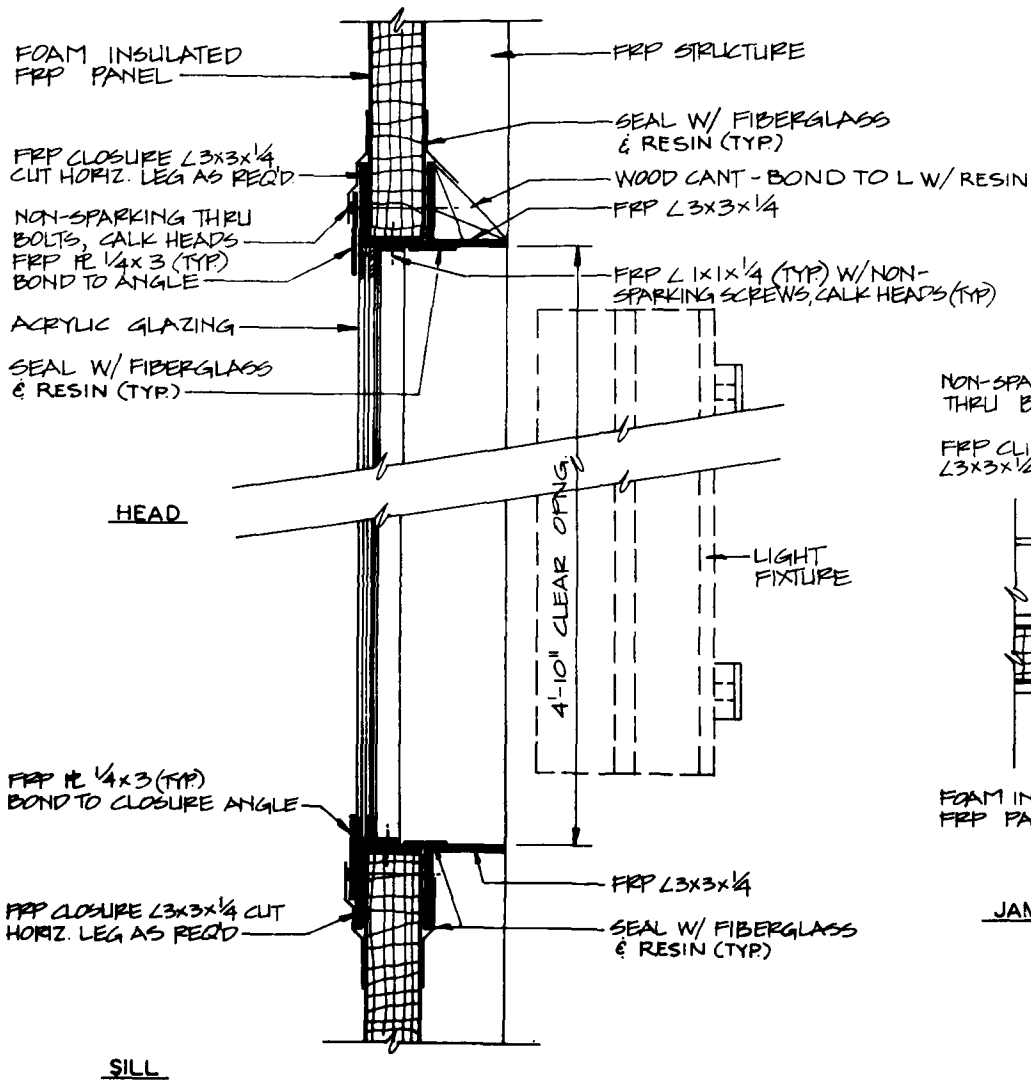


PENETRATION DETAIL

3" = 1'-0"

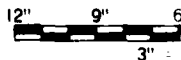


SYNOPSIS		REVISIONS		DATE	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA			
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY			
		STANDARD DETAILS			
		NITROGLYCERIN FACILITY FRP PANEL CONSTRUCTION			
		WALL PENETRATIONS			
DATE	19 MARCH 61	OWN BY	KTJ	CHK BY	TDH
		DWG. NO.	19446		



WINDOW DETAILS

SCALE: 3" = 1'-0"

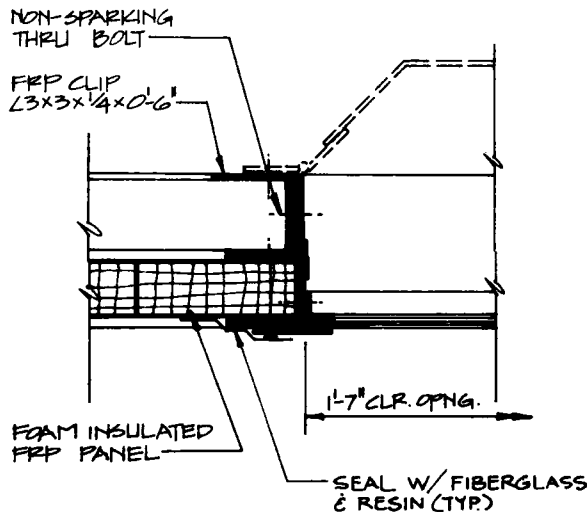


GRAPHIC

GENERAL NOTES:

1. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
2. ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
3. GLAZING SHALL BE SHADED TO PREVENT THE ENTRY OF DIRECT SUNLIGHT.
4. FOR FINISHES SEE DRAWING 19441.
5. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
6. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
7. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS I, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
8. FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
9. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
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12. RESIN SHALL BE POLYESTER RESIN, FIRE RETARDANT, CLASS I AS PER ASTM D-635 AND E-84 TESTS.
13. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.

STRUCTURE

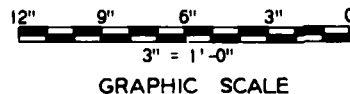
FIBERGLASS
(TYP)NT - BOND TO L W/ RESIN
3x1/41x1/4 (TYP) W/ NON-
SCREWS, CALK HEADS (TYP)LIGHT
FIXTURE

3x1/4

FIBERGLASS
(TYP)

DETAILS

3" = 1'-0"

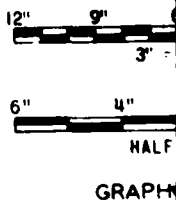
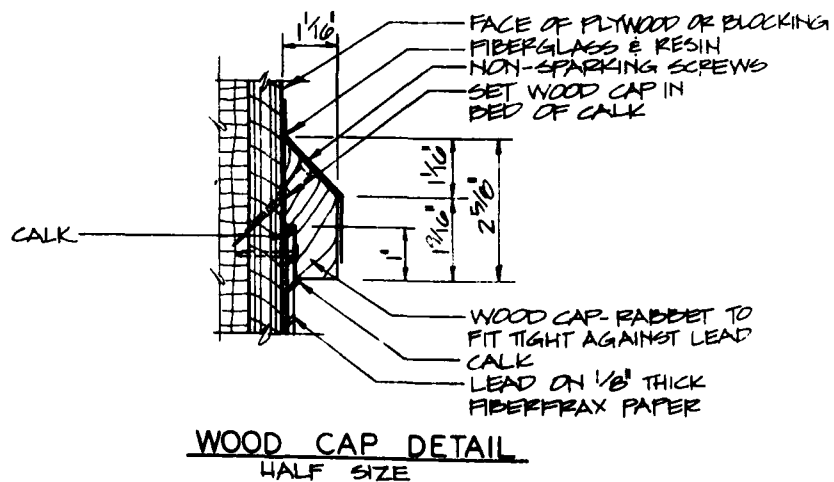
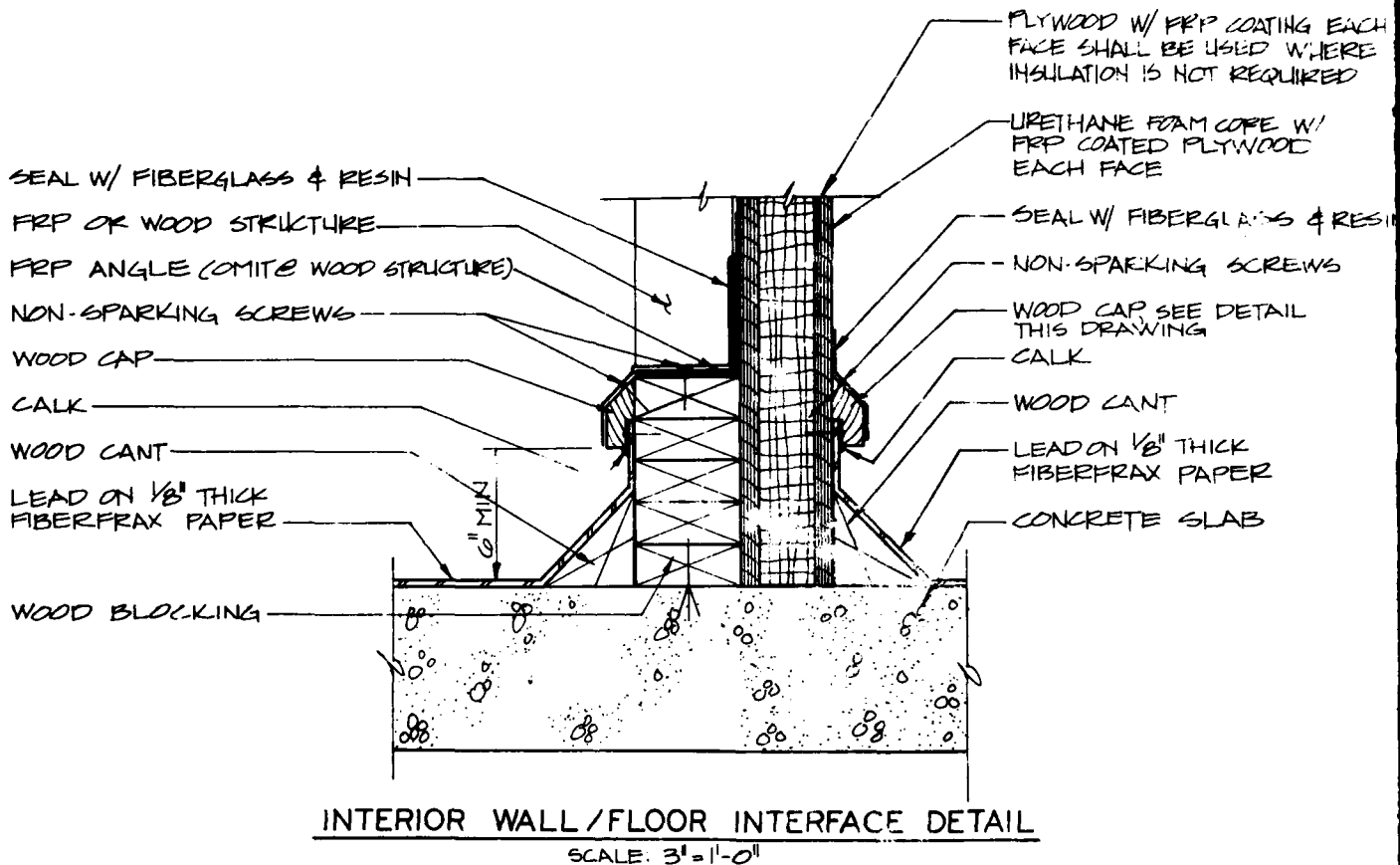


SYMBOL		DATE APPROVED	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY FRP PANEL CONSTRUCTION	
		EXTERIOR LIGHTING WINDOW DETAIL	
DATE: 19 MARCH 81	DESIGNED BY: JET	CHECKED BY: TDPH	DWG. NO. 19447

CORPS OF ENGINEERS

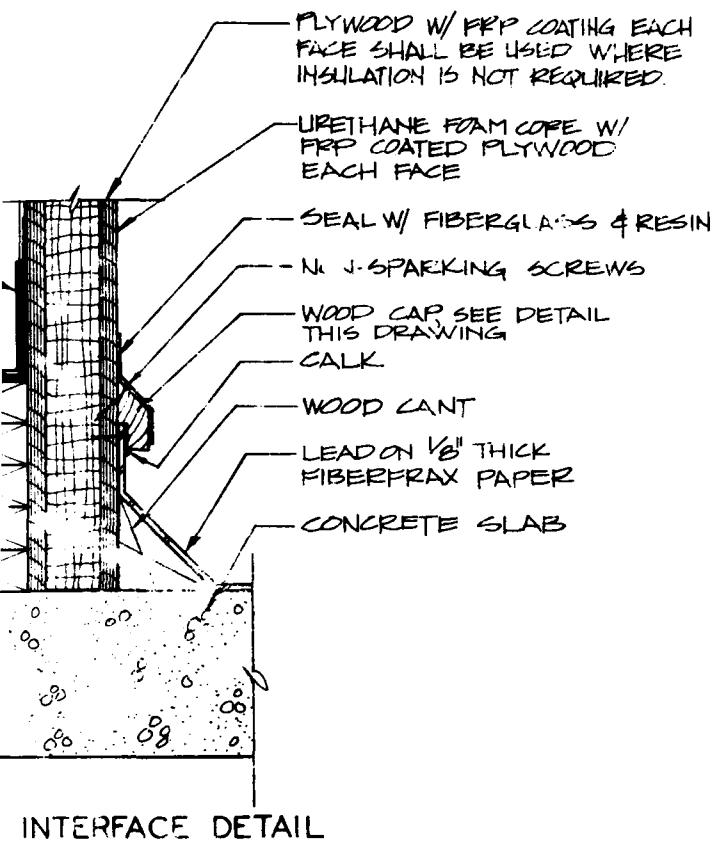
GENERAL NOTES CONTINUED:

15. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.

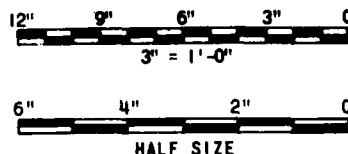
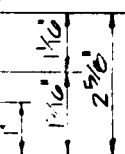


GENERAL NOTES:

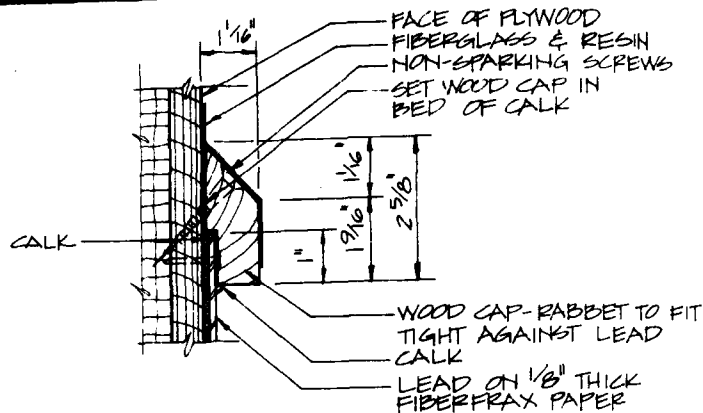
1. ALL HORIZONTAL JOINTS IN THE LEAD SHALL BE BUTT JOINTS. ALL VERTICAL JOINTS SHALL BE BUTT JOINTS EXCEPT WHERE A LAP JOINT IS THE ONLY TYPE POSSIBLE. ALL WELDS SHALL BE FULL PENETRATION. NO JOINTS SHALL BE WITHIN 8" OF WALL/FLOOR INTERSECTION. LAP JOINTS SHALL BE 5" LAP MIN.
2. THE SURFACES OF ALL JOINTS TO BE WELDED AND THE WELDING ROD ITSELF SHALL BE "SHAVED" OR WIRE BRUSHED TO REMOVE ALL OXIDE AND PRESENT A BRIGHT METALLIC SURFACE.
3. CANT STRIPS SHALL BE 1:1 PITCH MIN.
4. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
5. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS 1, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
6. FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
7. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
8. LEAD ON FLOOR SHALL BE 8 TO 20 POUND, 4 TO 6% ANTIMONY DEPENDING ON FLOOR LOADING.
9. FOR FINISHES SEE DRAWING 19455.
10. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U. S. ARMY MATERIAL COMMAND AMCR 385-100.
11. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
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14. RESIN SHALL BE POLYESTER RESIN, FIRE RETARDANT, CLASS 1 AS PER ASTM D-635 AND E-84 TESTS.



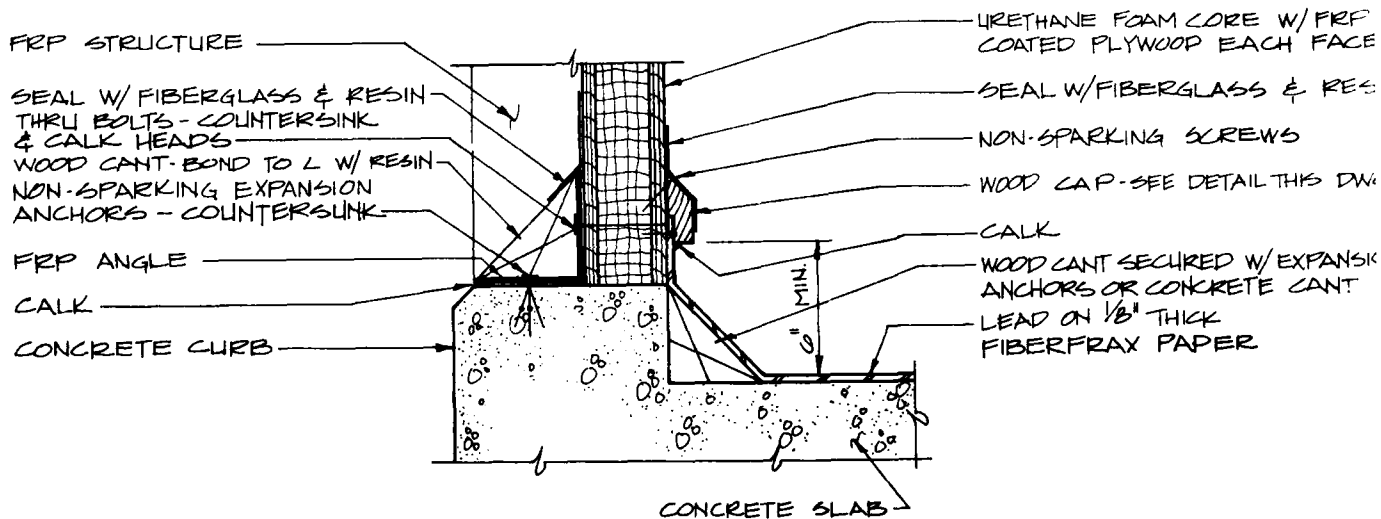
FACE OF PLYWOOD OR BLOCKING
FIBERGLASS & RESIN
NON-SPARKING SCREWS
SET WOOD CAP IN BED OF CALK



SYMBOLS		DATE APPROVED	
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY SANDWICH PANEL CONSTRUCTION	
		LEAD CONDUCTIVE FLOOR INTERIOR WALL/FLOOR INTERFACE	
DATE: 19 MARCH 81	DESIGNED BY: ES	CHECKED BY: TCH	DWG. NO. 19448



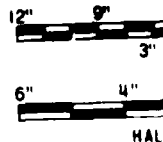
WOOD CAP DETAIL
HALF SIZE



WALL/FLOOR INTERFACE DETAIL
SCALE: 3" = 1'-0"

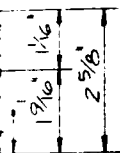
GENERAL NOTES CONTINUED:

16. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.



GRAPH

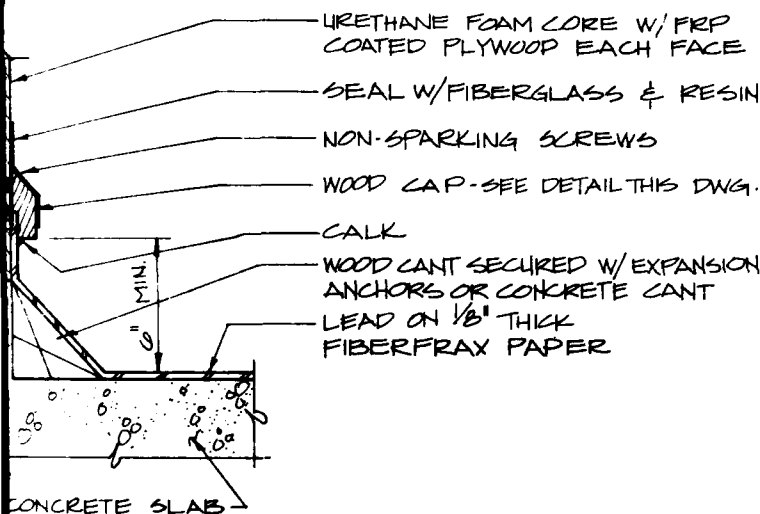
FACE OF PLYWOOD
FIBERGLASS & RESIN
NON-SPARKING SCREWS
SET WOOD CAP IN
BED OF CALK



WOOD CAP-RABBET TO FIT
TIGHT AGAINST LEAD
CALK
LEAD ON 1/8" THICK
FIBERFRAX PAPER

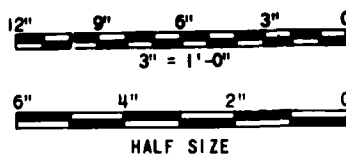
DETAIL

E



INTERFACE DETAIL

1" = 1'-0"



GRAPHIC SCALES

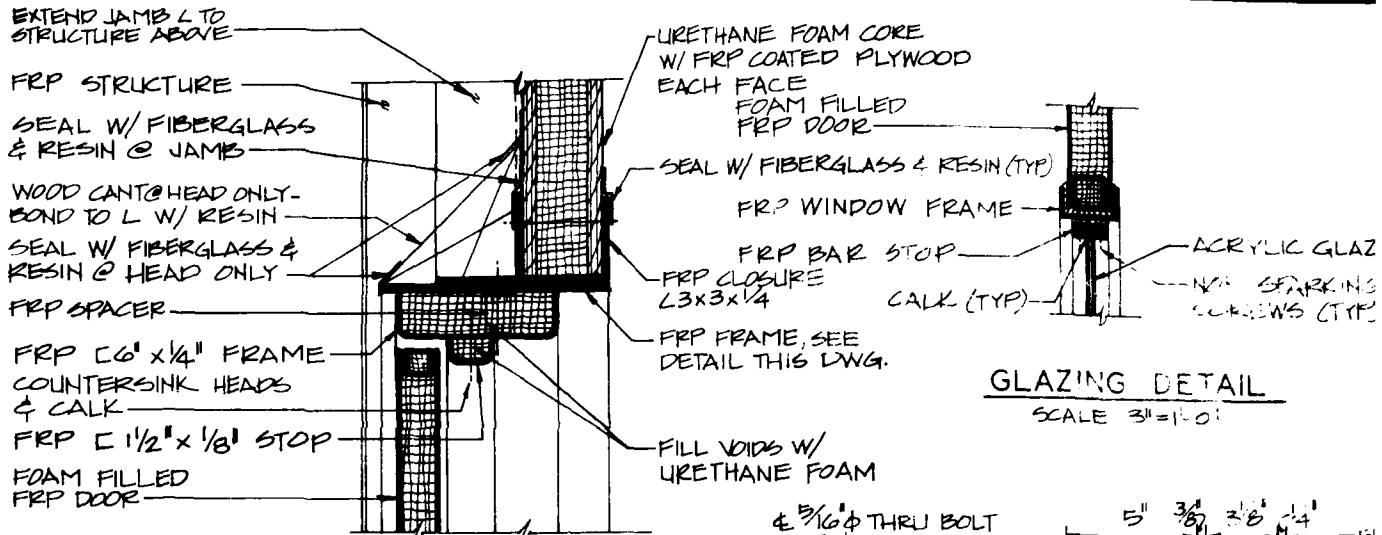
GENERAL NOTES:

1. ALL HORIZONTAL JOINTS IN THE LEAD SHALL BE BUTT JOINTS. ALL VERTICAL JOINTS SHALL BE BUTT JOINTS EXCEPT WHERE A LAP JOINT IS THE ONLY TYPE POSSIBLE. ALL WELDS SHALL BE FULL PENETRATION. NO JOINT SHALL BE WITHIN 8" OF WALL/FLOOR INTERSECTION. LAP JOINTS SHALL BE 5" LAP MIN.
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3. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
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5. FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
6. CANT STRIPS SHALL BE 1:1 PITCH MINIMUM.
7. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
8. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
9. LEAD ON FLOOR SHALL BE 8 TO 20 POUND, 4 TO 6% ANTIMONY DEPENDING ON FLOOR LOADING.
10. FOR FINISHES SEE DRAWING 19455.
11. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.
12. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
13. FIBERGLASS MAT SHALL BE 1 1/2 OUNCE PER SQUARE FOOT CHOPPED STRAND MAT.
14. SURFACING VEIL SHALL BE 0.010" THICK CONTINUOUS FIBER MAT.
15. RESIN SHALL BE POLYESTER RESIN, FIRE RETARDANT, CLASS 1 AS PER ASTM D-635 AND E-84 TESTS.

SYMBOL		DATE APPROVED	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY SANDWICH PANEL CONSTRUCTION LEAD CONDUCTIVE FLOOR WALL/FLOOR INTERFACE	
DATE: 19 MARCH '81	DWG. NO. 19449		
DWG. BY: ES	CHKD BY: TDH		

2

CORPS OF ENGINEERS

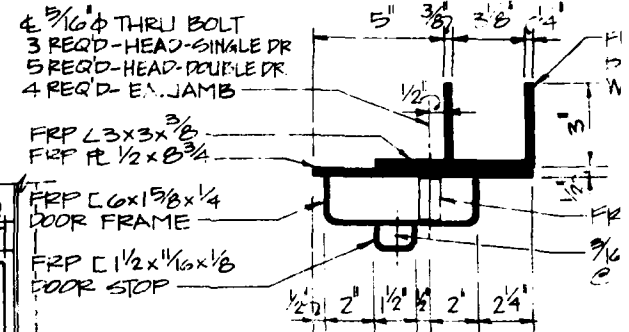


HEAD & JAMB DETAIL

SCALE: 3"=1'-0"

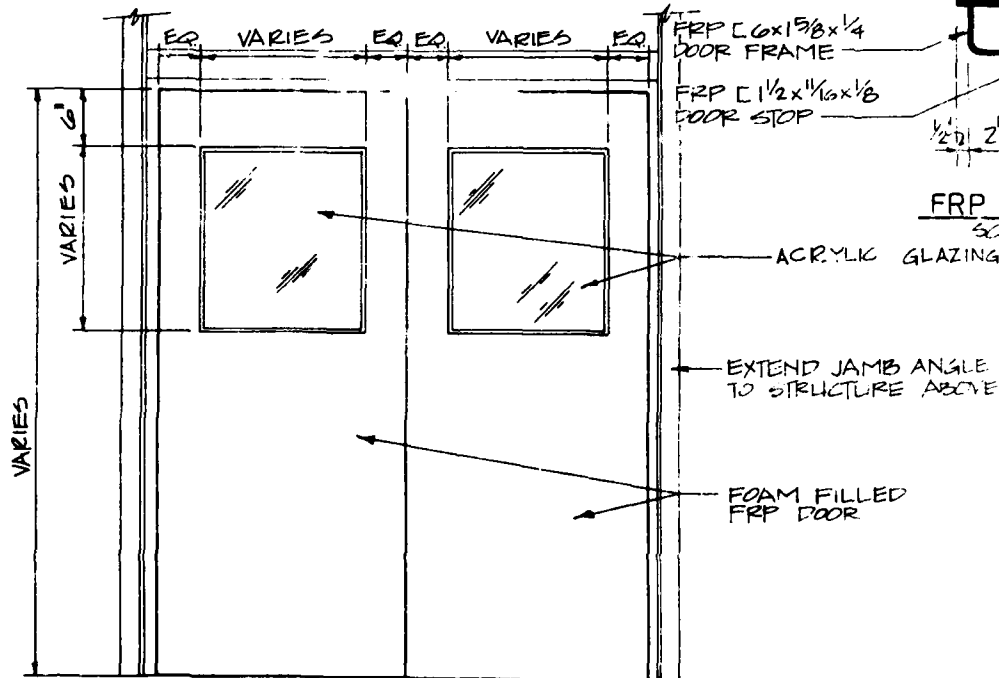
GLAZING DETAIL

SCALE 3"=1'-0"



FRP FRAME DETAIL

SCALE 3"=1'-0"



EXTERIOR DOOR ELEVATION

NO SCALE



GRA

FOAM CORE
ED PLYWOOD
FILLED
DOOR

BERGLASS & RESIN (TYP)

WINDOW FRAME

BAR STOP

CAULK (TYP)

SEE
IS LING.

GLAZING DETAIL

SCALE 3" = 1'-0"

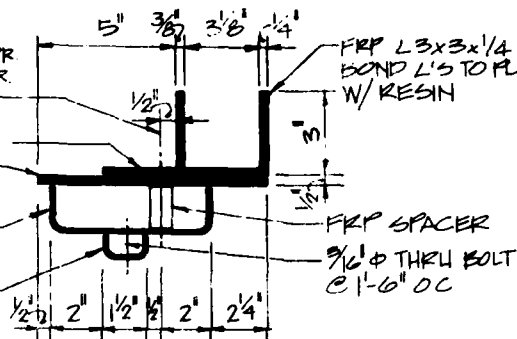
W/
FOAM

3/16" THRU BOLT
3 REQ'D-HEAD-SINGLE DR.
5 REQ'D-HEAD-DOUBLE DR.
1 REQ'D- E. JAMB

FRP L3x3x3/8
FRP L1/2x3/4

FRP L6x15/8x1/4
DOOR FRAME

FRP L1/2x1/8x1/8
DOOR STOP



FRP FRAME DETAIL

SCALE: 3" = 1'-0"

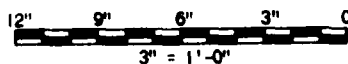
ACRYLIC GLAZING

EXTEND JAMB ANGLE
TO STRUCTURE ABOVE

FOAM FILLED
FRP DOOR

GENERAL NOTES:

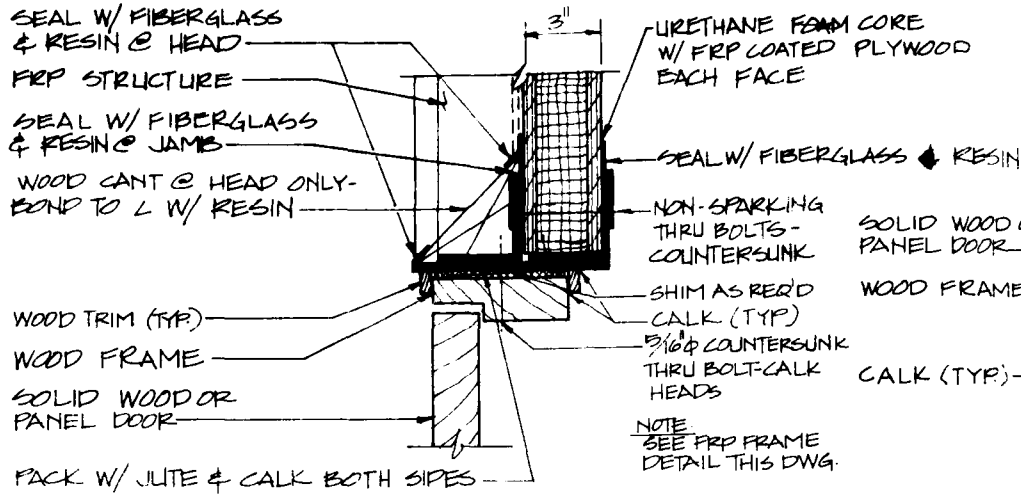
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- CAULK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CAULKING COMPOUND.
- DOOR HARDWARE SHALL BE NON-SPARKING.
- FRP DOORS AND FRAMES SHALL BE REINFORCED FOR HARDWARE AND MECHANICAL OPERATING DEVICES.
- FRP DOOR EDGES SHALL BE SEALED WITH RESIN.
- FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
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- GLAZING SHALL BE SHADED TO PREVENT THE ENTRY OF DIRECT SUNLIGHT.
- FOR FINISHES SEE DRAWING 19455.
- DOOR OPENING SHALL BE 30"x78" MINIMUM.
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GRAPHIC SCALE

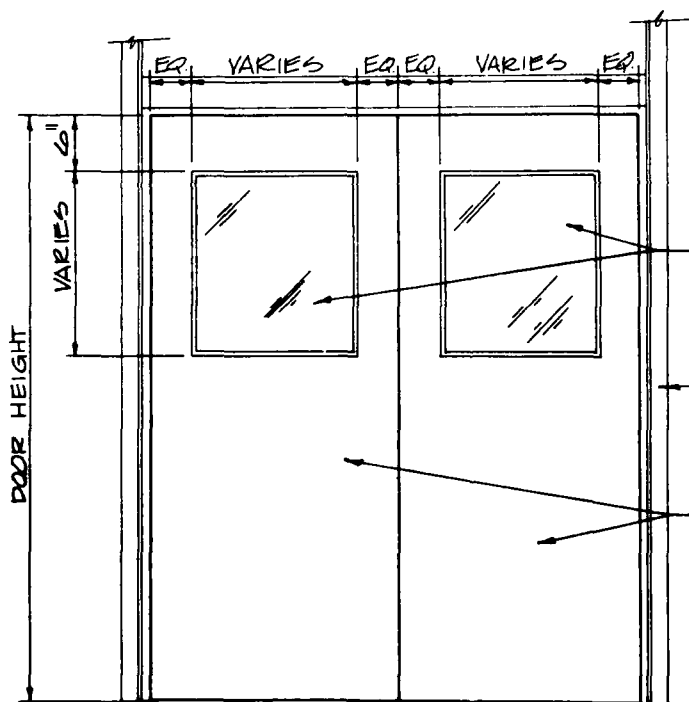
SYMBOL		DATE APPROVED	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI			
US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA			
OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY			
STANDARD DETAILS			
NITROGLYCERIN FACILITY SANDWICH PANEL CONSTRUCTION			
FRP EQUIPMENT DOOR DETAILS			
DATE: 19 MARCH 81	DES. BY: ETT	CHK. BY: JDM	DWG. NO. 19450

CORPS OF ENGINEERS



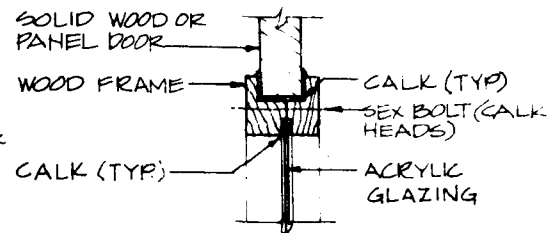
HEAD & JAMB DETAIL

SCALE: 3" = 1'-0"



EXTERIOR DOOR ELEVATION

NO SCALE



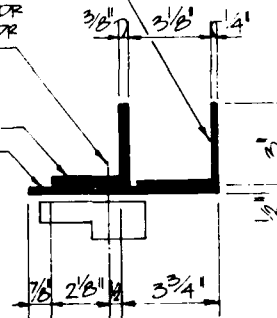
GLAZING DETAIL

SCALE: 3" = 1'-0"

FRP L3x3x1/4 BOND TO FL W/ RESIN

4 5/16" THRU BOLT
3 REQ'D - HEAD - SINGLE OR
5 REQ'D - HEAD - DOUBLE OR
4 REQ'D - EA JAMB

FRP L3x3x3/8 BOND TO FL W/ RESIN
FRP FL 1/2x7/4



FRP FRAME DETAIL

SCALE: 3" = 1'-0"



GRAPH

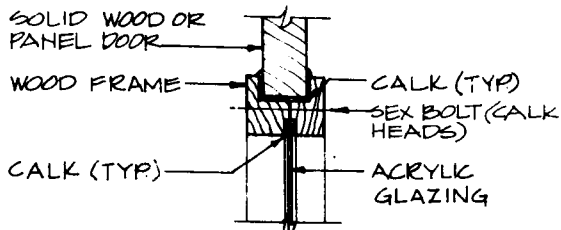
ETHANE FOAM CORE
FRP COATED PLYWOOD
CH FACE

ALW/ FIBERGLASS + RESIN

SPARKING
BOLTS -
COUNTERSUNK

AS REQ'D
(TYP)
COUNTERSUNK
BOLT-CALK

FRP FRAME
- THIS DWG.



GLAZING DETAIL

SCALE: 3" = 1'-0"

FRP L3x3x1/4
BOND TO FL W/ RESIN

4 5/16" THRU BOLT
3 REQ'D-HEAD-SINGLE DR.
5 REQ'D-HEAD-DOUBLE DR.
4 REQ'D-EA JAMB

FRP L3x3x3/8
BOND TO FL W/ RESIN
FRP FL 1/2x7/4

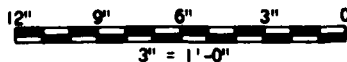
ACRYLIC
GLAZING

EXTEND JAMB
ANGLES TO
STRUCTURE
ABOVE

SOLID WOOD
OR PANEL
DOOR

FRP FRAME DETAIL

SCALE: 3" = 1'-0"



GRAPHIC SCALE

GENERAL NOTES:

- FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS 1, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
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- AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.

SYMBOLS		DATE APPROVED	
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
DATE: 19 MARCH '81		NITROGLYCERIN FACILITY SANDWICH PANEL CONSTRUCTION	
		WOOD EQUIPMENT DOOR DETAILS	
DESIGNED BY: JET	CHECKED BY: TDM	DWG. NO. 19451	

CORPS OF ENGINEERS

SEAL W/ FIBERGLASS
& RESIN @ HEAD

FRP STRUCTURE

SEAL W/ FIBERGLASS
& RESIN @ JAMB

WOOD CANT @ HEAD -
BOND TO L W/ RESIN

FRP SPACER

FRP $6'' \times \frac{1}{4}''$ FRAME
FOAM FILLED
FRP DOOR

FRP $C \frac{1}{2}'' \times \frac{1}{8}''$ STOP

URETHANE FOAM CORE
W/ FRP COATED PLYWOOD
EACH FACE
FOAM FILLED
FRP DOOR

SEAL W/ FIBERGLASS & RESIN

FRP WINDOW FRAME -
NON-SPARKING THRU BOLTS -
COUNTERSUNK HEADS

FRP $L 3 \times 3 \times \frac{1}{4}''$

FRP $R \frac{1}{2} \times 3 \times \frac{3}{4}''$

FRP FRAME, SEE DETAIL
THIS DRAWING

FILL VOIDS W/
URETHANE FOAM

COUNTERSUNK HEADS
& CALK (TYP)

ACRYLIC GLAZI
FRP BAR STOP
NON-SPARKING

GLAZING DETAIL

SCALE: $3'' = 1'-0''$

GENERAL NOTE CONTINUED

17. AN ELECTROSTATIC
OF ALL FRP MATER
ON THIS DRAWING S
IN ACCORDANCE WIT
STANDARD NO. 77 A
AMCR 385-100.

HEAD & JAMB DETAIL

SCALE: $3'' = 1'-0''$

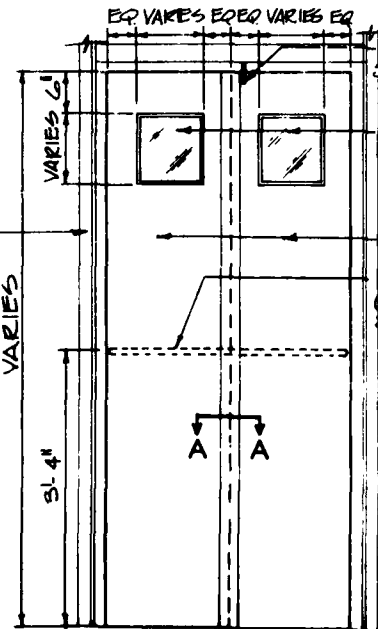
FRP $R \frac{1}{4} \times 3$
CONTINUOUS ASTRAGAL
BOND TO DOOR LEAF



SECTION A-A

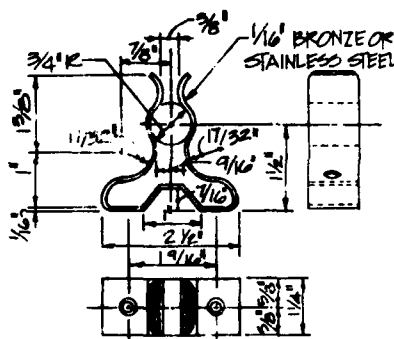
SCALE: $3'' = 1'-0''$

EXTEND JAMB
ANGLE TO
STRUCTURE ABOVE



EXTERIOR
DOOR ELEVATION

NO SCALE



SPRING TYPE
CATCH DETAIL

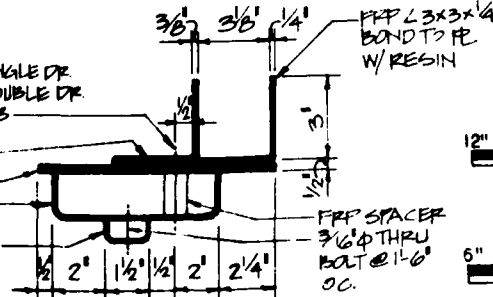
SCALE: HALF SIZE

WOOD PIN
SEE DWG. 19549

ACRYLIC
GLAZING

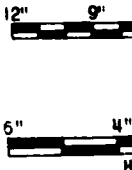
FOAM FILLED
FRP DOOR
LATCH BAR
(ON INSIDE)
SEE DWG. 19549

$\frac{3}{16}'' \phi$ THRU BOLT
3 REQ'D - HEAD - SINGLE DR
3 REQ'D - HEAD - DOUBLE DR
4 REQ'D - EA. JAMB
FRP $L 3 \times 3 \times \frac{3}{8}''$
BOND TO R
FRP $R \frac{1}{2} \times 3 \times \frac{3}{4}''$
FRP $C 6 \times 1 \frac{1}{8} \times \frac{1}{4}''$
FRP $C 1 \frac{1}{2} \times 1 \frac{1}{8} \times \frac{1}{8}''$



FRP FRAME DETAIL

SCALE: $3'' = 1'-0''$



GRAPH

HANE FOAM CORE
RPGOATED PLYWOOD
FACE

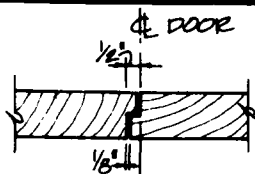
W FIBERGLASS

MARKING THRU
UNTERSUNK
PANEL DOOR

WOOD FRAME
SEX BOLT
(CALK HEADS)

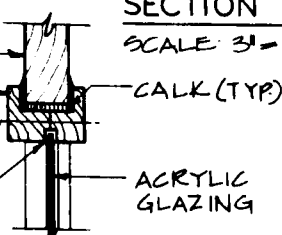
NO REQ'D

TRSK THRU BOLTS
HEADS



SECTION A-A

SCALE: 3" = 1'-0"



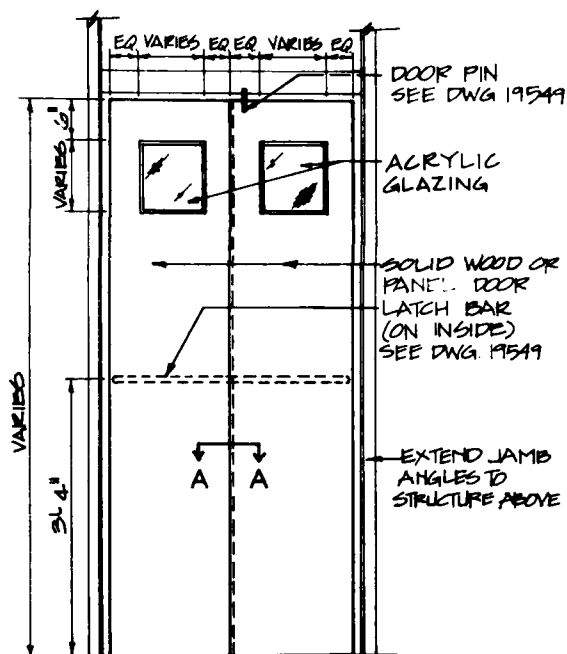
GLAZING DETAIL

SCALE: 3" = 1'-0"

1/16" BRONZE OR
STAINLESS STEEL

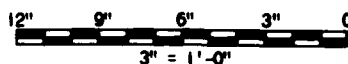


TYPE
TAIL
SIZE



EXTERIOR DOOR ELEVATION

NO SCALE



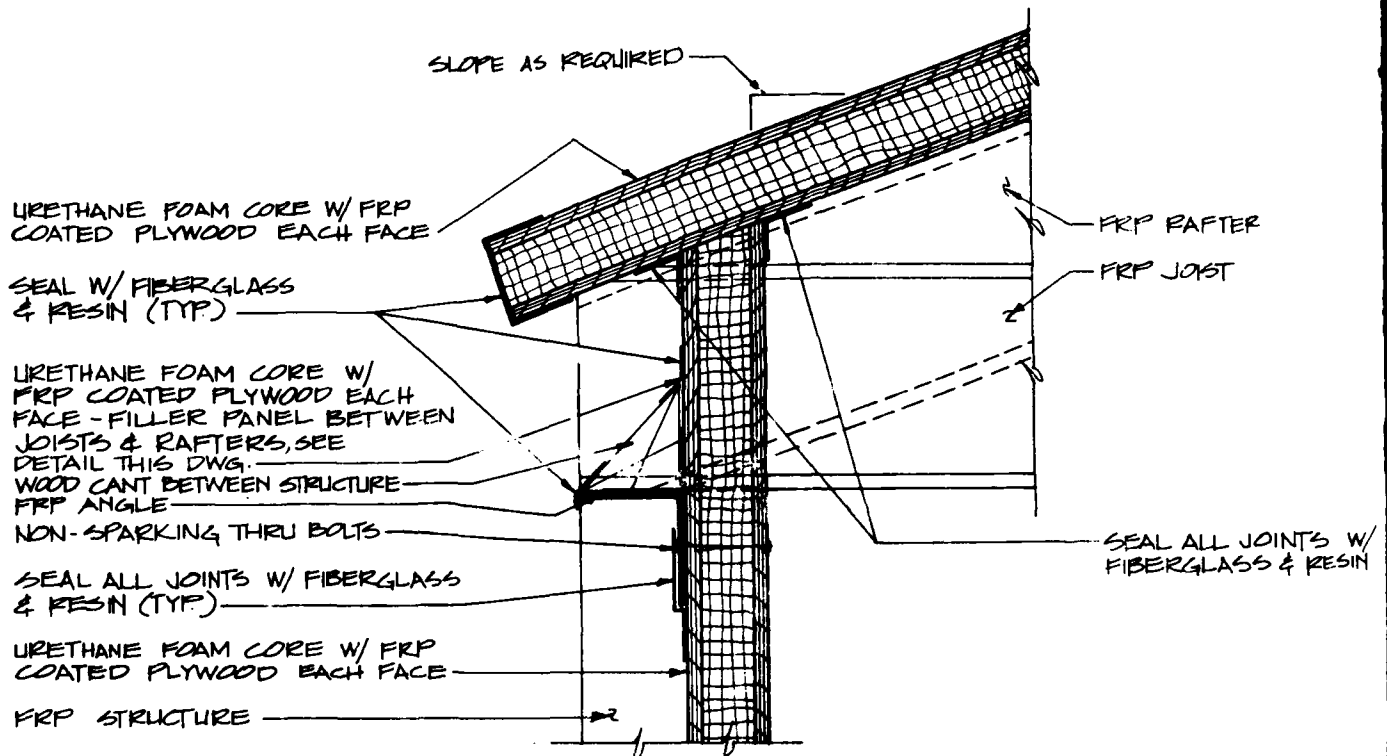
HALF SIZE

GRAPHIC SCALES

GENERAL NOTES:

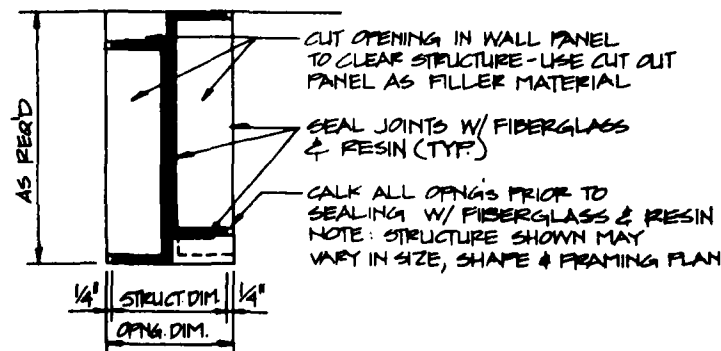
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3. DOOR HARDWARE SHALL BE NON-SPARKING.
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7. ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
8. FOR FINISHES SEE DRAWING 19455.
9. GLAZING SHALL BE SHADED TO PREVENT ENTRY OF DIRECT SUNLIGHT.
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11. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
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15. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.

REVISIONS		DATE	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION MONTVILLE CORPS OF ENGINEERS MONTVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MONTVILLE PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY SANDWICH PANEL CONSTRUCTION	
		WOOD PERSONNEL ESCAPE DOOR	
DATE: 19 MARCH 81	DESIGNED BY: ES	CHECKED BY: TDH	DRAWING NO. 19453



CEILING/WALL INTERFACE DETAIL

SCALE: 3" = 1'-0"



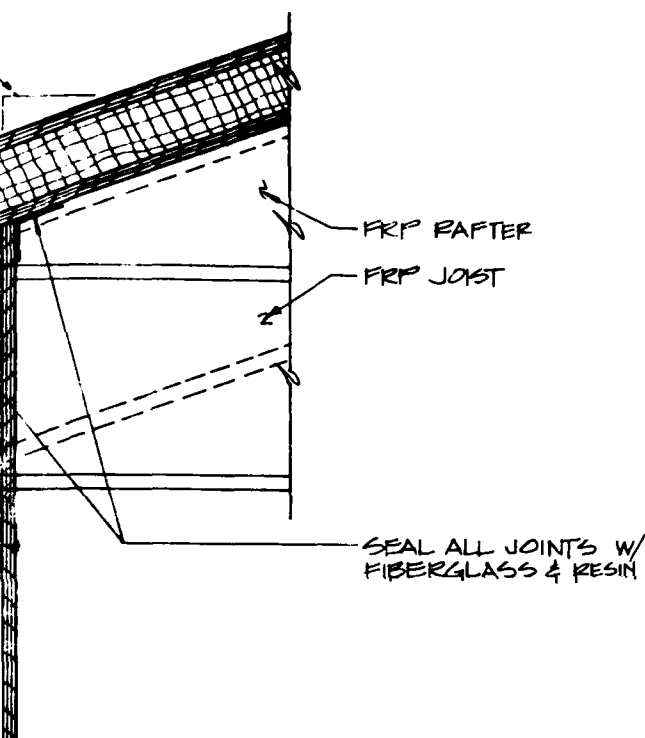
STRUCTURE PENETRATION DETAIL

N.T.S.

12" 9" 6"
3" = 1'
GRAPHIC SCALE

GENERAL NOTES:

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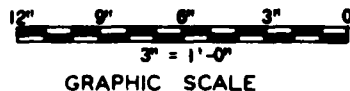
INTERFACE DETAIL

1.0"

PANEL
BE CUT OUT
MATERIAL

FIBERGLASS

FR TO
GLASS & RESIN
WHY MAY
FRAMING PLAN



GRAPHIC SCALE

DATE: 19 MARCH 81		DATE APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		REVISIONS
US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA		
OFFICE OF THE PROJECT MANAGER FOR HUNTSVILLE PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY		
STANDARD DETAILS		
NITROGLYCERIN FACILITY SANDWICH PANEL CONSTRUCTION		
CEILING/WALL INTERFACE		
DATE: 19 MARCH 81	DATE: 19454	

CORPS OF ENGINEERS

ROOM FINISH SCHEDULE

ROOM TYPE	FINISH			
	FLOOR	BASE	WALL	CEILING
CONTROL ROOMS, TOILETS AND NON-EXPLOSIVE AREAS	1/8" VINYL ASBESTOS TILE EXPOSED CONCRETE OR PAINTED	4" VINYL OR PAINTED CONCRETE	FRP-GELCOAT (INTERIOR)	FRP-GELCOAT
NITROGLYCERIN PROCESS AREAS AND EXPLOSIVE AREAS	LEAD OR TROWEL ON CONDUCTIVE FLOOR	LEAD OR TROWEL ON CONDUCTIVE BASE	FRP-GELCOAT (INTERIOR)	FRP-GELCOAT

PAINTING NOTES:

1. THE FOLLOWING ITEMS SHALL NOT BE PAINTED:
 - STAINLESS STEEL SURFACES.
 - INTERIOR ALUMINUM, BRASS, OR BRONZE SURFACES.
 - ACRYLIC GLAZING.
 - DOOR AND WINDOW HARDWARE EXCEPT DOOR OPERATOR COVERS.
 - LEAD FLOORING AND BASES, EXCEPT FIRST AND LAST STAIR TREADS, CURBS, AND DOOR THRESHOLDS, WHICH SHALL BE PAINTED AS REQUIRED.

SCHEDULE

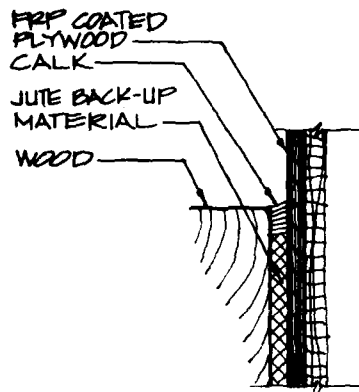
FINISH		
BASE	WALL	CEILING
OR PAINTED	FRP-GELCOAT (INTERIOR)	FRP-GELCOAT (INTERIOR)
TROWEL ON IVE BASE	FRP-GELCOAT (INTERIOR)	FRP-GELCOAT (INTERIOR)

GENERAL NOTES:

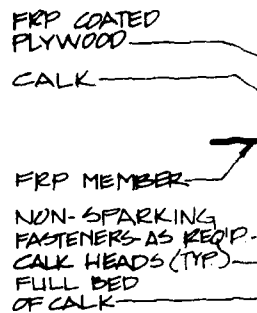
1. ALL EXPOSED INTERIOR WOOD SHALL BE PAINTED. EXPOSED WOOD IN NITROGLYCERIN PROCESS AREAS AND EXPLOSIVE AREAS SHALL BE PAINTED WITH NITROGLYCERIN RESISTANT PAINT WHICH SHALL BE A CHLORINATED RUBBER ENAMEL WITH A MAXIMUM NITROGLYCERIN ABSORPTION OF 1%.
2. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
3. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS I, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
4. LEAD ON FLOOR AND BASE SHALL BE 8 TO 20 POUND, 4 TO 6% ANTIMONY DEPENDING ON FLOOR LOADING.
5. TROWEL ON CONDUCTIVE FLOOR AND BASE SHALL BE A TROWELED, JOINTLESS, STATIC CONDUCTIVE FLOOR. IT SHALL BE A WATER-PHASE RESIN MATERIAL WITH ACETYLENE CARBON BLACK, AND IT SHALL BE APPLIED IN A SERIES OF COATS TO ACHIEVE A SMOOTH FINISH. THICKNESS AND INSTALLATION OF CONDUCTIVE FLOOR SHALL BE ACCORDING TO MANUFACTURERS RECOMMENDATIONS.
6. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.
7. DETAILS OF TROWEL ON CONDUCTIVE FLOOR FOR NITROGLYCERIN FACILITIES SHALL BE THE SAME AS FOR SINGLE BASE AND MULTIBASE FACILITIES. SEE DRAWING 19512.
8. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
9. FIBERGLASS MAT SHALL BE 1 1/2 OUNCE PER SQUARE FOOT CHOPPED STRAND MAT.
10. SURFACING VEIL SHALL BE 0.010" THICK CONTINUOUS FIBER MAT.
11. RESIN SHALL BE POLYESTER RESIN, FIRE RETARDANT, CLASS I AS PER ASTM D-635 AND E-84 TESTS.

REVISIONS	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA
OFFICE OF THE PROJECT MANAGER FOR SUBSTATIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
STANDARD DETAILS	
NITROGLYCERIN FACILITY SANDWICH PANEL CONSTRUCTION	
INTERIOR FINISHES	
DATE: 19 MARCH '81	DRW. NO. 19455
DRW. BY: EMB	CHK. BY: TDH

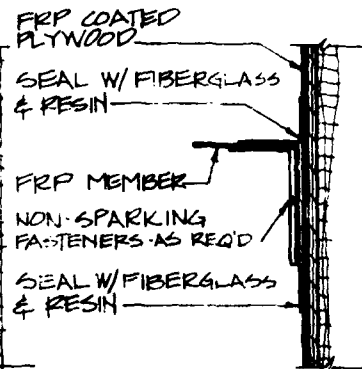
CORPS OF ENGINEERS



WOOD TO FRP JOINT

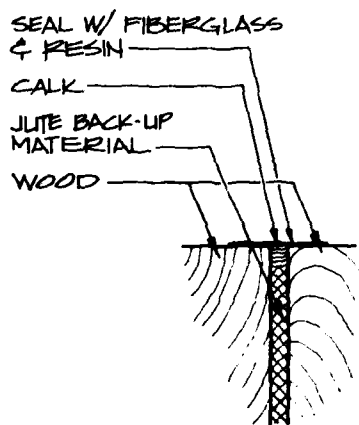


CALKED

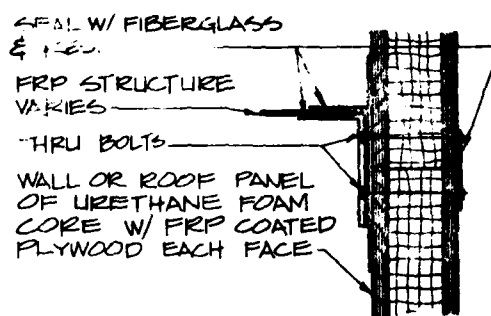


RESINED

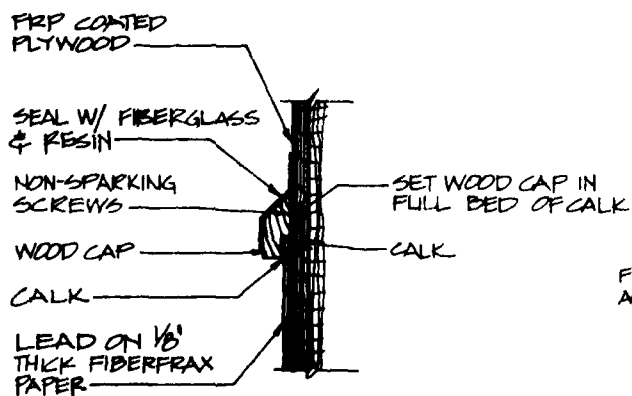
FRP TO FRP JOINT



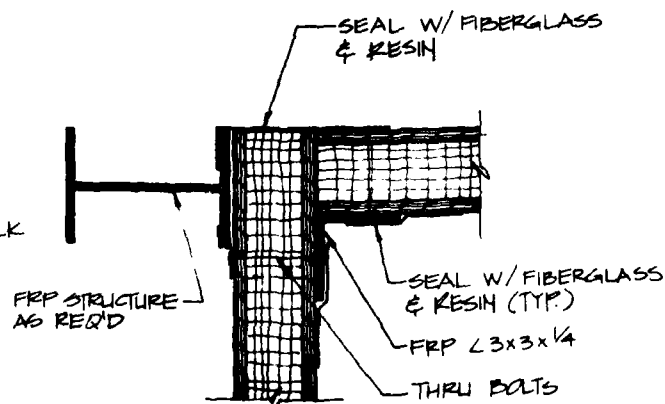
WOOD TO WOOD JOINT



WALL OR ROOF PANEL JOINT



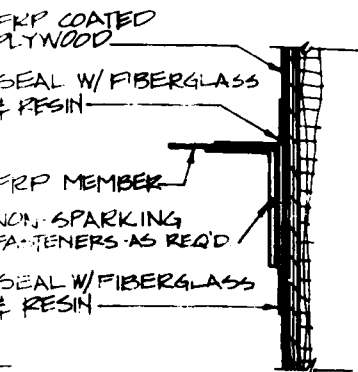
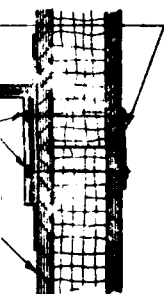
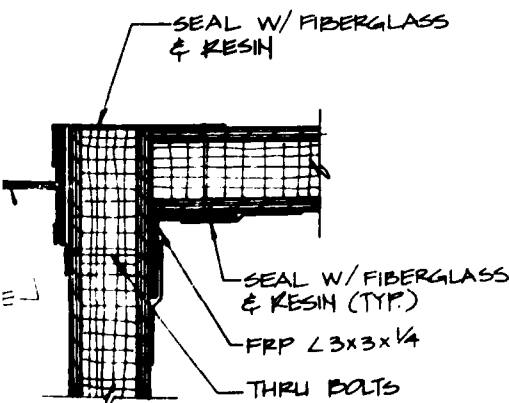
LEAD TO FRP JOINT



WALL PANEL CORNER JOINT

GENERAL NOTES:

1. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS I, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
2. FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
3. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
4. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
5. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND. ALL CALK SHALL BE APPLIED IN ACCORDANCE WITH DEPARTMENT OF THE ARMY TECHNICAL MANUAL TM 5-805-6.
6. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
7. FIBERGLASS MAT SHALL BE 1 1/2 OUNCE PER SQUARE FOOT CHOPPED STRAND MAT.
8. SURFACING VEIL SHALL BE 0.010" THICK CONTINUOUS FIBER MAT.
9. RESIN SHALL BE POLYESTER RESIN, FIRE RETARDANT, CLASS I AS PER ASTM D-635 AND E-84 TESTS.
10. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.

RESINEDFRP JOINTPANEL JOINTWALL PANEL
CORNER JOINT

SYMBOL		DATE APPROVED	
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY SANDWICH PANEL CONSTRUCTION	
DATE: 19 MARCH 64		JOINT SEALING	
DESIGNED BY: JMT	CHECKED BY: TDM	DWG. NO. 19456	

FRP DOOR - FILL VOIDS
W/ URETHANE FOAM

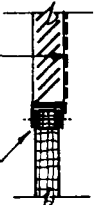
NON-SPARKING SCREWS
(TYP) MIN 2 PER SIDE
CALK HEADS



HEAD



JAMB



SILL

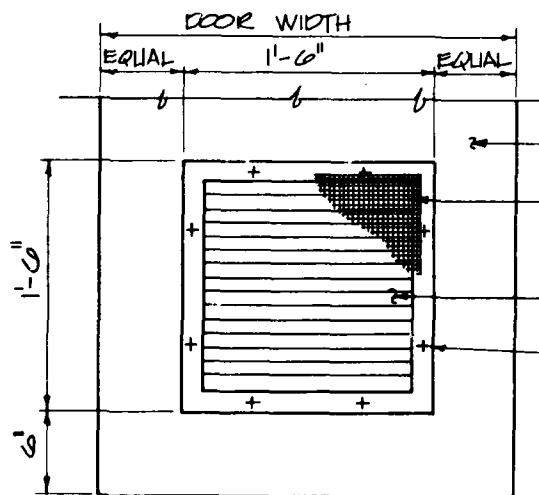
MANUFACTURERS STANDARD
FRP LOUVER

INSECT SCREEN @
EXTERIOR DOORS ONLY

CALK ALL AROUND
BOTH SIDES OF DOOR

FRP DOOR LOUVER DETAILS

SCALE: 1 1/2" = 1'-0"



FRP DOOR

INSECT SCREEN @
EXTERIOR DOORS ONLY

FRP LOUVER

NON-SPARKING SCREWS
MIN - 2 PER SIDE
CALK HEADS

INTERIOR ELEVATION FRP DOOR LOUVER

SCALE: 1 1/2" = 1'-0"

FRP L 3x3x1/4 (TYP)

URETHANE FOAM CORE
W/ FRP COATED
PLYWOOD EACH FACE

WOOD CANT. BOND
TO L W/ RESIN

FRP L 1x1x1/8

FRP WATERSTOP



HEAD



JAMB



SILL

SEAL W/ FIBRE
& RESIN (TY
NON-SPARKIN
SCREWS (TY

FRP R 1/4x2

NOTE:
1. FOR WALL
THAN 3' 6"
OFF LS. MA
2. FOR OPEN
36" FRAM
BE INCREA

FRP L 3x3x1/4 (TYP)

NON-SPARKING
SCREWS (TYP)

FRP L 1x1x1/8
FRP LOUVER - FIXED,
GRAVITY, OR AIR OPERATED
MOVABLE

SEAL W/ FIBRE
& RESIN (TY

INSECT SCR

FILL VOID W/ URETHANE
FOAM (TYP.)

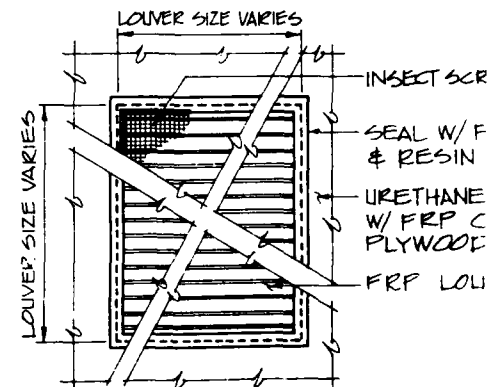
SEAL W/ FIBERGLASS
& RESIN (TYP.)

FRP WATERST

SEAL W/ FI
& RESIN (T

FRP WALL LOUVER DETAILS

SCALE: 1 1/2" = 1'-0"



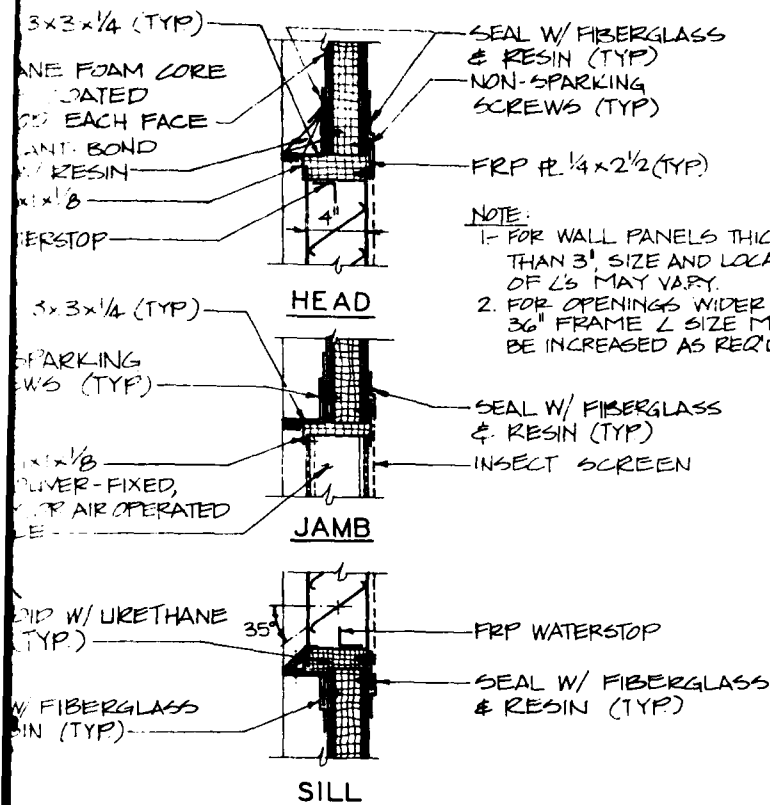
INTERIOR ELEVATION FRP WALL LOUVER

SCALE: 1 1/2" = 1'-0"

12" 9" 6" 3"
1 1

12" 6" 0 1'
1 2

GRAPH



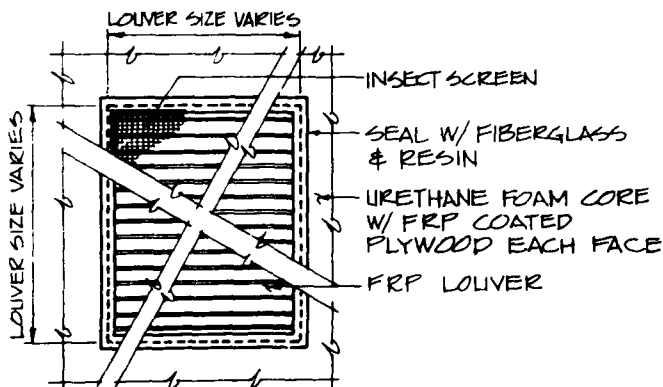
NOTE:
 1. FOR WALL PANELS THICKER
 THAN 3", SIZE AND LOCATION
 OF L'S MAY VARY.
 2. FOR OPENINGS WIDER THAN
 36" FRAME L SIZE MUST
 BE INCREASED AS REQ'D.

GENERAL NOTES:

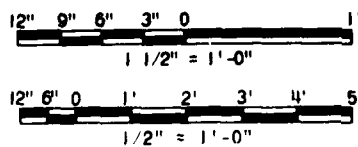
1. INSECT SCREEN SHALL BE PVC COATED FIBERGLASS. (16x16 MESH) INSECT SCREEN SHALL BE LOCATED ON INTERIOR OR EXTERIOR SURFACE OF LOUVERS AS REQUIRED.
2. CALK SHALL BE A NON CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
3. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS 1 AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
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7. FOR FINISHES SEE DRAWING 19455.
8. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
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FRP WALL LOUVER DETAILS

SCALE 1 1/2" = 1'-0"

INTERIOR ELEVATION
FRP WALL LOUVER

SCALE: 1/2" = 1'-0"



GRAPHIC SCALES

SYNOPSIS		DATE	APPROVED
REVISIONS 1. BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY STANDARD DETAILS NITROGLYCERIN FACILITY SANDWICH PANEL CONSTRUCTION FRP LOUVER DETAILS			
DATE	19 MARCH 81	DESIGNED BY	CHKD BY TDH
DATE	19 MARCH 81	DESIGNED BY	CHKD BY TDH
DWR. NO.		19457	

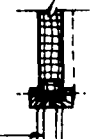
CORPS OF ENGINEERS

FRP DOOR
FILL VOIDS W/
URETHANE FOAM



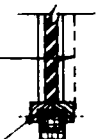
HEAD

WOOD LOUVER



JAMB

INSECT SCREEN @
EXTERIOR DOORS ONLY



SILL

CALK ALL AROUND
BOTH SIDES OF DOOR

WOOD DOOR LOUVER DETAILS

SCALE: 1/2" = 1'-0"

SEAL W/ FIBERGLASS
& RESIN (TYP)

URETHANE FOAM CORE
W/ FRP COATED
PLYWOOD EACH FACE

FRP STRUCTURE

FRP L 3x3x1/4 (TYP)



HEAD

WOOD CA
TO L W/
FILL VOID
CALK (T)

NON-SPARKING
THRU BOLTS (TYP)

FRP L 3x3x1/4 (TYP)

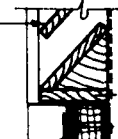
SHIM AS REQUIRED -
PACK W/ JUTE & CALK
EACH SIDE



JAMB

INSECT

1x WOOD LOUVER

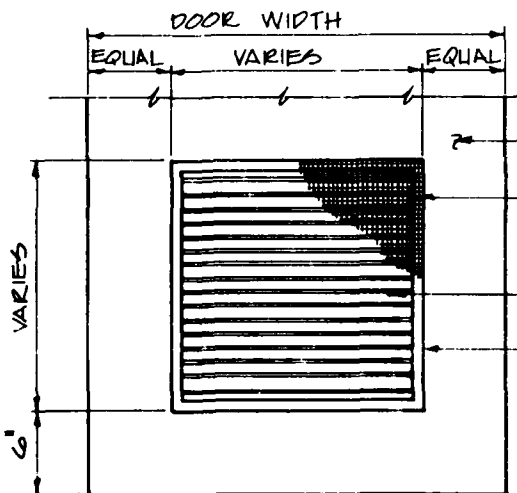


SILL

SEAL W/ FIBERGLASS
& RESIN (TYP)

WOOD WALL LOUVER DETAIL

SCALE 1/2" = 1'-0"



INTERIOR ELEVATION
WOOD DOOR LOUVER

SCALE: 1/2" = 1'-0"

URETHANE FOAM CORE
W/ FRP COATED
PLYWOOD EACH FACE

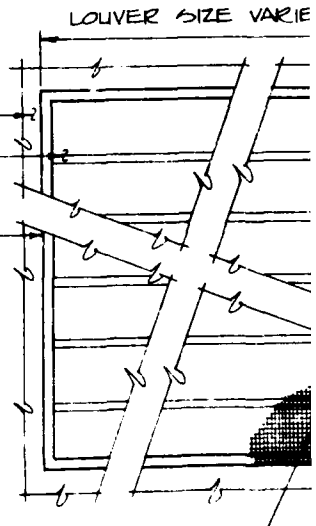
1x WOOD LOUVER

CALK ALL AROUND

INSECT SCREEN @
EXTERIOR DOORS ONLY

WOOD LOUVER

CALK ALL AROUND
BOTH SIDES OF DOOR

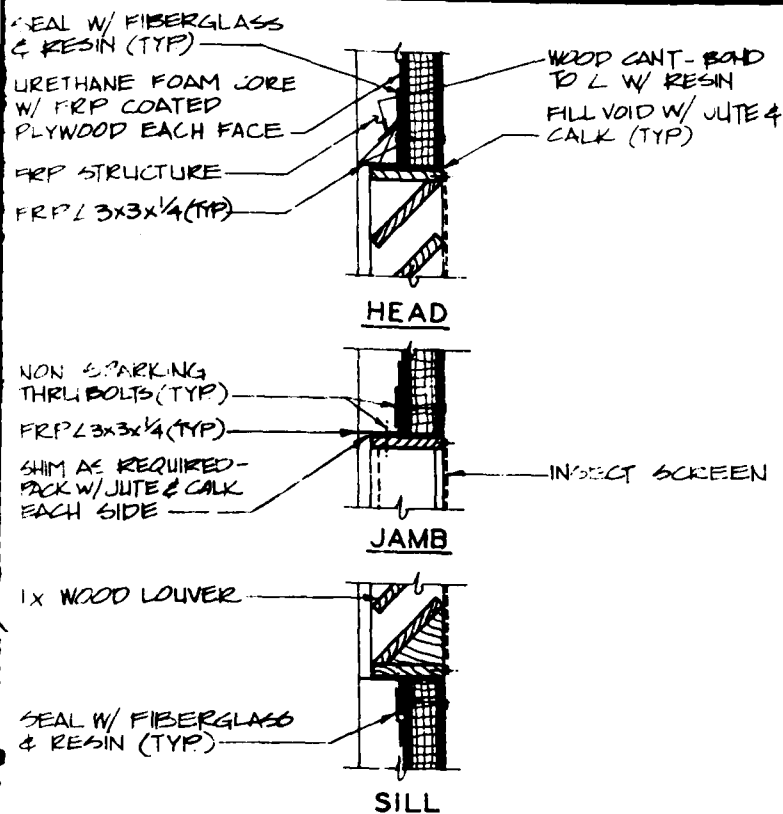


INSECT SCREEN

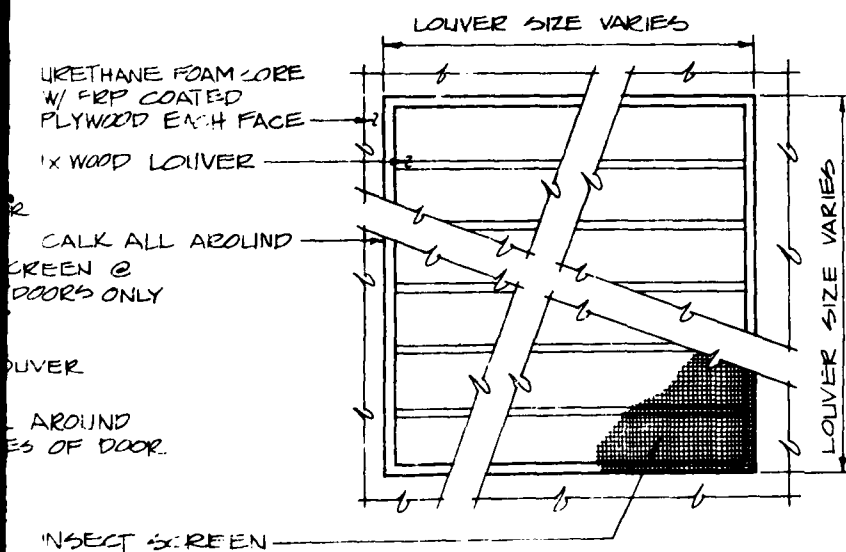
INTERIOR ELEV
WOOD WALL LO

SCALE 1/2" = 1'

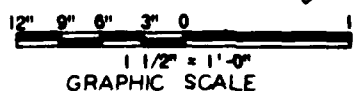
12" 9"

**WOOD WALL LOUVER DETAILS**

SCALE: 1 1/2" = 1'-0"

**INTERIOR ELEVATION
WOOD WALL LOUVER**

SCALE: 1 1/2" = 1'-0"

**GENERAL NOTES:**

1. INSECT SCREEN SHALL BE PVC COATED FIBERGLASS. (16x16 MESH) INSECT SCREEN SHALL BE LOCATED ON INTERIOR OR EXTERIOR SURFACE OF LOUVER AS REQUIRED.
2. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
3. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT CLASS 1, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
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9. FIBERGLASS MAT SHALL BE 1 1/2 OUNCE PER SQUARE FOOT CHOPPED STRAND MAT.
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REVISIONS		DATE	APPROVED
1	BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY MISSOURI	19 MARCH '81	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA
2	OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY		
3	STANDARD DETAILS		
4	NITROGLYCERIN FACILITY SANDWICH PANEL CONSTRUCTION		
5	WOOD DOOR AND WALL LOUVERS		
6	19458		

URETHANE FOAM CORE
W/ FRP COATED
PLYWOOD EACH FACE

FRP L3x3x1/4 FRAME
JUTE BACK-UP
MATERIAL (TYP)

DUCT

CALK

RUBBER OR NEOPRENE
GASKET

DIMENSION
VARIES

CALK (TYP)

SEAL W/ FIBERGLASS
& RESIN (TYP)

NON-SPARKING THRU BOLT

ONE PIECE MOLDED
FRP VENT

NON-SPARKING SCREWS (TYP)

CALK

SEAL W/ FIBERGLASS
& RESIN (TYP)

6'-0" TO
FLOOR MINIMUM

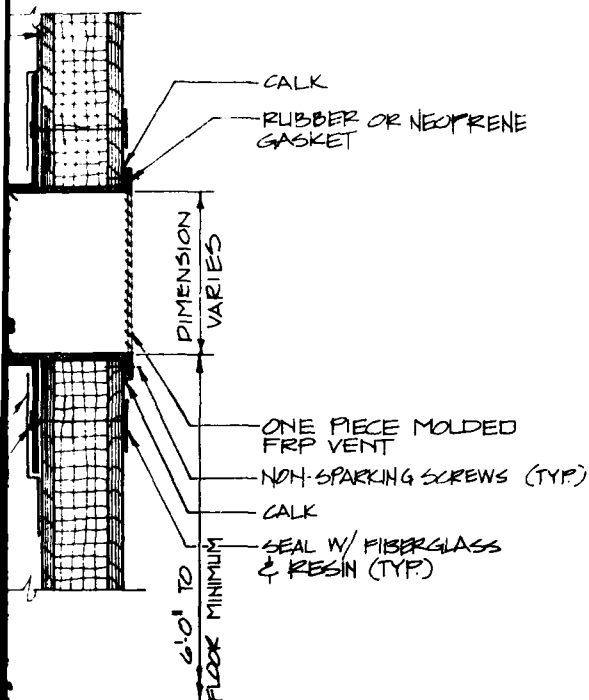
FRP VENT DETAIL

SCALE: 3' = 1'-0"



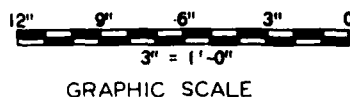
GENERAL NOTES:

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- FOR FINISHES SEE DRAWING 19455.
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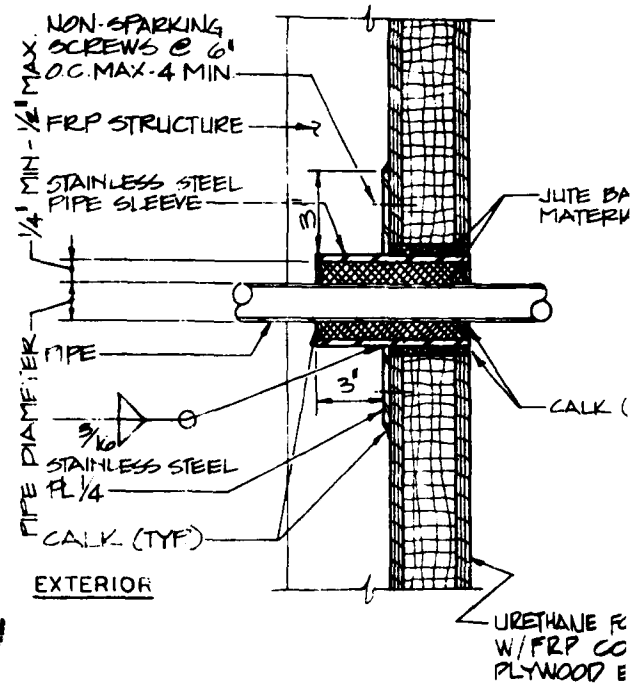
ENT DETAIL

SCALE: 3" = 1'-0"



SYMBOLS		DATE APPROVED	
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY SANDWICH PANEL CONSTRUCTION	
FRP WALL VENT			
DATE: 19 MARCH 1959	CHK. BY: TCH	DWG. NO. 19459	

2



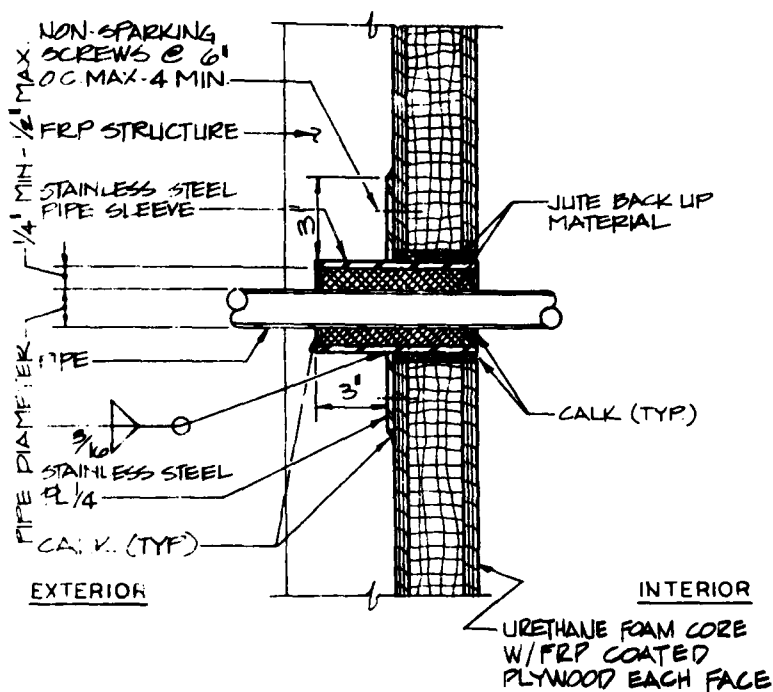
PIPE PENETRATION
SCALE 3" = 1'-0"



GRAF

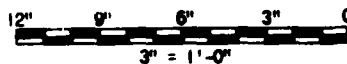
GENERAL NOTES:

1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS 1, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
3. FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
4. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
5. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
6. FOR FINISHES SEE DRAWING 19455.
7. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
8. FIBERGLASS MAT SHALL BE 1-1/2 OUNCE PER SQUARE FOOT CHOPPED STRAND MAT.
9. SURFACING VEIL SHALL BE 0.010" THICK CONTINUOUS FIBER MAT.
10. RESIN SHALL BE POLYESTER RESIN, FIRE RETARDANT, CLASS 1 AS PER ASTM D-635 AND E-84 TESTS.
11. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.



PIPE PENETRATION

SCALE: 3" = 1'-0"



GRAPHIC SCALE

SYNOPSIS		DATE APPROVED	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROGLYCERIN FACILITY SANDWICH PANEL CONSTRUCTION WALL PENETRATIONS	
DATE: 19 MARCH 1964		19460	
DRAWN BY: FTT		CHECKED BY: TDH	

SEAL W/ FIBERGLASS
& RESIN

WOOD CANT. BOND
TO L W/ RESIN

FRP L3x3x1/4 (TYP)

NON-SPARKING SCREWS
(TYP) - CALK HEADS

HEAD

LIGHT
FIXTURE

4'-10" CLEAR OPNG.

CALK & SEAL W/
FIBERGLASS & RESIN

FRP L3x3x1/4 (TYP)

NON-SPARKING THRU BOLTS

SEAL W/ FIBERGLASS
& RESIN (TYP.)

SILL

URETHANE FOAM CORE
W/ FRP COATED PLYWOOD
EACH FACE

SEAL W/ FIBERGLASS
& RESIN (TYP.)

FRP R1/4x2 1/2 (TYP)
BOND TO ANGLE

CALK (TYP)

ACRYLIC GLAZING

FRP L1x1x1/8 (TYP)

FRP CLIP L3x3x1/4x0'-6"

LIGHT FIXTURE
BRACKET

1'-7" CLR OPNG.

CALK & SEAL W/
FIBERGLASS & RESIN

JAMB

FRP L1x1x1/8 (TYP)

CALK (TYP)

FRP R1/4x2 1/2 (TYP)
BOND TO ANGLE

SEAL W/ FIBERGLASS
& RESIN (TYP.)

URETHANE FOAM CORE W/
FRP COATED PLYWOOD
EACH FACE

WINDOW DETAILS

SCALE: 3" = 1'-0"

12" 6" 3"
3" = 1'
GRAPHIC

GENERAL NOTES:

1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS I, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
3. FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
4. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
5. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
6. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
7. FIBERGLASS MAT SHALL BE 1 1/2 OUNCE PER SQUARE FOOT CHOPPED STRAND MAT.
8. SURFACING VEIL SHALL BE 0.010" THICK CONTINUOUS FIBER MAT.
9. RESIN SHALL BE POLYESTER RESIN, FIRE RETARDANT, CLASS I AS PER ASTM D-635 AND E-84 TESTS.
10. ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
11. GLAZING SHALL BE SHADED TO PREVENT THE ENTRY OF DIRECT SUNLIGHT.
12. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.

ANE FOAM CORE
COATED PLYWOOD
FACE

W/ FIBERGLASS
SIN (TYP.)

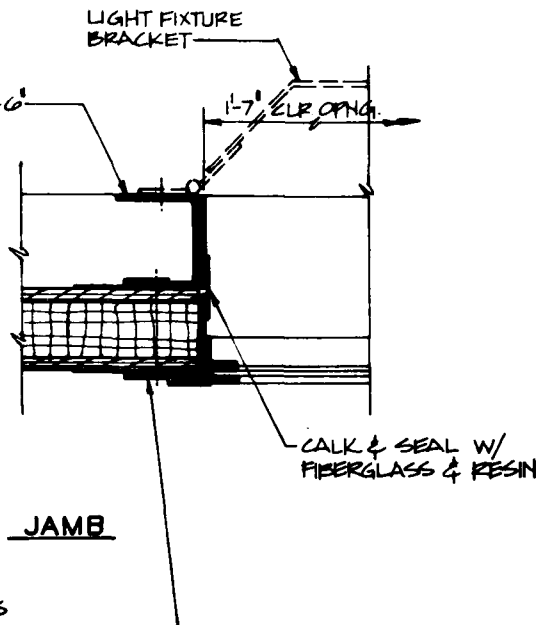
2 1/4 x 2 1/2 (TYP)
TO ANGLE

(TYP)

GLAZING

1 x 1 1/8 (TYP)

1/2 x 3/4 x 1/4 x 0-6



1 x 1 1/8 (TYP)

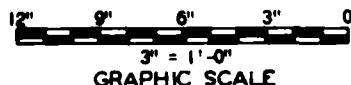
(TYP)

2 1/4 x 2 1/2 (TYP)
TO ANGLE

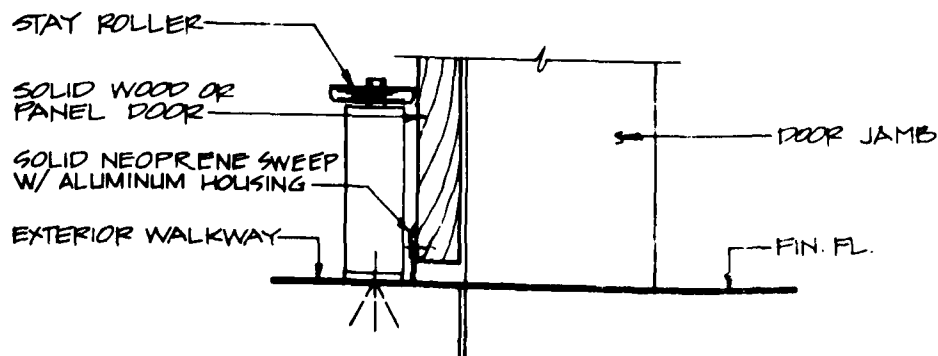
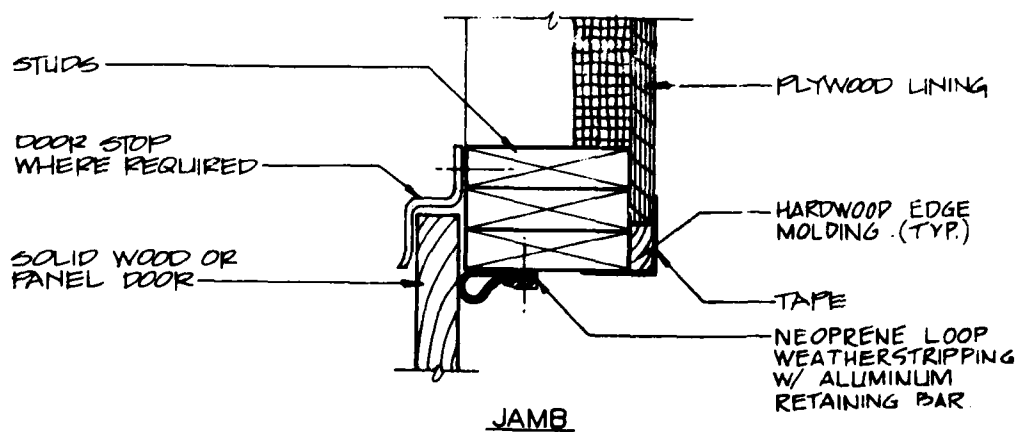
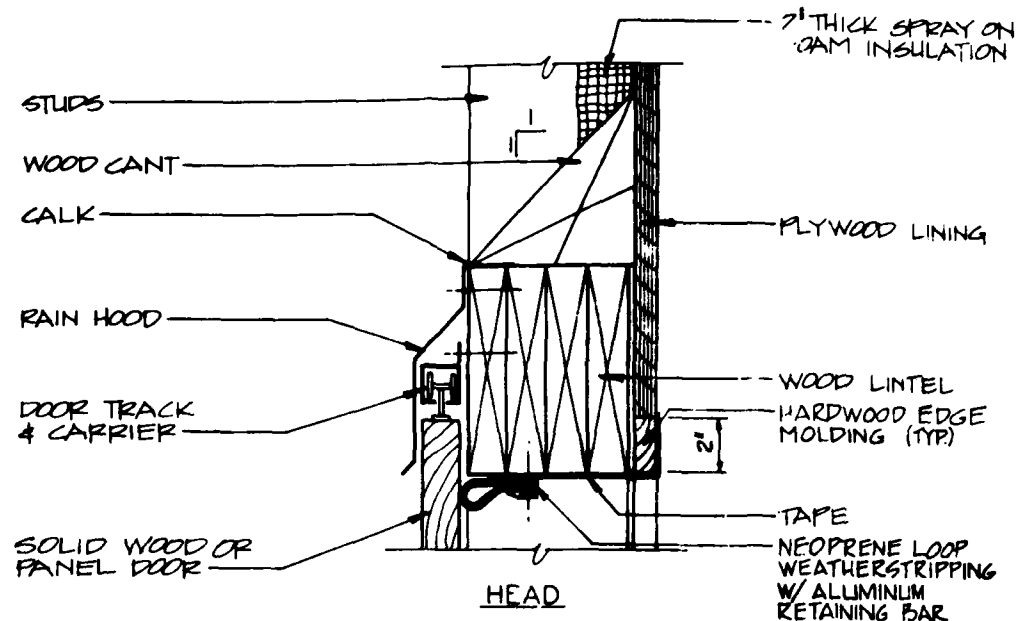
JAMB

W/ FIBERGLASS
SIN (TYP.)

ANE FOAM CORE W/
COATED PLYWOOD
FACE

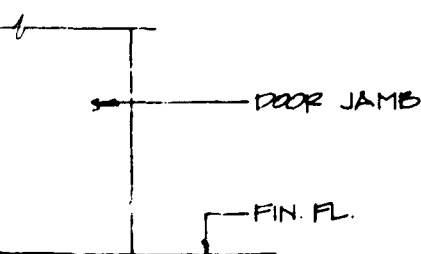
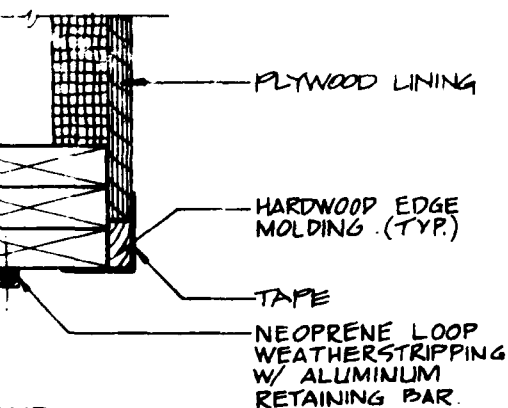
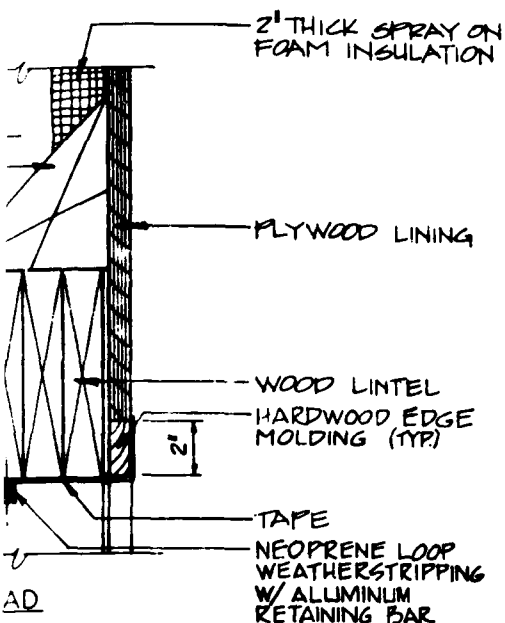


REVISIONS		DATE APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
OFFICE OF THE PROJECT MANAGER FOR HUNTSVILLE PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY		
STANDARD DETAILS		
NITROGLYCERIN FACILITY SANDWICH PANEL CONSTRUCTION EXTERIOR LIGHTING WINDOW DETAILS		
DATE: 19 MARCH 61	BY: JTY	19461



DOOR DETAILS
SCALE: 3" = 1'-0"





LL
DETAILS
3" = 1'-0"



GENERAL NOTES:

1. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
2. SEAL ALL CRACKS AND JOINTS WITH A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
3. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER/RESIN SOLUTION.
4. EXTERIOR CANT STRIPS SHALL BE A 1:1 PITCH MINIMUM.
5. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
6. ALL DOOR HARDWARE SHALL BE NON-SPARKING.
7. ALL INTERIOR WOOD SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER THE ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
8. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH, WITH PINKED EDGES OF 8 PINKS PER INCH.
9. SIZE OF STRUCTURAL MEMBERS SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
10. FOR FINISHES SEE DRAWING 19411.
11. OPTIONAL SPRAY ON INSULATION SHALL BE TYPE REQUIRED TO MEET THERMAL AND SAFETY REQUIREMENTS. FLAME SPREAD SHALL BE LESS THAN 25 WHEN TESTED BY ASTM E-84 USING SAMPLES OBTAINED AT TIME OF APPLICATION.
12. DOOR OPENING SHALL BE 30"X78" MINIMUM.

REVISIONS		DATE	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR HUNTSVILLE PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		SINGLE BASE, MULTIBASE, AND NITROCELLULOSE FACILITY WOOD FRAME CONSTRUCTION	
		SLIDING EQUIPMENT DOOR	
DATE	19 MARCH 1948	BY	12H
DATE	1948	BY	12H

CORPS OF ENGINEERS

2" THICK SPRAY ON
FOAM INSULATION
(OPTIONAL)

STUDS

PLYWOOD LINING

WOOD CANT

2x HEADER

CALK

STAINLESS STEEL DRIP

WOOD FRAME

SOLID WOOD OR
PANEL DOOR

SOLID NEOPRENE
DOOR SWEEP W/
ALUMINUM HOUSING

TAPE

DOUBLE
ACTING
CENTER
PIVOT

HEAD

2" THICK SPRAY ON
FOAM INSULATION (OPTIONAL)

PLYWOOD LINING

CALK

DOUBLE STUDS
& JAMB

WOOD FRAME

SOLID WOOD OR
PANEL DOOR

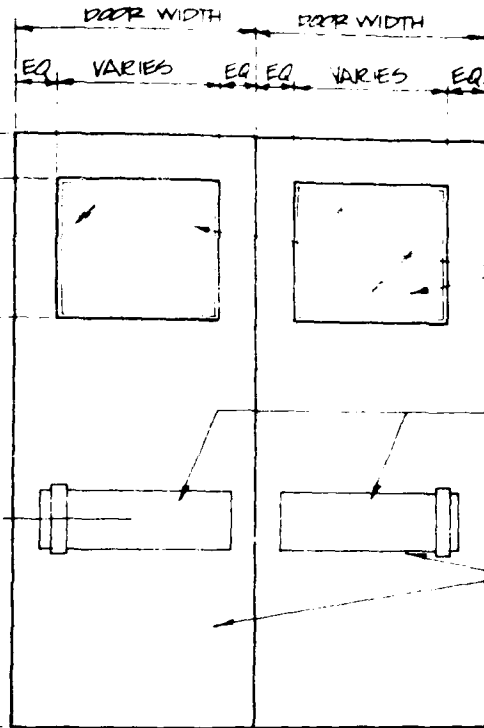
TAPE

WOOD
TRIM (TYP)

VINYL PIVOT HUNG DOOR
WEATHERSTRIP W/
ALUMINUM HOUSING (TYP)

NON-SPARKING
NAILS (TAPE HEADS)

JAMB



INTERIOR ELEVATION

NO SCALE

SOLID WOOD OR
PANEL DOOR

SOLID NEOPRENE DOOR
SWEEP W/ALUMINUM
HOUSING

EXTERIOR WALKWAY

CALK & BACK UP
MATERIAL AS REQ'D

DOUBLE ACTING
FLOOR MOUNTED
CENTER PIVOT

WOOD
FRAME

SIX BOLTS
(CALK HEADS)

CALK (TYP)

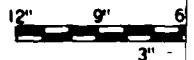
SOLID WOOD OR
PANEL DOOR

CALK (TYP)

ACRYLIC GLAZING

GLAZING DETAIL

SCALE: 3" = 1'-0"



GRAPHIC

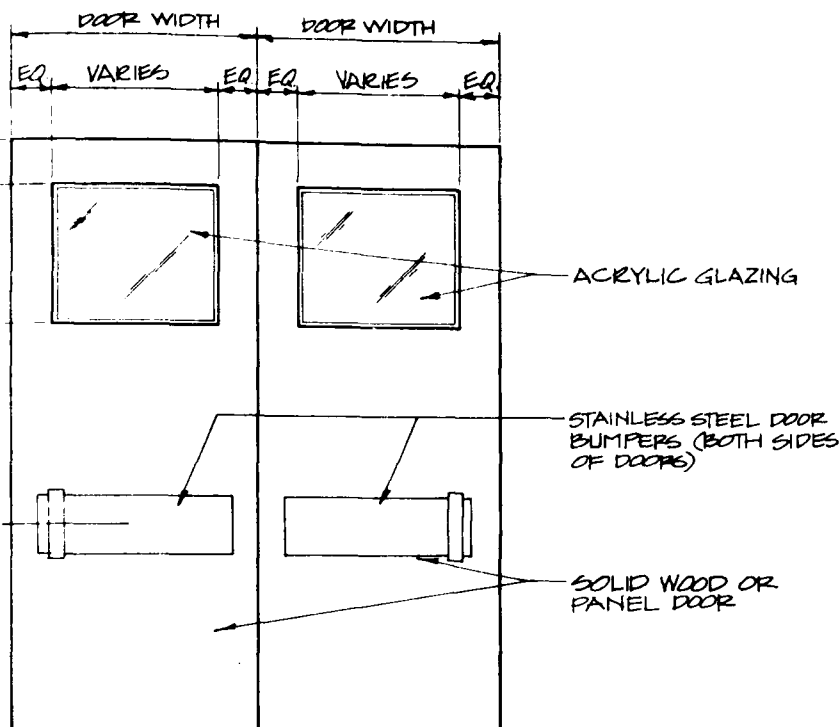
SILL

DOOR DETAILS

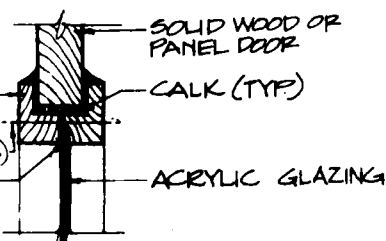
SCALE: 3" = 1'-0"

GENERAL NOTES:

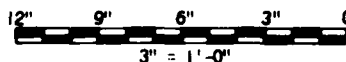
1. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
2. CANT STRIPS SHALL BE 1:1 PITCH MIN.
3. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
4. ALL INTERIOR WOOD SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER THE ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
5. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH, WITH PINKED EDGES OF 8 PINKS PER INCH.
6. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER RESIN SOLUTION.
7. DOOR HARDWARE SHALL BE NON-SPARKING.
8. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
9. ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
10. GLAZING SHALL BE SHADED TO PREVENT THE ENTRY OF DIRECT SUNLIGHT IN SINGLE BASE AND MULTIBASE FACILITIES ONLY.
11. OPTIONAL SPRAY ON INSULATION SHALL BE TYPE REQUIRED TO MEET THERMAL AND SAFETY REQUIREMENTS. FLAME SPREAD SHALL BE LESS THAN 25 WHEN TESTED BY ASTM E-84 USING SAMPLES OBTAINED AT TIME OF APPLICATION.
12. DOOR OPENING SHALL BE 30"X78" MINIMUM.



INTERIOR ELEVATION
NO SCALE

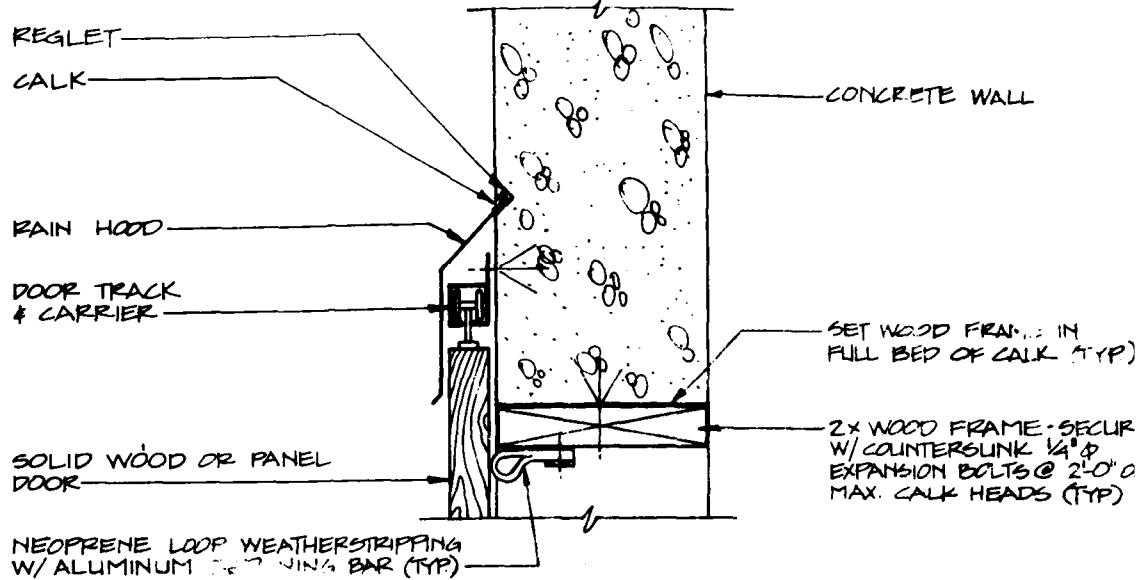


GLAZING DETAIL
SCALE: 3/4" = 1'-0"

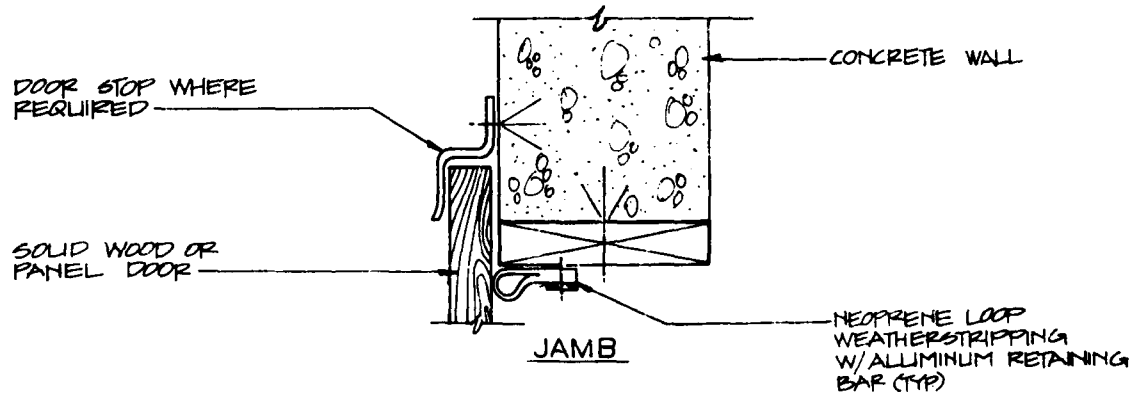


GRAPHIC SCALE

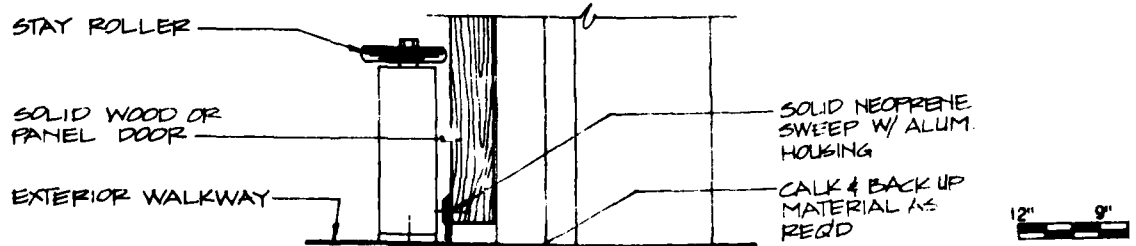
SYNOPSIS		DATE APPROVED	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI			
US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA			
OFFICE OF THE PROJECT MANAGER FOR SWAYING PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY			
STANDARD DETAILS			
SINGLE BASE, MULTIBASE, AND NITROCELLULOSE FACILITY WOOD FRAME CONSTRUCTION SWINGING EQUIPMENT DOOR			
DATE: 19 MARCH '81	DESIGN BY: RTY	CHECK BY: TDW	SCALE: 19481



HEAD



JAMB

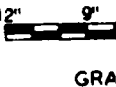


EXTERIOR

DOOR DETAILS

SCALE: 3/4"=1'-0"

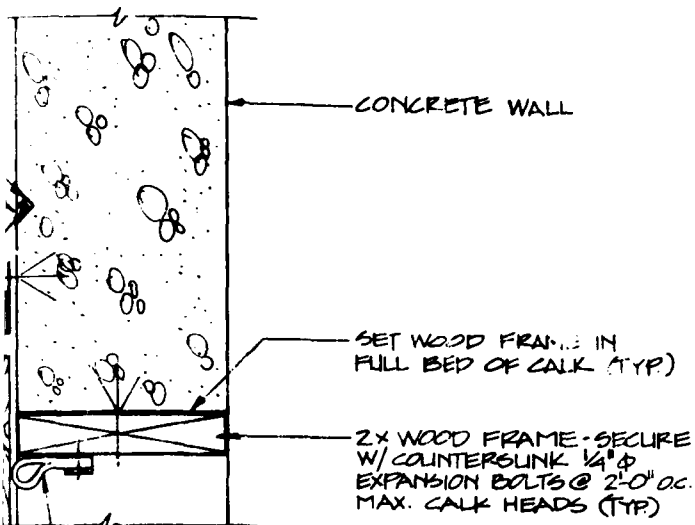
INTERIOR



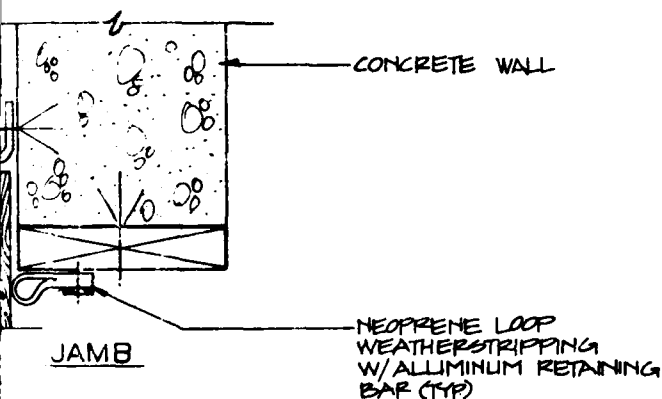
GRA

GENERAL NOTES:

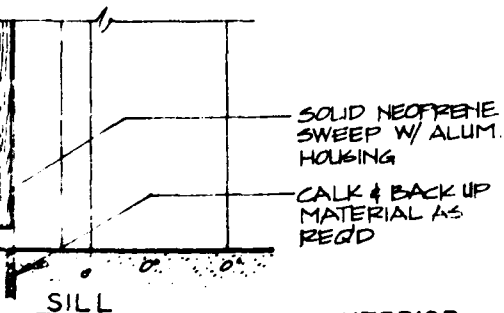
1. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
2. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
3. FOR FINISHES SEE DRAWING 19427.
4. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
5. DOOR HARDWARE SHALL BE NON-SPARKING.
6. DOOR OPENING SHALL BE 30"X78" MINIMUM.



HEAD



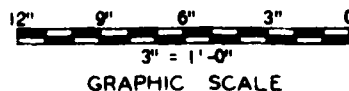
JAMB



SILL

INTERIOR

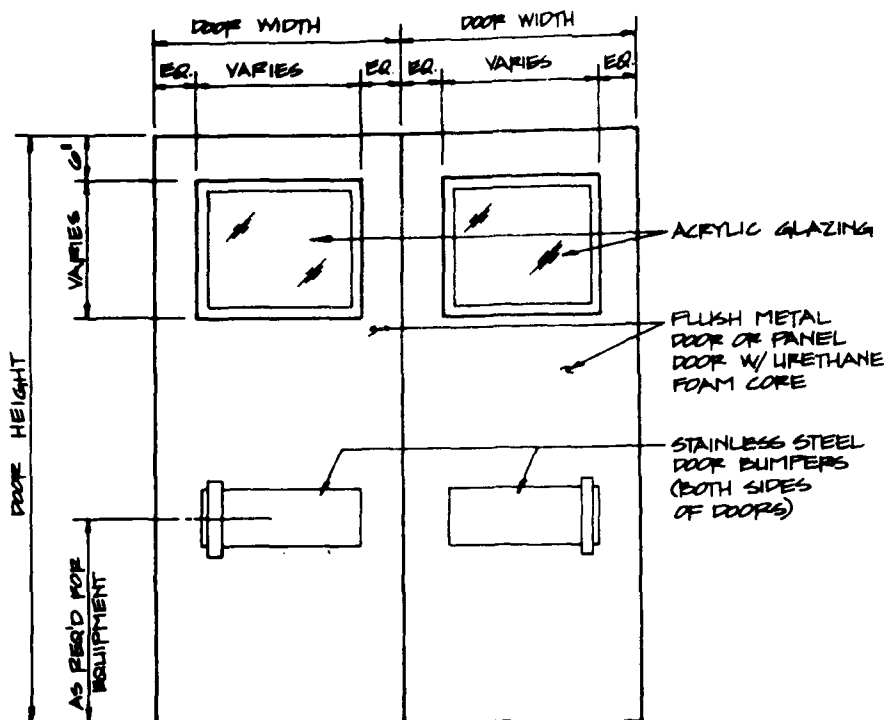
DOOR DETAILS
SCALE: 3" = 1'-0"



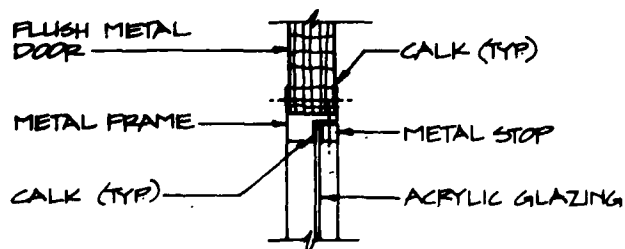
SYNOPSIS		REVISED	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION MONTVILLE CORPS OF ENGINEERS MONTVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MONTVILLE PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		SINGLE BASE, MULTIBASE, AND NITROCELLULOSE FACILITY CONCRETE CONSTRUCTION SLIDING EQUIPMENT DOOR	
DATE: 19 MARCH '81		DRAWN BY: TDH	
DESIGNED BY: RY		CHECKED BY: TDH	
		19482	

2

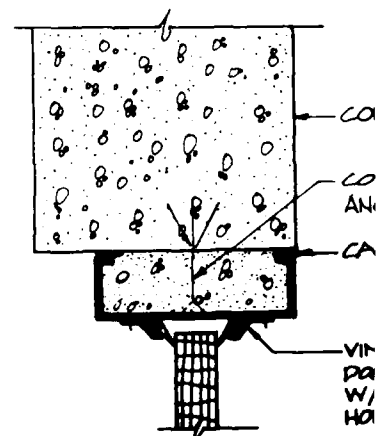
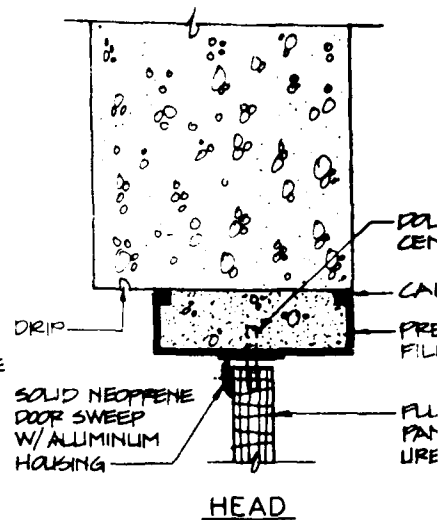
CORPS OF ENGINEERS



INTERIOR ELEVATION
NO SCALE

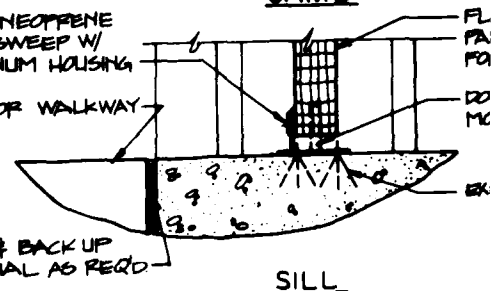


WINDOW DETAIL
SCALE: 3/8"=1'-0"



SOLID NEOPRENE DOOR SWEEP W/ ALUMINUM HOUSING
EXTERIOR WALKWAY

CALK & BACK UP MATERIAL AS REQ'D



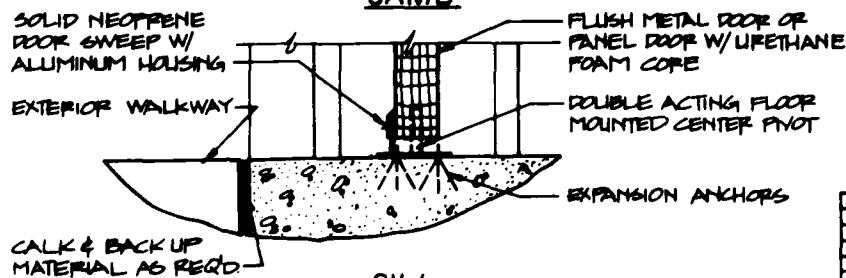
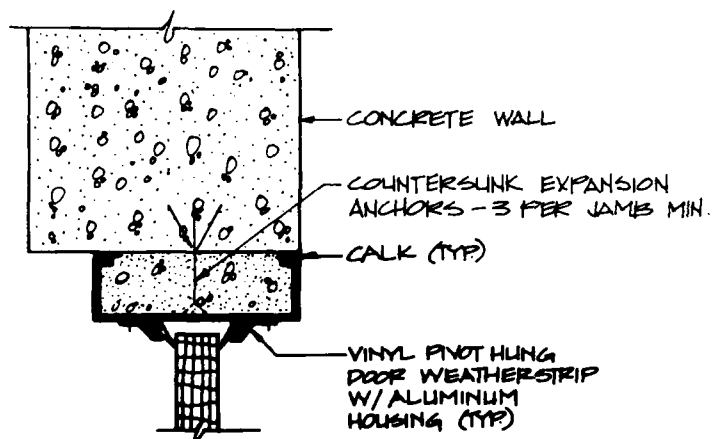
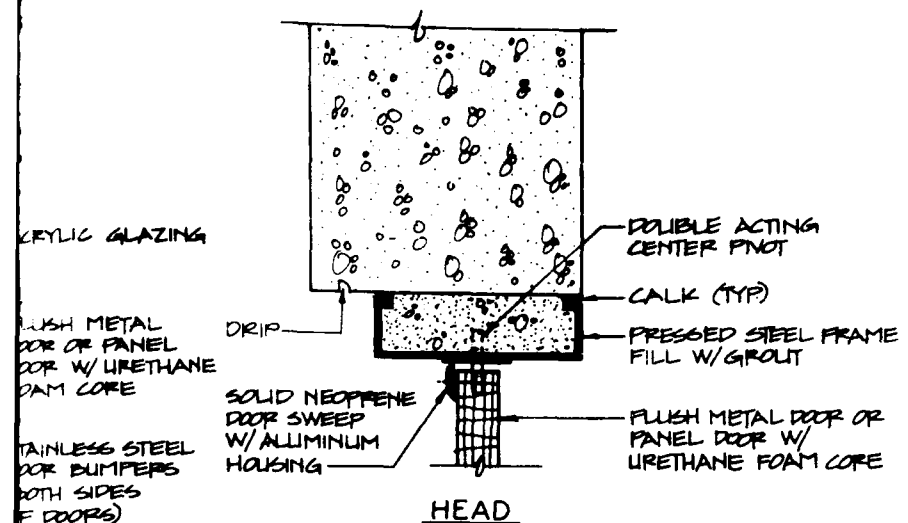
DOOR DETAILS
SCALE: 3/8"=1'-0"



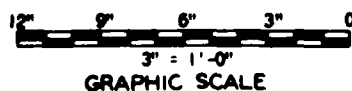
GRAPH

GENERAL NOTES:

1. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
2. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
3. ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
4. FOR FINISHES SEE DRAWING 19427.
5. GLAZING SHALL BE SHADED TO PREVENT ENTRY OF DIRECT SUNLIGHT IN SINGLE BASE AND MULTIBASE FACILITIES ONLY.
6. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
7. DOOR OPENING SHALL BE 30"x78" MINIMUM.

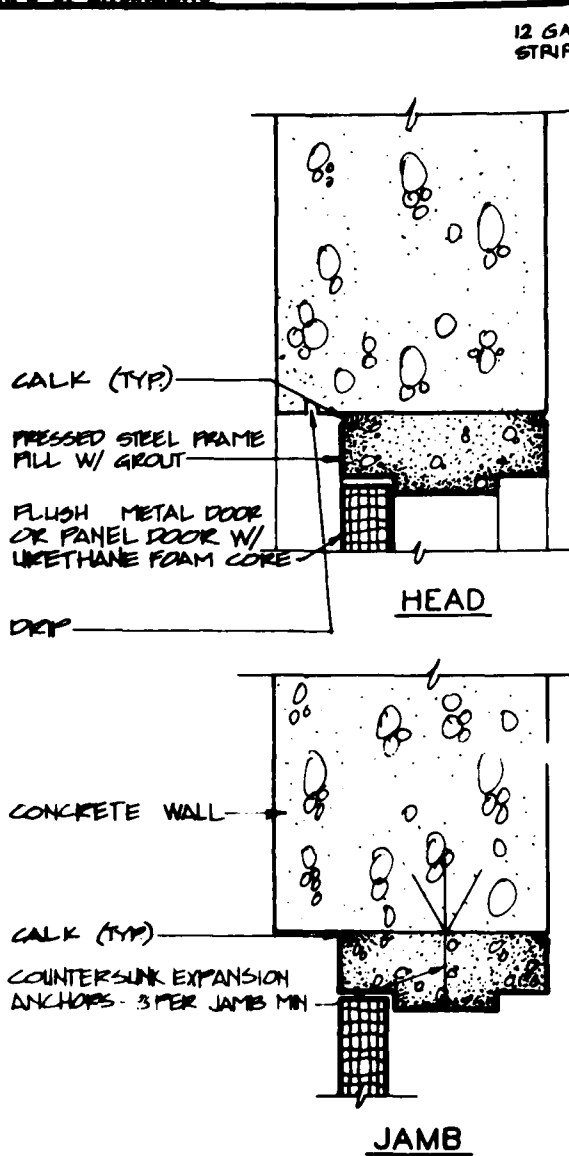


DOOR DETAILS
SCALE: 3"=1'-0"

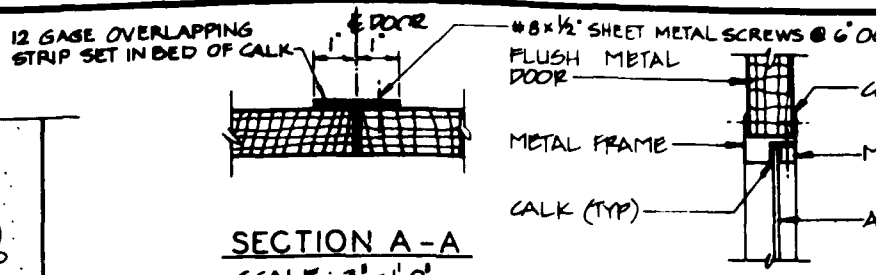


REVISIONS	
DATE	BY
14 MARCH '81	ATD
19483	

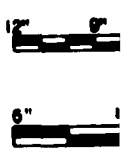
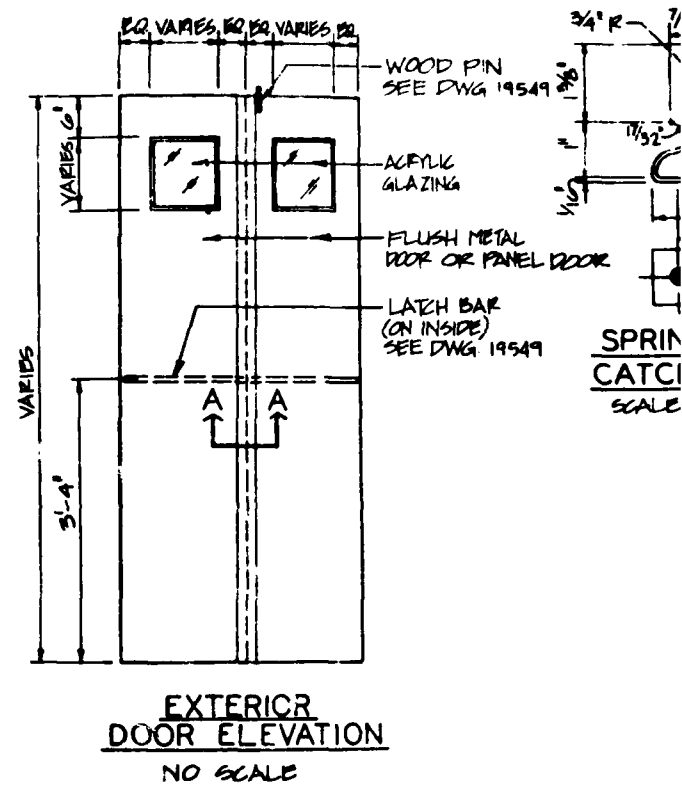
BLACK & VEATCH CONSULTING ENGINEERS DENVER, COLORADO	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA
OFFICE OF THE PROJECT MANAGER FOR HUNTSVILLE PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
STANDARD DETAILS	
SINGLE BASE, MULTIBASE, AND NITROCELLULOSE FACILITY CONCRETE CONSTRUCTION SWINGING EQUIPMENT DOOR	

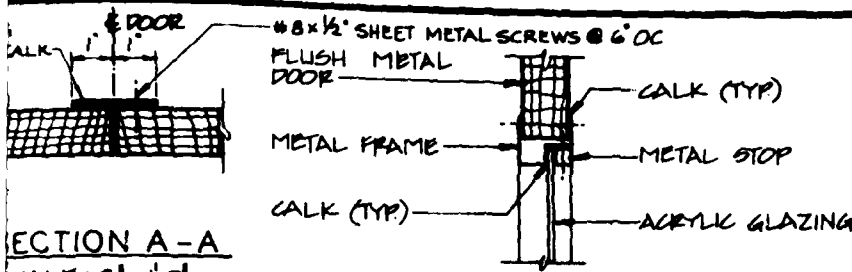


DOOR DETAILS
SCALE: 3"=1'-0"



WINDOW DETAIL
SCALE: 3"=1'-0"

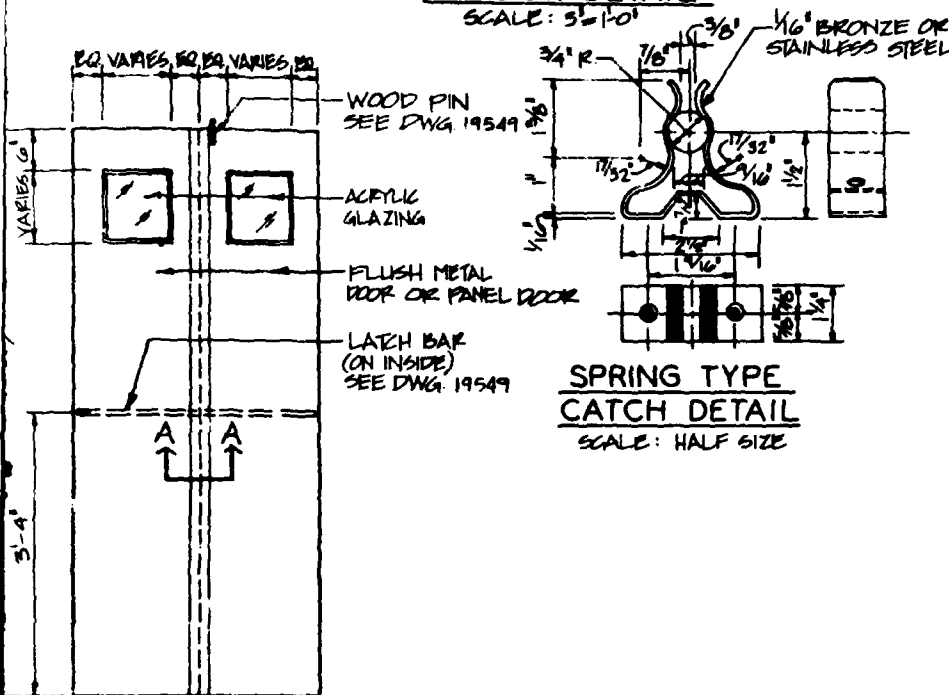




SECTION A-A
SCALE: 3" = 1'-0"

WINDOW DETAIL

SCALE: 3" = 1'-0"



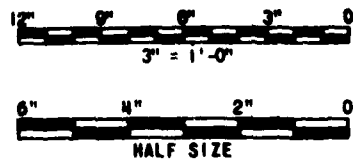
SPRING TYPE
CATCH DETAIL

SCALE: HALF SIZE

GENERAL NOTES:

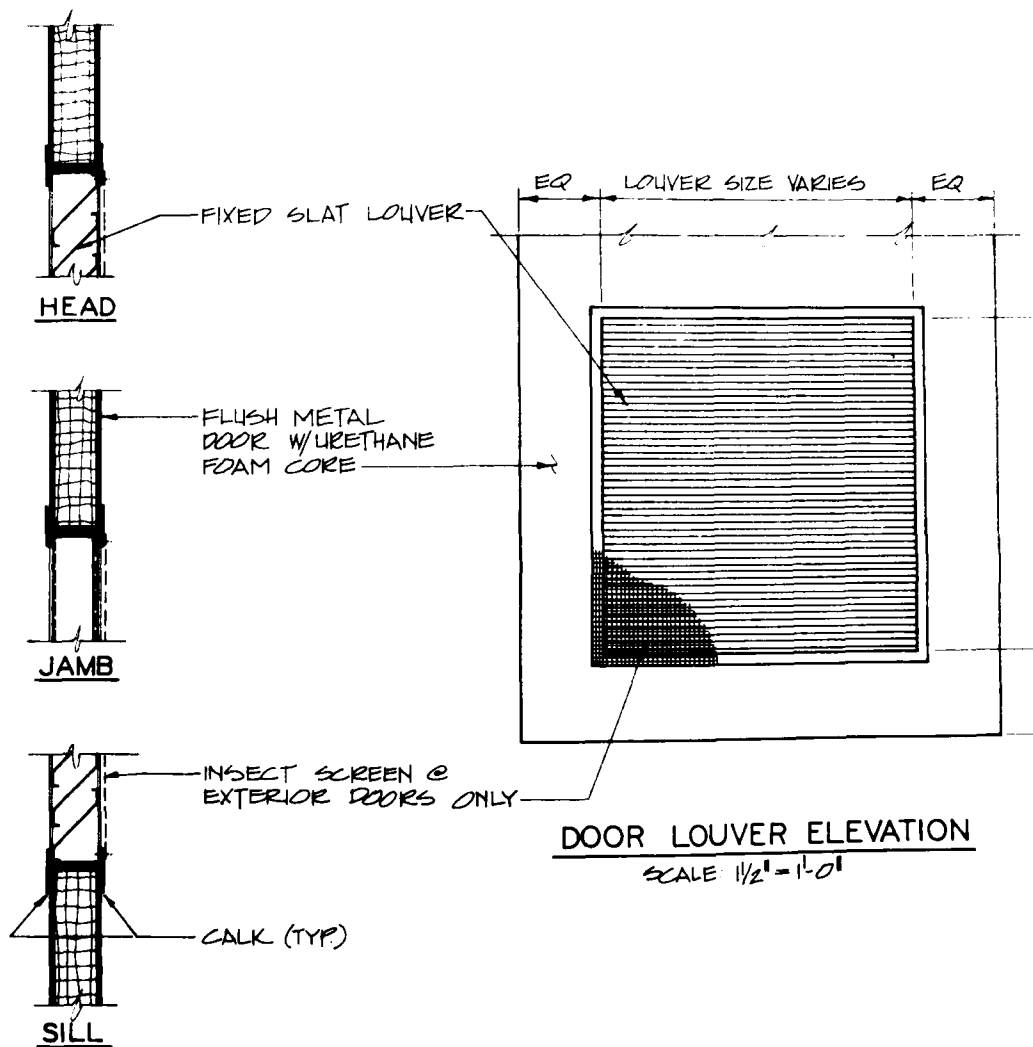
1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
3. GLAZING SHALL BE SHADED TO PREVENT THE ENTRY OF DIRECT SUNLIGHT IN SINGLE BASE AND MULTIBASE FACILITIES ONLY.
4. FOR FINISHES SEE DWG. 19427.
5. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
6. DOOR OPENING SHALL BE 30"X78" MINIMUM.

EXTERIOR
DOOR ELEVATION
NO SCALE



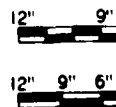
GRAPHIC SCALES

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DOOR LOUVER DETAILS

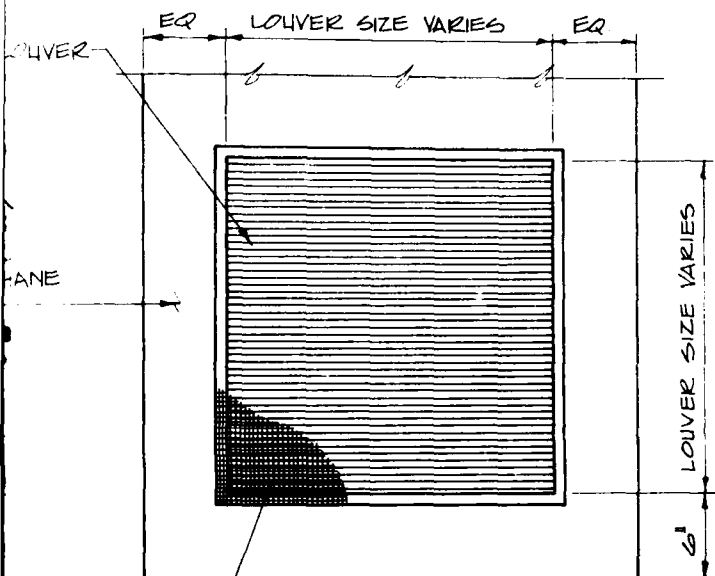
SCALE $3" = 1'-0"$



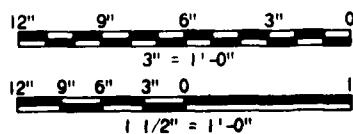
GRA

GENERAL NOTES:

1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. INSECT SCREENS SHALL BE PVC COATED FIBERGLASS. (16x16 MESH) INSECT SCREENS SHALL BE LOCATED ON THE INTERIOR OR EXTERIOR SURFACE OF THE LOUVER AS REQUIRED.
3. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.



DOOR LOUVER ELEVATION

SCALE: $1\frac{1}{2}'' = 1'-0''$ 

GRAPHIC SCALES

SYMBOLS		REVISIONS		DATE	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS DANAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA			
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY			
		STANDARD DETAILS			
		SINGLE BASE, MULTIBASE, AND NITROCELLULOSE FACILITY CONCRETE CONSTRUCTION			
		METAL DOOR LOUVER			
DATE: 19 MARCH 64					
DESIGNED BY: KO	CHECKED BY: TDPH	DATE: 19485			

2

SHEET METAL SCREWS
@ 12" O.C. - MIN. 2
PER SIDE

TAPED JOINTS
ALL AROUND

L 2x2x1/4

INSULATION
(IF REQUIRED)

DUCT

PACK W/ JUTE &
CALK EACH SIDE (TYP)

CALK ALL AROUND

RUBBER OR NEOPRENE GASKET

OPENING
DIMENSION
VARIES

ONE PIECE STAMPED
ALUMINUM GRILLE

CONCRETE WALL

1/4" ϕ EXPANSION ANCHORS @ 12"
O.C. - MIN. 2 PER SIDE

METAL WALL VENT

SCALE: 1 1/2" = 1'-0"

12" 9" 6" 3"

GRAPH

GENERAL NOTES:

1. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
2. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
3. ALL TAPED JOINTS SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
4. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH, WITH PINKED EDGES OF 8 PINKS PER INCH.
5. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER/RESIN SOLUTION.
6. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.

PACK W/ JUTE &
CALK EACH SIDE (TYP)

CALK ALL AROUND

RUBBER OR NEOPRENE GASKET

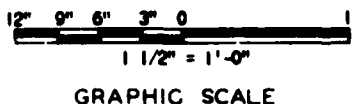
OPENING
DIMENSION
VARIES

ONE PIECE STAMPED
ALUMINUM GRILLE

CONCRETE WALL

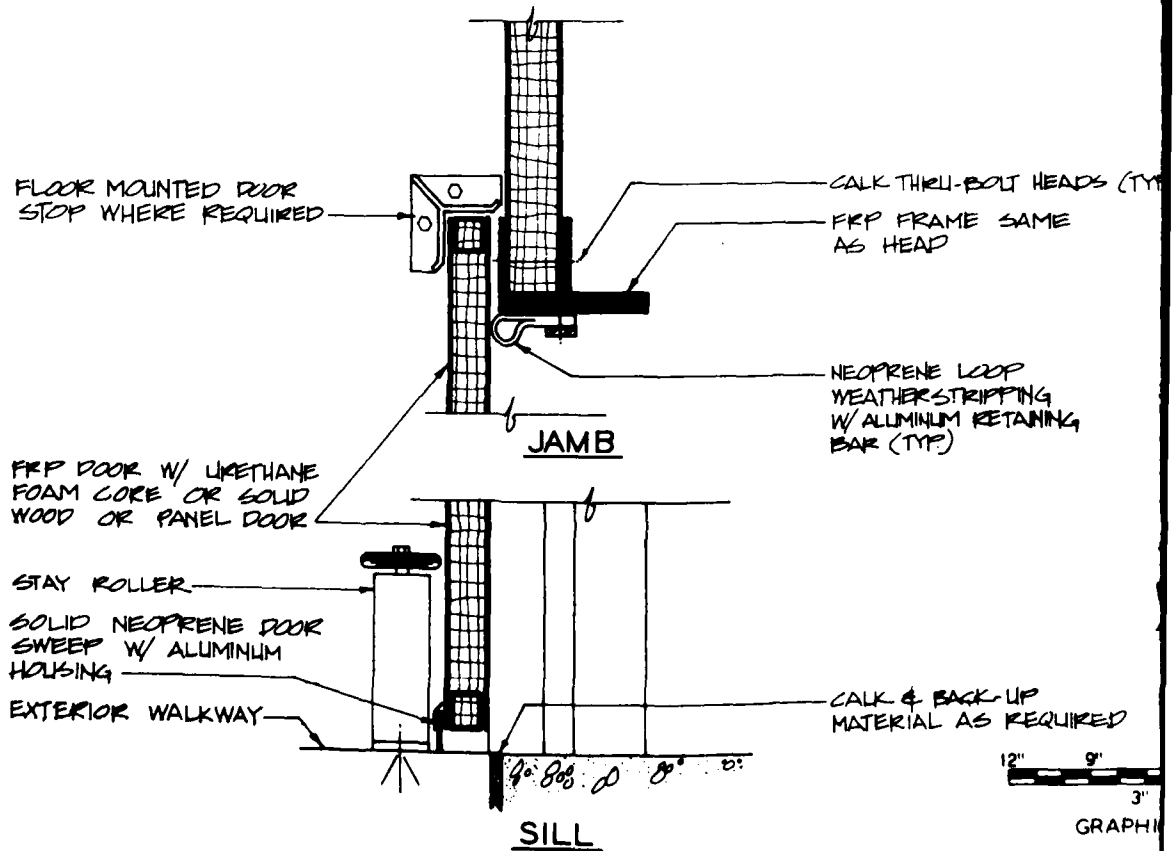
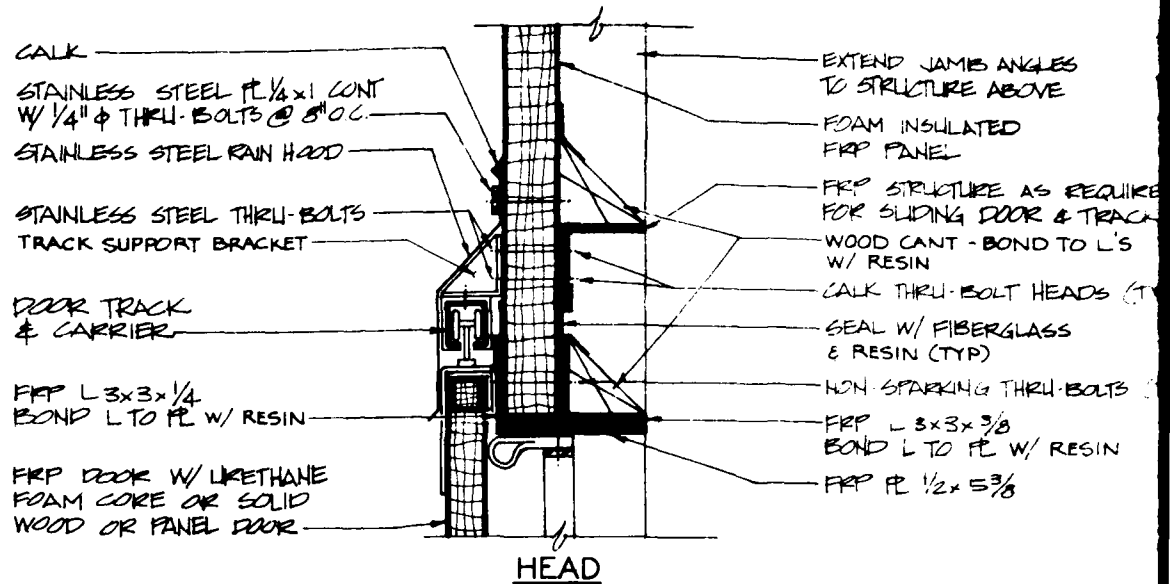
1/4" ϕ EXPANSION ANCHORS @ 12"
O.C. - MIN. 2 PER SIDE

ENT



2

REVISIONS	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA
	OFFICE OF THE PROJECT MANAGER FOR HUNTSVILLE PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY
	STANDARD DETAILS
	SINGLE BASE, MULTIBASE, AND NITROCELLULOSE FACILITY CONCRETE CONSTRUCTION METAL WALL VENT
DATE: 19 MARCH '81	19486
DESIGNED BY: KCO	CHECKED BY: TPN

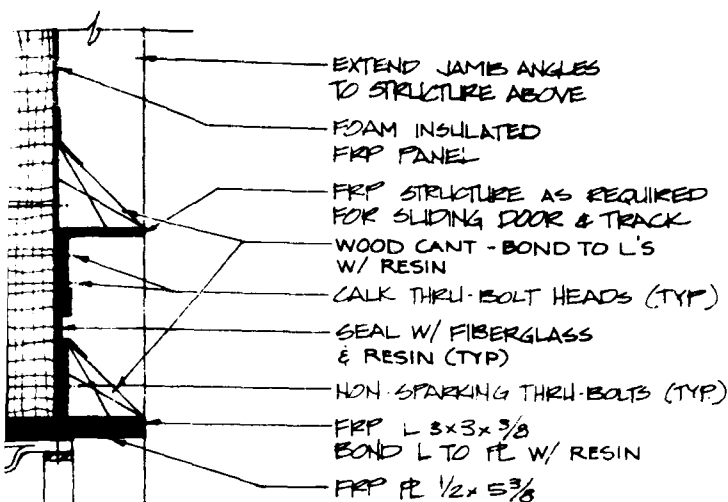


DOOR DETAILS

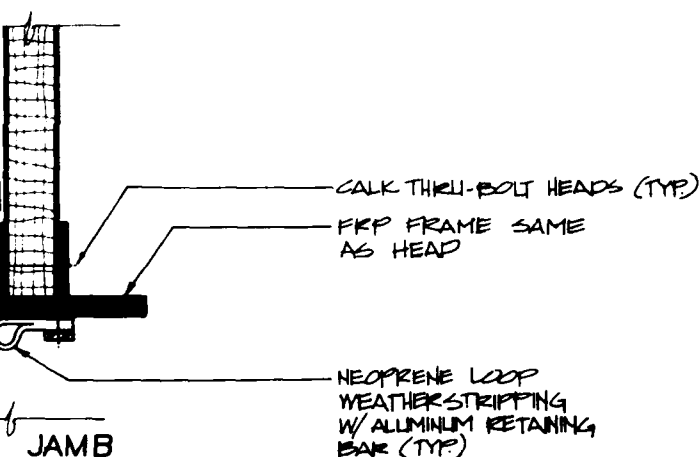
SCALE: 3" = 1'-0"

GENERAL NOTES:

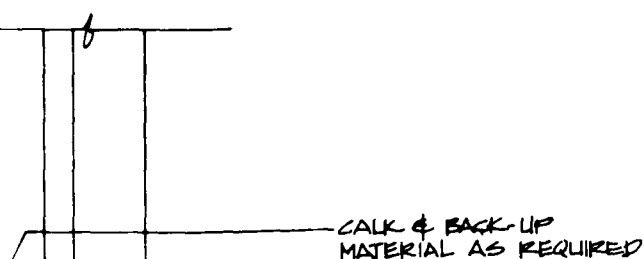
1. DOOR HARDWARE SHALL BE NON-SPARKING.
2. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS 1, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
3. FRP DOORS AND FRAMES SHALL BE REINFORCED FOR HARDWARE AS RECOMMENDED BY THE DOOR MANUFACTURER.
4. FRP DOOR EDGES SHALL BE SEALED WITH RESIN.
5. FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
6. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
7. DOOR OPENING SHALL BE 30"X78" MINIMUM.
8. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
9. FIBERGLASS MAT SHALL BE 1 1/2 OUNCE PER SQUARE FOOT CHOPPED STRAND MAT.
10. SURFACING VEIL SHALL BE 0.010" THICK CONTINUOUS FIBER MAT.
11. RESIN SHALL BE POLYESTER RESIN, FIRE RETARDANT, CLASS 1 AS PER ASTM D-635 AND E-84 TESTS.
12. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.



HEAD



JAMB



SILL

OR DETAILS

SCALE 3/4"=1'-0"

3" = 1'-0"
GRAPHIC SCALE

REVISIONS		DATE	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MILITARY PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
SINGLE BASE, MULTIBASE AND NITROCELLULOSE FACILITY FRP PANEL CONSTRUCTION		SLIDING EQUIPMENT DOOR	
DATE 19 MARCH '61		19487	
BY TMT		TDM	

2

CORPS OF ENGINEERS

EXTEND JAMB L TO
STRUCTURE ABOVE

FRP STRUCTURE

SEAL W/ FIBERGLASS
& RESIN

WOOD CANT. BOND TO
L W/ RESIN

FRP L 3x3x3/8 - BOND
L TO R W/ RESIN

FRP SPACER

FRP C 6x1 1/8x1/4

SOLID NEOPRENE
DOOR SWEEP W/
ALUMINUM HOUSING

FOAM FILLED FRP DOOR

TAPE

FOAM INSULATED
FRP PANEL

FOAM FILLED
FRP DOOR

SEAL W/ FIBERGLASS
& RESIN

FRP WINDOW FRAME

FRP BAR STOP

FRP L 3x3x1/4 - CUT LEG AS
REQ'D - BOND L TO FL W/ RESIN

FRP PL 1/2x7 3/4

FILL VOID W/
URETHANE FOAM

DOUBLE ACTING
CENTER PIVOT - SECURE
W/ THRU - BOLTS & FRP SPACERS

ACRYLIC GLAZING

CAL

GLAZING DETAIL

SCALE 3" = 1'-0"

HEAD

5/16" Ø THRU BOLTS (TYP)

4 5/16" Ø THRU BOLT
5 REQ'D - HEAD - SINGLE DR
5 REQ'D - HEAD - DOUBLE DR
4 REQ'D - EA JAMBS

FRP L 3x3x3/8
BOND TO FL W/ RESIN

FRP SPACER

FRP C 6x1 1/8x1/4

VINYL PIVOT HUNG DOOR
WEATHERSTRIP W/
ALUMINUM HOUSING (TYP)

FOAM FILLED
FRP DOOR

FOAM INSULATED
FRP PANEL

SEAL W/ FIBERGLASS
& RESIN (TYP)

FRP L 3x3x1/4 - CUT
LEG AS REQUIRED - BOND
L TO FL W/ RESIN

FRP PL 1/2x7 3/4

FILL VOID W/
URETHANE FOAM

STAINLESS STEEL DOOR
BUMPERS - BOTH
SIDES OF DOORS

EXTEND JAMB ANGLES
TO STRUCTURES ABOVE

JAMB

SOLID NEOPRENE DOOR
SWEEP W/ ALUMINUM
HOUSING

EXTERIOR WALKWAY

CALK & BACK UP
MATERIAL AS REQ'D

FOAM FILLED
FRP DOOR

DOUBLE ACTING
FLOOR MOUNTED
CENTER PIVOT

EXPANSION
ANCHORS

SILL

DOOR DETAILS

SCALE 3" = 1'-0"

ACRYLIC GLAZING

DOOR WIDTH

EQ. VARIES

DOOR V

EQ. EQ. VAR

DOOR HEIGHT

AS REQ'D FOR
EQUIPMENT

EXTERIOR
DOOR ELEVATION

NO SCALE

12" 9" 3"

GRAPHIC

INSULATED
PANELFOAM FILLED
FRP DOORW/ FIBERGLASS
IN

FRP WINDOW FRAME

FRP SINK STOP

3x3 1/4" CUT LEG AS
BOND LTO PL W/ RESIN

2 1/2 x 7 3/4

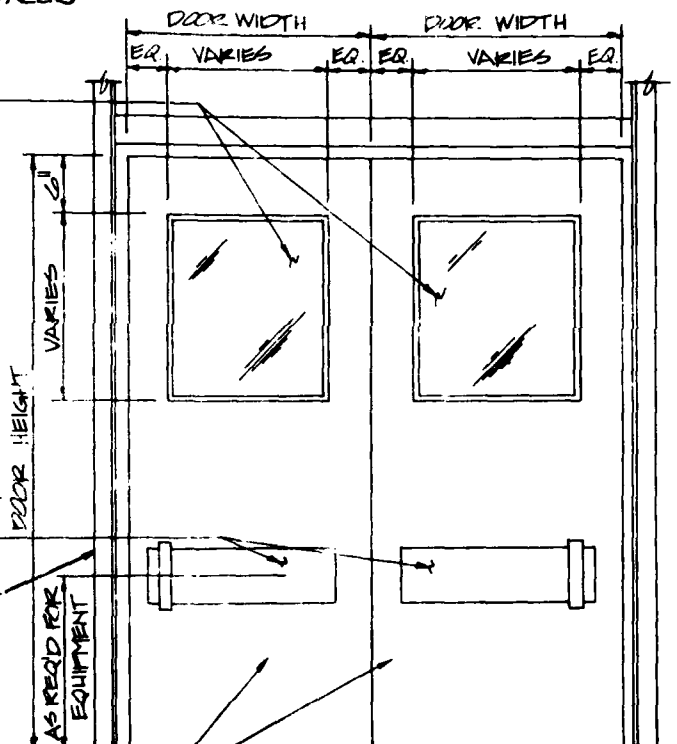
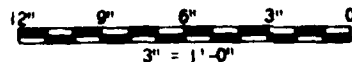
VOID W/
PANE FOAMLE ACTING
Pivot SECURE
U-BOLTS & FRP SPACERS

ACRYLIC GLAZING

INSULATED
PANELW/ FIBERGLASS
IN (T)3x3 1/4" CUT
AS REQUIRED
LTO PL W/ RESINVOID W/
PANE FOAMINLESS STEEL DOOR
SPACERS - BOTH
SIDES OF DOORSD JAMB ANGLES
CONSTRUCTED ABOVEFOAM FILLED
FRP DOORLE ACTING
Pivot MOUNTED
FR. PL. OTINSON
DOES

GLAZING DETAIL

SCALE 3" = 1'-0"

EXTERIOR
DOOR ELEVATION
NO SCALE

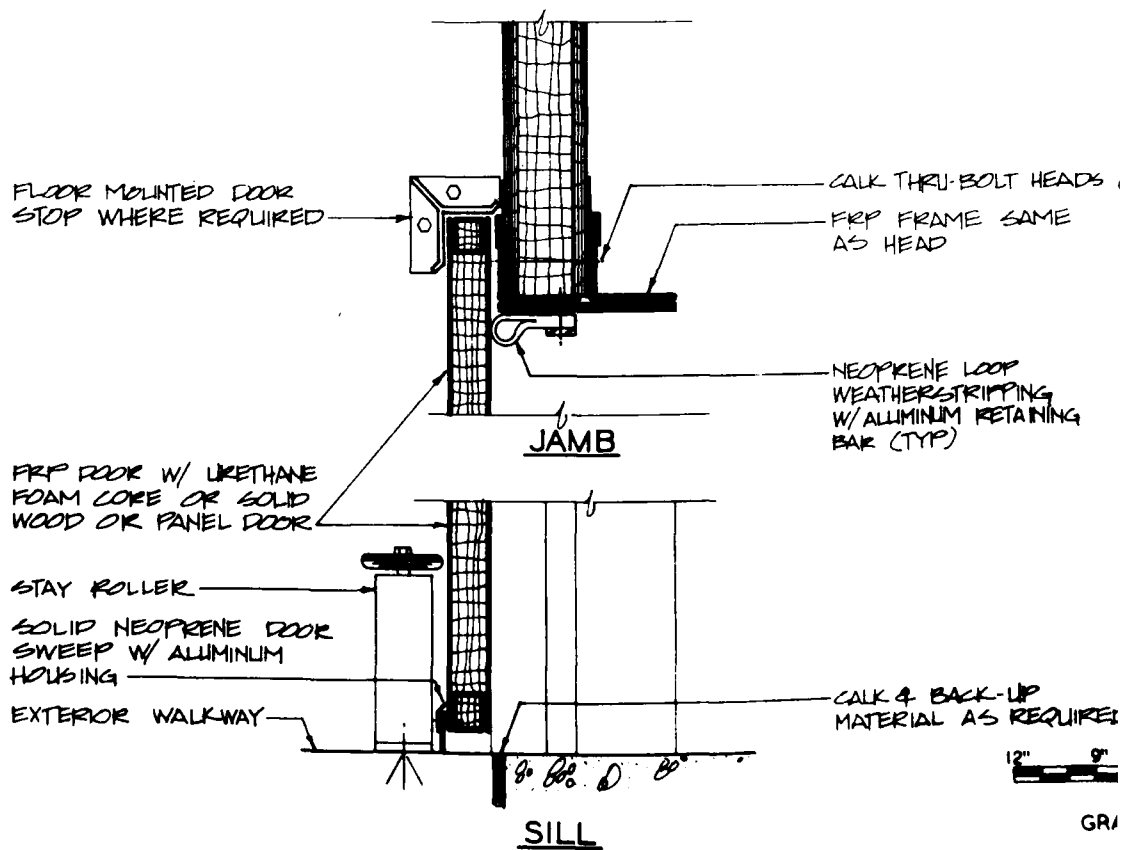
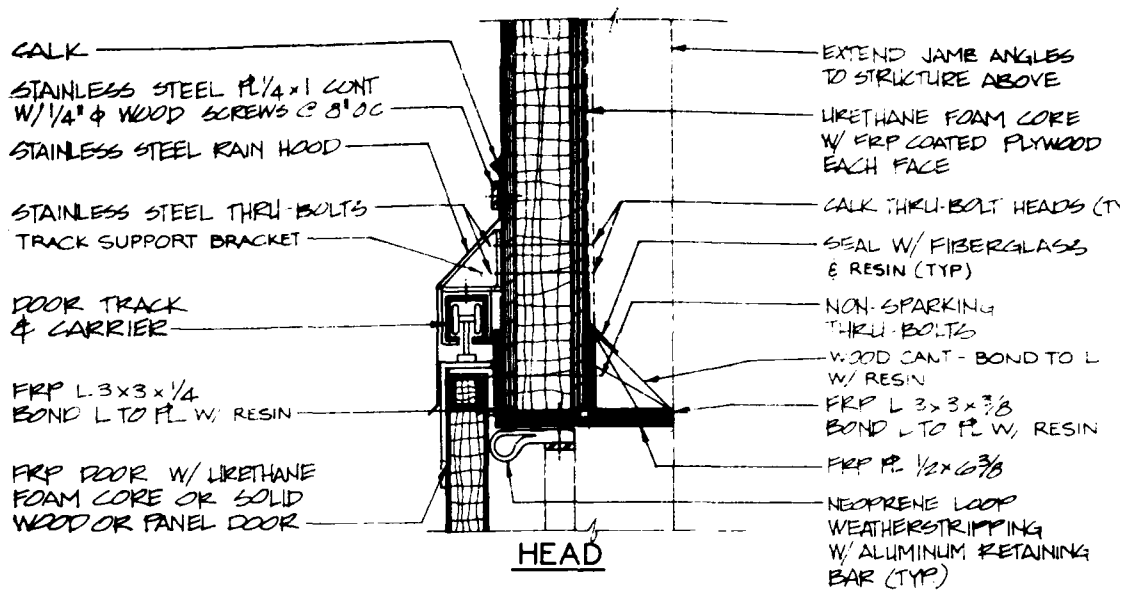
GRAPHIC SCALE

GENERAL NOTES:

- FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS 1, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
- DOOR HARDWARE SHALL BE NON-SPARKING.
- FRP DOORS AND FRAMES SHALL BE REINFORCED FOR HARDWARE AS RECOMMENDED BY DOOR MANUFACTURERS.
- FRP DOOR EDGES SHALL BE SEALED WITH RESIN.
- FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
- ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
- CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
- ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
- GLAZING SHALL BE SHADED TO PREVENT THE ENTRY OF DIRECT SUNLIGHT IN SINGLE BASE AND MULTIBASE FACILITIES ONLY.
- DOOR OPENING SHALL BE 30"x78" MINIMUM.
- ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
- SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
- FIBERGLASS MAT SHALL BE 1 1/2 OUNCE PER SQUARE FOOT CHOPPED STRAND MAT.
- SURFACING VEIL SHALL BE 0.010" THICK CONTINUOUS FIBER MAT.
- RESIN SHALL BE POLYESTER RESIN, FIRE RETARDANT, CLASS 1 AS PER ASTM D-635 AND E-84 TESTS.
- AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.

REVISIONS		DATE APPROVED
DATE	BY	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA
OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY		STANDARD DETAILS
SINGLE BASE, MULTIBASE, AND NITROCELLULOSE FACILITY FRP PANEL CONSTRUCTION		SWINGING EQUIPMENT DOOR
DATE 19 MARCH 1961		19486

2



DOOR DETAILS

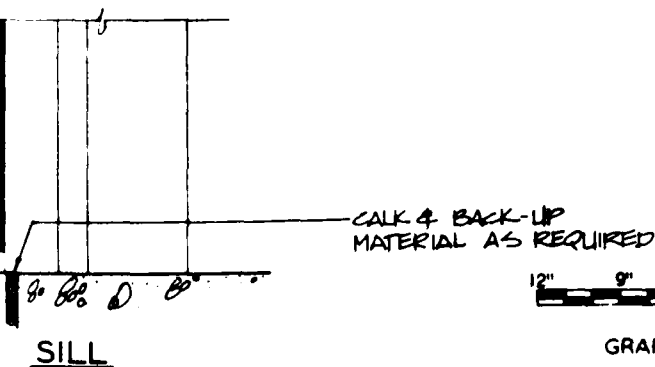
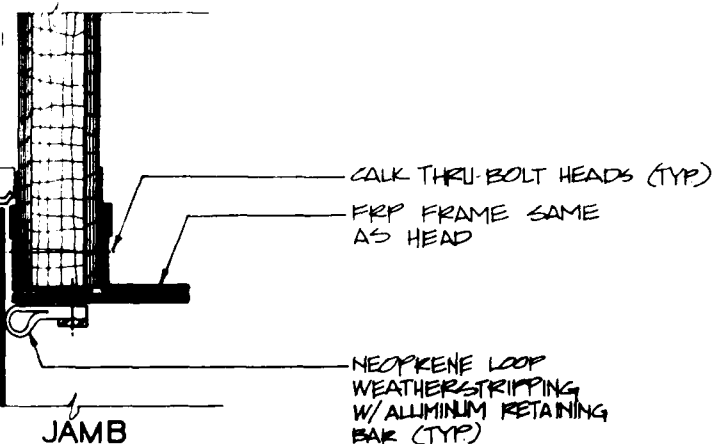
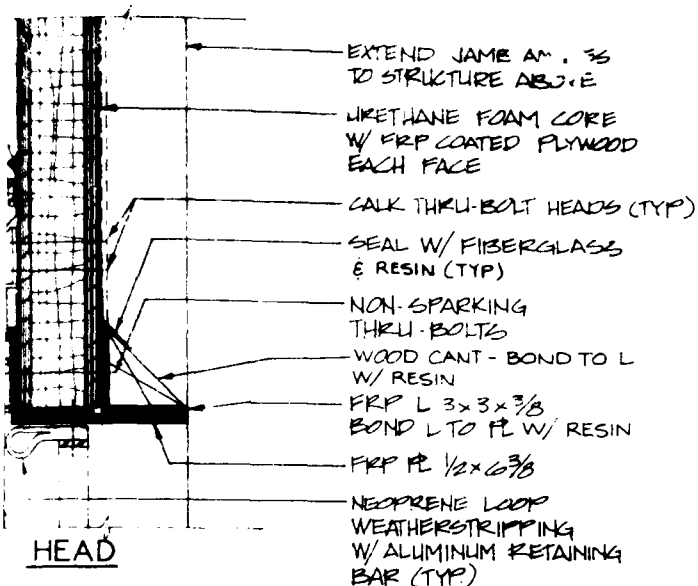
SCALE: 3" = 1'-0"



GRA

GENERAL NOTES:

1. DOOR HARDWARE SHALL BE NON-SPARKING.
2. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS 1, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
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4. FRP DOOR EDGES SHALL BE SEALED WITH RESIN.
5. FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
6. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
7. DOOR OPENING SHALL BE 30"X78" MINIMUM.
8. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
9. FIBERGLASS MAT SHALL BE 1 1/2 OUNCE PER SQUARE FOOT CHOPPED STRAND MAT.
10. SURFACING VEIL SHALL BE 0.010" THICK CONTINUOUS FIBER MAT.
11. RESIN SHALL BE POLYESTER RESIN, FIRE RETARDANT, CLASS 1 AS PER ASTM D-635 AND E-84 TESTS.
12. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.

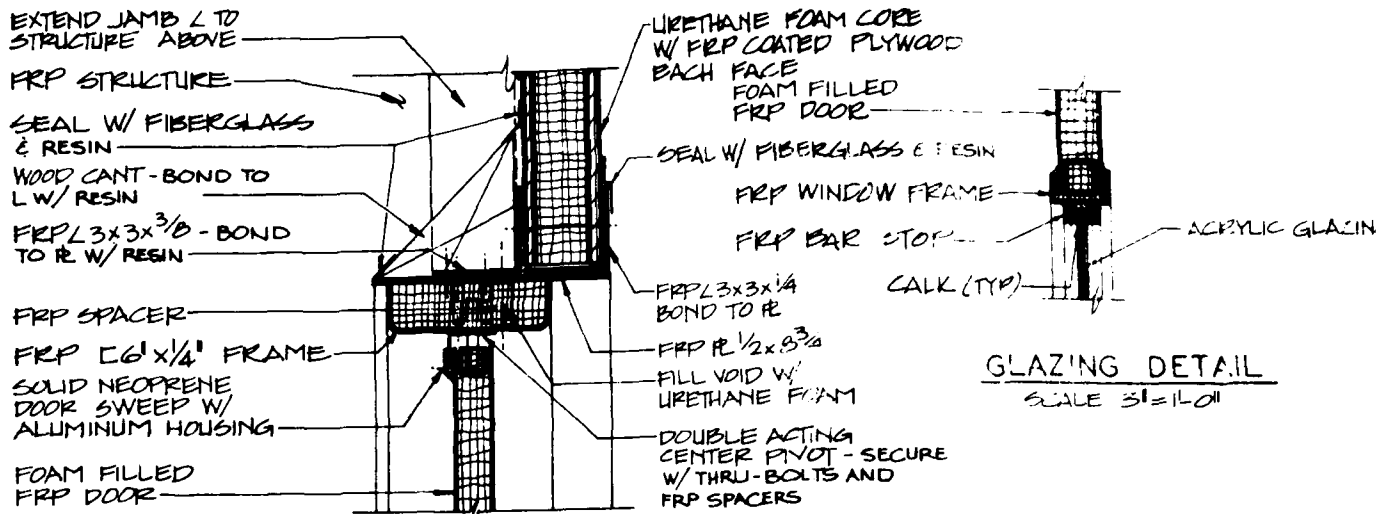


OR DETAILS

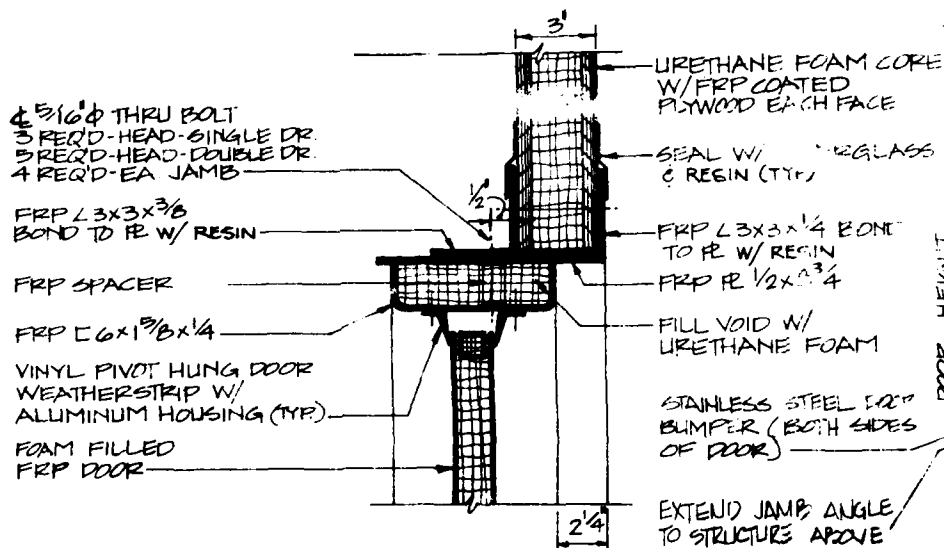
SCALE 3/8" = 1'-0"

BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MODERNIZATION AND EXPANSION PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		SINGLE BASE, MULTIBASE AND NITROCELLULOSE FACILITY SANDWICH PANEL CONSTRUCTION SLIDING EQUIPMENT DOOR	
DATE 19 MARCH '81		DRAWN BY ETT	
		CHECKED BY TCH	
		DATE 19489	

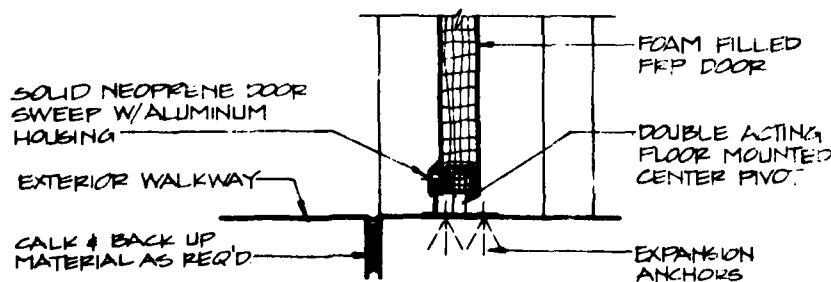
CORPS OF ENGINEERS



HEAD

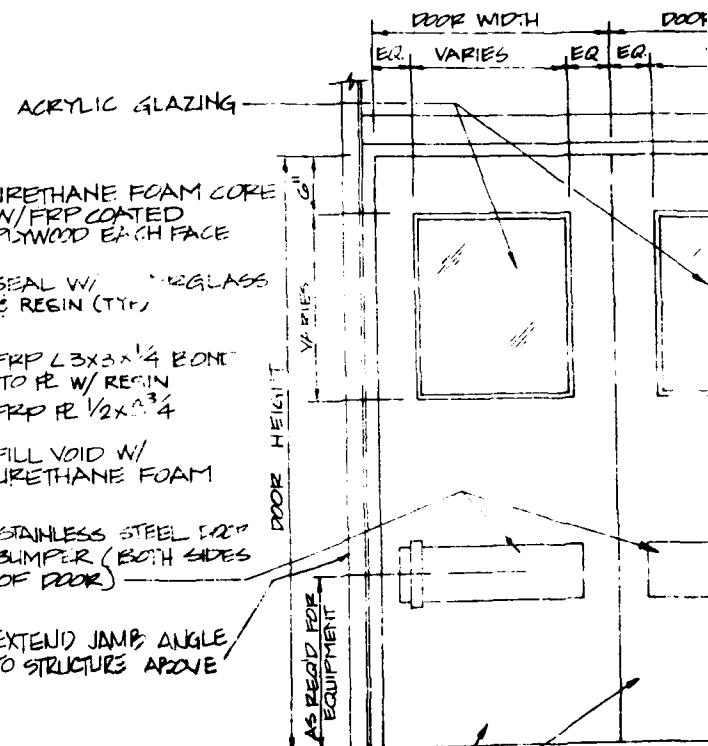


JAMB



SILL

DOOR DETAILS
SCALE: 3"=1'-0"



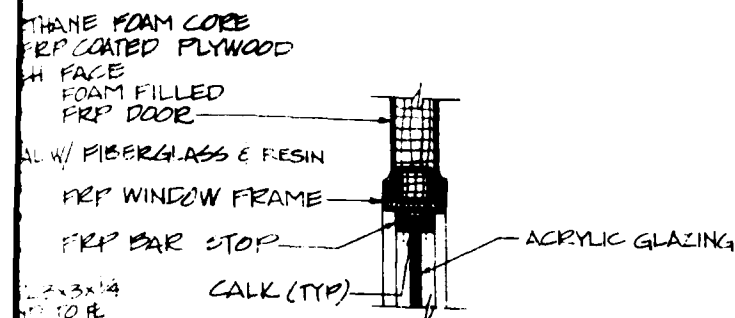
GRAPH

GENERAL NOTES:

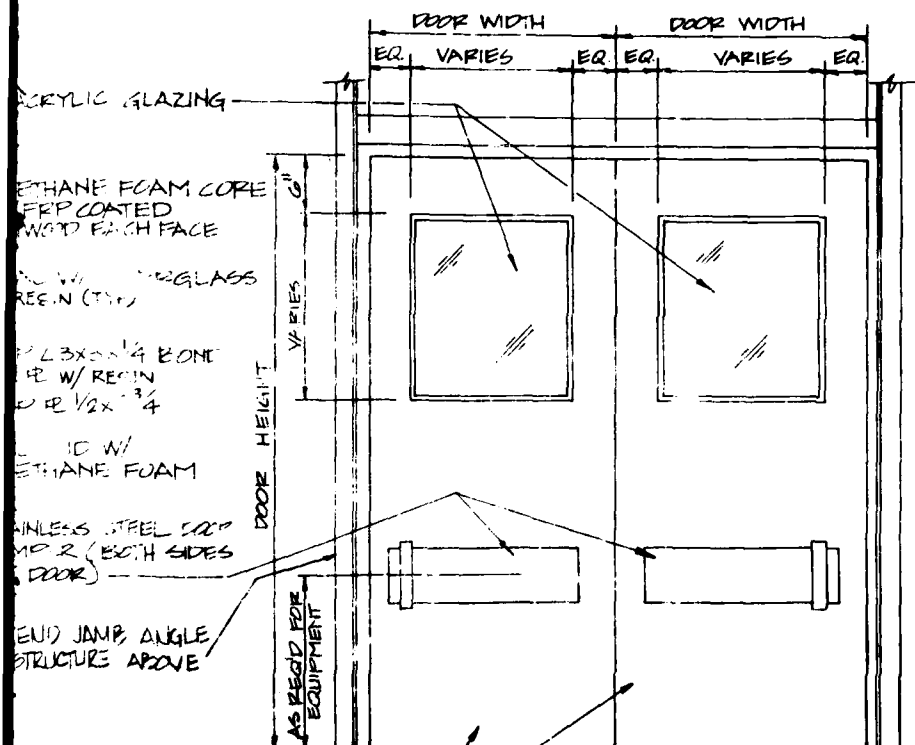
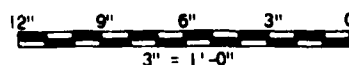
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GLAZING DETAIL

SCALE 3/4"=1'-0"

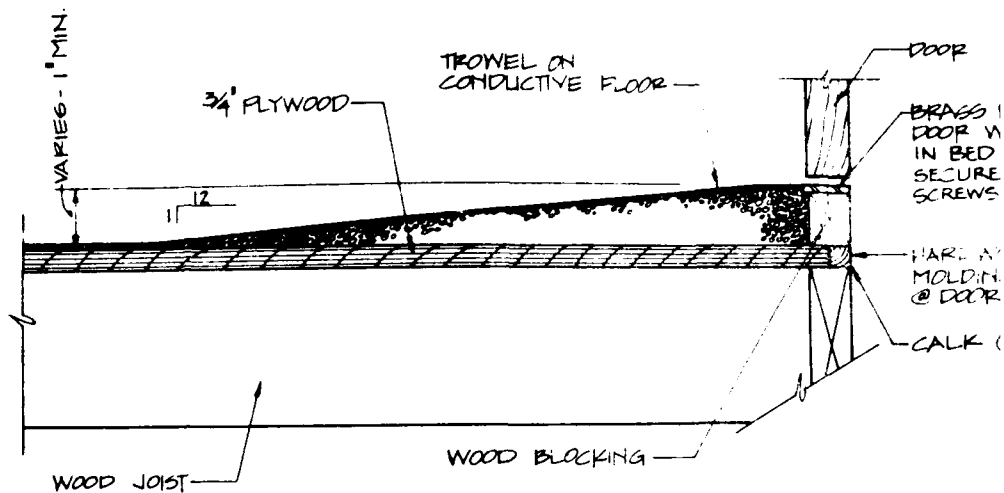


2x3x1/4
10 R
2 R 1/2x3/4
VOID W/
ETHANE F OAM
UBLE ACTING
INTER PIVOT - SECURE
THRU-BOLTS AND
SPACERS

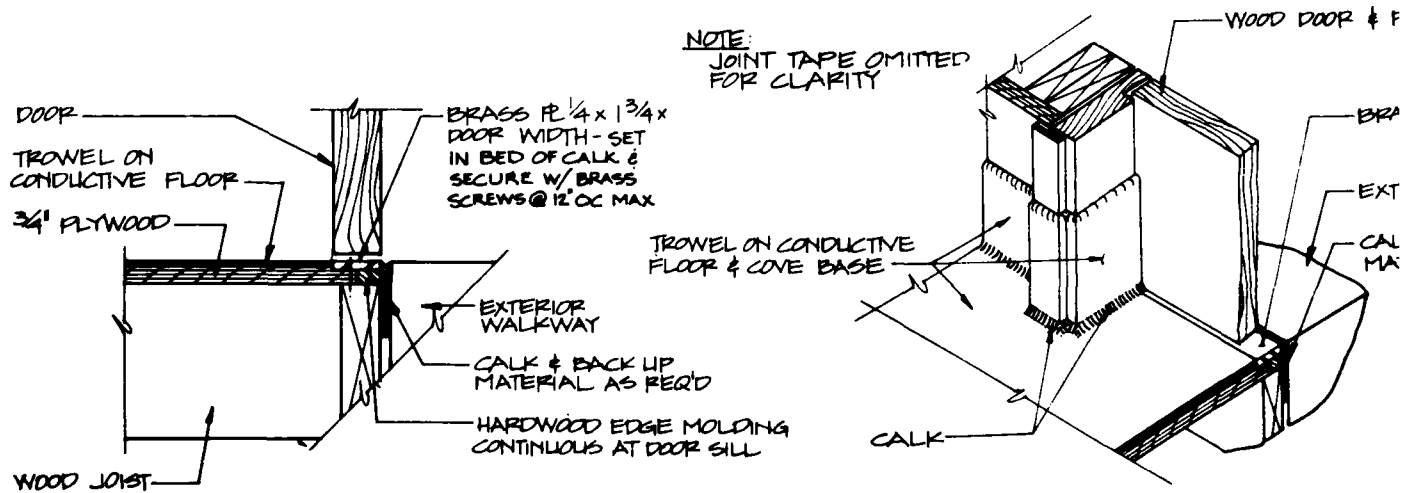
EXTERIOR
DOOR ELEVATION
NO SCALE

GRAPHIC SCALE

REVISIONS		DATE APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
OFFICE OF THE PROJECT MANAGER FOR HUNTSVILLE PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY		
STANDARD DETAILS		
NITROCELLULOSE FACILITY SANDWICH PANEL CONSTRUCTION		
SWINGING EQUIPMENT DOOR		
DATE: 19 MARCH 64		
DES. BY: ETT	CHECK BY: TDH	DATE: 19490



DOOR SILL - PEDESTRIAN
SCALE: 3" = 1'-0"



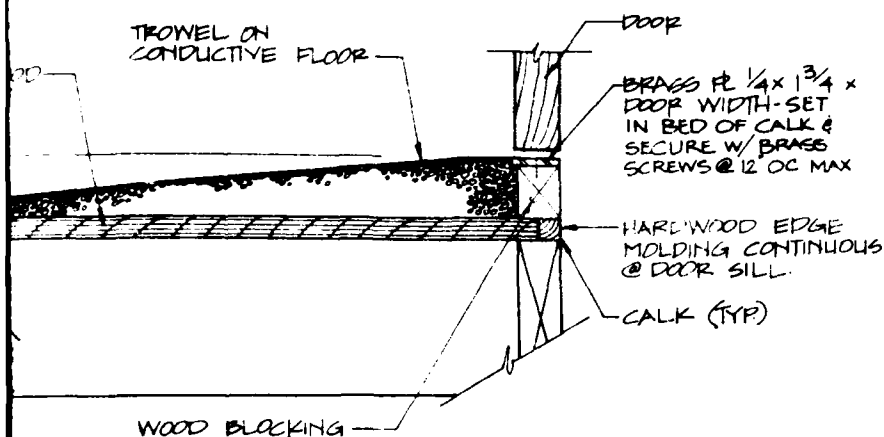
DOOR SILL - WHEELED EQUIPMENT
SCALE: 3" = 1'-0"

ISOMETRIC WHEELED EQUIPMENT SILL
NO SCALE



GENERAL NOTES:

1. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
2. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
3. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
4. ALL INTERIOR WOOD SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
5. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH, WITH PINKED EDGES OF 8 PINKS PER INCH.
6. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER/RESIN SOLUTION.
7. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.
8. SIZE OF STRUCTURAL MEMBERS SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
9. TROWEL ON CONDUCTIVE FLOOR SHALL BE A TROWELED, JOINTLESS, STATIC CONDUCTIVE FLOOR. IT SHALL BE A WATER-PHASE RESIN MATERIAL WITH ACETYLENE CARBON BLACK, AND IT SHALL BE APPLIED IN A SERIES OF COATS TO ACHIEVE A SMOOTH FINISH. CONDUCTIVE FLOORING SHALL HAVE MANUFACTURER'S STANDARD REINFORCING AT EDGES, CORNERS, AND WOOD JOINTS. THICKNESS AND INSTALLATION CONDUCTIVE FLOOR SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.



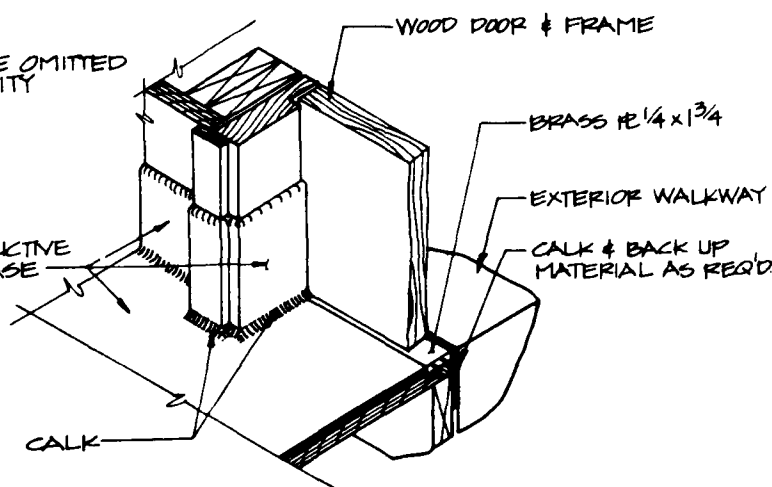
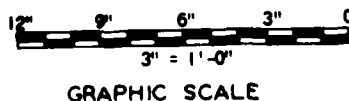
DOOR SILL - PEDESTRIAN

SCALE: 3" = 1'-0"

JOINT TAPE OMITTED FOR CLARITY

TROWEL ON CONDUCTIVE & COVE BASE

DOOR SILL

ISOMETRIC
WHEELED EQUIPMENT SILL
NO SCALE

DIVISION		DATE APPROVED
REVISIONS		
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
	OFFICE OF THE PROJECT MANAGER FOR HUNTSVILLE PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
	STANDARD DETAILS	
	SINGLE BASE AND MULTIBASE FACILITY WOOD FRAME CONSTRUCTION TROWEL ON CONDUCTIVE FLOOR DOOR SILL/FLOOR INTERFACE	
DATE: 19 MARCH '81	BY: ETY	CHK BY: TYP
		19500

2

GENERAL NOTES:

1. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
2. SEAL ALL CRACKS AND JOINTS WITH A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
3. TROWEL ON CONDUCTIVE FLOOR SHALL BE A TROWELED, JOINTLESS, STATIC CONDUCTIVE FLOOR. IT SHALL BE A WATER-PHASE RESIN MATERIAL WITH ACETYLENE CARBON BLACK, AND IT SHALL BE APPLIED IN A SERIES OF COATS TO ACHIEVE A SMOOTH FINISH. THICKNESS AND INSTALLATION OF CONDUCTIVE FLOOR SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
4. ALL INTERIOR WOOD SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
5. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREADING STRENGTH WITH PINKED EDGES OF 8 PINKS PER INCH.
6. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER/RESIN SOLUTION.
7. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
8. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR AND METAL TRENCH COVER IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.
9. SIZE OF STRUCTURAL MEMBERS SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.

2x12 OR 1/2" THICK FRP OR ALUMINUM
PLATE W/ 1/2" Ø HOLES @ 4" O.C. EACH WAY -
ROUND CORNERS TO PREVENT
DAMAGE TO CONDUCTIVE FLOOR

HARDWOOD EDGE MOLDING

PLYWOOD FLOORING

CONDUCTIVE FLOORING
SHALL HAVE MANUFACTURERS
STANDARD REINFORCING AT
EDGES AND WOOD JOINTS (TYP)

FLOOR JOIST

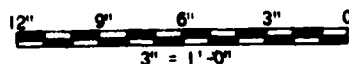
WOOD BLOCKING

3/4" PLYWOOD

8'x6' PINE

THRU-BOLT

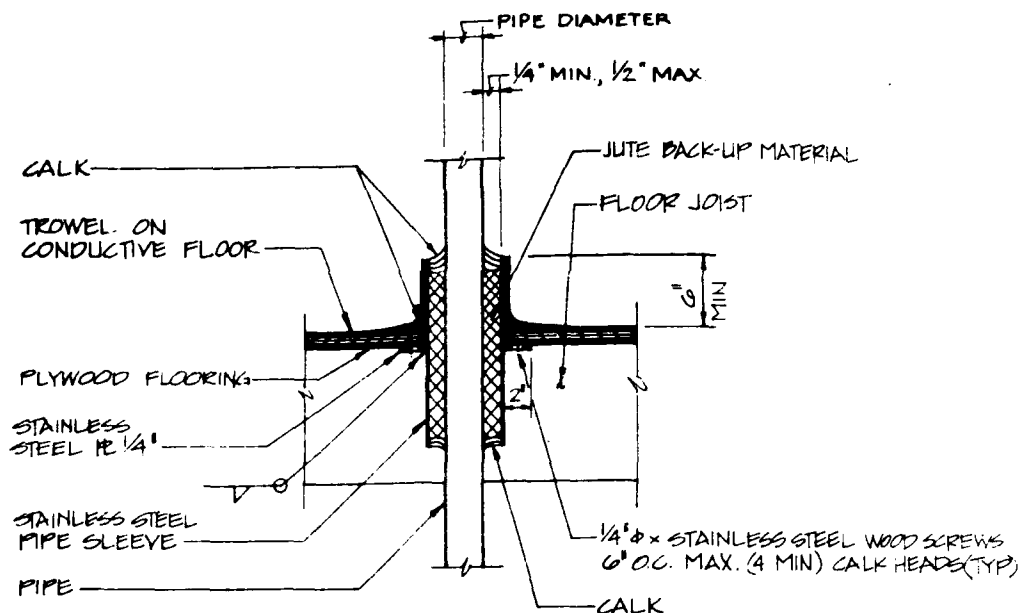
ATIVE LINING



GRAPHIC SCALE

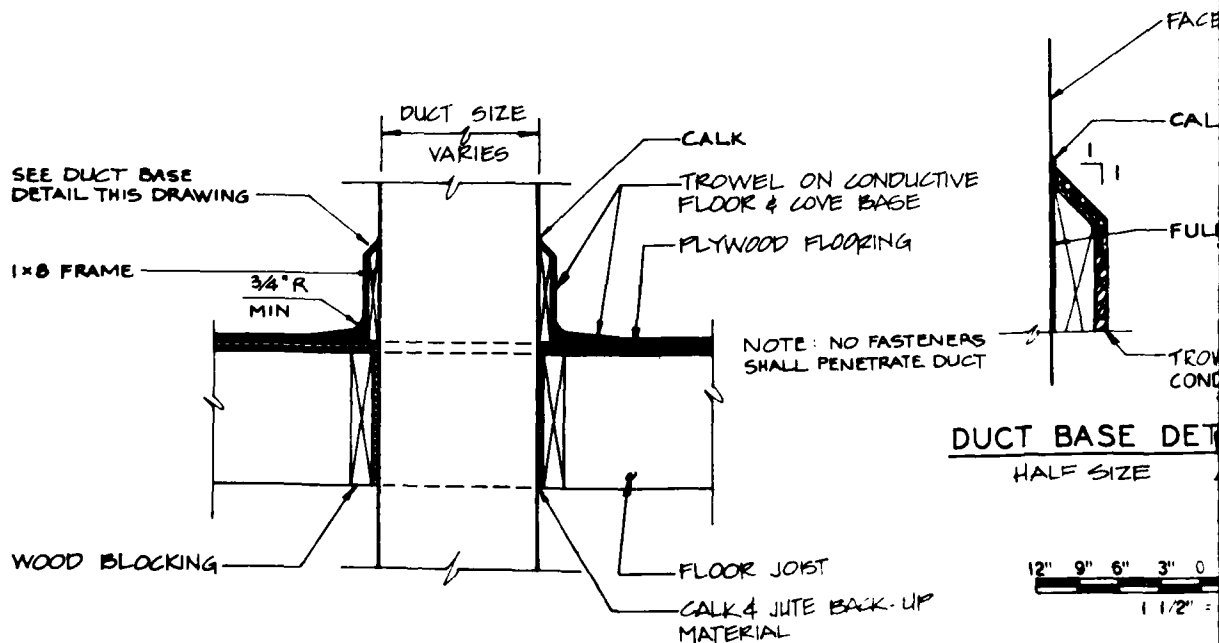
2

REVISIONS		DATE APPROVED
BLACK & VEATCH CONSULTING ENGINEERS DALLAS CITY, TEXAS		
US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA		
OFFICE OF THE PROJECT MANAGER FOR HUNTSVILLE PRODUCTION BASE MODERNIZATION AND EXPANSION COVER, NEW JERSEY		
STANDARD DETAILS		
SINGLE BASE AND MULTIBASE FACILITY WOOD FRAME CONSTRUCTION TROWEL ON CONDUCTIVE FLOOR FLOOR GUTTER/FLOOR INTERFACE		
DATE: 19 MARCH 81	BY: ETT	CHKD BY: TCM
		DATE: 19501



PIPE SLEEVE THROUGH WOOD FLOOR

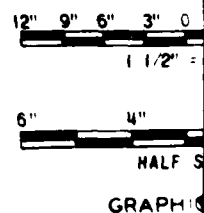
SCALE: $1\frac{1}{2}" = 1'-0"$



DUCT BASE DET
HALF SIZE

DUCT PENETRATION
THROUGH WOOD FLOOR

SCALE: $1\frac{1}{2}" = 1'-0"$

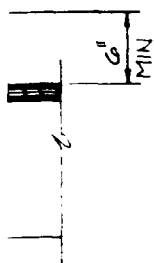


METER

1, 1/2" MAX

-JUTE BACK-UP MATERIAL

-FLOOR JOIST



-1/4" x STAINLESS STEEL WOOD SCREWS
6" O.C. MAX. (4 MIN.) CALK HEADS (TYP)

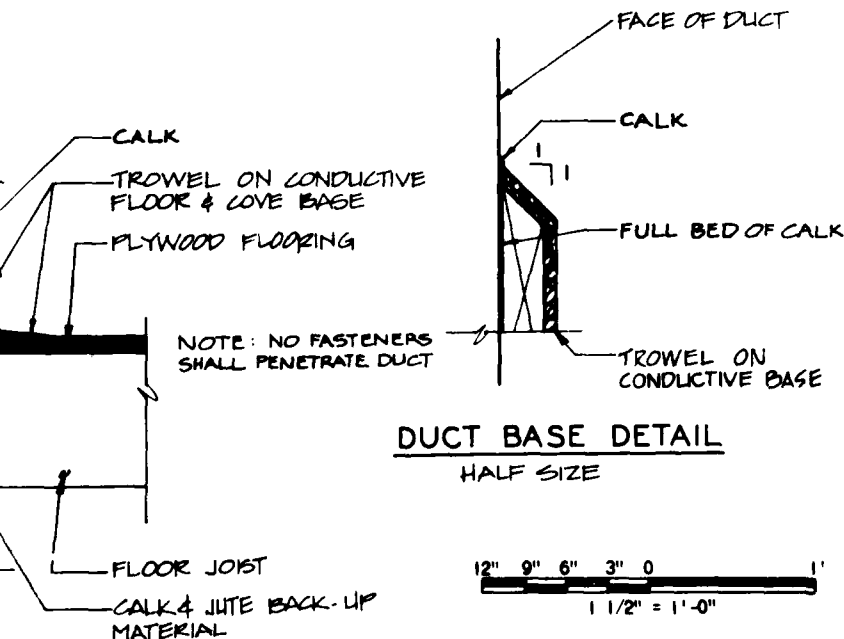
-CALK

4 WOOD FLOOR

1-0"

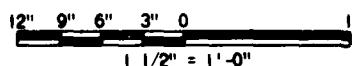
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2. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
3. ALL INTERIOR WOOD SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
4. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH WITH PINKED EDGES OF 8 PINKS PER INCH.
5. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER RESIN SOLUTION.
6. TROWEL ON CONDUCTIVE FLOOR SHALL BE A TROWELED, JOINTLESS, STATIC CONDUCTIVE FLOOR. IT SHALL BE A WATER-PHASE RESIN MATERIAL WITH ACETYLENE CARBON BLACK, AND IT SHALL BE APPLIED IN A SERIES OF COATS TO ACHIEVE A SMOOTH FINISH. THICKNESS AND INSTALLATION OF CONDUCTIVE FLOOR SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
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9. SIZE OF STRUCTURAL MEMBERS SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
10. PENETRATIONS THROUGH FLOOR SHOULD BE AVOIDED IF POSSIBLE.



DUCT BASE DETAIL

HALF SIZE

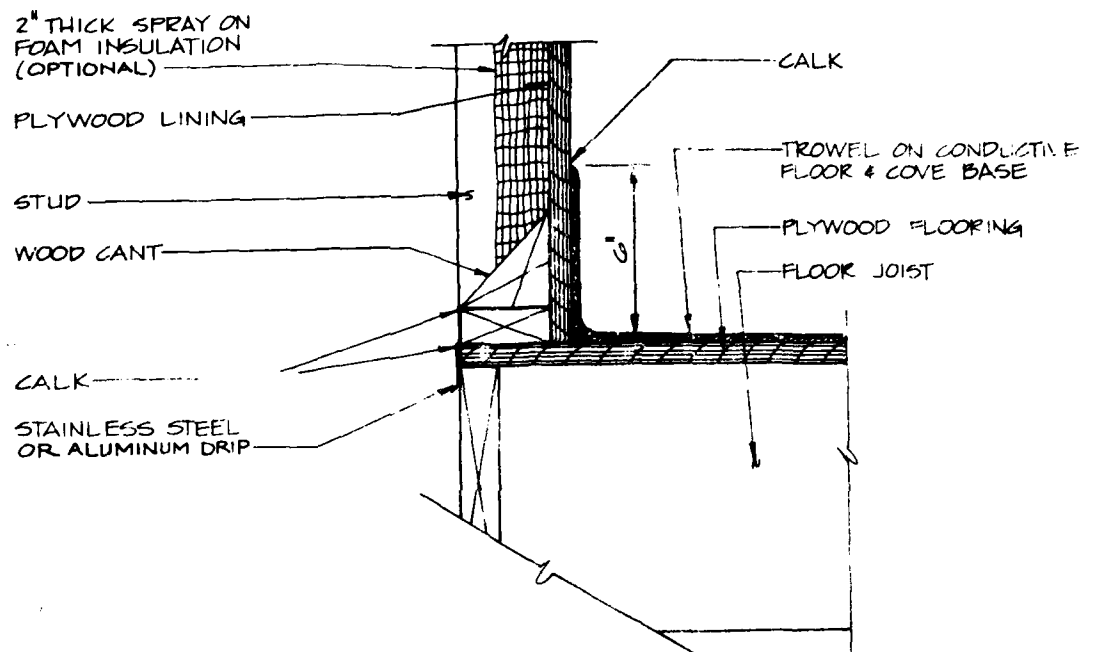


GRAPHIC SCALE

ION
FLOOR

5'

SYMBOL		DATE APPROVED
REVISIONS		
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
	OFFICE OF THE PROJECT MANAGER FOR HUNTSVILLE PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
	STANDARD DETAILS	
	SINGLE BASE AND MULTIBASE FACILITY WOOD FRAME CONSTRUCTION TROWEL ON CONDUCTIVE FLOOR FLOOR PENETRATION INTERFACE	
DATE: 19 MARCH 1961		
DESIGNED BY: JTT	CHECKED BY: TCM	DATE: 19502



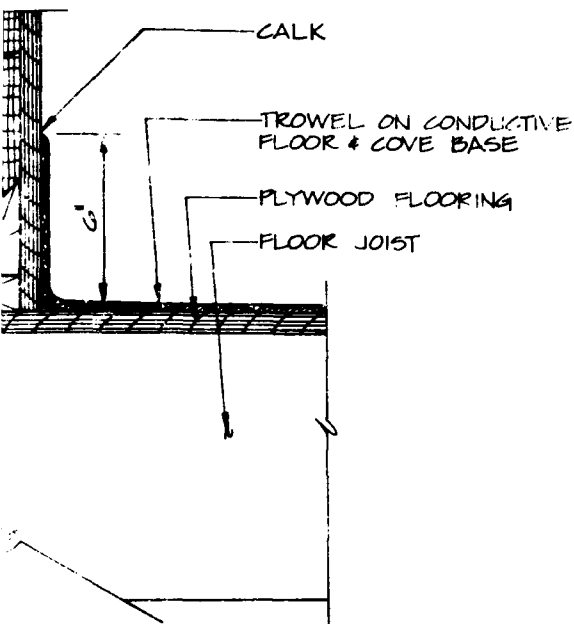
FLOOR / WALL INTERFACE

SCALE: 3" = 1'-0"

12" 9" 3" =
GRAPHIC

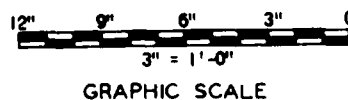
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4. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER/RESIN SOLUTION.
5. EXTERIOR CANT STRIPS SHALL BE A 1:1 PITCH MINIMUM.
6. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
7. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.
8. SIZE OF STRUCTURAL MEMBERS SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
9. FOR FINISHES SEE DRAWING 19411.
10. OPTIONAL SPRAY ON INSULATION SHALL BE TYPE REQUIRED TO MEET THERMAL AND SAFETY REQUIREMENTS. FLAME SPREAD SHALL BE LESS THAN 25 WHEN TESTED BY ASTM E-84 USING SAMPLES OBTAINED AT TIME OF APPLICATION.



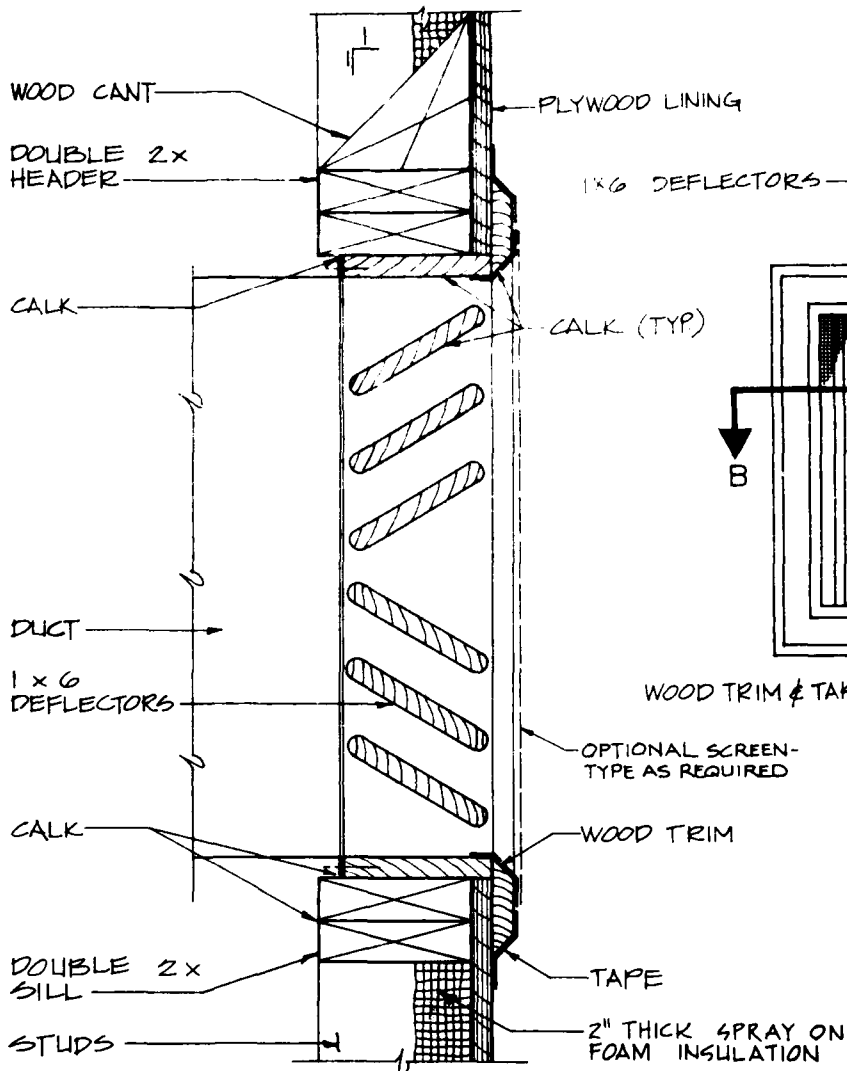
WALL INTERFACE

SCALE: 3" = 1'-0"

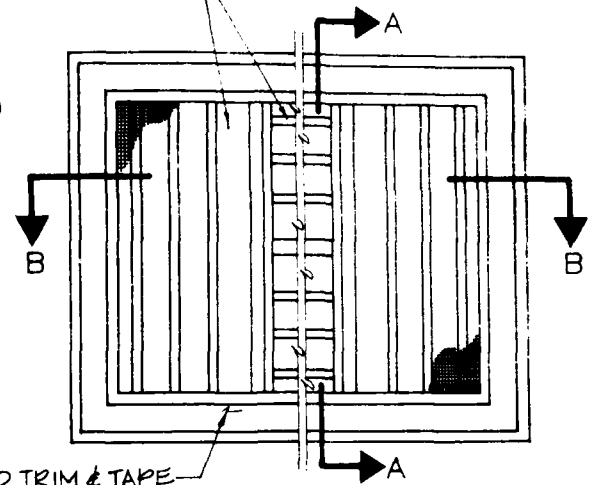


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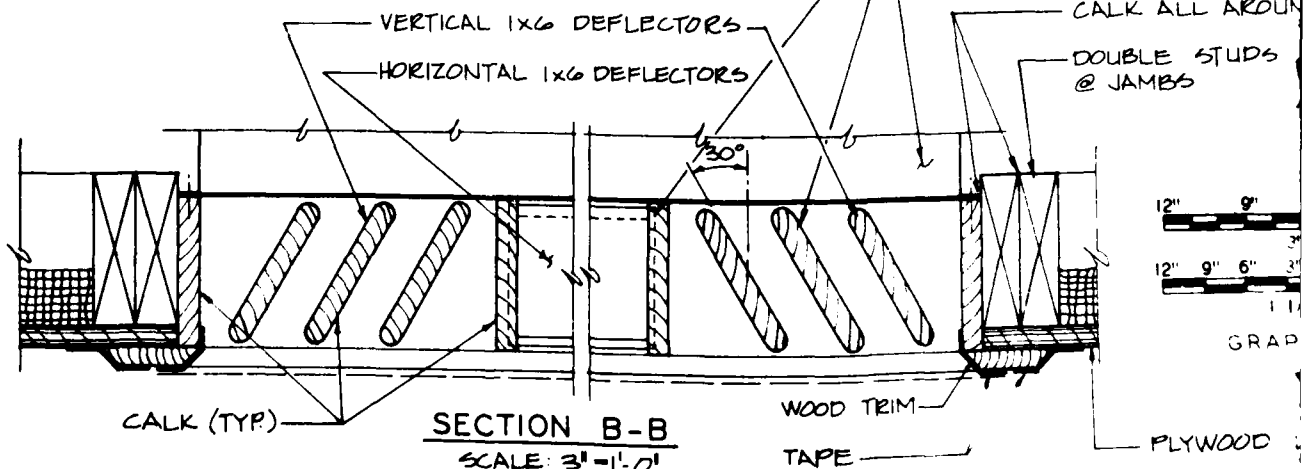
SYNOPSIS		DATE	APPROVED
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		SINGLE BASE AND MULTIBASE FACILITY WOOD FRAME CONSTRUCTION TROWEL ON CONDUCTIVE FLOOR FLOOR/WALL INTERFACE	
DATE: 19 MARCH '81	DESIGNED BY: [initials]	CHECKED BY: [initials]	SCALE NO. 19503



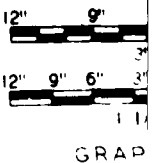
SECTION A-A
SCALE: 3" = 1'-0"



INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"

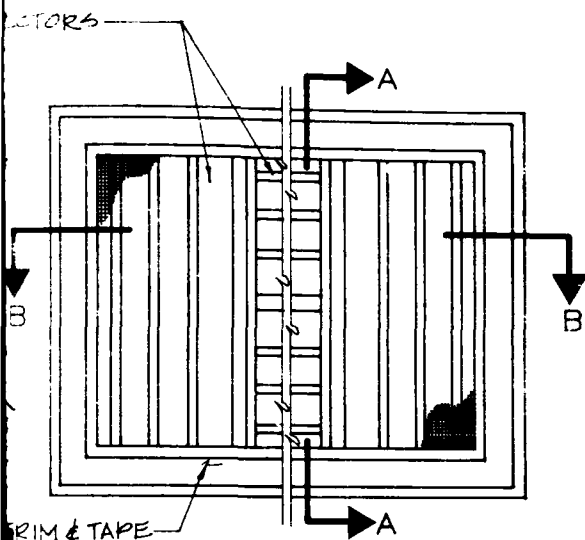


SECTION B-B
SCALE: 3" = 1'-0"

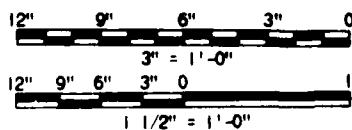
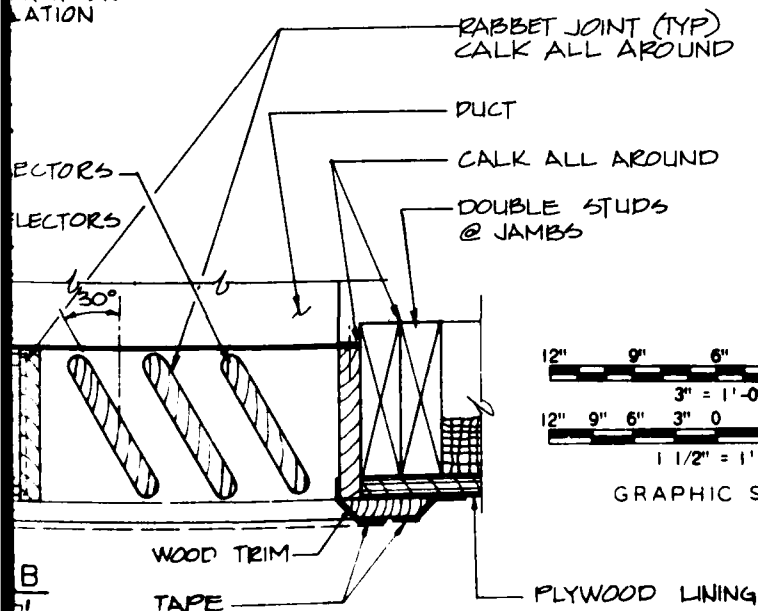


GENERAL NOTES:

1. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
2. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
3. ALL INTERIOR WOOD SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND NAIL HEADS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
4. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH, WITH PINKED EDGES OF 8 PINKS PER INCH.
5. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER RESIN SOLUTION
6. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
7. FOR FINISHES SEE DRAWING 19411.
8. SIZE OF STRUCTURAL MEMBERS SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
9. OPTIONAL SPRAY ON INSULATION SHALL BE TYPE REQUIRED TO MEET THERMAL AND SAFETY REQUIREMENTS. FLAME SPREAD SHALL BE LESS THAN 25 WHEN TESTED BY ASTM E-84 USING SAMPLES OBTAINED AT TIME OF APPLICATION.



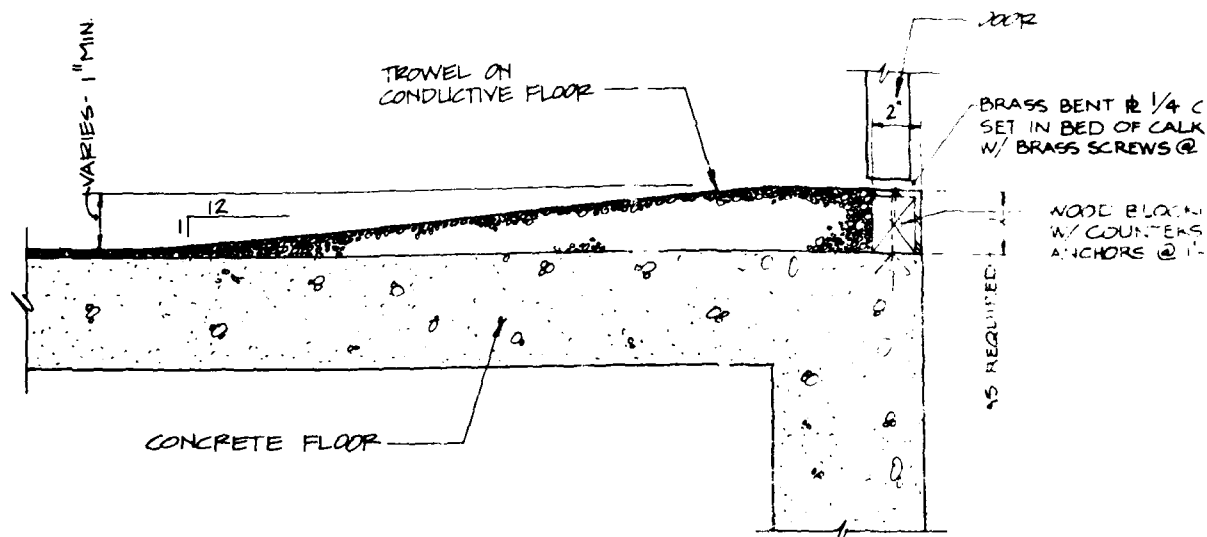
INTERIOR ELEVATION

SCALE: $1\frac{1}{2}'' = 1'-0''$ GREEN-
PAINTEDSPRAY ON
INSULATION

GRAPHIC SCALE

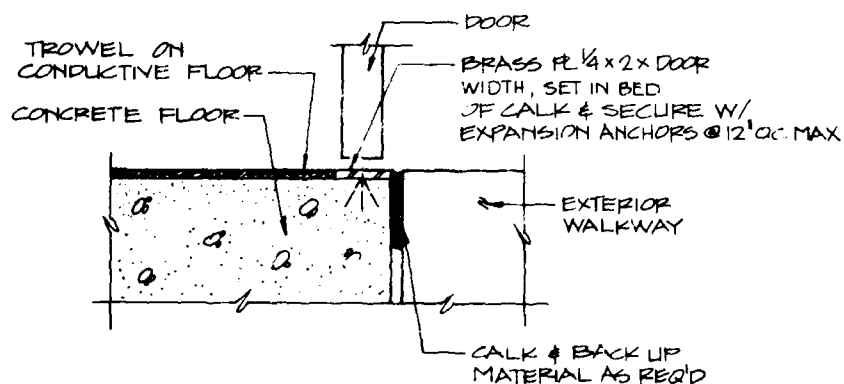
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CORPS OF ENGINEERS



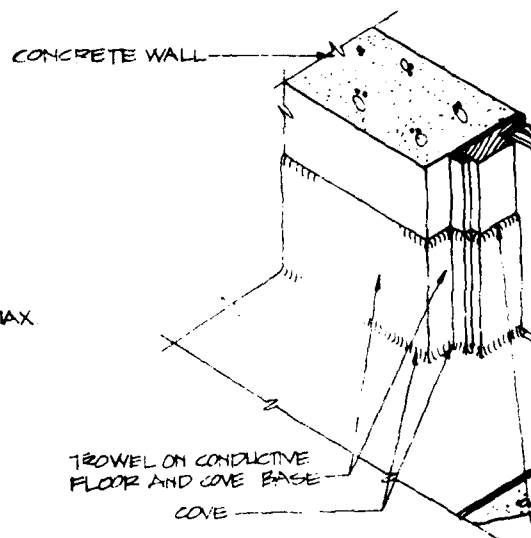
DOOR SILL - PEDESTRIAN

SCALE: 3" = 1'-0"



DOOR SILL - WHEELED EQUIPMENT

SCALE: 3" = 1'-0"

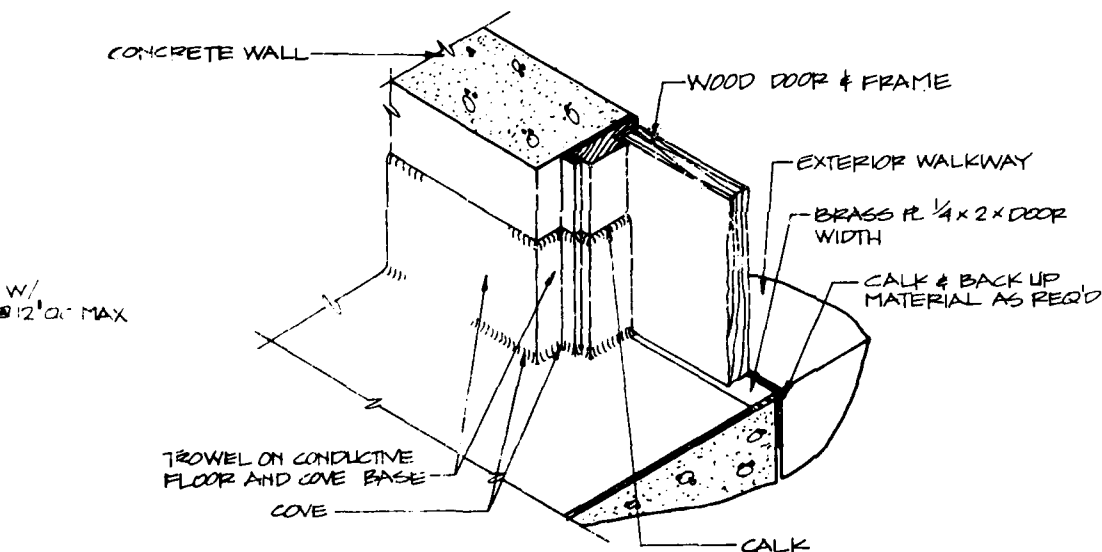
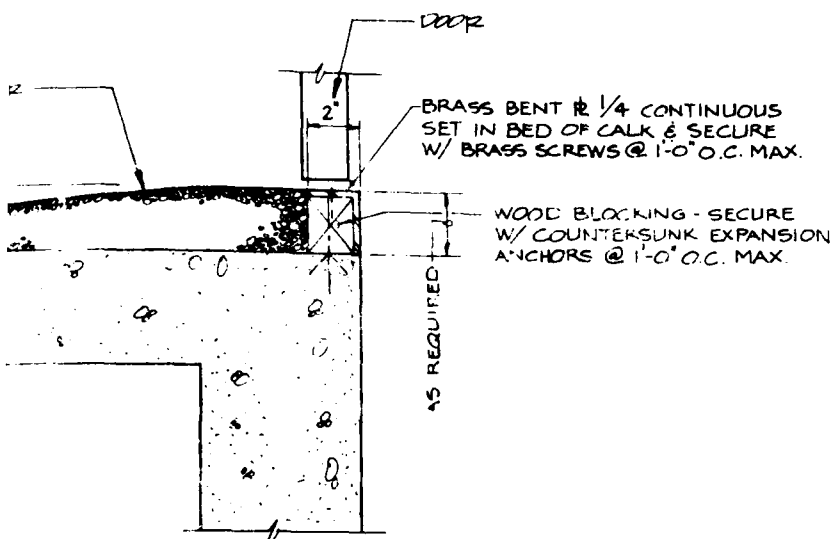


ISOMETRIC
WHEELED EQUIPMENT
NO SCALE

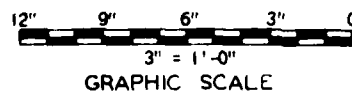
12" 6

GENERAL NOTES:

1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
3. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.
4. TROWEL ON CONDUCTIVE FLOOR SHALL BE A TROWELED, JOINTLESS, STATIC CONDUCTIVE FLOOR. IT SHALL BE A WATER-PHASE RESIN MATERIAL WITH ACETYLENE CARBON BLACK, AND IT SHALL BE APPLIED IN A SERIES OF COATS TO ACHIEVE A SMOOTH FINISH. CONDUCTIVE FLOORING SHALL HAVE MANUFACTURER'S STANDARD REINFORCING AT EDGES AND CORNERS. THICKNESS AND INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

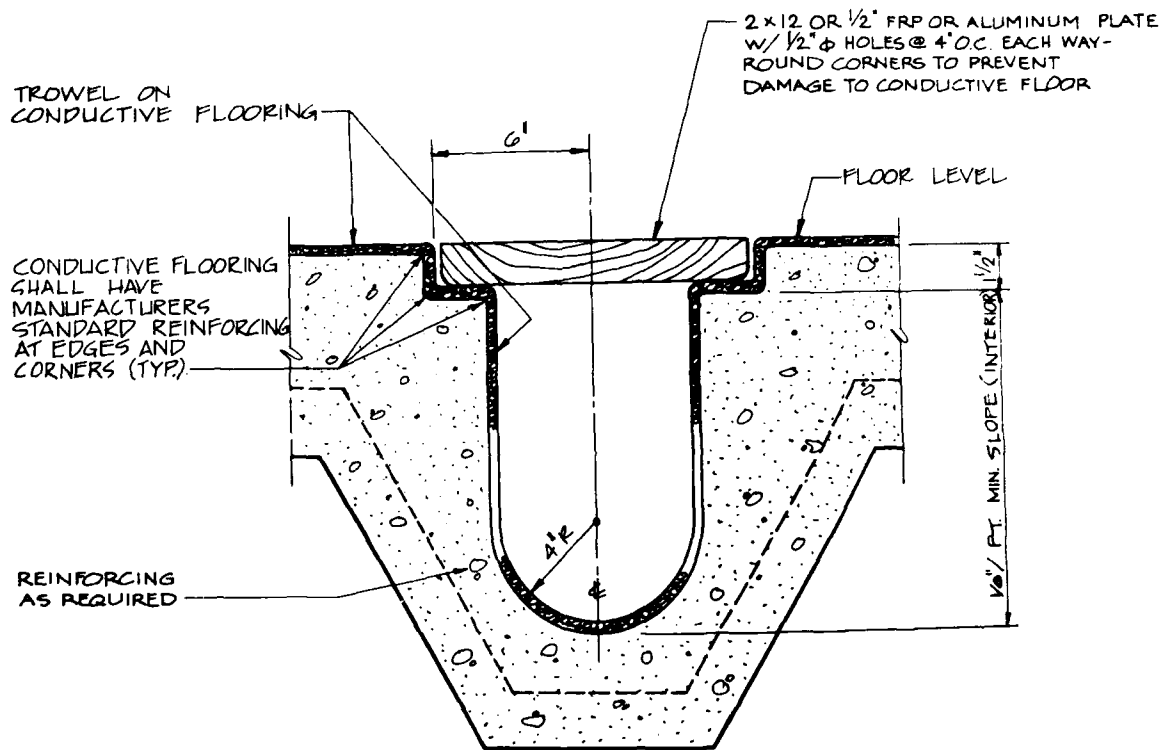


ISOMETRIC
WHEELED EQUIPMENT SILL
NO SCALE



SYNOPSIS		DATE	APPROVED
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA		
	OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY		
	STANDARD DETAILS		
	SINGLE BASE AND MULTIBASE FACILITY CONCRETE CONSTRUCTION TROWEL ON CONDUCTIVE FLOOR DOOR SILL/FLOOR INTERFACE		
DATE: 19 MARCH 81	DESIGN BY: RTT	CHKD BY: TDH	DATE: 19505

2



INTERIOR TRENCH W/ CONDUCTIVE LINING
SCALE : 3" = 1'-0"

GENERAL NOTES:

1. TROWEL ON CONDUCTIVE FLOOR SHALL BE A TROWELED, JOINTLESS, STATIC CONDUCTIVE FLOOR. IT SHALL BE A WATER-PHASE RESIN MATERIAL WITH ACETYLENE CARBON BLACK, AND IT SHALL BE APPLIED IN A SERIES OF COATS TO ACHIEVE A SMOOTH FINISH. THICKNESS AND INSTALLATION OF CONDUCTIVE FLOOR SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
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3. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR AND METAL TRENCH COVERS IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.

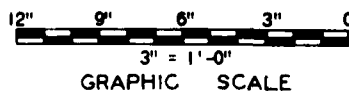
2x12 OR 1/2" FRP OR ALUMINUM PLATE
W/ 1/2" ϕ HOLES @ 4" O.C. EACH WAY -
ROUND CORNERS TO PREVENT
DAMAGE TO CONDUCTIVE FLOOR

FLOOR LEVEL

1/8" FT. MIN. SLOPE (INTERIOR)

CONDUCTIVE LINING

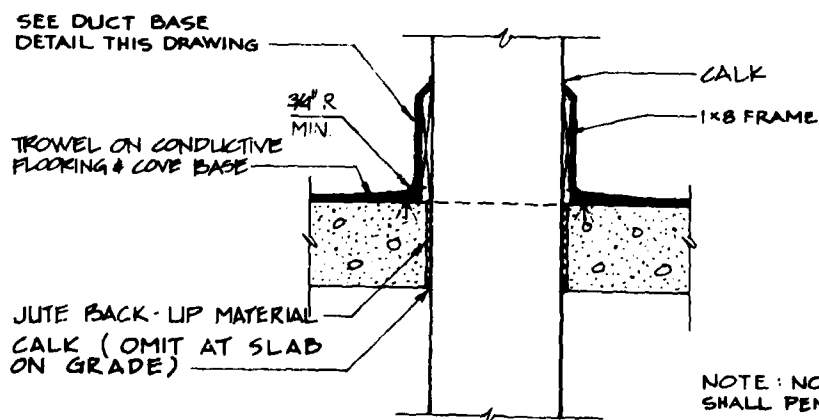
3' = 1'-0"



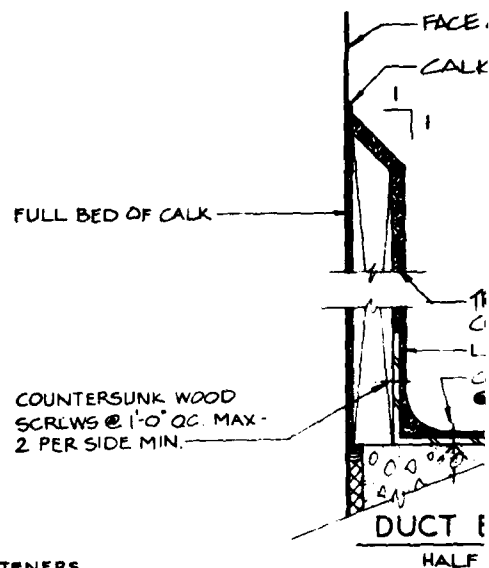
SYMBOLS		DATE	APPROVED
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		SINGLE BASE AND MULTIBASE FACILITY CONCRETE CONSTRUCTION TROWEL ON CONDUCTIVE FLOOR FLOOR GUTTER/FLOOR INTERFACE	
DATE: 19 MARCH 81	CHKD BY: HLB	APP'D BY: TDH	DWG. NO. 19506

2

SCALE: $1\frac{1}{2}" = 1'-0"$



SCALE : $1\frac{1}{2}'' = 1'-0''$



NOTE: NO FASTENERS
SHALL PENETRATE DUCT

6" 4"

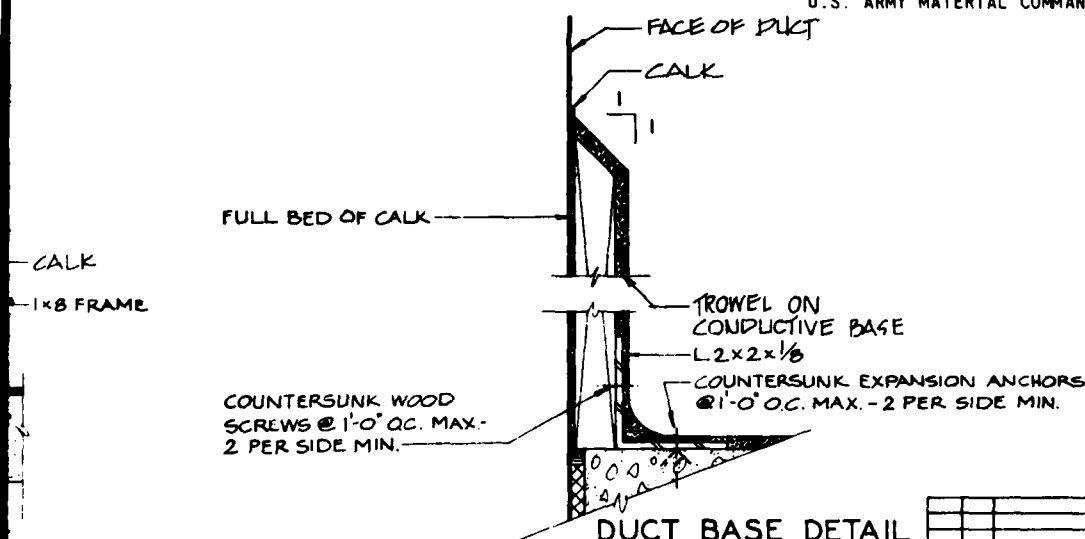
GENERAL NOTES:

1. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
2. CANT STRIPS SHALL BE 1:1 PITCH MIN.
3. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
4. TAPED JOINTS SHALL HAVE 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS AND SCREW HEADS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
5. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH, WITH PINKED EDGES OF 8 PINKS PER INCH.
6. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER/ RESIN SOLUTION.
7. TROWEL ON CONDUCTIVE FLOOR SHALL BE A TROWELED, JOINTLESS, STATIC CONDUCTIVE FLOOR. IT SHALL BE A WATER-PHASE RESIN MATERIAL WITH ACETYLENE CARBON BLACK, AND IT SHALL BE APPLIED IN A SERIES OF COATS TO ACHIEVE A SMOOTH FINISH. THICKNESS AND INSTALLATION OF CONDUCTIVE FLOOR SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
8. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
9. PENETRATIONS THROUGH FLOOR SHOULD BE AVOIDED IF POSSIBLE.
10. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.

UTE BACK-UP MATERIAL

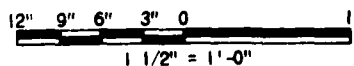
STAINLESS STEEL PIPE,
OR ROUND DUCT,
SYMMETRICAL ABOUT &CALK (OMIT AT SLAB
ON GRADE)

SLAB

NOTE: NO FASTENERS
SHALL PENETRATE DUCT

DUCT BASE DETAIL

HALF SIZE

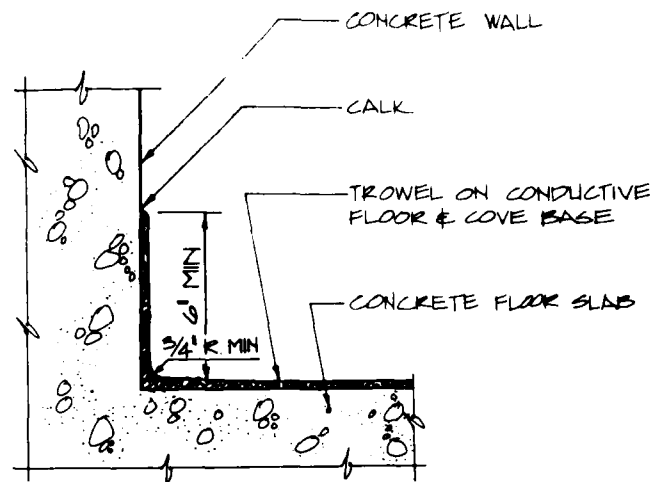


GRAPHIC SCALE

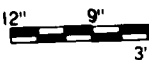
THROUGH SLAB

1/2" = 1'-0"

SYNOPSIS		DATE APPROVED	
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		SINGLE BASE AND MULTIBASE FACILITY CONCRETE CONSTRUCTION TROWEL ON CONDUCTIVE FLOOR FLOOR PENETRATION INTERFACE	
DATE: 19 MARCH '81	DESIGNED BY: TDM	DWG. NO. 19507	



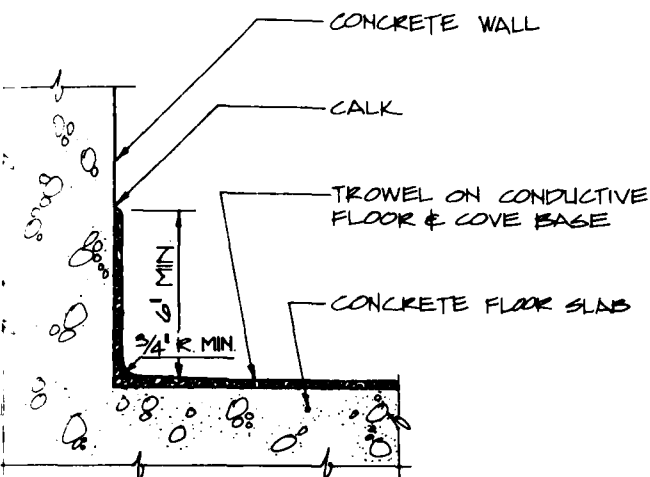
FLOOR / WALL INTERFACE
SCALE: 3" = 1'-0"



GRAPH

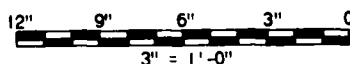
GENERAL NOTES:

1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. TROWEL ON CONDUCTIVE FLOOR SHALL BE A TROWELED, JOINTLESS, STATIC CONDUCTIVE FLOOR. IT SHALL BE A WATER-PHASE RESIN MATERIAL WITH ACETYLENE CARBON BLACK, AND IT SHALL BE APPLIED IN A SERIES OF COATS TO ACHIEVE A SMOOTH FINISH. THICKNESS AND INSTALLATION OF CONDUCTIVE FLOOR SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
3. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
4. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.
5. FOR FINISHES SEE DRAWING 19427.



FLOOR / WALL INTERFACE

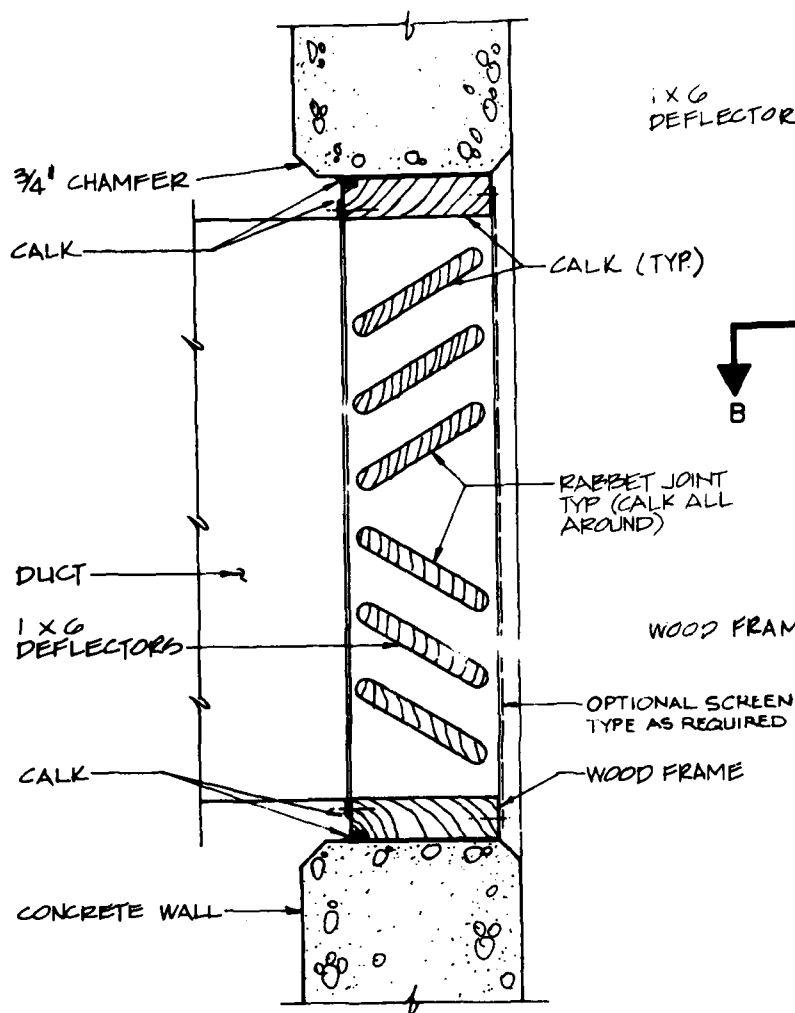
SCALE: 3" = 1'-0"



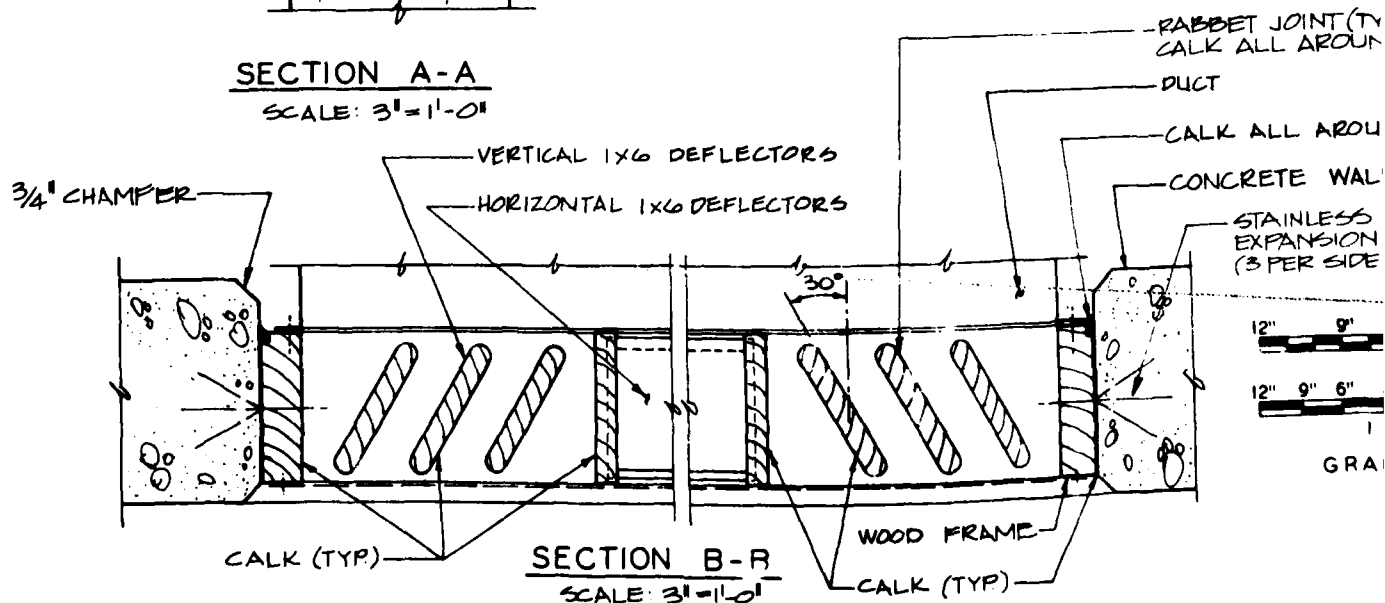
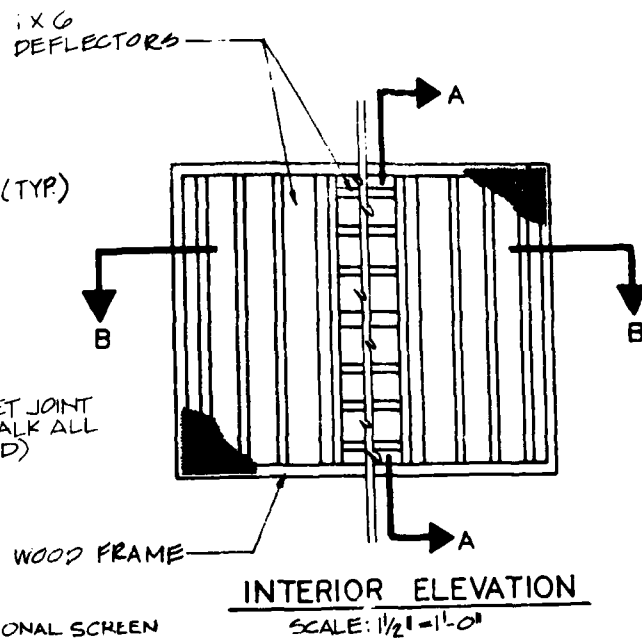
GRAPHIC SCALE

BY: [] DATE: []		DATE: [] APPROVED: []	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
DATE: 19 MARCH 81 DESIGNED BY: KD CHECKED BY: TDPH DWS NO. 19508		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		SINGLE BASE AND MULTIBASE FACILITY CONCRETE CONSTRUCTION TROWEL ON CONDUCTIVE FLOOR FLOOR WALL INTERFACE	

2

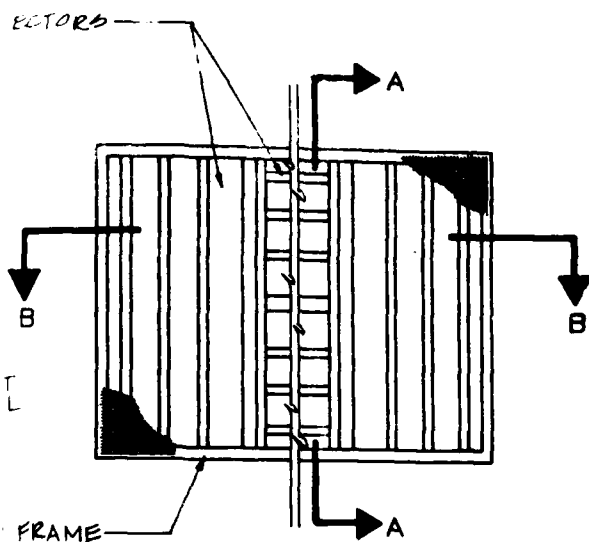


SECTION A-A
SCALE: 3" = 1'-0"



GENERAL NOTES:

1. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
2. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
3. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
4. FOR FINISHES SEE DRAWING 19427.

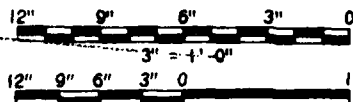
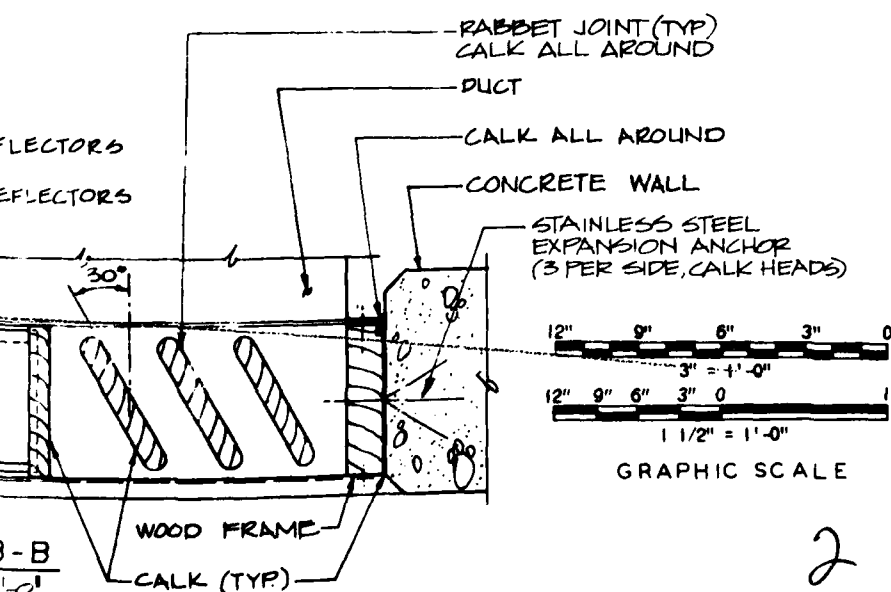


INTERIOR ELEVATION

SCALE: 1 1/2" = 1'-0"

SCREEN
REQUIRED

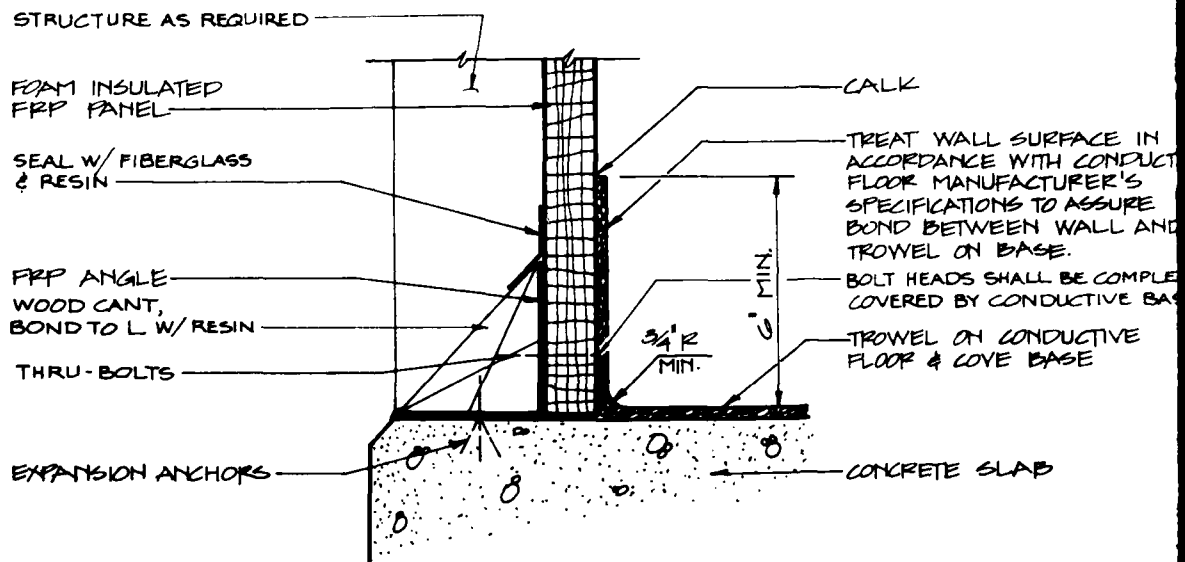
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GRAPHIC SCALE

2

SYMBOLS		DATE APPROVED	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		SINGLE BASE AND MULTIBASE FACILITY CONCRETE CONSTRUCTION	
		WOOD WALL VENT	
DATE: 19 MARCH '81	DESIGN BY: TDH	DWG. NO. 19509	

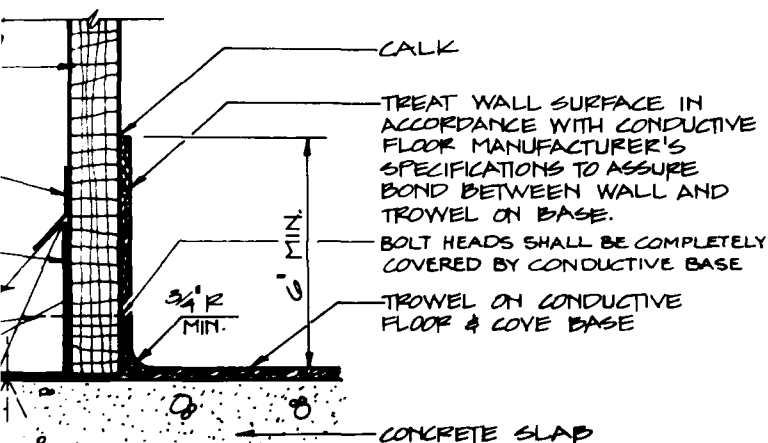


WALL/FLOOR INTERFACE DETAIL
SCALE : 3" = 1'-0"

12" 9" 3" = GRAPH

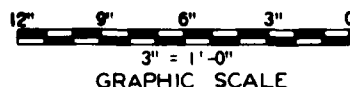
GENERAL NOTES:

1. CALK SHALL BE A NON-CRACKING ONE COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
3. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
4. CANT STRIPS SHALL BE A 1:1 PITCH MIN.
5. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS 1, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
6. FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
7. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.
8. TROWEL ON CONDUCTIVE FLOOR SHALL BE A TROWELED, JOINTLESS, STATIC CONDUCTIVE FLOOR. IT SHALL BE A WATER-PHASE RESIN MATERIAL WITH ACETYLENE CARBON BLACK, AND IT SHALL BE APPLIED IN A SERIES OF COATS TO ACHIEVE A SMOOTH FINISH. THICKNESS AND INSTALLATION OF CONDUCTIVE FLOOR SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
9. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
10. FIBERGLASS MAT SHALL BE 1 1/2 OUNCE PER SQUARE FOOT CHOPPED STRAND MAT.
11. SURFACING VEIL SHALL BE 0.010" THICK CONTINUOUS FIBER MAT.
12. RESIN SHALL BE POLYESTER RESIN, FIRE RETARDANT, CLASS 1 AS PER ASTM D-635 AND E-84 TESTS.
13. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.



FLOOR INTERFACE DETAIL

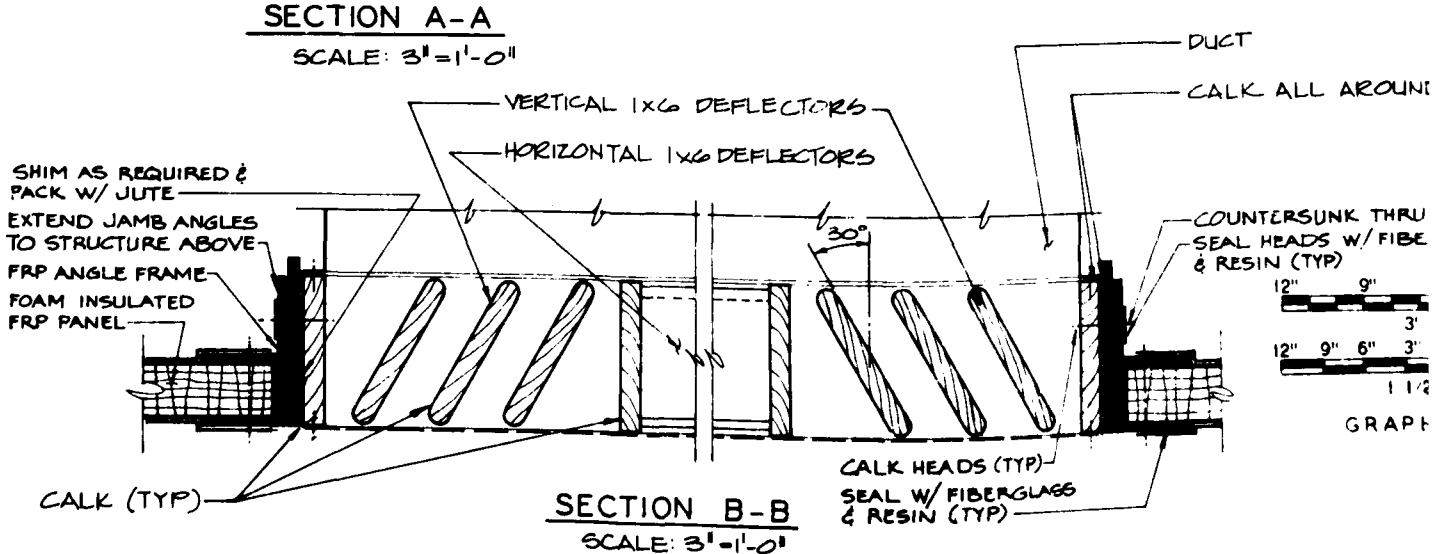
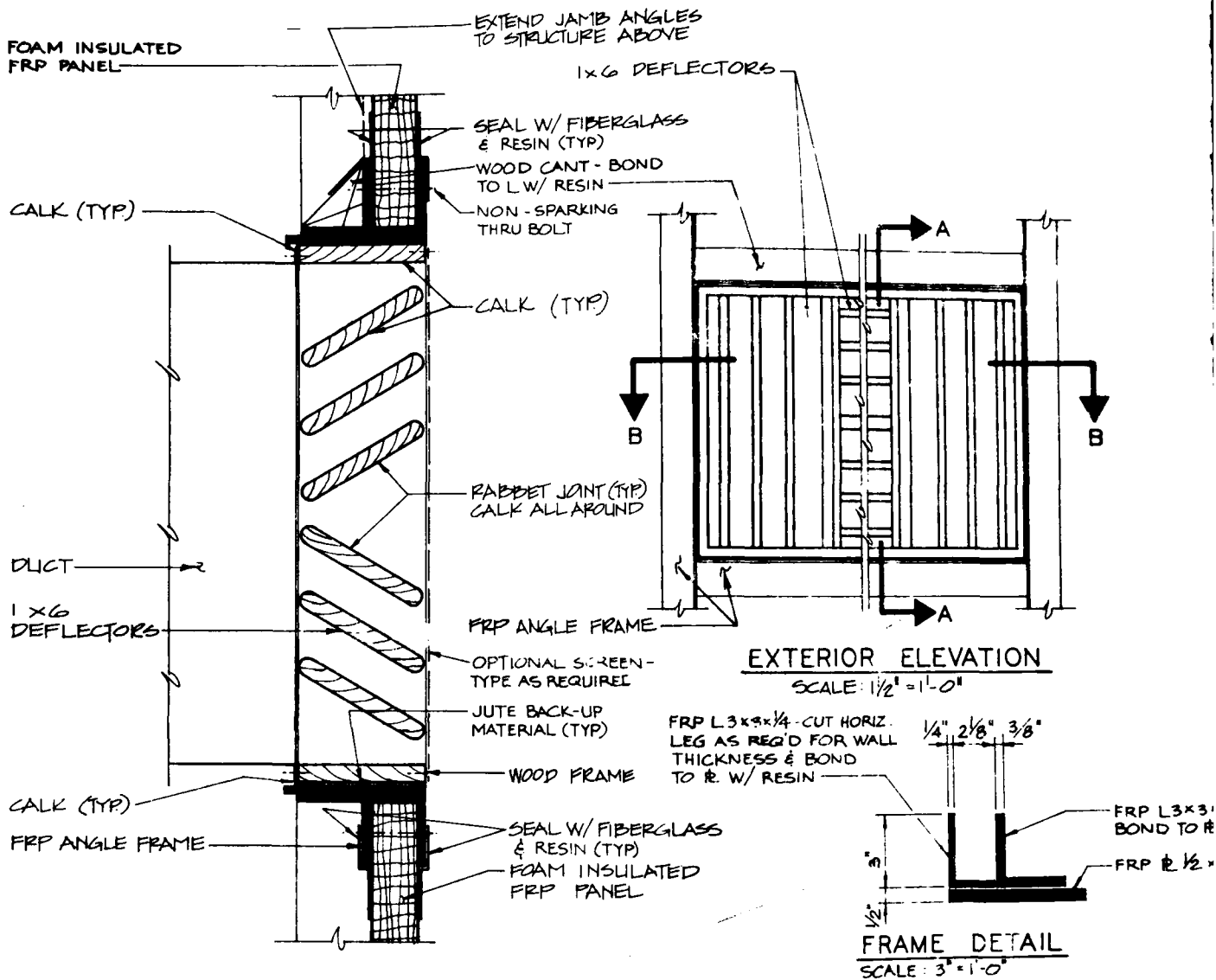
SCALE: 3" = 1'-0"



GRAPHIC SCALE

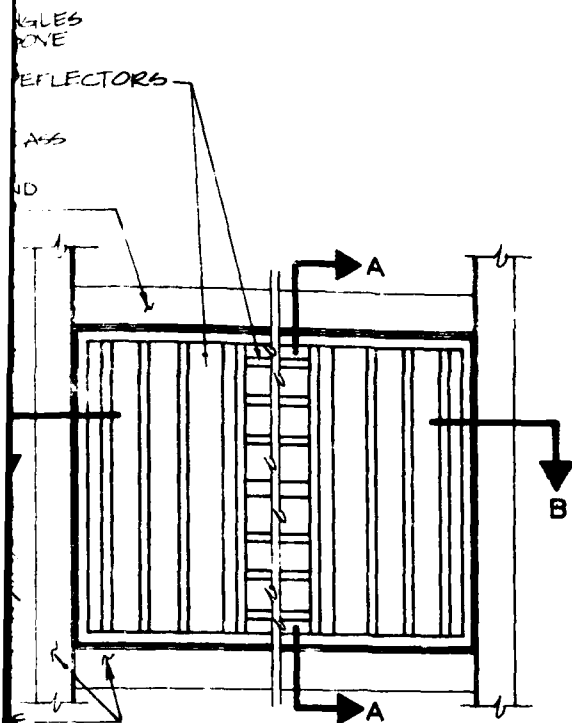
REVISIONS	
DATE	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	
US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
OFFICE OF THE PROJECT MANAGER FOR HUNTSVILLE PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
STANDARD DETAILS	
SINGLE BASE AND MULTIBASE FACILITY FRP PANEL CONSTRUCTION TROWEL ON CONDUCTIVE FLOOR WALL/FLOOR INTERFACE	
DATE: 19 MARCH 64	19510
DES. BY: JET	CHK. BY: TSH

CORPS OF ENGINEERS



GENERAL NOTES:

1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. CANT STRIPS SHALL BE A 1:1 PITCH MIN.
3. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
4. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS 1, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMMISHES.
5. FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
6. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
7. FOR FINISHES SEE DRAWING 19441.
8. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
9. FIBERGLASS MAT SHALL BE 1 1/2 OUNCE PER SQUARE FOOT CHOPPED STRAND MAT.
10. SURFACING VEIL SHALL BE 0.010" THICK CONTINUOUS FIBER MAT.
11. RESIN SHALL BE POLYESTER RESIN, FIRE RETARDANT, CLASS 1 AS PER ASTM D-635 AND E-84 TESTS.
12. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.



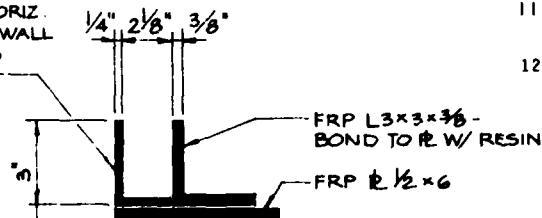
EXTERIOR ELEVATION

SCALE: 1/2" = 1'-0"

FRP L3x3x1/4 - CUT HORIZ.
LEG AS REQ'D FOR WALL
THICKNESS & BOND
TO R. W/ RESIN

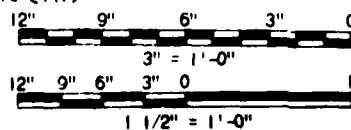
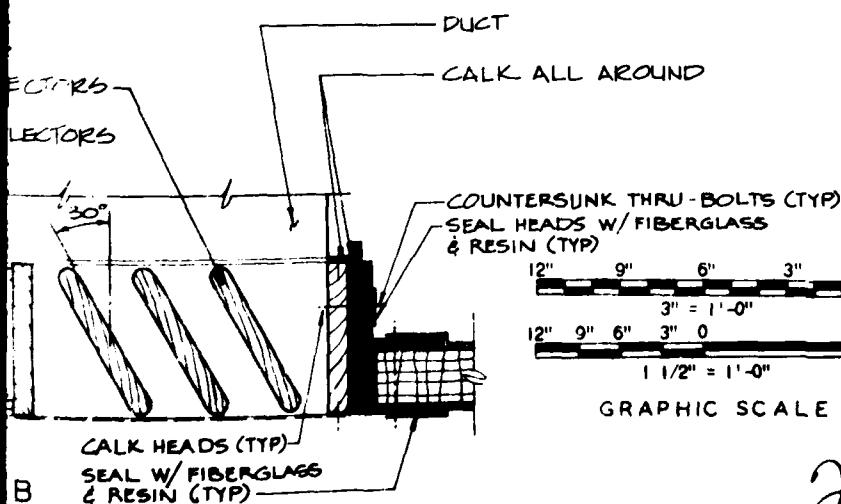
1/4" 2 1/8" 3/8"

FIBERGLASS
MATERIAL



FRAME DETAIL

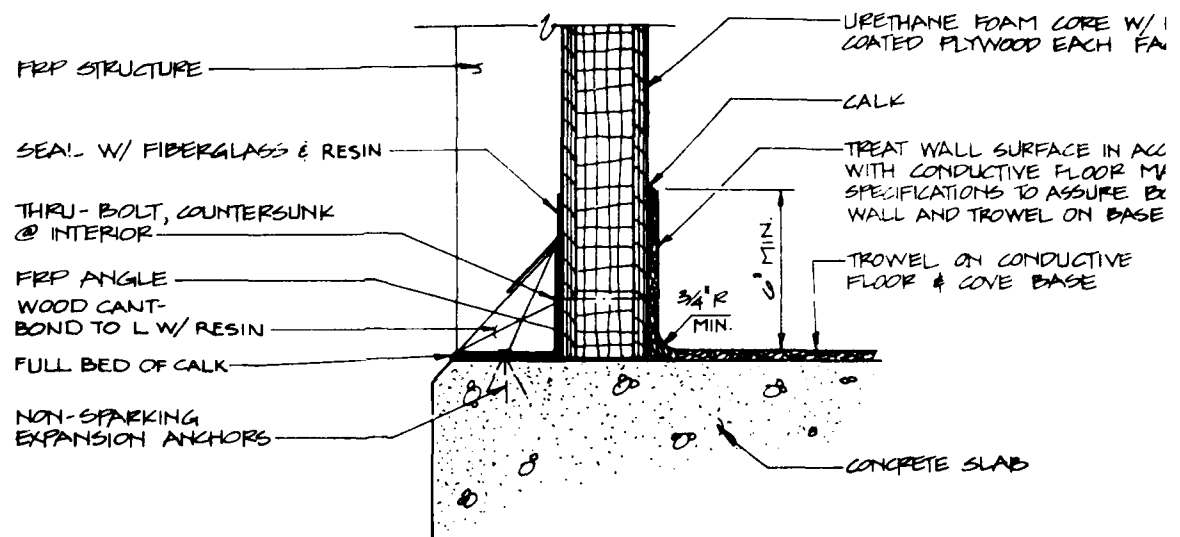
SCALE: 3" = 1'-0"



GRAPHIC SCALE

SYMBOL	REVISIONS	DATE	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS SARASOTA CITY, FLORIDA	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA		
	OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY		
	STANDARD DETAILS		
	SINGLE BASE AND MULTIBASE FACILITY FRP PANEL CONSTRUCTION		
	WOOD WALL VENT		
DATE: 19 MARCH 61			
DESIGN BY: JMT	CHECK BY: JDM	DATE: 1951	

2



WALL / FLOOR INTERFACE DETAIL
SCALE: 3"=1'-0"

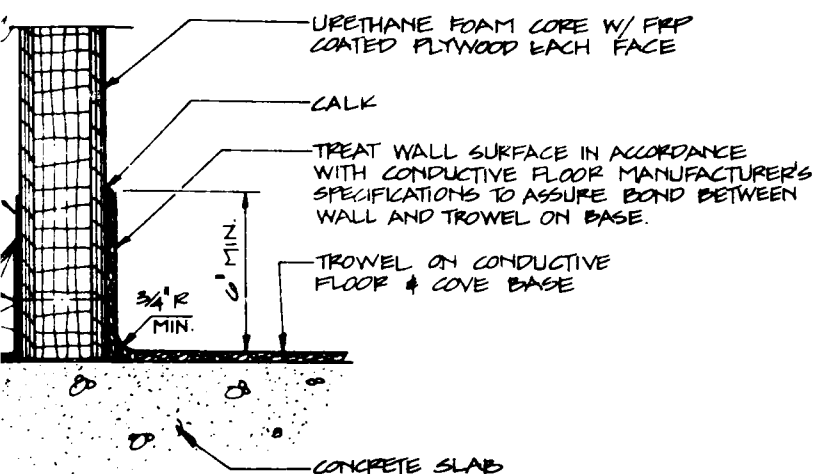
GENERAL NOTES CONTINUED:

13. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.



GENERAL NOTES:

1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS I, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
3. FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
4. CANT STRIPS SHALL BE 1:1 PITCH MINIMUM.
5. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
6. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
7. PROVISIONS SHALL BE MADE FOR GROUNDING CONDUCTIVE FLOOR IN ACCORDANCE WITH APPLICABLE SPECIFICATIONS. CONDUCTIVITY SHALL BE WITHIN LIMITS SPECIFIED BY U.S. ARMY MATERIAL COMMAND AMCR 385-100.
8. TROWEL ON CONDUCTIVE FLOOR SHALL BE A TROWELED, JOINTLESS, STATIC CONDUCTIVE FLOOR. IT SHALL BE A WATER-PHASE RESIN MATERIAL WITH ACETYLENE CARBON BLACK, AND IT SHALL BE APPLIED IN A SERIES OF COATS TO ACHIEVE A SMOOTH FINISH. THICKNESS AND INSTALLATION OF CONDUCTIVE FLOOR SHALL BE ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
9. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
10. FIBERGLASS MAT SHALL BE 1 1/2 OUNCE PER SQUARE FOOT CHOPPED STRAND MAT.
11. SURFACING VEIL SHALL BE 0.010" THICK CONTINUOUS FIBER MAT.
12. RESIN SHALL BE POLYESTER RESIN, FIRE RETARDANT, CLASS I AS PER ASTM D-635 AND E-84 TESTS.



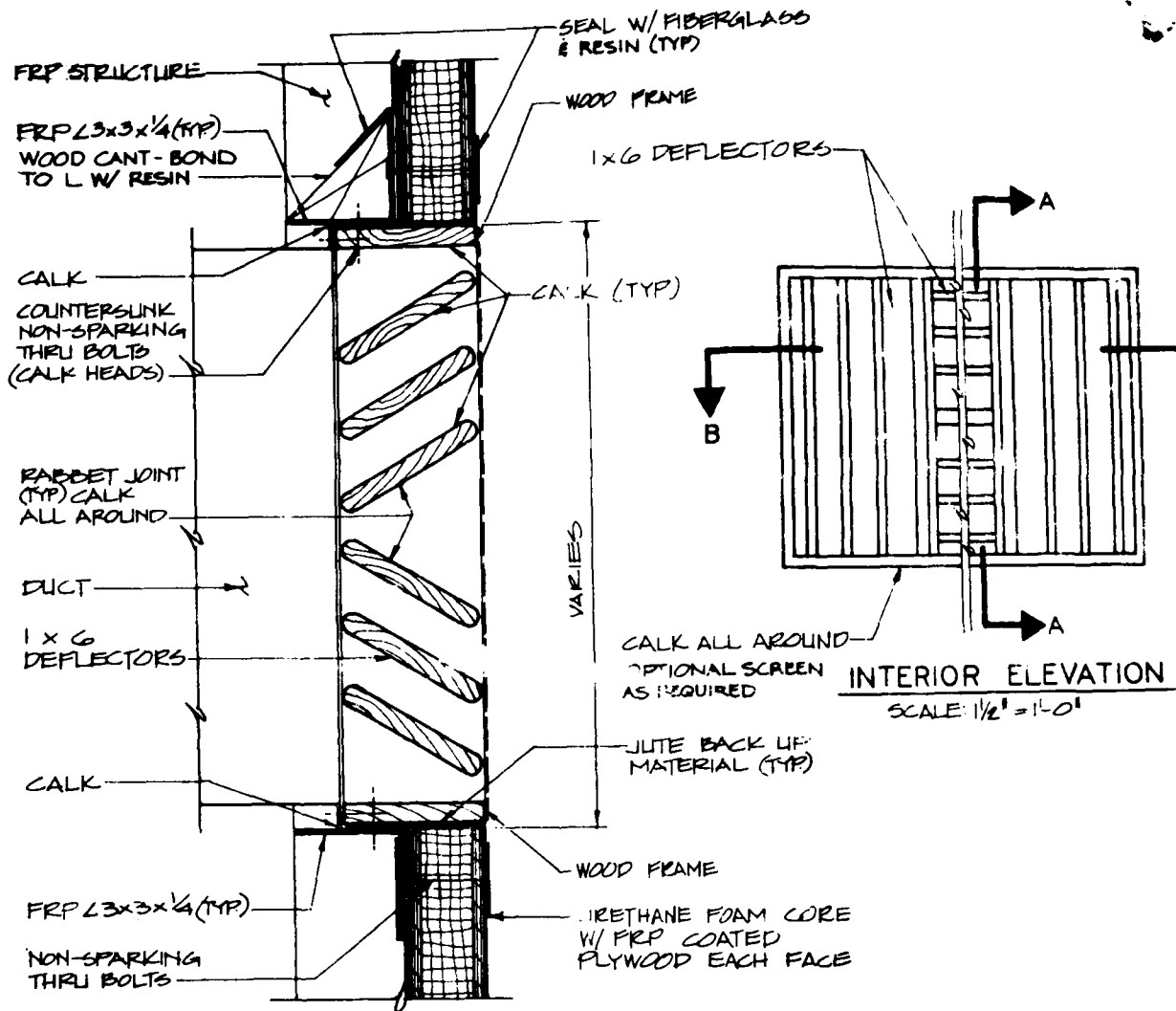
OR INTERFACE DETAIL
SCALE: 3" = 1'-0"



GRAPHIC SCALE

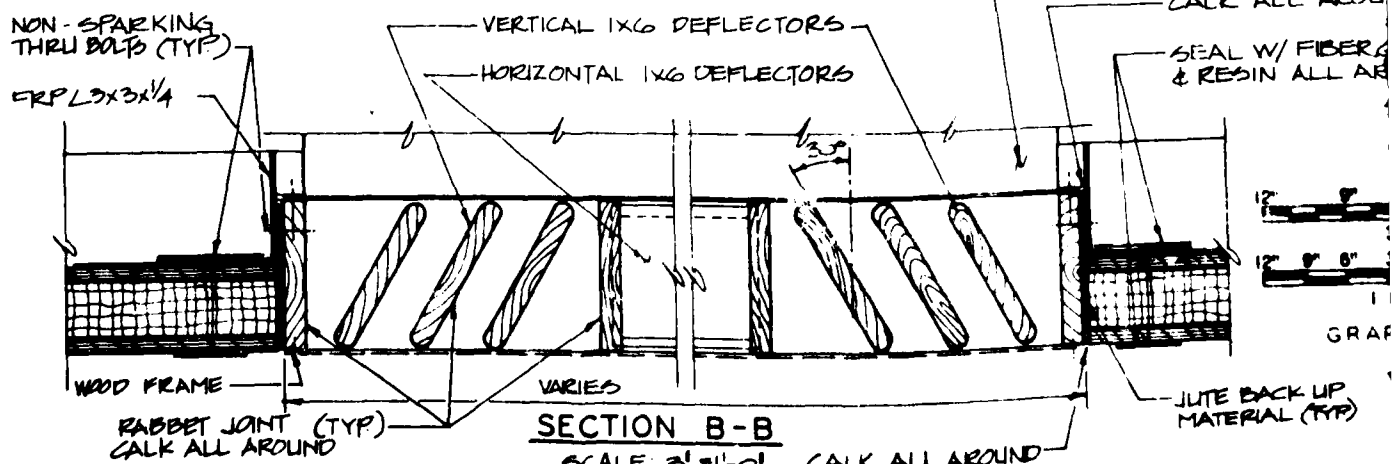
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BY: []		DATE: []
REVISIONS		
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
	OFFICE OF THE PROJECT MANAGER FOR HUNTSVILLE PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
	STANDARD DETAILS	
	SINGLE BASE AND MULTIBASE FACILITY SANDWICH PANEL CONSTRUCTION TROWEL ON CONDUCTIVE FLOOR WALL/FLOOR INTERFACE	
DATE: 19 MARCH 84	DES. BY: []	CHK. BY: []
APP. BY: []	APP. BY: []	DATE: 19512



SECTION A-A

SCALE: $3'' = 1'-0''$

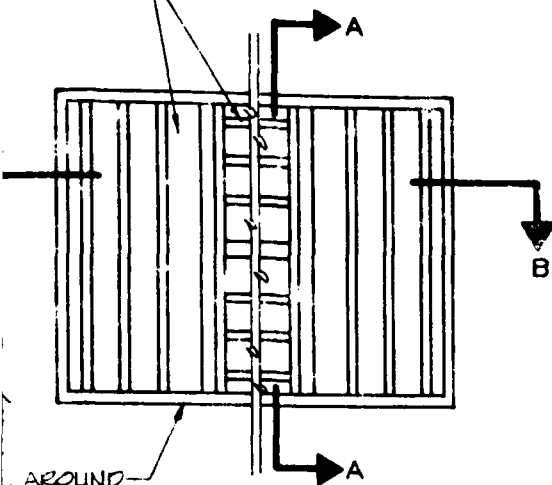


GENERAL NOTES:

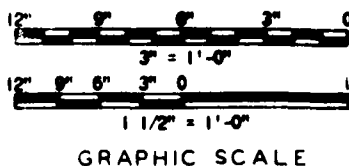
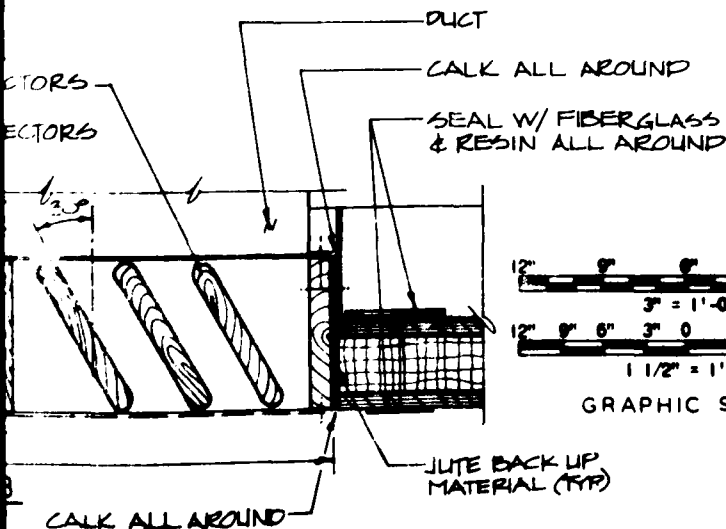
1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS I, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
3. FRP STRUCTURE SHALL BE PULTRUDED STRUCTURAL SHAPES. TYPE AND SIZE OF SHAPES SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
4. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
5. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
6. FOR FINISHES SEE DRAWING 19455.
7. SURFACES AROUND JOINTS TO BE SEALED WITH FIBERGLASS AND RESIN SHALL BE COMPLETELY SANDED BEFORE APPLICATION OF RESIN IMPREGNATED FIBERGLASS MAT. FIBERGLASS MAT SHALL BE APPLIED WITHOUT POCKETS OR AIR SPACES TO THE ENTIRE LENGTH OF THE JOINT TO BE SEALED, AND THEN COVERED WITH A RESIN IMPREGNATED SURFACING VEIL FOLLOWED WITH A GELCOAT FINISH.
8. FIBERGLASS MAT SHALL BE 1 1/2 OUNCE PER SQUARE FOOT CHOPPED STRAND MAT.
9. SURFACING VEIL SHALL BE 0.010" THICK CONTINUOUS FIBER MAT.
10. RESIN SHALL BE POLYESTER RESIN, FIRE RETARDANT, CLASS I AS PER ASTM D-635 AND E-84 TESTS.
11. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.

REGLASS

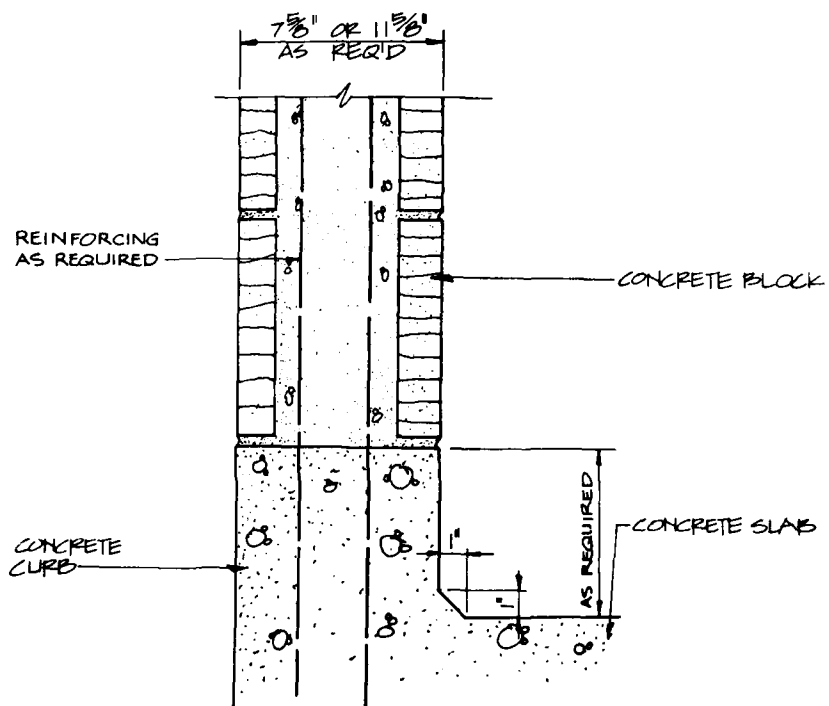
ECTORS



AROUND
SCREEN
D
INTERIOR ELEVATION
SCALE: 1/2" = 1'-0"

CK UP
L (TYP)AM CORE
TED
CH FACE

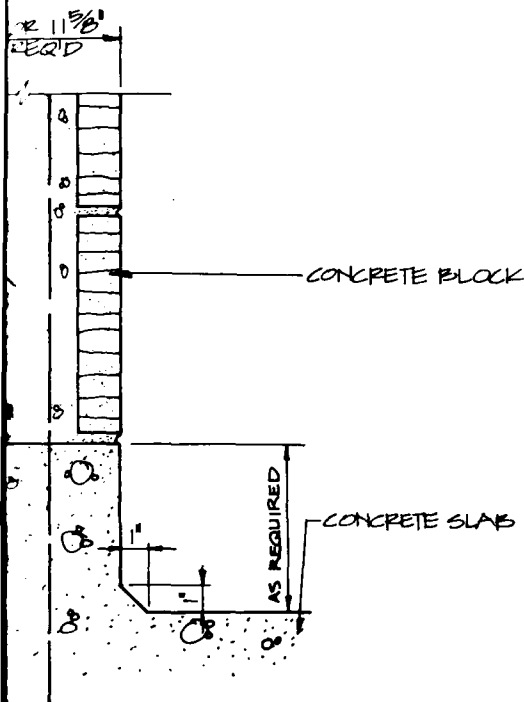
REVISION	
DATE	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA
OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
STANDARD DETAILS	
SINGLE BASE AND MULTIBASE FACILITY SANDWICH PANEL CONSTRUCTION WOOD WALL VENT	
DATE: 19 MARCH 1981	DATE: 1981
DESIGN BY: TCH	DATE: 1981



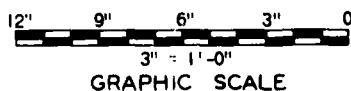
WALL / FLOOR INTERFACE
SCALE: 3" = 1'-0"

GENERAL NOTES:

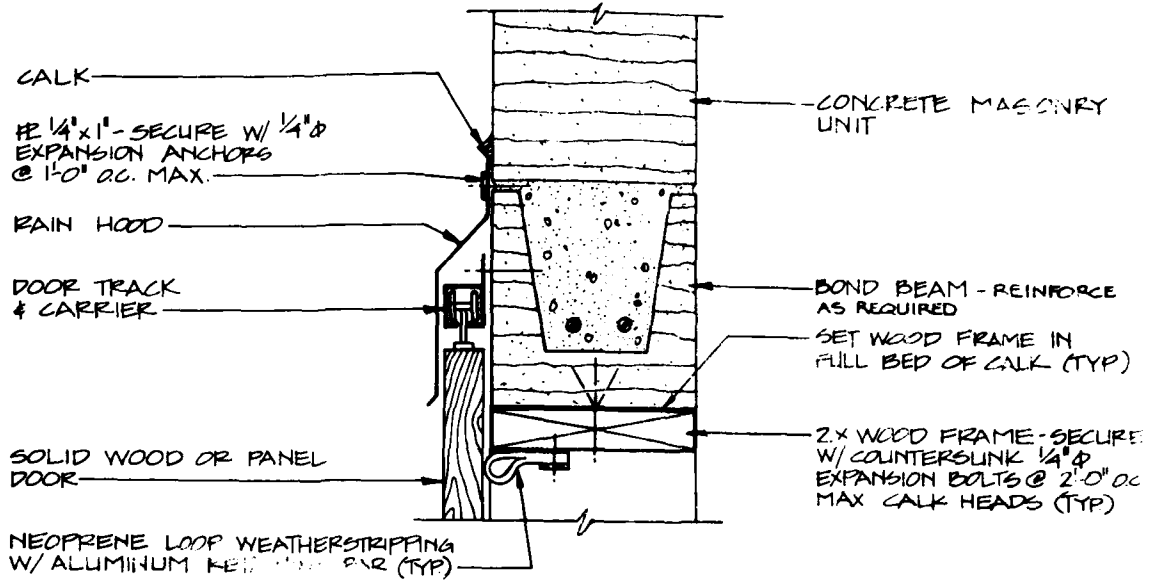
1. CMU SHALL BE CONCRETE BLOCK, REINFORCED AS REQUIRED TO MEET DESIGN REQUIREMENTS. GROUT FILLED CELLS OPTIONAL.
2. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
3. FOR FINISHES SEE DRAWING 19525.



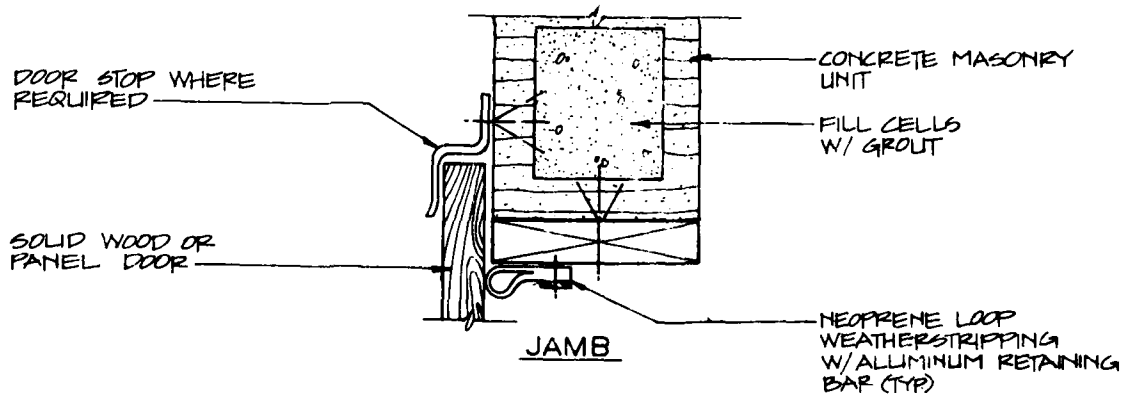
LOOR INTERFACE
 LE: 3' = 1'-0"



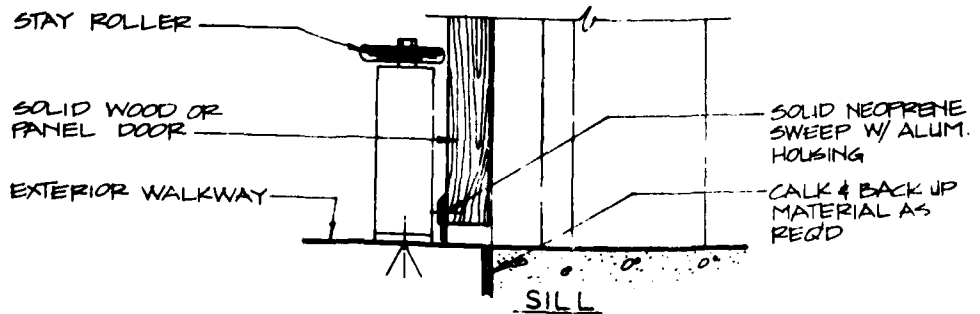
SYMBOL		DATE APPROVED	
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROCELLULOSE FACILITY CMU CONSTRUCTION	
DATE: 19 MARCH 64		WALL/FLOOR INTERFACE	
DESIGNED BY: RTT	CHECKED BY: TDH	DWG. NO. 19520	



HEAD

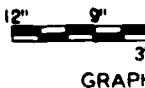


JAMB



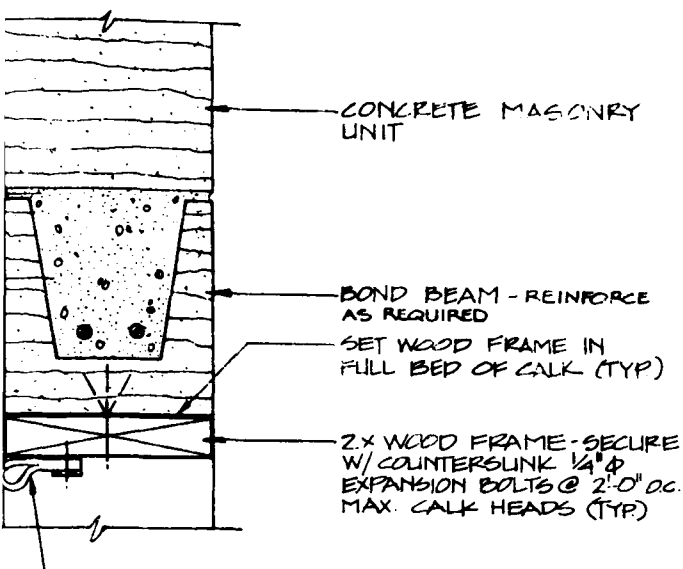
SILL

DOOR DETAILS
SCALE: 3" = 1'-0"

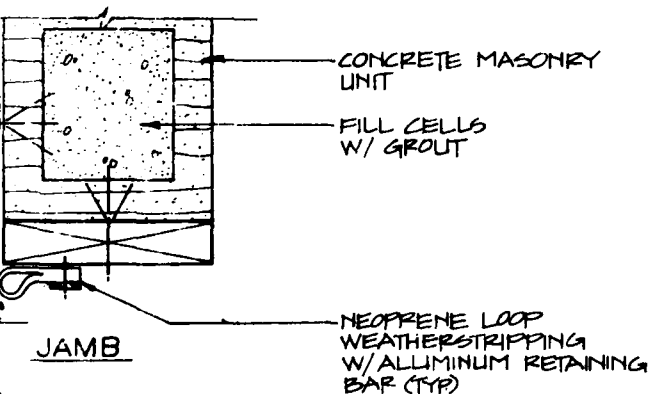


GENERAL NOTES:

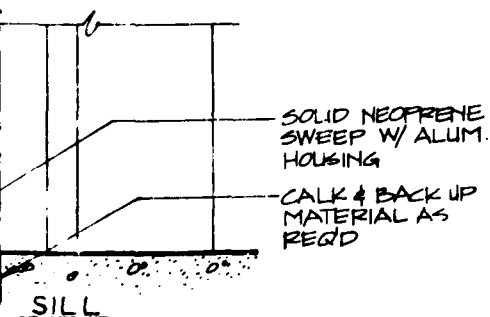
1. ALL FASTENERS SHALL BE NON-SPARKING. (BRASS, COPPER, ALUMINUM, OR STAINLESS STEEL)
2. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
3. CMU SHALL BE CONCRETE BLOCK, REINFORCED AS REQUIRED TO MEET DESIGN REQUIREMENTS. GROUT FILLED CELLS OPTIONAL.
4. FOR FINISHES SEE DRAWING 19525.
5. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
6. DOOR OPENING SHALL BE 30"X78" MINIMUM.



HEAD

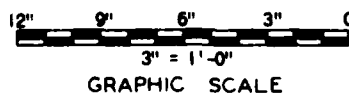


JAMB



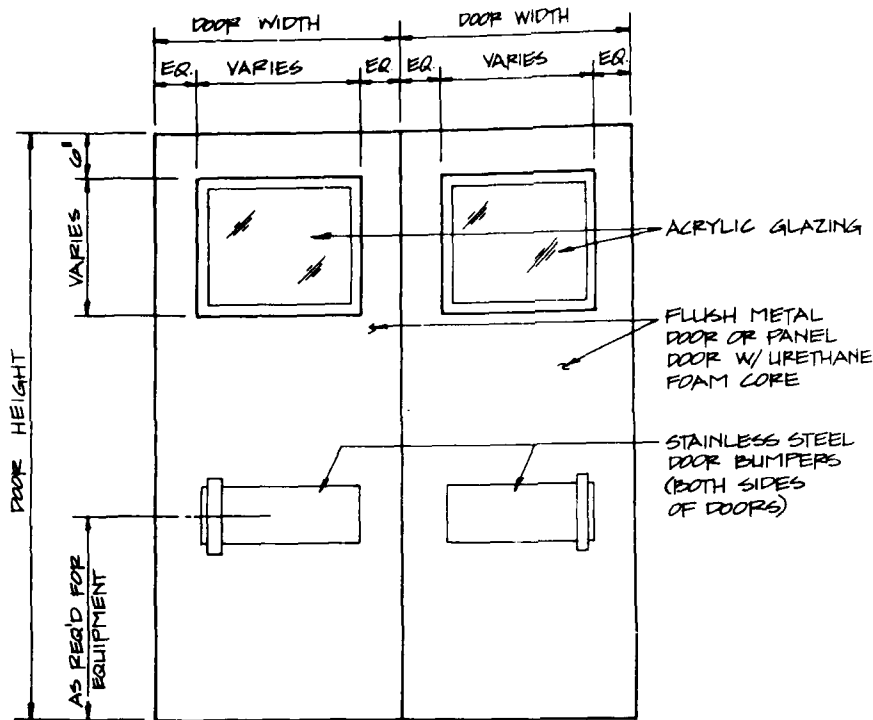
DOOR DETAILS

SCALE: 3" = 1'-0"

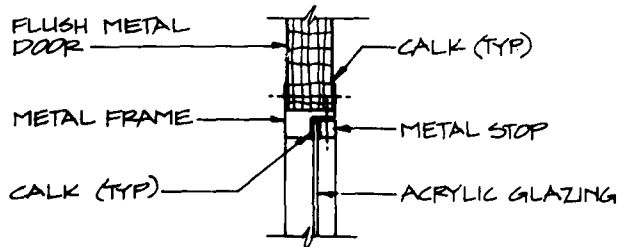


SYMBOL		DATE APPROVED	
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROCELLULOSE FACILITY CMU CONSTRUCTION	
		SLIDING EQUIPMENT DOOR	
DATE: 19 MARCH 81	DESIGNED BY: ETT	CHECKED BY: TPN	DWG. NO. 19521

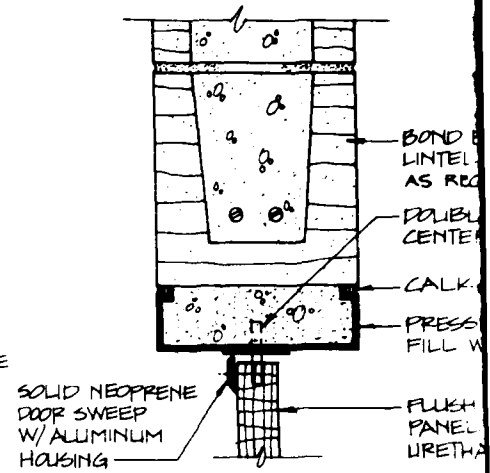
CORPS OF ENGINEERS



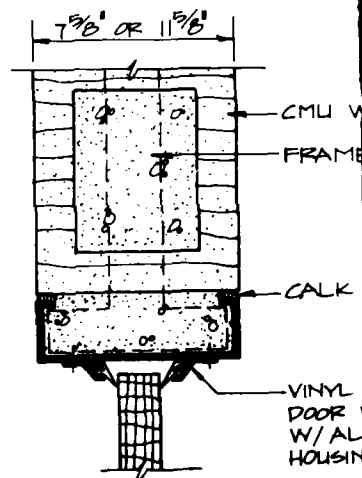
INTERIOR ELEVATION
NO SCALE



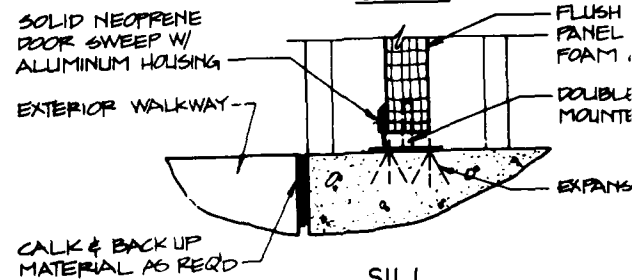
WINDOW DETAIL
SCALE: 3"=1'-0"



HEAD

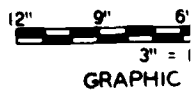


JAMB



SILL

DOOR DETAILS
SCALE: 3"=1'-0"



GENERAL NOTES:

1. DOOR HARDWARE SHALL BE NON-SPARKING.
2. CMU SHALL BE CONCRETE BLOCK, REINFORCED AS REQUIRED TO MEET DESIGN REQUIREMENTS. GROUT FILLED CELLS OPTIONAL.
3. ALL FASTENERS SHALL BE STAINLESS STEEL.
4. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
5. ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
6. FOR FINISHES SEE DRAWING 19525.
7. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
8. DOOR OPENING SHALL BE 30"X78" MINIMUM.

ACRYLIC GLAZING

FLUSH METAL
DOOR OR PANEL
DOOR W/ URETHANE
FOAM CORESTAINLESS STEEL
DOOR BUMPERS
(BOTH SIDES
OF DOORS)SOLID NEOPRENE
DOOR SWEEP
W/ ALUMINUM
HOUSINGBOND BEAM
LINTEL REINFORCED
AS REQUIREDDOUBLE ACTING
CENTER PIVOT

CALK (TYP)

PRESSED STEEL FRAME
FILL W/ GROUTFLUSH METAL DOOR OR
PANEL DOOR W/
URETHANE FOAM CORE

HEAD

7 5/8" OR 11 5/8"

CMU WALL

FRAME ANCHORS

CALK (TYP)

VINYL PIVOT HUNG
DOOR WEATHERSTRIP
W/ ALUMINUM
HOUSING (TYP)

JAMB

SOLID NEOPRENE
DOOR SWEEP W/
ALUMINUM HOUSING

EXTERIOR WALKWAY

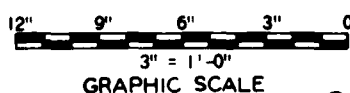
CALK & BACK UP
MATERIAL AS REQ'DFLUSH METAL DOOR OR
PANEL DOOR W/ URETHANE
FOAM COREDOUBLE ACTING FLOOR
MOUNTED CENTER PIVOT

EXPANSION ANCHORS

SILL

DOOR DETAILS

SCALE: 3" = 1'-0"



REVISIONS		DATE	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROCELLULOSE FACILITY CMU CONSTRUCTION	
		SWINGING EQUIPMENT DOOR	
DATE: 19 MARCH '81	DESIGN BY: KTY	CHECK BY: TCH	DWG. NO. 19522

CORPS OF ENGINEERS

BOND BEAM LINTEL
REINFORCED
AS REQUIRED

CALK (TYP)

PRESSED STEEL FRAME
FILL W/ GROUT

FLUSH METAL DOOR
OR PANEL DOOR W/
URETHANE FOAM CORE

HEAD

CMU WALL

FRAME ANCHORS

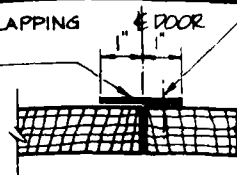
CALK (TYP)

JAMB

DOOR DETAILS

SCALE: 3" = 1'-0"

12 GAGE OVERLAPPING
STRIP SET IN
BED OF CALK



SECTION A-A

SCALE: 3" = 1'-0"

#8 x 1/2" SHEET METAL SCREWS @ 6" OC

FLUSH METAL
DOOR

METAL FRAME

CALK (TYP)

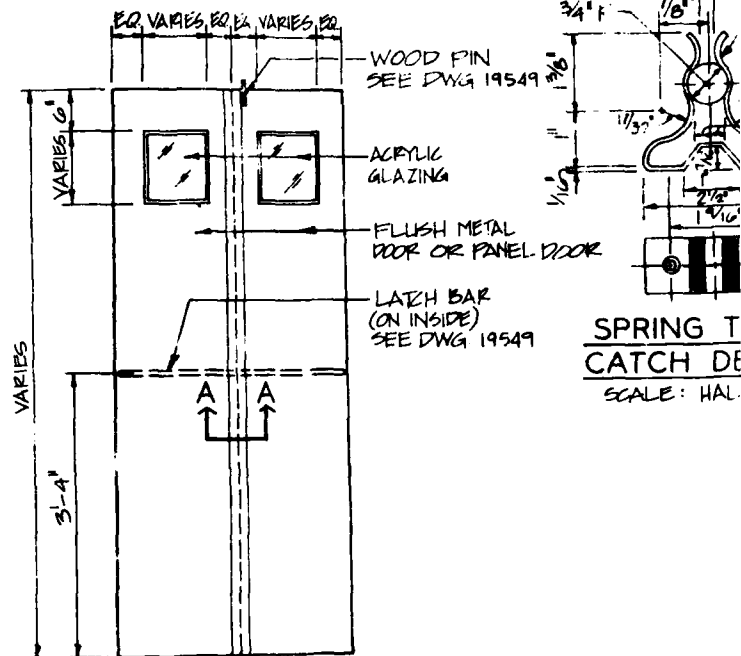
CALK

METAL

ACRYLIC

WINDOW DETAIL

SCALE: 3" = 1'-0"

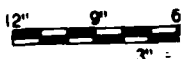


EXTERIOR
DOOR ELEVATION

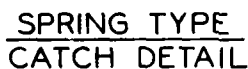
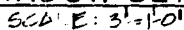
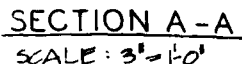
NO SCALE

SPRING T
CATCH DE

SCALE: HALF



GRAPHIC



SCALE: HALF SIZE

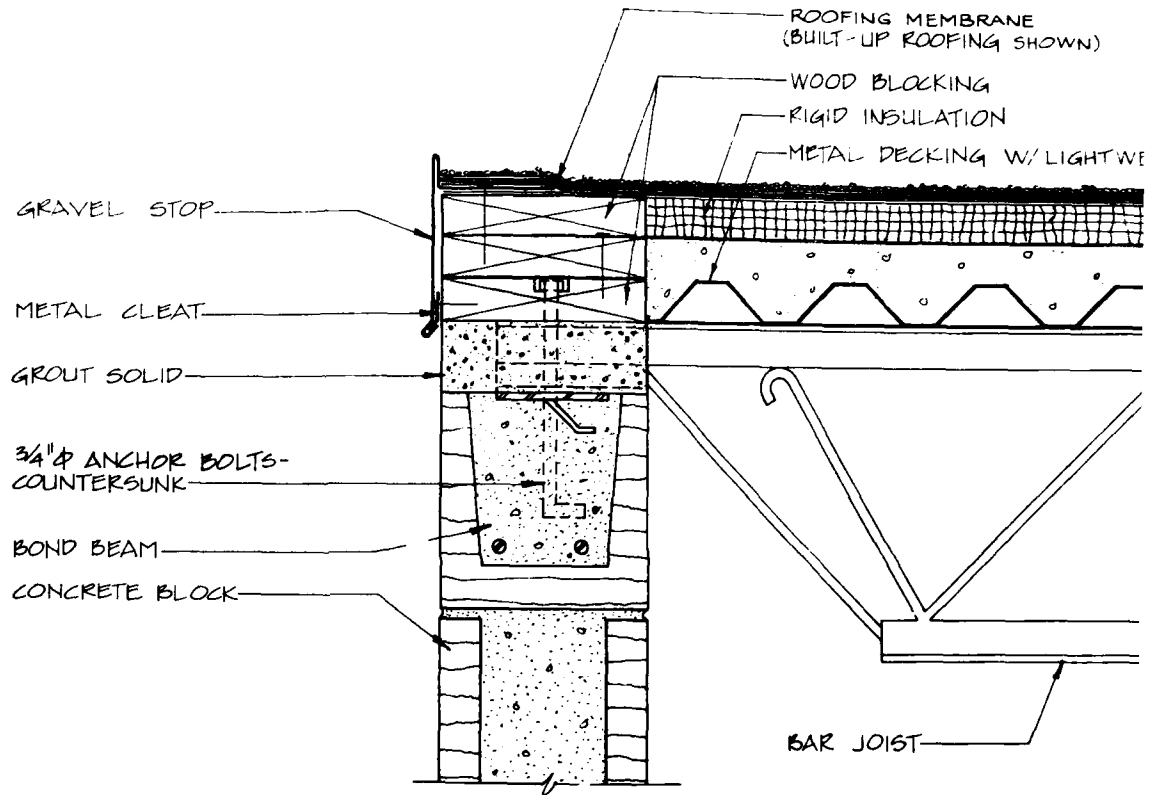


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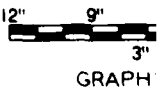
GRAPHIC SCALES

SYNOPSIS						DATE APPROVED			
REVISIONS									
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY MISSOURI				U.S. ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA					
				OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION COVER, NEW JERSEY					
				STANDARD DETAILS					
				NITROCELLULOSE FACILITY CMU CONSTRUCTION					
DATE: 19 MARCH 61				METAL PERSONNEL ESCAPE DOOR					
DRAWN BY: JET		CHECKED BY: TCM		DESIGNED BY:		19523			



WALL / CEILING INTERFACE

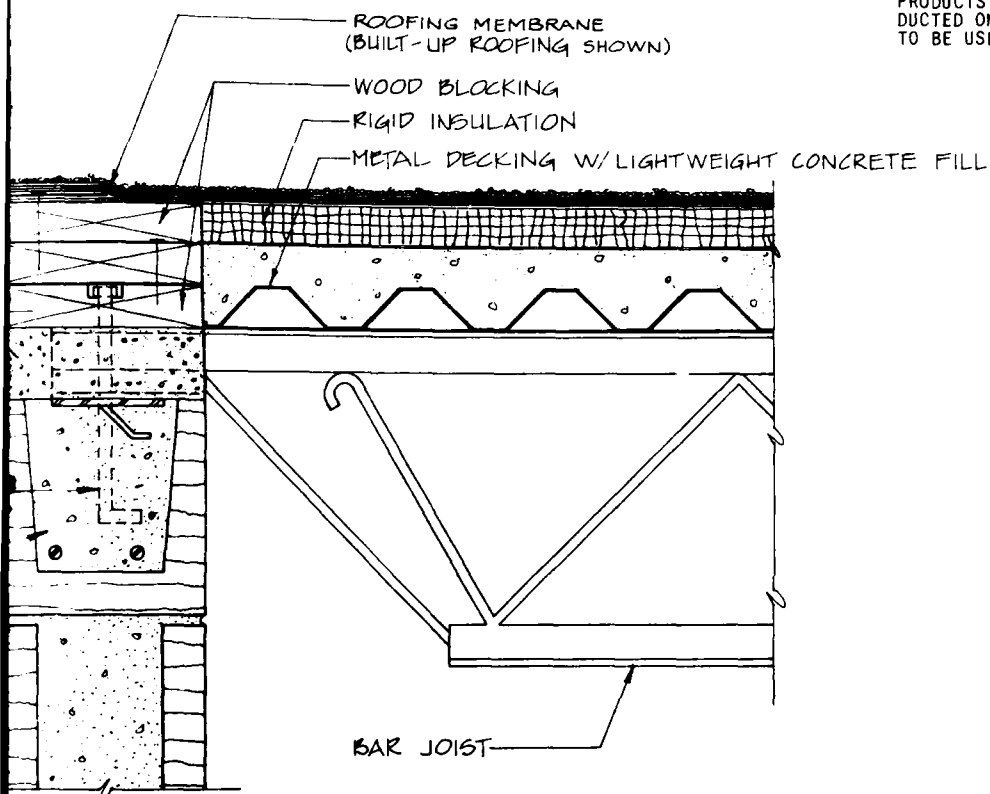
SCALE: 3" = 1'-0"



GRAPH

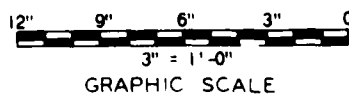
GENERAL NOTES:

1. CMU SHALL BE CONCRETE BLOCK, REINFORCED AS REQUIRED TO MEET DESIGN REQUIREMENTS. GROUT FILLED CELLS OPTIONAL.
2. ALL FASTENERS SHALL BE STAINLESS STEEL.
3. FOR FINISHES SEE DRAWING 19525.
4. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.



/ CEILING INTERFACE

SCALE: 3" = 1'-0"



SYNOPSIS		DATE	APPROVED
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA		
	OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY		
	STANDARD DETAILS		
	NITROCELLULOSE FACILITY CMU CONSTRUCTION		
DATE	19 MARCH '81		
DRAWN BY	RTT	CHECKED BY	TDH
DWG. NO.			19524

CORPS OF ENGINEERS

ROOM FINISH SCHEDULE

ROOM TYPE	FINISH			
	FLOOR	BASE	WALL	CEILING
CONTROL ROOMS, TOILETS AND NON-NITROCELLULOSE PROCESS AREAS	1/8" VINYL ASBESTOS TILE, EXPOSED CONCRETE OR PAINTED	4" VINYL OR PAINTED	PAINTED	PAINTED
NITROCELLULOSE PROCESS AREAS AND EXPLOSIVE AREAS	EXPOSED CONCRETE, ACID RESISTANT COATINGS OR PAINTED	EXPOSED CMU, ACID RESISTANT COATINGS OR PAINTED	EXPOSED CMU, ACID RESISTANT COATINGS OR PAINTED	EXPOSED ACID RESISTANT COATINGS OR PAINTED

PAINTING NOTES:

1. THE FOLLOWING LISTED ITEMS SHALL NOT BE PAINTED:
 - STAINLESS STEEL SURFACES
 - INTERIOR ALUMINUM, BRASS, BRONZE SURFACES
 - ACRYLIC GLAZING
 - DOOR AND WINDOW HARDWARE EXCEPT DOOR OPERATORS COVER.

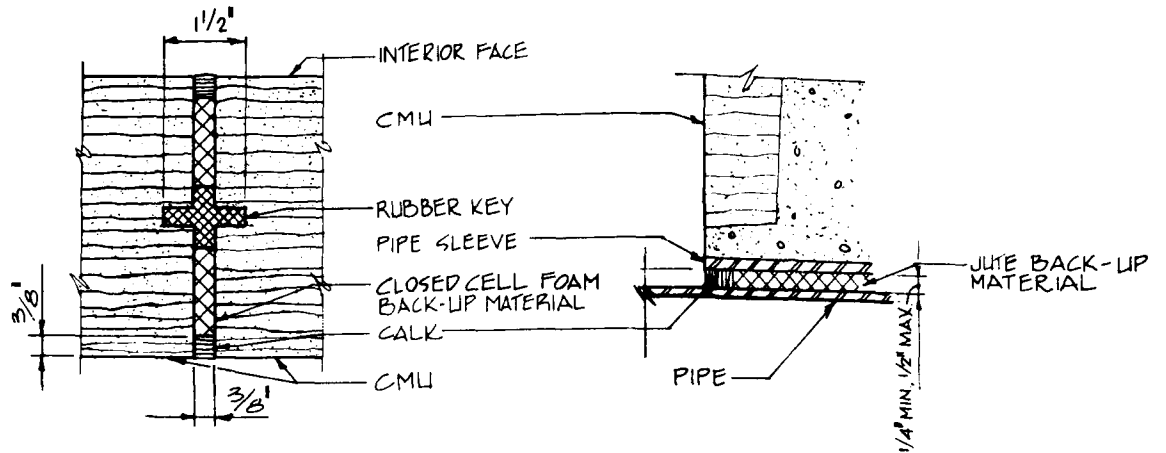
SCHEDULE

FINISH		
	WALL	CEILING
PAINTED	PAINTED	PAINTED
ACID RESISTANT COATINGS OR PAINTED	EXPOSED CMU, ACID RESISTANT COATINGS OR PAINTED	EXPOSED CONSTRUCTION, ACID RESISTANT COATINGS OR PAINTED

GENERAL NOTES:

1. ALL INTERIOR DOORS, INTERIOR SURFACES OF EXTERIOR DOORS (INCLUDING EDGES), INTERIOR SURFACES OF WINDOWS, INTERIOR CARPENTRY ITEMS, EXPOSED STRUCTURE AND INTERIOR TRIM SHALL BE PAINTED THE SAME PAINT SYSTEM AS THE ROOM OR BUILDING IN WHICH SAME OCCURS.
2. CMU SHALL BE CONCRETE BLOCK, REINFORCED AS REQUIRED TO MEET DESIGN REQUIREMENTS. GROUT FILLED CELLS OPTIONAL.
3. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.

SYMBOLS		DATE	APPROVED
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROCELLULOSE FACILITY CMU CONSTRUCTION INTERIOR FINISHES	
DATE: 19 MARCH '81		DWD. NO. 19525	
DWN. BY: EJS		DWD. BY: TDM	

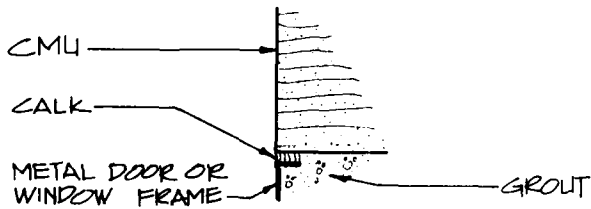


CONTROL JOINT

PIPE SLEEVE JOINT

MJAB

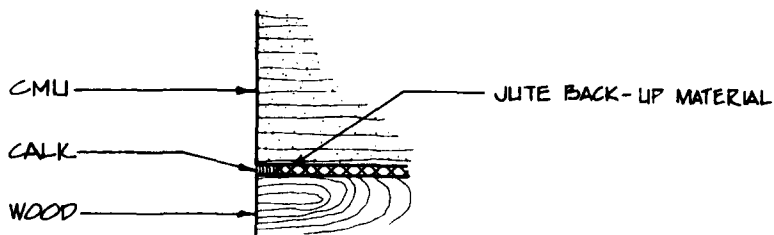
JOINT SHAPE SYMBOL



METAL TO BLOCK JOINT

TJD

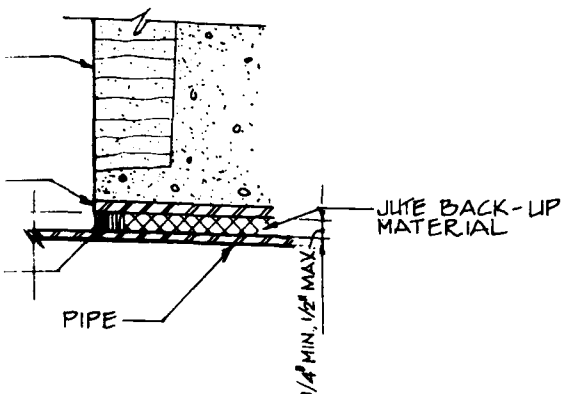
JOINT SHAPE SYMBOL



WOOD TO BLOCK JOINT

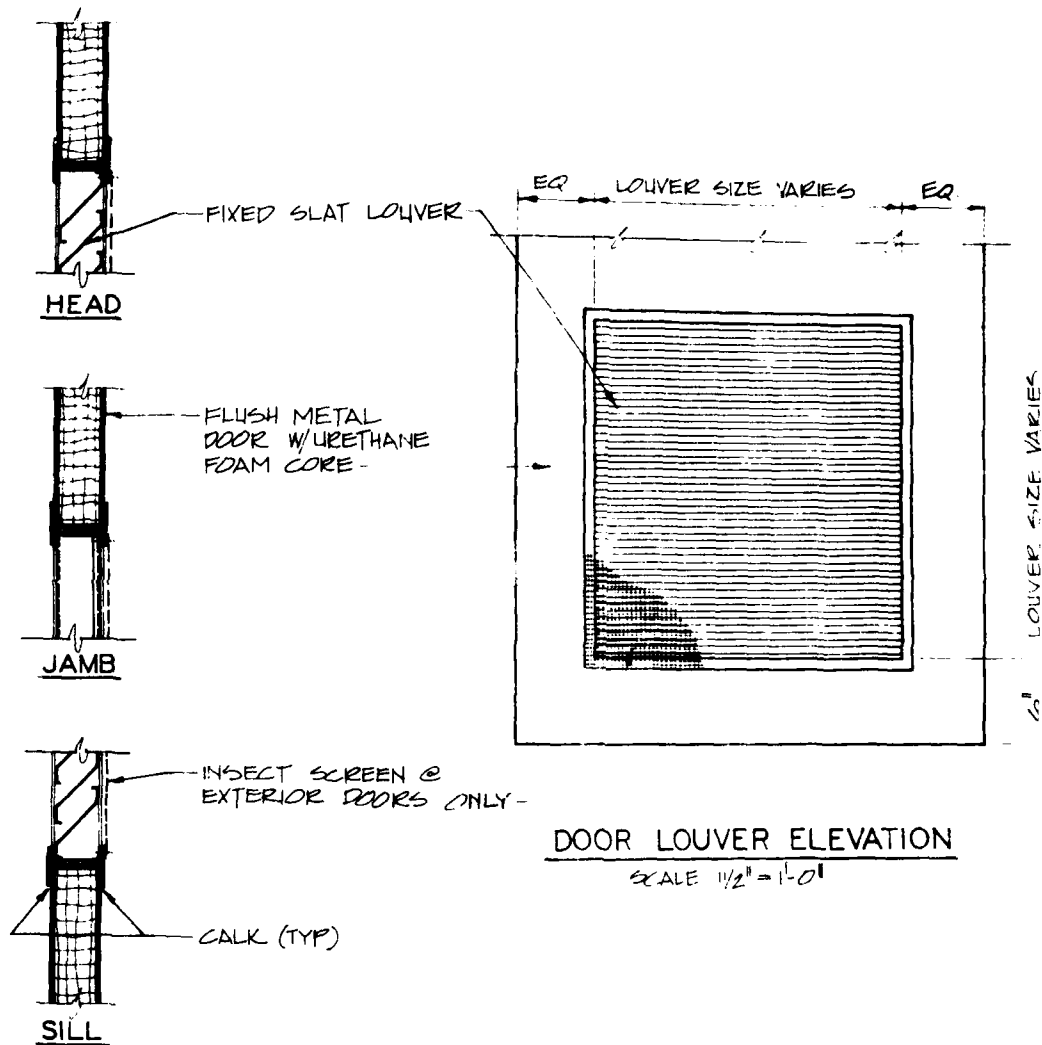
GENERAL NOTES:

1. CMU SHALL BE CONCRETE BLOCK, REINFORCED AS REQUIRED TO MEET DESIGN REQUIREMENTS. GROUT FILLED CELLS OPTIONAL.
2. ALL FASTENERS SHALL BE STAINLESS STEEL.
3. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND. ALL CALK SHALL BE APPLIED IN ACCORDANCE WITH DEPARTMENT OF THE ARMY TECHNICAL MANUAL TM 5-805-6.
4. JOINT SHAPE SYMBOL DESIGNATIONS REFER TO DEPARTMENT OF THE ARMY TECHNICAL MANUAL TM 5-805-6.
5. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.

PIPE SLEEVE JOINT

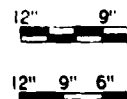
SYNOPSIS		REVISIONS		DATE APPROVED	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA			
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY			
		STANDARD DETAILS			
		NITROCELLULOSE FACILITY CMU CONSTRUCTION			
DATE: 19 MARCH '81		JOINT SEALING			
OWN. BY: HLE	CHK. BY: TDH	DRG. NO.	19526		

2



DOOR LOUVER DETAILS

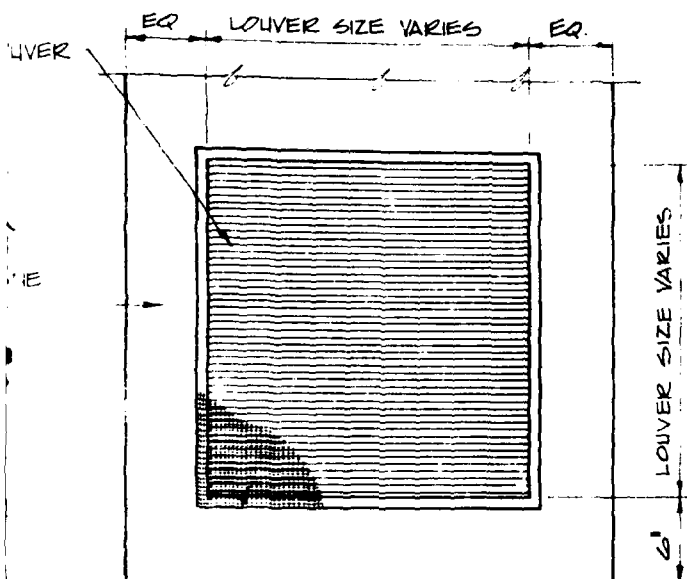
SCALE $3" = 1'-0"$



GRAF

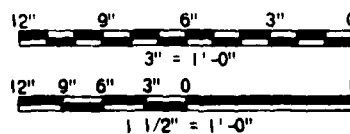
GENERAL NOTES:

1. ALL FASTENERS SHALL BE STAINLESS STEEL.
2. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
3. INSECT SCREENS SHALL BE PVC COATED FIBERGLASS. (16x16 MESH) INSECT SCREENS SHALL BE LOCATED ON THE INTERIOR OR EXTERIOR SURFACE OF THE LOUVER AS REQUIRED.
4. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.



DOOR LOUVER ELEVATION

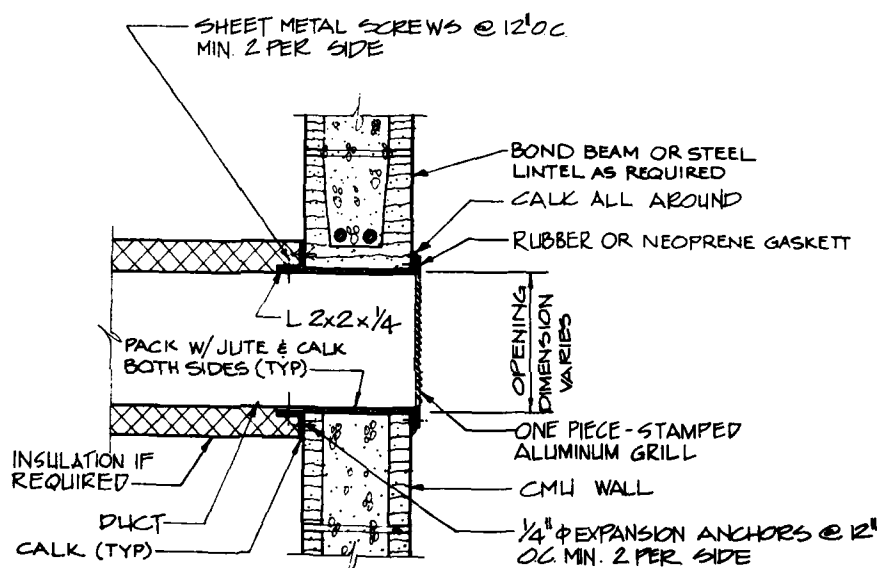
SCALE 1/2" = 1'-0"



GRAPHIC SCALES

2

SYNOPSIS		DATE APPROVED
REVISIONS		
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
	OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
	STANDARD DETAILS	
	NITROCELLULOSE FACILITY CMU CONSTRUCTION	
DATE: 19 MARCH '81		METAL DOOR LOUVER
DESIGNED BY: KD	CHECKED BY: TDH	DWG. NO. 19527



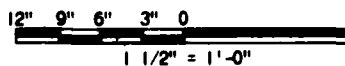
GENERAL NOTES:

1. CMU SHALL BE CONCRETE BLOCK, REINFORCED AS REQUIRED TO MEET DESIGN REQUIREMENTS. GROUT FILLED CELLS OPTIONAL.
2. ALL FASTENERS SHALL BE STAINLESS STEEL.
3. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
4. FOR FINISHES SEE DRAWING 19525.
5. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.

WS @ 12'0"

BOND BEAM OR STEEL
 LINTEL AS REQUIRED
 CALK ALL AROUND
 RUBBER OR NEOPRENE GASKET
 OPENING
 DIMENSION
 VARIES
 ONE PIECE-STAMPED
 ALUMINUM GRILL
 CMU WALL
 1/4" ϕ EXPANSION ANCHORS @ 12"
 O.C. MIN. 2 PER SIDE

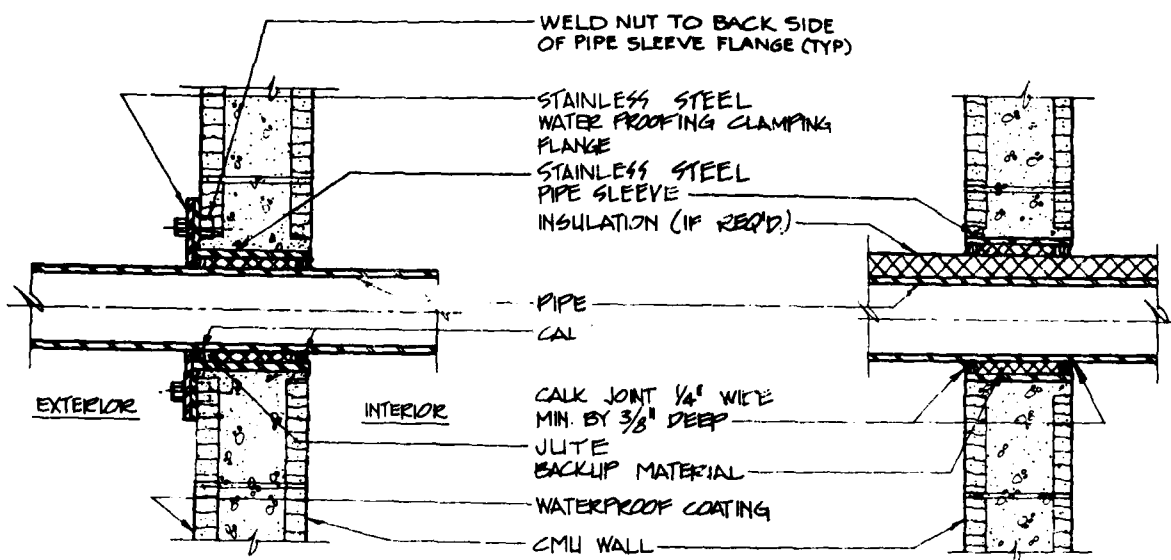
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GRAPHIC SCALE

2

SYMBOL		DATE	APPROVED
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROCELLULOSE FACILITY CMU CONSTRUCTION	
DATE: 19 MARCH '81		METAL WALL VENT	
DESIGNED BY: JET	CHECKED BY: TCH	DWG. NO. 19528	



PIPE SLEEVE THROUGH CMU WALL
BELOW GRADE
SCALE: 1 1/2" = 1'-0"

PIPE SLEEVE THROUGH CMU WALL
ABOVE GRADE
SCALE: 1 1/2" = 1'-0"

12" 9" 6" 3" 0"
1 1/2"
GRAPHIC

GENERAL NOTES:

1. CMU SHALL BE CONCRETE BLOCK, REINFORCED AS REQUIRED TO MEET DESIGN REQUIREMENTS. GROUT FILLED CELLS OPTIONAL.
2. ALL FASTENERS SHALL BE STAINLESS STEEL.
3. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
4. FOR FINISHES SEE DRAWING 19525.
5. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.

UT TO BACK SIDE
SLEEVE FLANGE (TYP)

SS STEEL
ROOFING CLAMPING

SS STEEL
FLANGE
(IF REQ'D)

MIN 1/4" WIDE
3/8" DEEP

MATERIAL
COAT COATING

LL

LL

PIPE SLEEVE THROUGH CMU WALL
ABOVE GRADE

SCALE: 1 1/2" = 1'-0"

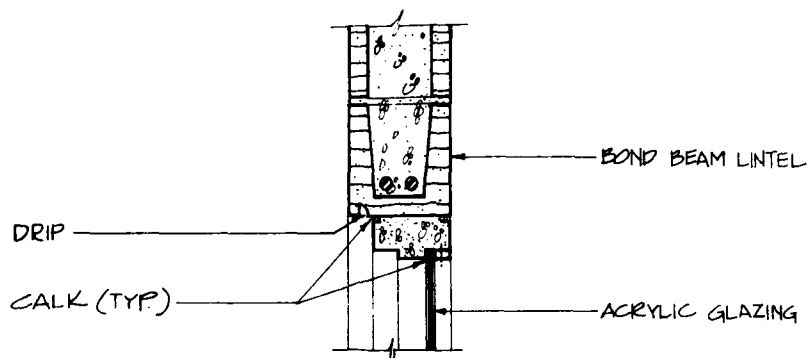
12" 9" 6" 3" 0

1 1/2" = 1'-0"

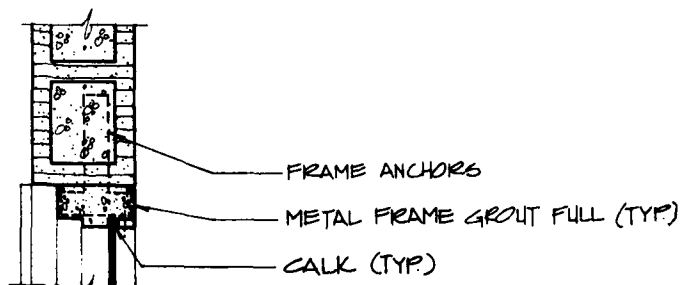
GRAPHIC SCALE

2

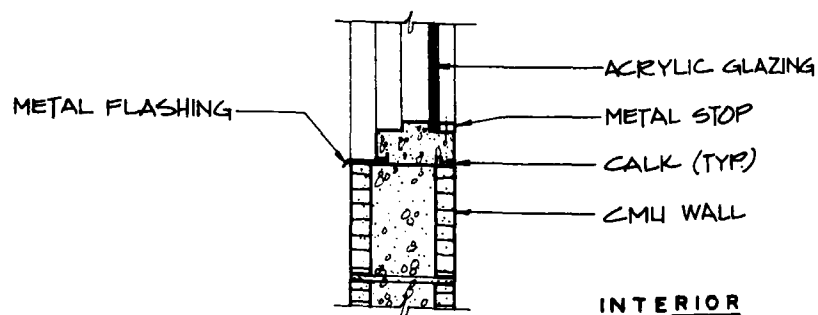
SYMBOLS		REVISIONS		DATE	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA			
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY			
		STANDARD DETAILS			
		NITROCELLULOSE FACILITY CMU CONSTRUCTION			
		WALL PENETRATIONS			
DATE: 19 MARCH 81					
DES. BY: HLE	CHK. BY: TDH	DWS NO: 19529			



HEAD



JAMB



INTERIOR

SILL

WINDOW DETAILS

SCALE: 1/2" = 1'-0"

12" 9" 6" 3"

1 1/2"

GRAPHIC

GENERAL NOTES:

1. CMU SHALL BE CONCRETE BLOCK, REINFORCED AS REQUIRED TO MEET DESIGN REQUIREMENTS. GROUT FILLED CELLS OPTIONAL.
2. ALL FASTENERS SHALL BE STAINLESS STEEL.
3. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
4. FOR FINISHES SEE DRAWING 19525.
5. ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
6. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.

BOND BEAM LINTEL

ACRYLIC GLAZING

FRAME ANCHORS

METAL FRAME GROUT FULL (TYP)

CALK (TYP)

ACRYLIC GLAZING

METAL STOP

CALK (TYP)

CMU WALL

INTERIOR

12" 9" 6" 3" 0

1 1/2" = 1'-0"

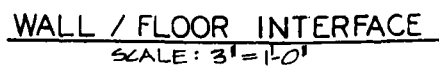
GRAPHIC SCALE

2

SYMBOLS		DATE APPROVED	
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROCELLULOSE FACILITY CMU CONSTRUCTION	
		FIXED WINDOW DETAILS	
DATE: 19 MARCH '81			
DESIGNED BY: EIT	CHECKED BY: IDH	DWG. NO. 19530	

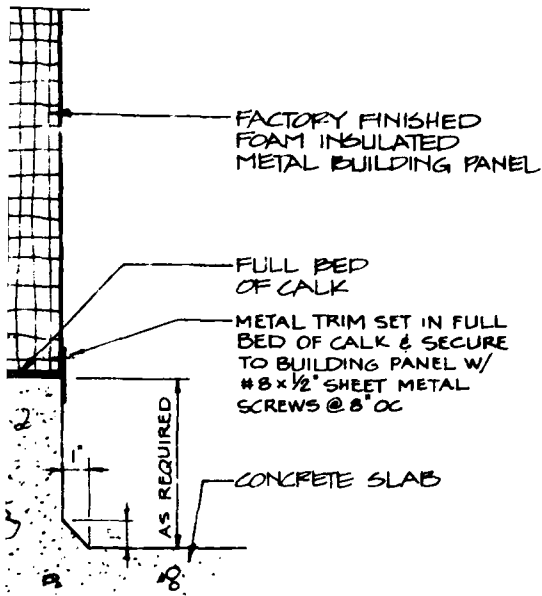
TAILS

51

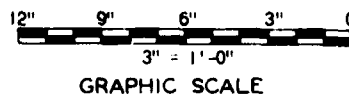


GENERAL NOTES:

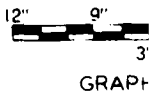
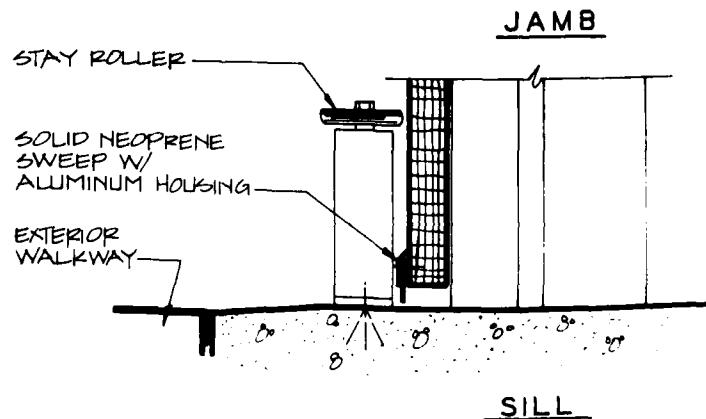
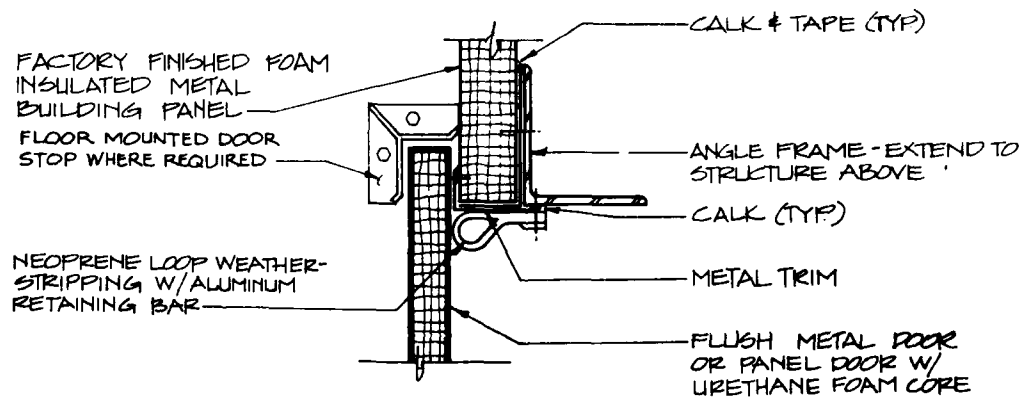
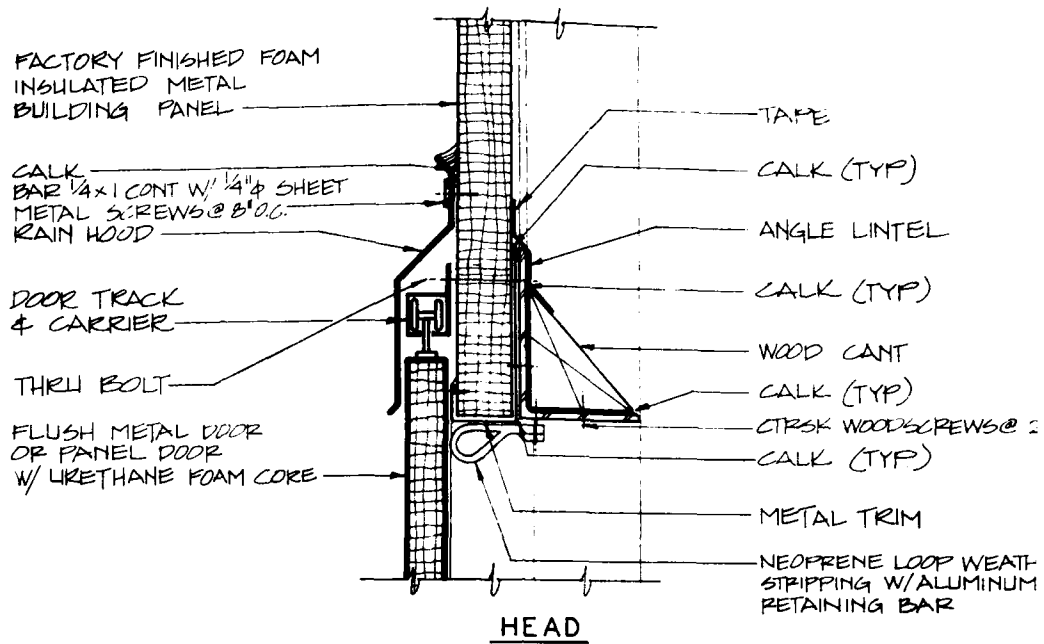
1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. BUILDING PANEL SHALL BE FACTORY ASSEMBLED AND FINISHED. PANEL JOINTS SHALL BE DESIGNED TO ELIMINATE METAL TO METAL CONTACT BETWEEN INTERIOR AND EXTERIOR METAL SHEETS. GAGE OF METAL SHEETS SHALL BE DETERMINED BY EACH BUILDING DESIGN.
3. PROVISIONS SHALL BE MADE FOR BONDING AND GROUNDING OF METAL BUILDING COMPONENTS.
4. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.
5. FOR FINISHES SEE DRAWING 19536.



INTERFACE



SYNOPSIS		DATE	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI			
US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA			
OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY			
STANDARD DETAILS			
NITROCELLULOSE FACILITY MODIFIED PRE-ENGINEERED BUILDING			
WALL/FLOOR INTERFACE			
DATE: 19 MARCH '81	DES. BY: TDH	DWG. NO.	19531

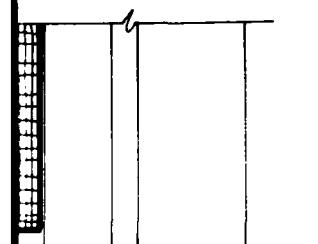
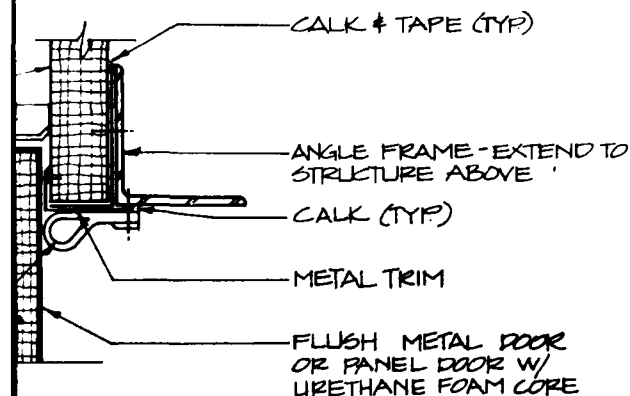
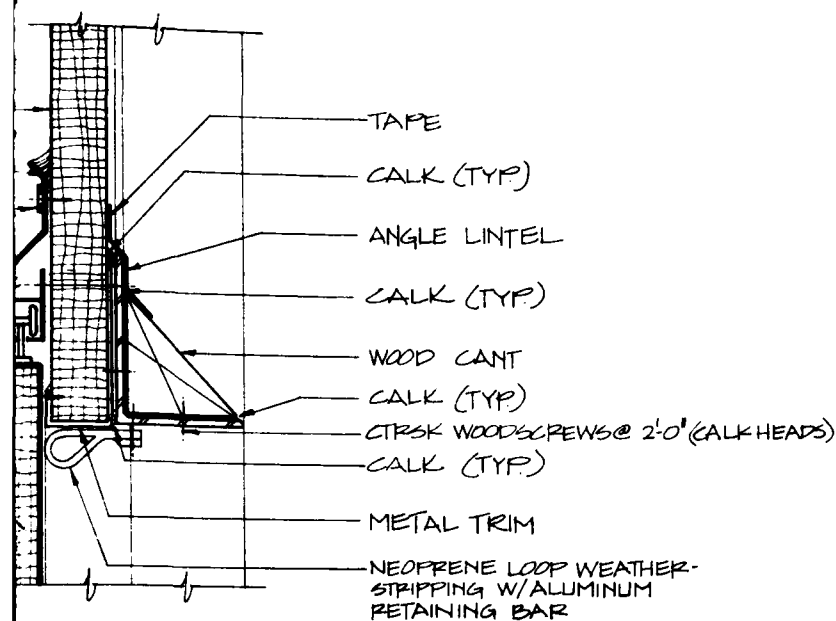


GRAPH

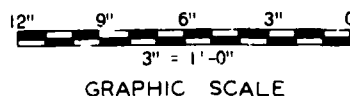
DOOR DETAILS
SCALE: 3/8" = 1'-0"

GENERAL NOTES:

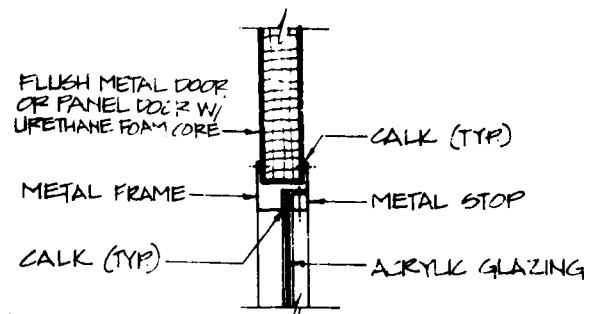
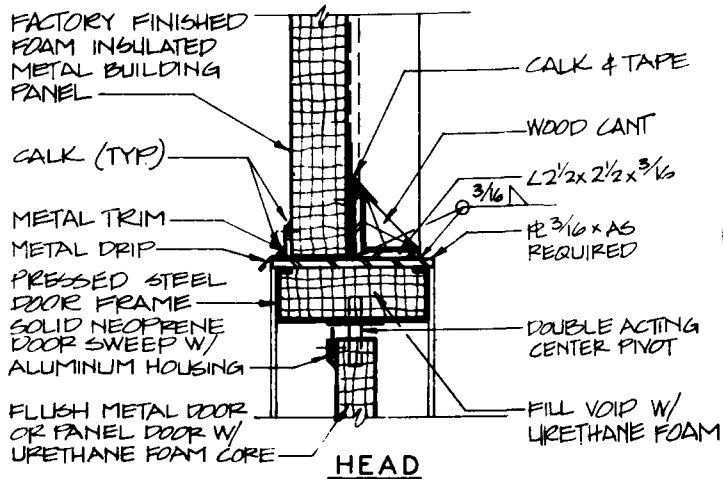
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2. BUILDING PANEL SHALL BE FACTORY ASSEMBLED AND FINISHED. PANEL JOINTS SHALL BE DESIGNED TO ELIMINATE METAL TO METAL CONTACT BETWEEN INTERIOR AND EXTERIOR METAL SHEETS. GAGE OF METAL SHEETS SHALL BE DETERMINED BY EACH BUILDING DESIGN.
3. DOOR HARDWARE SHALL BE NON-SPARKING.
4. CANT STRIPS SHALL BE A 1:1 PITCH MIN.
5. PROVISIONS SHALL BE MADE FOR BONDING AND GROUNDING OF METAL BUILDING COMPONENTS.
6. ALL FASTENERS SHALL BE STAINLESS STEEL.
7. ALL JOINTS DESIGNATED TO RECEIVE TAPE SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
8. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH WITH PINKED EDGES OF 8 PINKS PER INCH.
9. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER-RESIN SOLUTION.
10. FOR FINISHES SEE DRAWING 19536.
11. DOOR OPENING SHALL BE 30"X78" MINIMUM.
12. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.



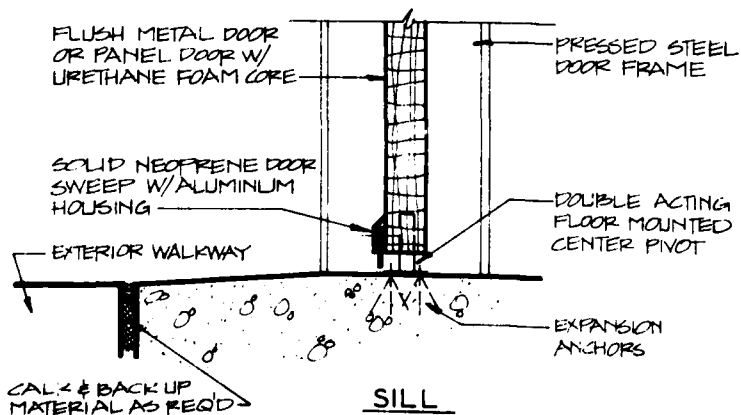
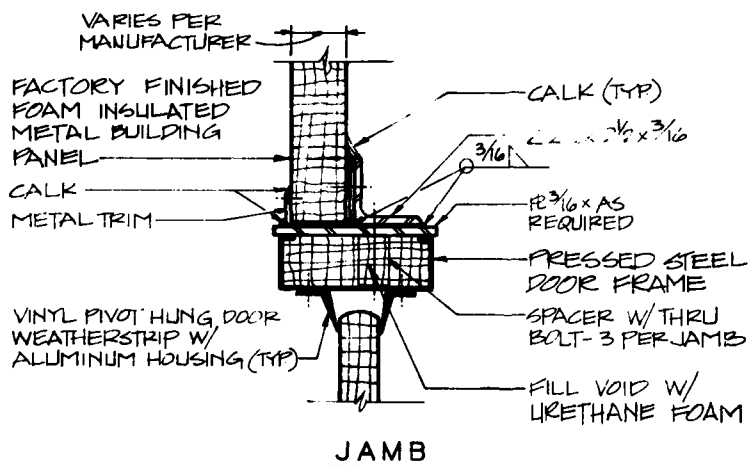
DOOR DETAILS
SCALE: 3/8" = 1'-0"



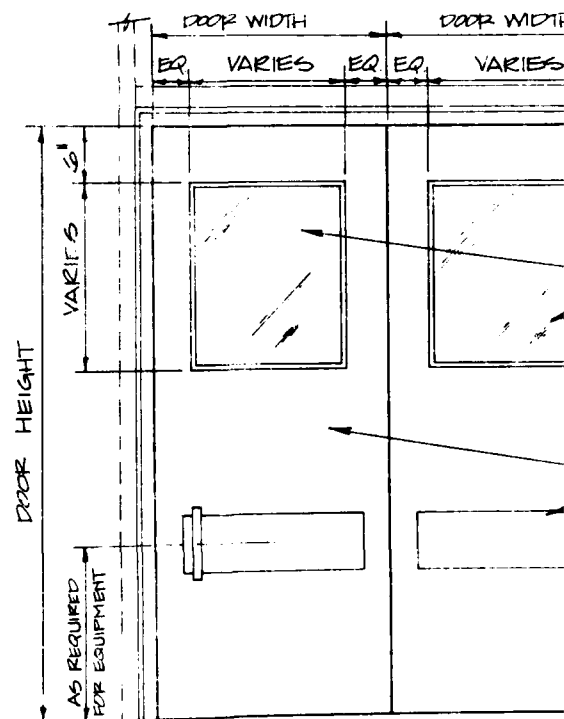
SYMBOLS		DATE	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROCELLULOSE FACILITY MODIFIED PRE ENGINEERED BUILDING SLIDING EQUIPMENT DOOR DETAILS	
DATE: 19 MARCH '81			
OWN. BY ETI	CHK. BY YDH	DWG. NO.	19532

**GLAZING DETAIL**

SCALE: 3"=1'-0"

**DOOR DETAILS**

SCALE: 3"=1'-0"

**EXTERIOR DOOR ELEVATION**

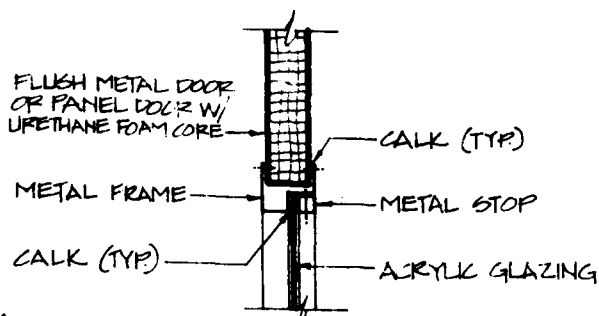
NO SCALE

12" 9"

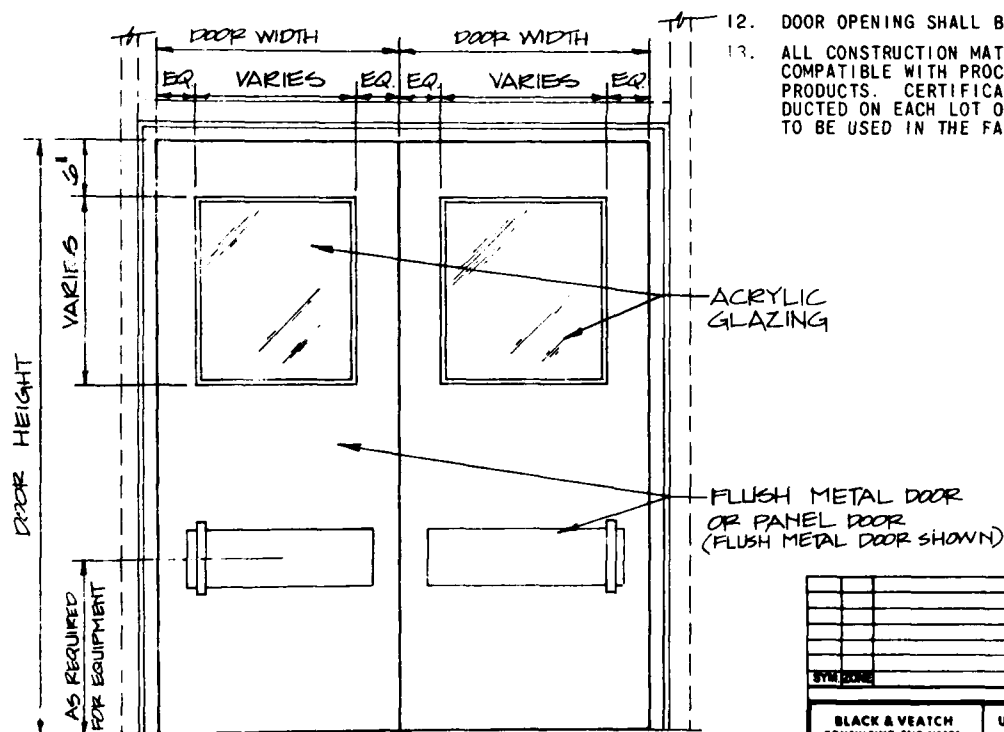
GRA

GENERAL NOTES:

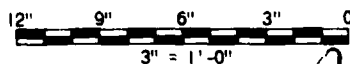
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2. BUILDING PANEL SHALL BE FACTORY ASSEMBLED AND FINISHED. PANEL JOINTS SHALL BE DESIGNED TO ELIMINATE METAL TO METAL CONTACT BETWEEN INTERIOR AND EXTERIOR METAL SHEETS. GAGE OF METAL SHEETS SHALL BE DETERMINED BY EACH BUILDING DESIGN.
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7. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER/RESIN SOLUTION.
8. ALL FASTENERS SHALL BE STAINLESS STEEL.
9. ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
10. FOR FINISHES SEE DRAWING 19536.
11. PROVISIONS SHALL BE MADE FOR BONDING AND GROUNDING METAL BUILDING COMPONENTS.
12. DOOR OPENING SHALL BE 30"x78" MINIMUM.
13. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.



GLAZING DETAIL
SCALE: 3"=1'-0"

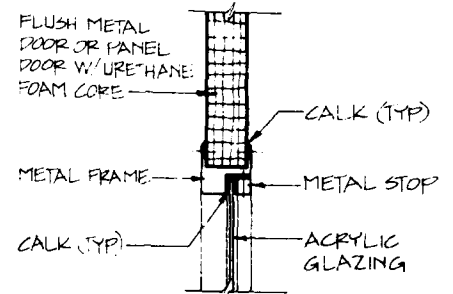
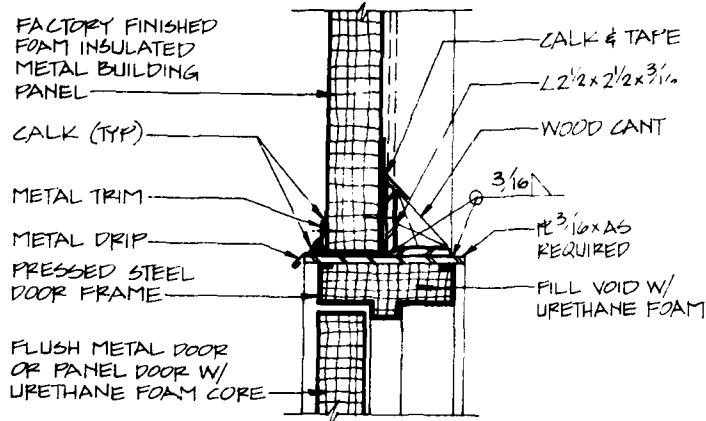


**EXTERIOR
DOOR ELEVATION**
NO SCALE

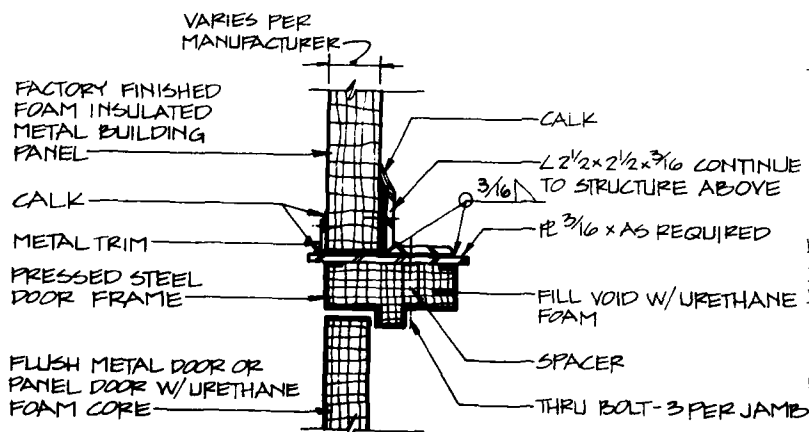


GRAPHIC SCALE

SYMBOLS		DATE APPROVED
REVISIONS BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		
US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA		
OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY		
STANDARD DETAILS		
NITROCELLULOSE FACILITY MODIFIED PRE-ENGINEERED BUILDING SWINGING EQUIPMENT DOOR DETAILS		
DATE	19 MARCH '81	
DESIGN BY	TCY	CHKD BY
	TPH	DWG NO
		19533



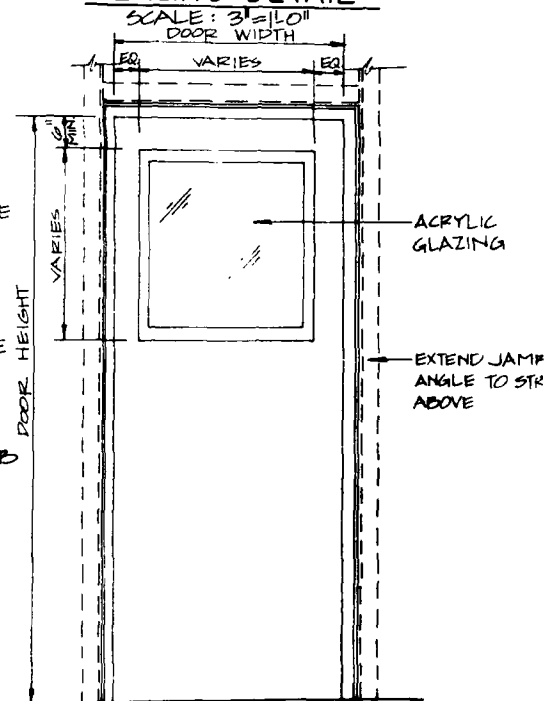
HEAD



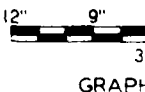
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DOOR DETAILS
SCALE: 3"=1'-0"

GLAZING DETAIL



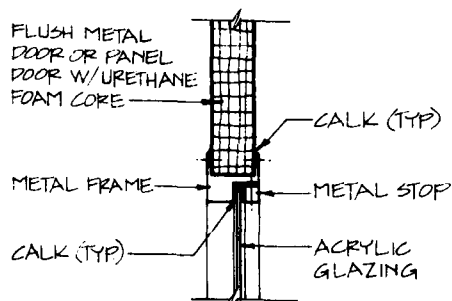
EXTERIOR
DOOR ELEVATION
NO SCALE



GRAPH

GENERAL NOTES:

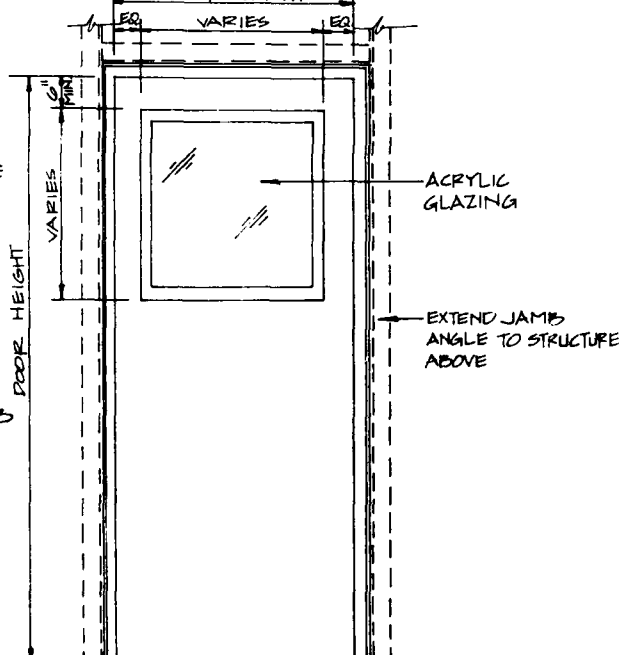
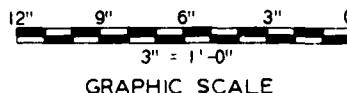
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7. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER RESIN SOLUTION.
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GLAZING DETAIL

SCALE: 3"=10"

DOOR WIDTH

EXTERIOR
DOOR ELEVATION
NO SCALE

SYMBOLS		DATE	APPROVED
REVISIONS BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY STANDARD DETAILS NITROCELLULOSE FACILITY MODIFIED PRE-ENGINEERED BUILDING PERSONNEL ACCESS DOOR			
DATE:	19 MARCH 81	CHKD BY:	TDH
OWN. BY:	ETI	DWG. NO.	19534

FACTORY FINISHED
FOAM INSULATED
METAL BUILDING PANELS
CALK & TAPE JOINTS (TYP.)

CALK
FLASHING
W/ DRIP

EAVE STRUT
(LIP TURNED
DOWN FOR
WASHDOWN)

EXTERNAL COLUMN
AS REQUIRED

CALK
GIRT (LIP TURNED
OUT FOR
WASHDOWN)

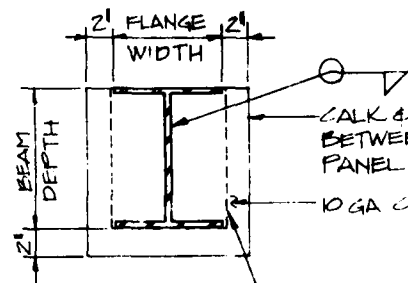
TAPE
CALK
JUTE BACK UP
MATERIAL
10 GA. CLOSURE
PANEL - WELD
TO BEAM
(SEE ELEV.)

TAPE

FACTORY FINISHED
FOAM INSULATED
METAL BUILDING PANEL

FURLING (LIP TURNED
DOWN FOR WASHDOWN)

INTERIOR BEAM
AS REQUIRED



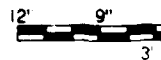
CUT OUT METAL
BUILDING PANEL
FOR BEAM PENETRATION

CLOSURE PANEL ELEVATION

NO SCALE

WALL / CEILING INTERFACE

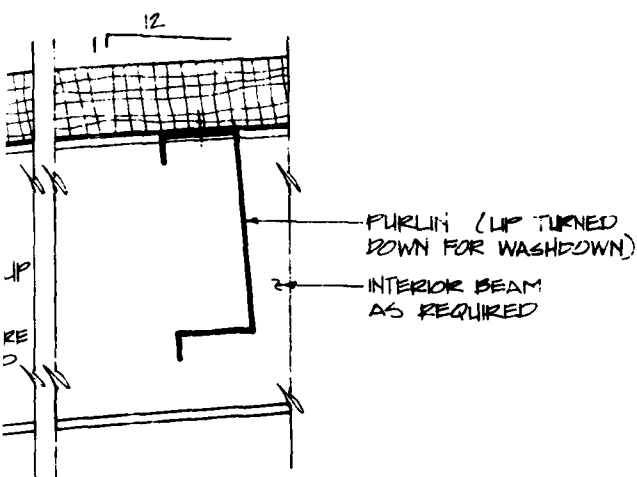
SCALE: 3" = 1'-0"



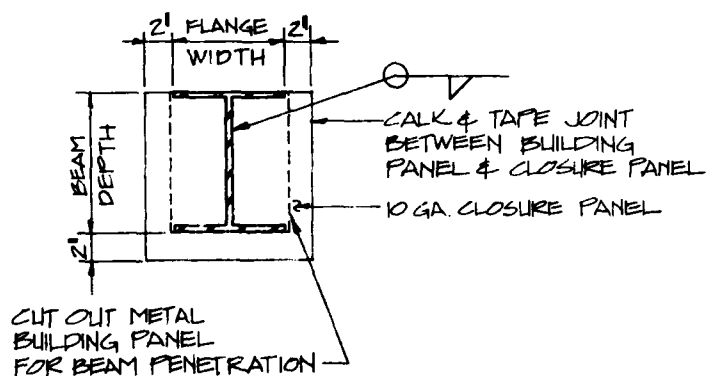
GRAPH

GENERAL NOTES:

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5. TAPE SHALL BE 3" WIDE, 2 PLY 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH, AND ZINKED EDGES OF 8 PINKS PER INCH.
6. ADHESIVE SHALL BE A 2 PART EPOXY NITRILE RUBBER RESIN SOLUTION.
7. FOR FINISHES SEE DRAWING 19535.
8. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROTECTANT MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.

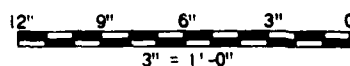


FINISHED
LATED
PING PANEL



CLOSURE PANEL ELEVATION

NO SCALE



GRAPHIC SCALE

2

SYMBOLS		REVISIONS	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROCELLULOSE FACILITY MODIFIED PRE-ENGINEERED BUILDING	
DATE: 19 MARCH '81		WALL CEILING INTERFACE	
DESIGNED BY: RYT	CHECKED BY: TDM	DWG. NO. 19535	

CORPS OF ENGINEERS

ROOM FINISH SCHEDULE

ROOM TYPE	FINISH			
	FLOOR	BASE	WALL	CEILING
CONTROL ROOMS, TOILETS AND NON-EXPLOSIVE AREAS	1/8" VINYL ASBESTOS TILE EXPOSED CONCRETE OR PAINTED	4" VINYL OR PAINTED	PAINTED STEEL	PAINTED STEEL
NITROCELLULOSE PROCESS AREAS AND EXPLOSIVE AREAS	EXPOSED CONCRETE, ACID RESISTANT COATINGS OR PAINTED	EXPOSED CONCRETE, ACID RESISTANT COATINGS OR PAINTED	ACID RESISTANT COATINGS OR FACTORY APPLIED PAINT	ACID RESISTANT OR FACTORY APPLIED PAINT

PAINTING NOTES:

- I. THE FOLLOWING ITEMS SHALL NOT BE PAINTED:
 - STAINLESS STEEL SURFACES.
 - INTERIOR ALUMINUM, BRASS, OR BRONZE SURFACES.
 - ACRYLIC GLAZING.
 - DOOR AND WINDOW HARDWARE EXCEPT DOOR OPERATOR COVERS.

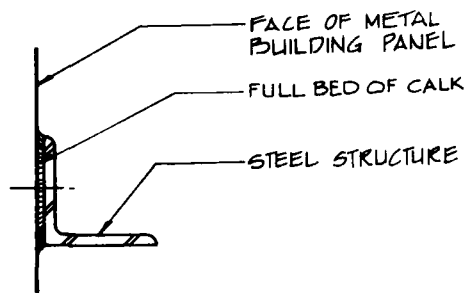
SCHEDULE

FINISH		
BASE	WALL	CEILING
PAINTED OR PAINTED	PAINTED STEEL	PAINTED STEEL
ED CONCRETE, ACID TANT COATINGS OR ED	ACID RESISTANT COATINGS OR FACTORY APPLIED PAINT	ACID RESISTANT COATINGS OR FACTORY APPLIED PAINT

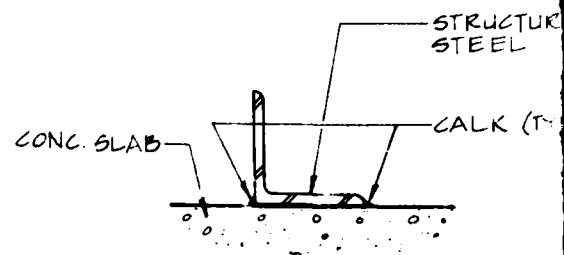
GENERAL NOTES:

1. ALL EXPOSED INTERIOR WOOD SHALL BE PAINTED.
2. ALL STRUCTURAL STEEL SHALL BE FACTORY PRIMED. FINISH COATS SHALL MATCH ADJACENT METAL SURFACES.
3. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.

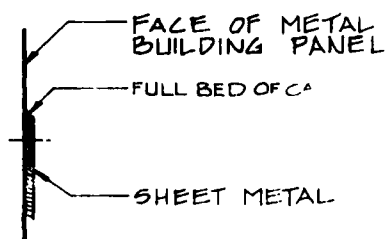
SYMBOL		DATE	APPROVED
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
2		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROCELLULOSE FACILITY MODIFIED PRE-ENGINEERED BUILDING	
DATE 19 MARCH '81		INTERIOR FINISHES	
DESIGNED BY CJS	CHECKED BY TDM	DWG NO 19536	



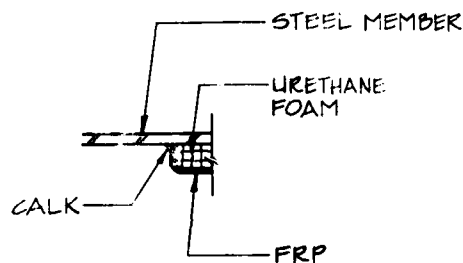
BUILDING PANEL TO STEEL JOINT



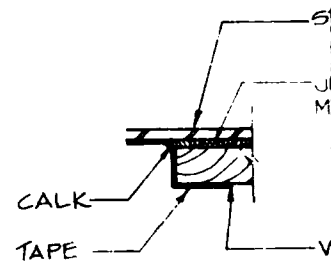
CONCRETE TO STEEL JOINT



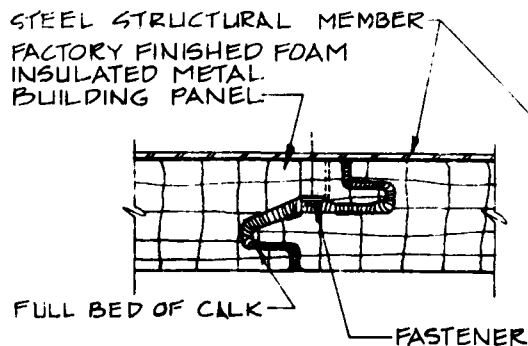
SHEET METAL TO BUILDING PANEL JOINT



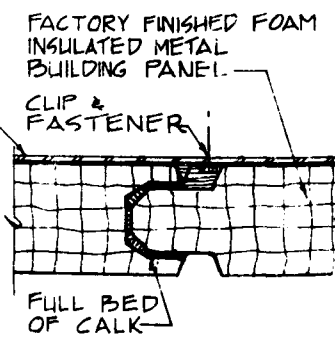
FRP TO STEEL JOINT



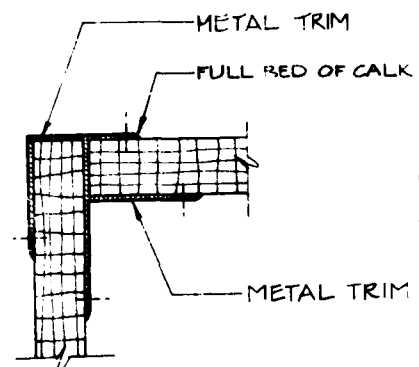
WOOD TO STEEL



OVERLAP PANEL JOINT



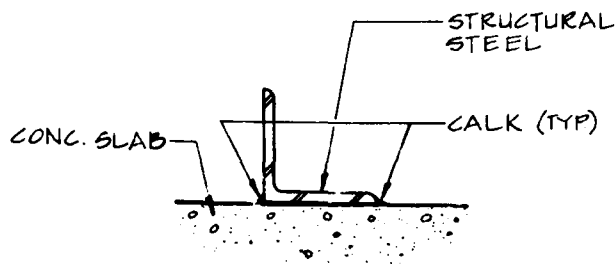
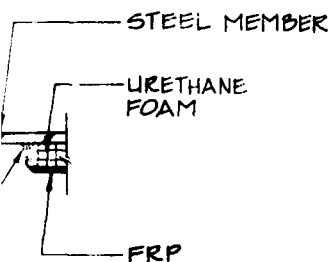
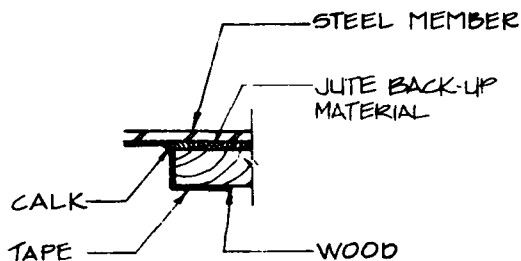
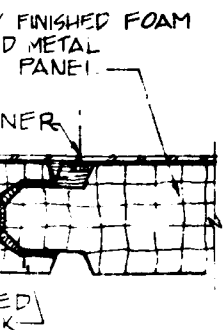
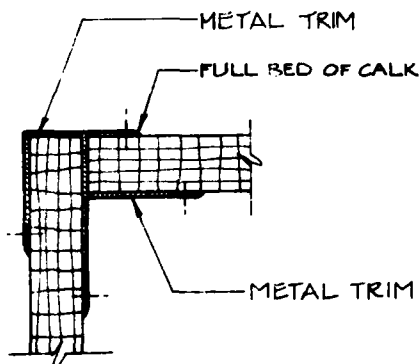
TONGUE & GROOVE JOINT



PANEL CORNER JOINT

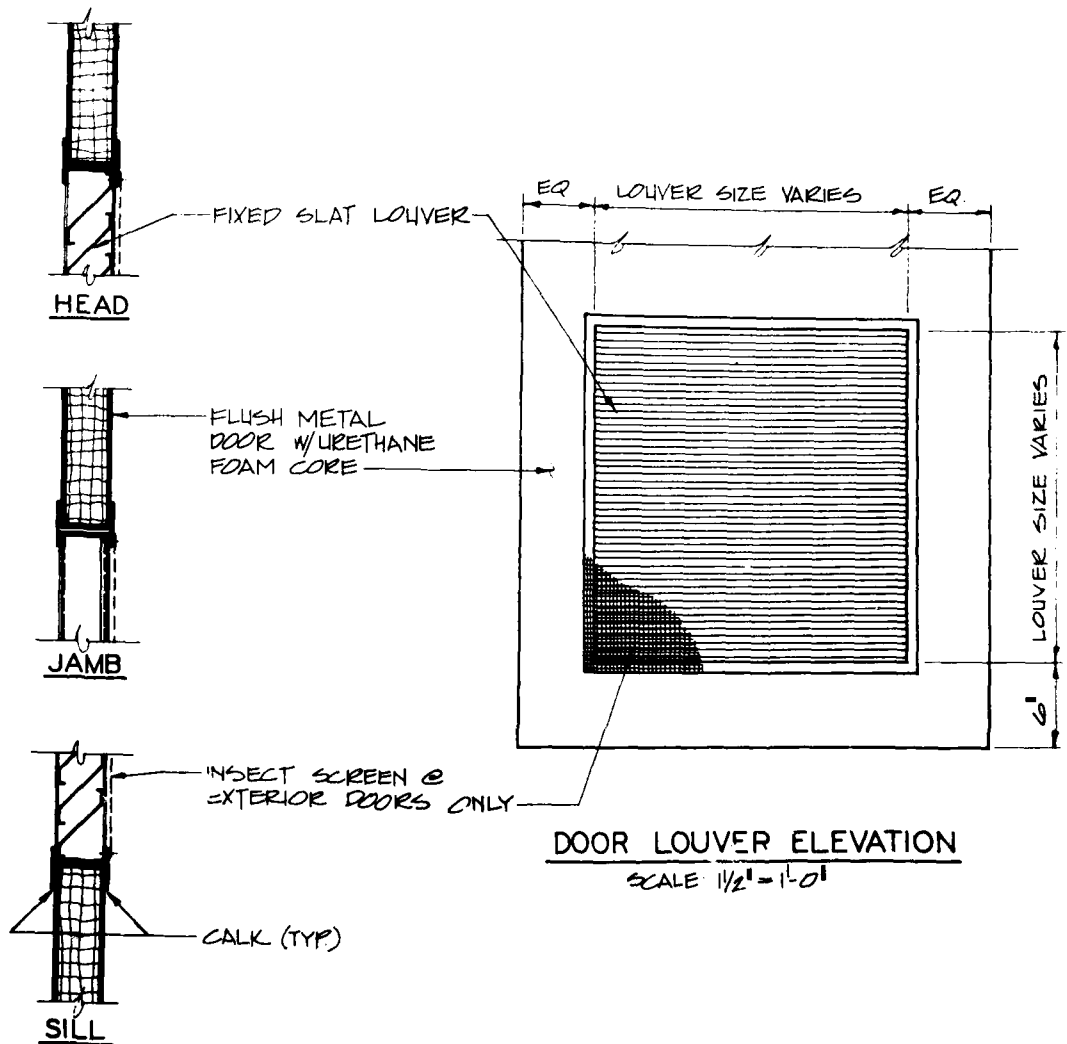
GENERAL NOTES:

1. ALL FASTENERS SHALL BE STAINLESS STEEL.
2. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND. ALL CALK SHALL BE APPLIED IN ACCORDANCE WITH DEPARTMENT OF THE ARMY TECHNICAL MANUAL TM 5-805-6.
3. PROVISIONS SHALL BE MADE FOR BONDING AND GROUNDING OF METAL BUILDING COMPONENTS.
4. ALL JOINTS DESIGNATED TO RECEIVE TAPE SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
5. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE 6 FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH WITH PINKED EDGES OF 8 PINKS PER INCH.
6. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER/RESIN SOLUTION.
7. SIZE OF STRUCTURAL MEMBERS SHALL BE DETERMINED BY STRUCTURAL ANALYSIS OF LOADING FOR EACH BUILDING DESIGN.
8. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.

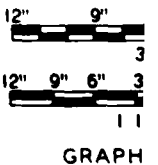
CONCRETE TO STEEL JOINTSTEEL JOINTWOOD TO STEEL JOINTGROOVE JOINTPANEL CORNER JOINT

SYMBOL		DATE APPROVED	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROCELLULOSE FACILITY MODIFIED PRE-ENGINEERED BUILDING	
		JOINT SEALING	
DATE: 19 MARCH 81	DESIGNED BY: ETT	CHECKED BY: TOW	DWG. NO. 19537

2

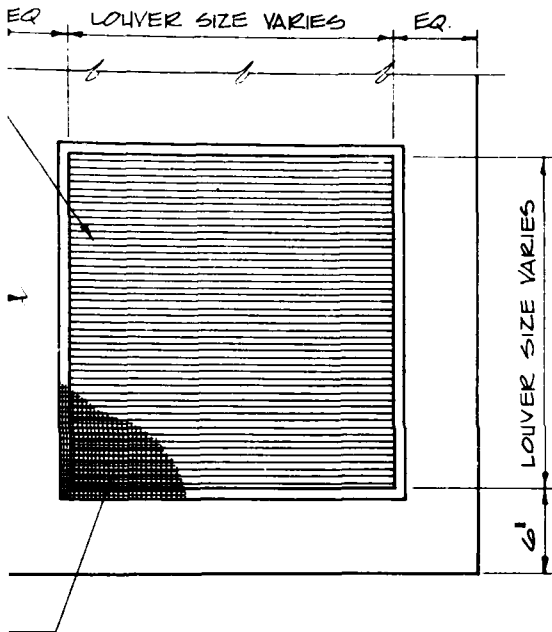


DOOR LOUVER DETAILS
SCALE 3" = 1'-0"

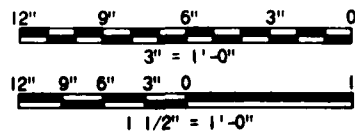


GENERAL NOTES:

1. ALL FASTENERS SHALL BE STAINLESS STEEL.
2. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
3. INSECT SCREENS SHALL BE PVC COATED FIBERGLASS. (16x16 MESH) INSECT SCREENS SHALL BE LOCATED ON THE INTERIOR OR EXTERIOR SURFACE OF THE LOUVER AS REQUIRED.
4. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.

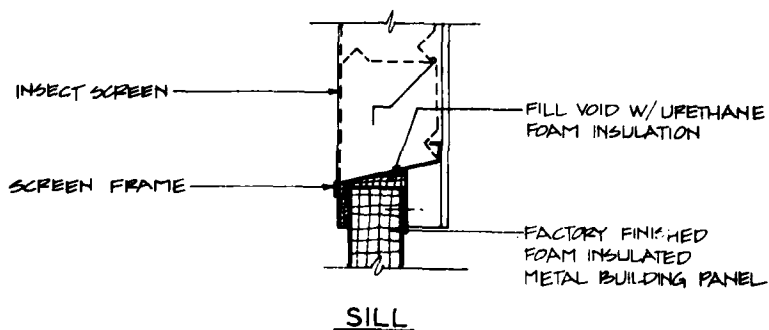
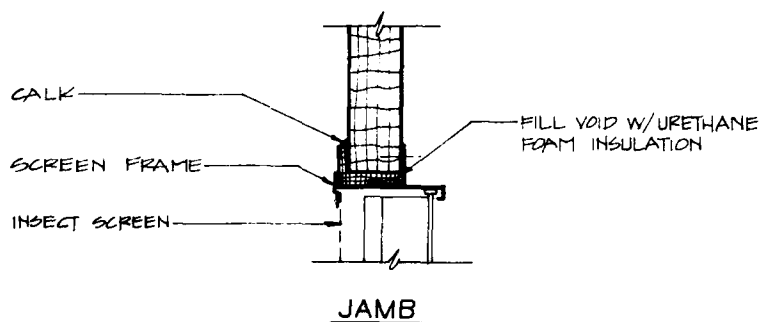
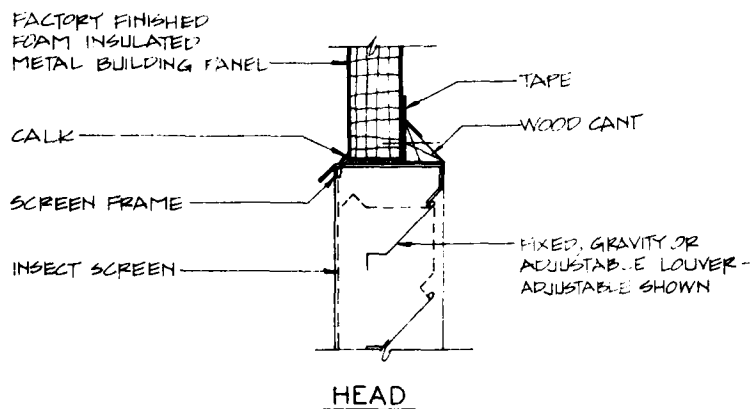


DOOR LOUVER ELEVATION

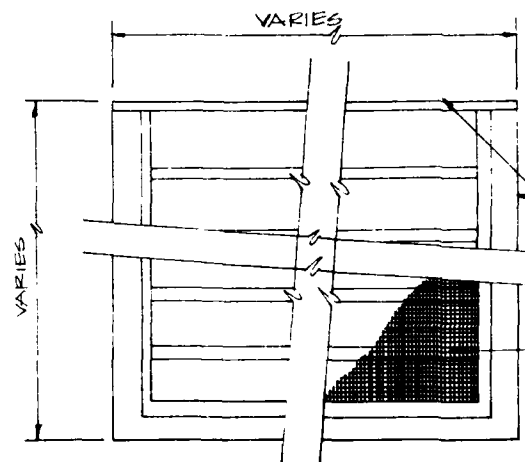
SCALE: $1/2" = 1'-0"$ 

GRAPHIC SCALES

REVISIONS		DATE	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
DATE: 19 MARCH 81 DESIGNED BY: KDP CHECKED BY: TDP		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
		NITROCELLULOSE FACILITY MODIFIED PRE-ENGINEERED BUILDING METAL DOOR LOUVER	
		SHEET NO. 19538	



WALL LOUVER DETAILS
SCALE: 3"=1'-0"

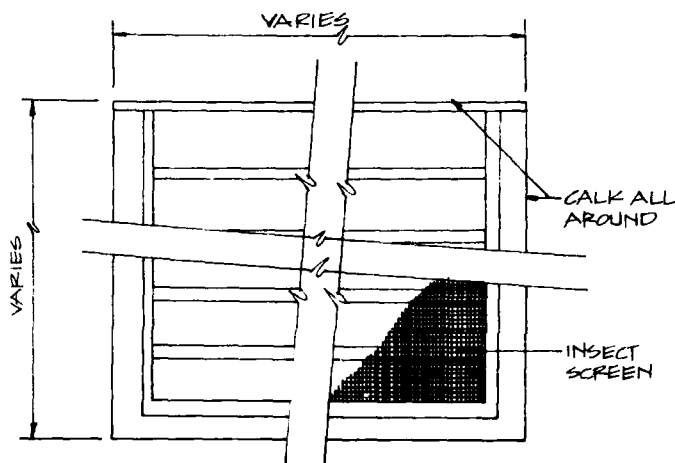


EXTERIOR ELEVATION
WALL LOUVER
NO SCALE

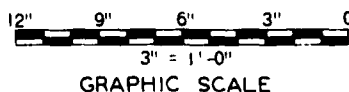


GENERAL NOTES:

1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. BUILDING PANEL SHALL BE FACTORY ASSEMBLED AND FINISHED. PANEL JOINTS SHALL BE DESIGNED TO ELIMINATE METAL TO METAL CONTACT BETWEEN INTERIOR AND EXTERIOR METAL SHEETS. GAGE OF METAL SHEETS SHALL BE DETERMINED BY EACH BUILDING DESIGN.
3. CANT STRIPS SHALL BE A 1:1 PITCH MIN.
4. ALL JOINTS DESIGNATED TO RECEIVE TAPE SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
5. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH WITH PINKED EDGES OF 8 PINKS PER INCH.
6. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER RESIN SOLUTION.
7. FOR FINISHES SEE DRAWING 19536.
8. PROVISIONS SHALL BE MADE FOR BONDING AND GROUNDING METAL BUILDING COMPONENTS.
9. LOUVER FRAME AND BLADE CONFIGURATION WILL VARY BY LOUVER TYPE AND MANUFACTURER.
10. INSECT SCREEN SHALL BE PVC COATED FIBERGLASS. (16 x 16 MESH)
11. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.

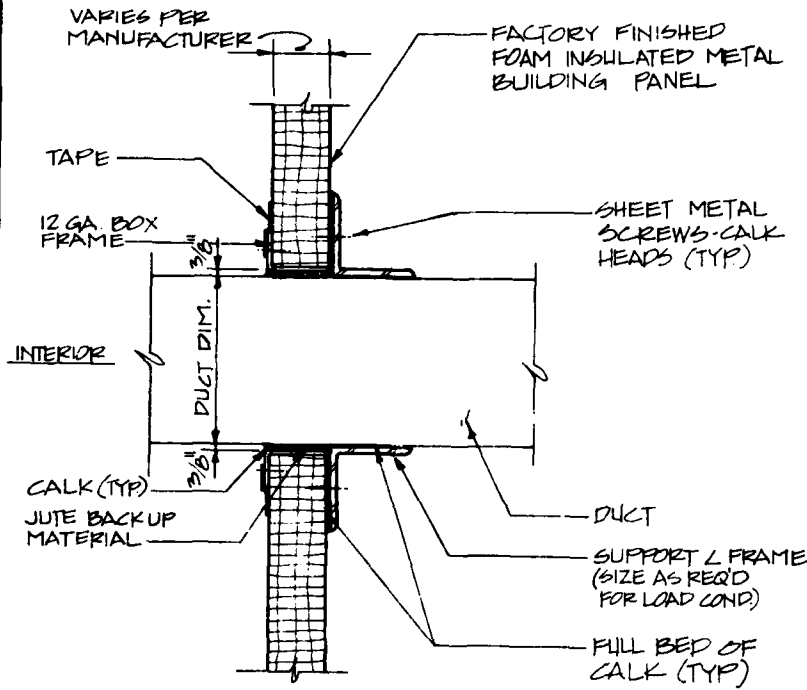


EXTERIOR ELEVATION
WALL LOUVER
NO SCALE



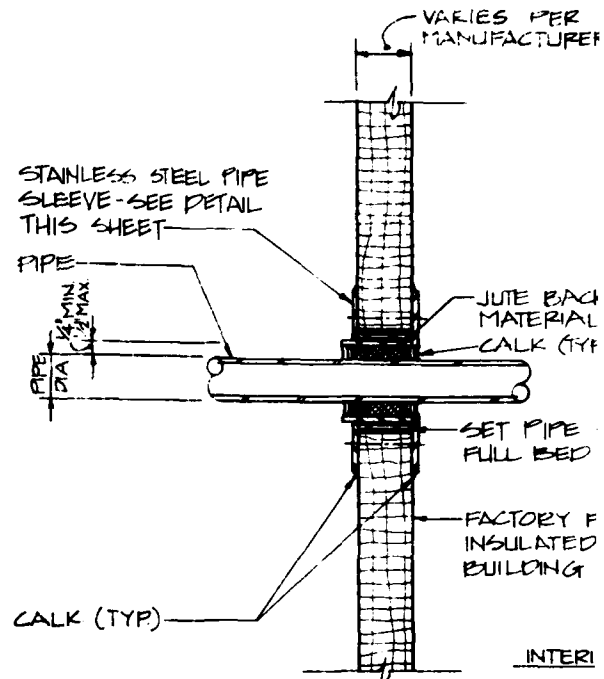
2

SYMBOLS		DATE APPROVED
REVISIONS BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		
US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA		
OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY		
STANDARD DETAILS		
NITROCELLULOSE FACILITY MODIFIED PRE-ENGINEERED BUILDING METAL WALL LOUVER		
DATE	19 MARCH '01	
DESIGNED BY	WTT	CHKD BY TPH
DWG. NO.	19539	



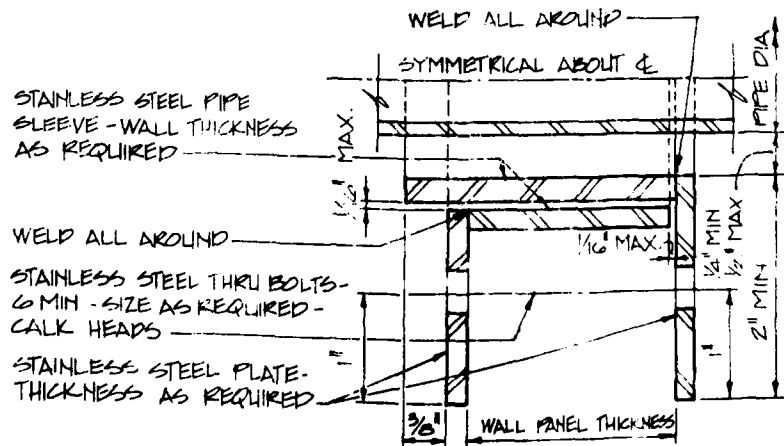
DUCT PENETRATION

SCALE: 3" = 1'-0"



PIPE PENETRATION

SCALE: 3" = 1'-0"



INTERIOR

12" 9"

3" 2"

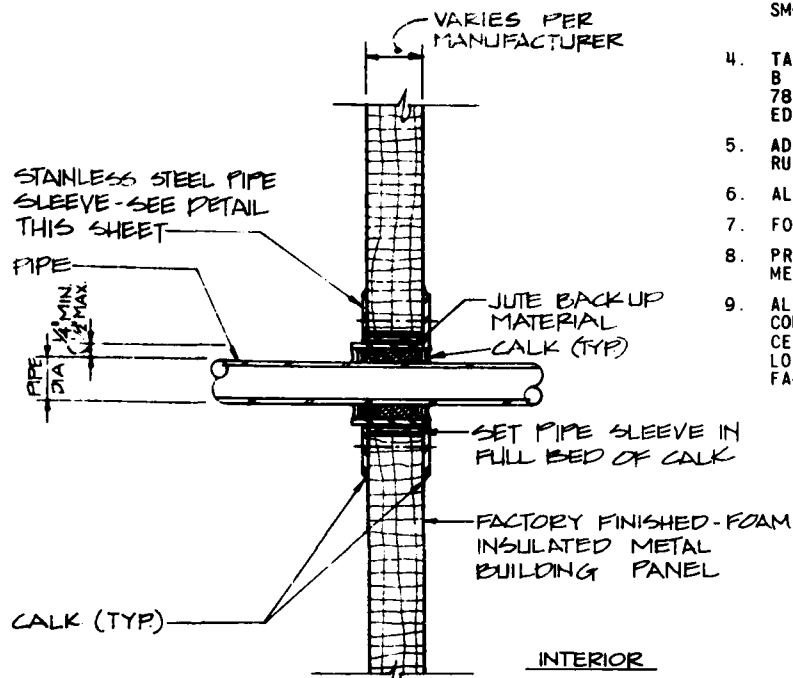
GRAPH

SLEEVE DETAIL

FULL SIZE

GENERAL NOTES:

1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. BUILDING PANEL SHALL BE FACTORY ASSEMBLED AND FINISHED. PANEL JOINTS SHALL BE DESIGNED TO ELIMINATE METAL TO METAL CONTACT BETWEEN INTERIOR AND EXTERIOR METAL SHEETS. GAGE OF METAL SHEETS SHALL BE DETERMINED BY EACH BUILDING DESIGN.
3. ALL JOINTS DESIGNATED TO RECEIVE TAPE SHALL HAVE A 4" WIDE COAT OF ADHESIVE APPLIED OVER THE JOINTS. TAPE SHALL BE PLACED OVER ADHESIVE WITH ALL WRINKLES SMOOTHED OUT. AN ADDITIONAL COAT OF ADHESIVE SHALL BE SPREAD OVER THE TAPE AND SMOOTHED TO A FEATHER EDGE WITH A PUTTY KNIFE.
4. TAPE SHALL BE 3" WIDE, 2 PLY, 100% COTTON, GRADE B FABRIC, WITH WARP AND FILL OF APPROXIMATELY 78X78, 72 LBS. BREAKING STRENGTH WITH PINKED EDGES OF 8 PINKS PER INCH.
5. ADHESIVE SHALL BE A WATER INSOLUBLE NITRILE RUBBER/RESIN SOLUTION.
6. ALL FASTENERS SHALL BE STAINLESS STEEL.
7. FOR FINISHES SEE DRAWING 19536.
8. PROVISIONS SHALL BE MADE FOR BONDING AND GROUNDING METAL BUILDING COMPONENTS.
9. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.



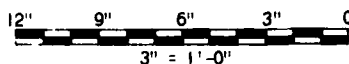
PIPE PENETRATION

SCALE: 3" = 1'-0"

WELD ALL AROUND

SYMMETRICAL ABOUT C

INTERIOR

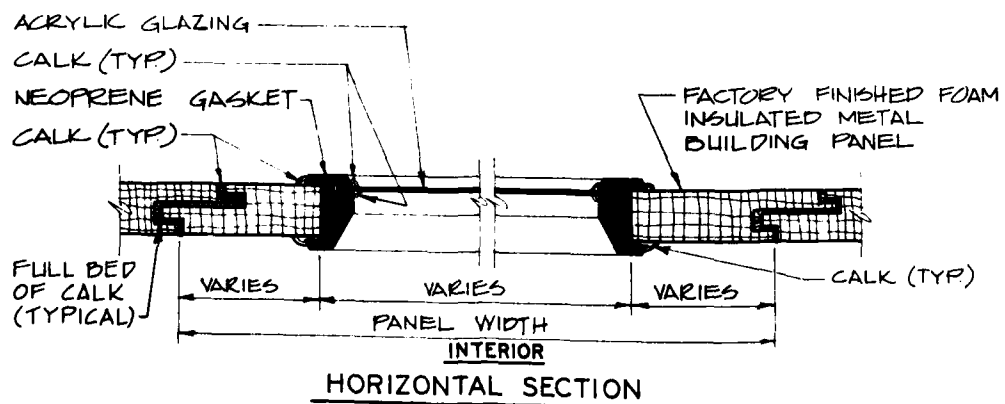
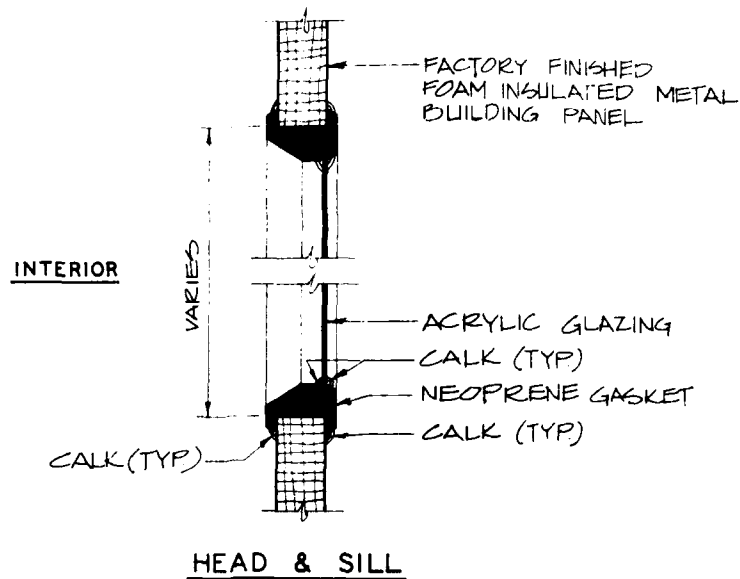


GRAPHIC SCALES

SLEEVE DETAIL

FULL SIZE

SYMBOLS		DATE APPROVED	
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY	
		STANDARD DETAILS	
DATE: 19 MARCH 61 DESIGNED BY: RTH CHECKED BY: TDP DRAWING NO. 19540		NITROCELLULOSE FACILITY MODIFIED PRE-ENGINEERED BUILDING WALL PENETRATIONS	



WINDOW DETAILS
SCALE: 3" = 1'-0"



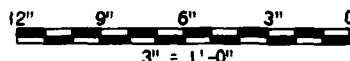
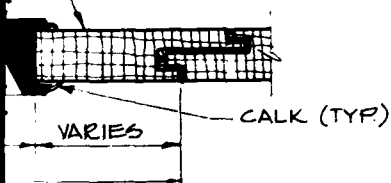
GENERAL NOTES:

1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND.
2. BUILDING PANEL SHALL BE FACTORY ASSEMBLED AND FINISHED. PANEL JOINTS SHALL BE DESIGNED TO ELIMINATE METAL TO METAL CONTACT BETWEEN INTERIOR AND EXTERIOR METAL SHEETS. GAGE OF METAL SHEETS SHALL BE DETERMINED BY EACH BUILDING DESIGN.
3. ALL FASTENERS SHALL BE STAINLESS STEEL.
4. PROVISIONS SHALL BE MADE FOR BONDING AND GROUNDING OF METAL BUILDING COMPONENTS.
5. ACRYLIC GLAZING SHALL BE 1/4" THICK EXCEPT AS OTHERWISE REQUIRED.
6. FOR FINISHES SEE DRAWING 19536.
7. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.

FACTORY FINISHED
FOAM INSULATED METAL
BUILDING PANEL

ACRYLIC GLAZING
CALK (TYP)
NEOPRENE GASKET
CALK (TYP)

FACTORY FINISHED FOAM
INSULATED METAL
BUILDING PANEL

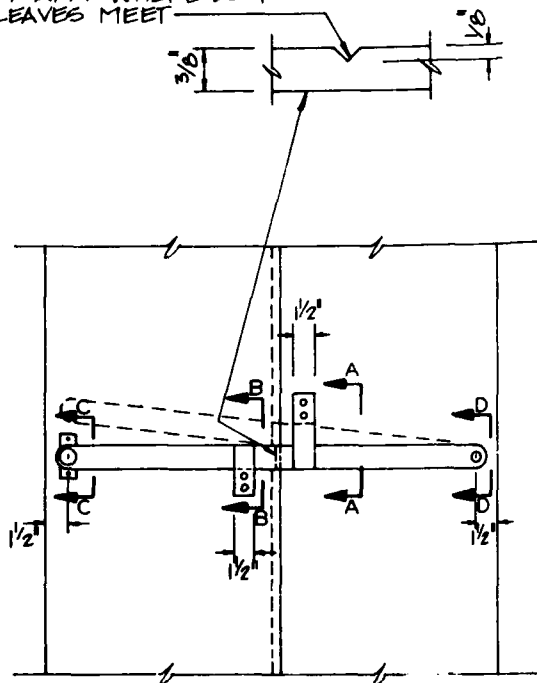


GRAPHIC SCALE

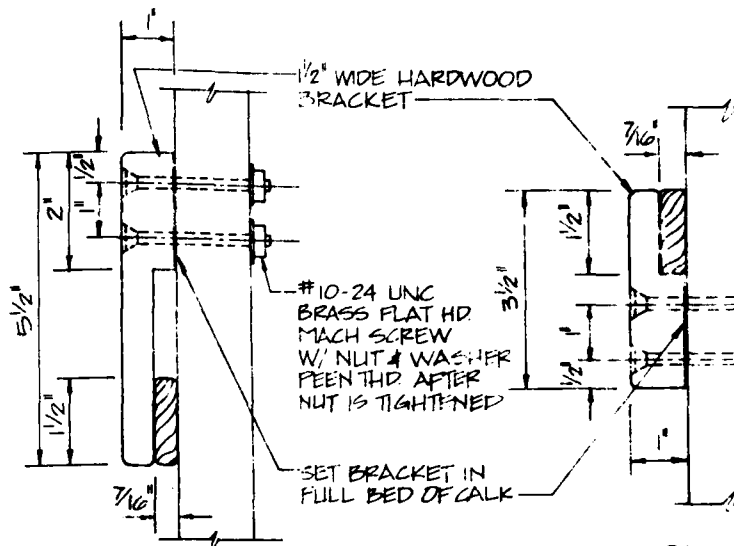
SYNOPSIS		REVISIONS		DATE	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA			
		OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY			
		STANDARD DETAILS			
		NITROCELLULOSE FACILITY MODIFIED PRE-ENGINEERED BUILDING			
DATE: 19 MARCH '81		WINDOW DETAILS			
OWN. BY: ED	CHKD BY: TDP	DWS. NO.		19541	

CORPS OF ENGINEERS

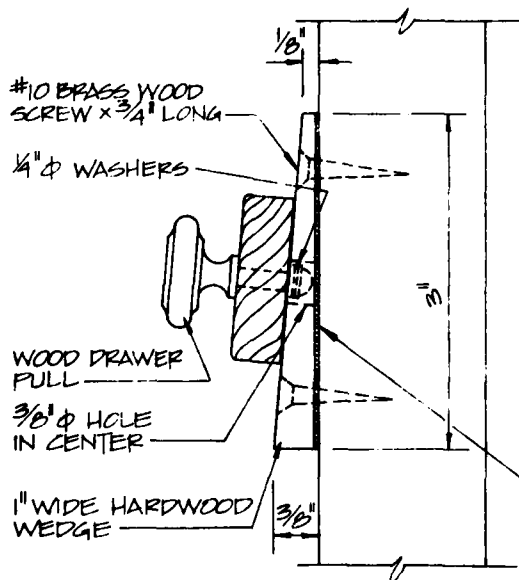
CUT GROOVE IN DOOR SIDE
OF ARM WHERE DOOR
LEAVES MEET



INSIDE VIEW OF LATCH BAR
SCALE: 1 1/2" = 1'-0"



SECTION A-A
SCALE: HALF SCALE

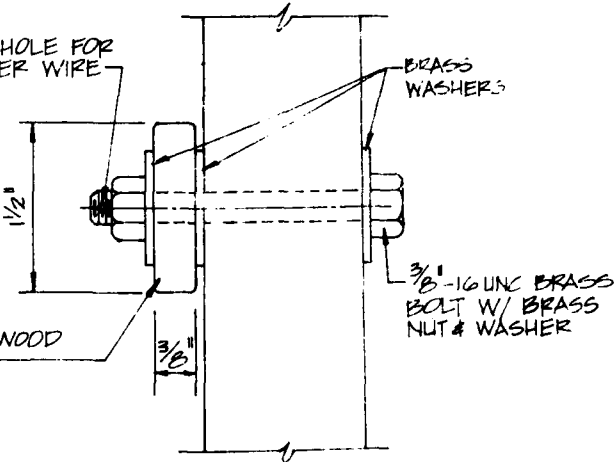


SECTION C-C
SCALE: FULL

1/16" Ø HOLE FOR
COPPER WIRE

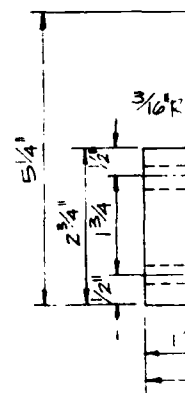
HARDWOOD
BAR

SET WEDGE IN
FULL BED OF CALK

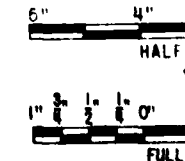


SECTION D-D
SCALE: FULL

SECTION
SCALE: HALF

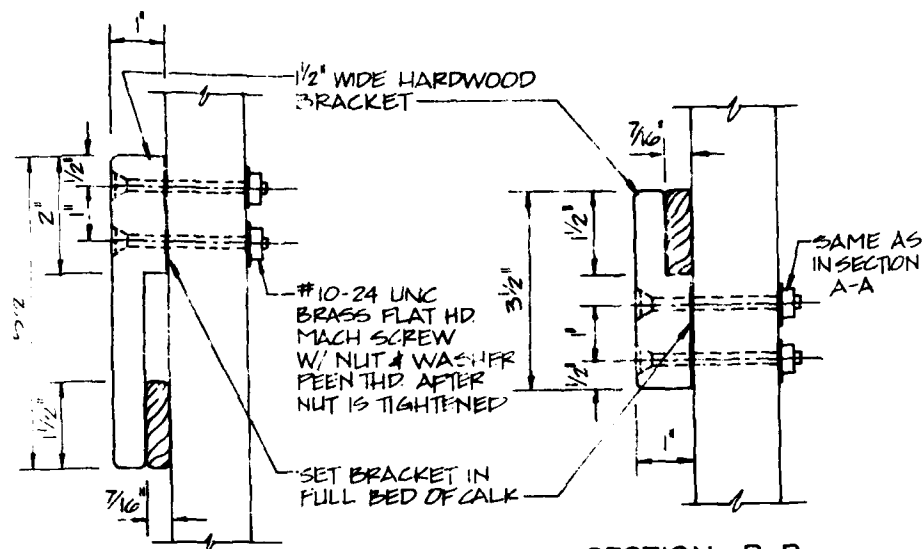


WOOD
SCALE: HALF
12" 9" 6" 3" 1 1/2"



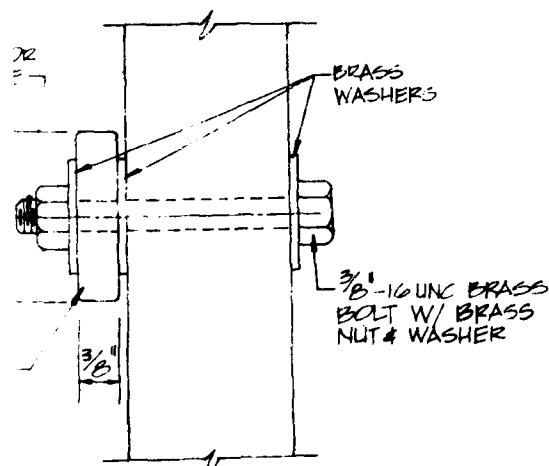
GENERAL NOTES:

1. CALK SHALL BE A NON-CRACKING ONE-COMPONENT PAINTABLE SILICONE CALKING COMPOUND
2. LATCH BAR SHALL BE SANDED SMOOTH AND REMAIN UNFINISHED
3. DOOR FINISH SHALL BE AS REFERENCED ON EACH DOOR DETAIL SHEET
4. ALL CONSTRUCTION MATERIALS SHALL BE CERTIFIED COMPATIBLE WITH PROCESS MATERIALS AND END PRODUCTS. CERTIFICATION TESTS SHALL BE CONDUCTED ON EACH LOT OF CONSTRUCTION MATERIALS TO BE USED IN THE FACILITY.

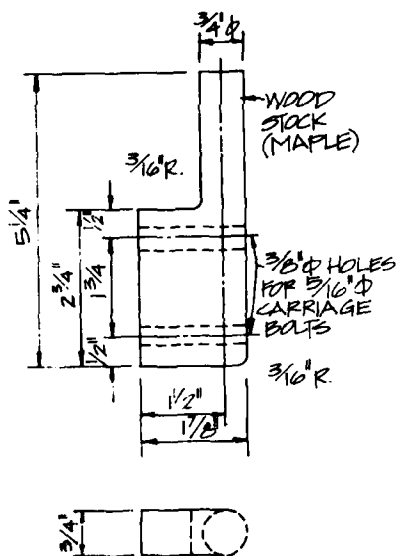


SECTION B-B
SCALE: HALF SCALE

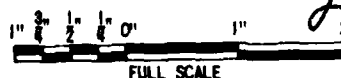
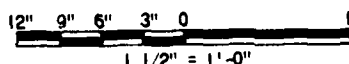
SECTION A-A
SCALE: HALF SCALE



SECTION D-D
SCALE: FULL

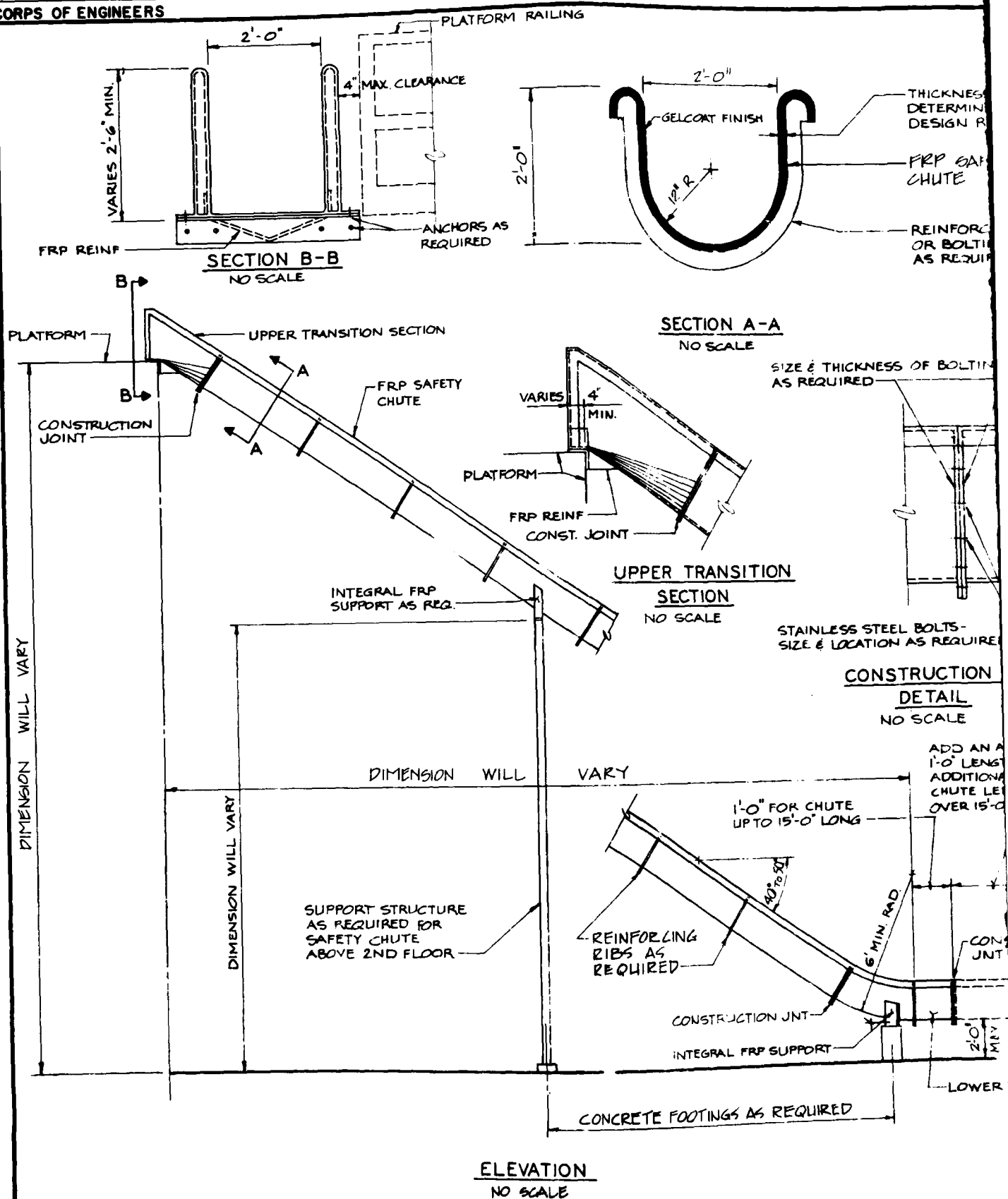


WOOD PIN
SCALE: HALF SCALE



SYMBOL	REVISIONS	DATE	APPROVED
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI	US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA		
	OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY		
	STANDARD DETAILS		
	NITROGLYCERIN, NITROCELLULOSE, SINGLE BASE, AND MULTIBASE FACILITY WOOD PIN DETAIL AND LATCH BAR DETAILS		
DATE: 19 MARCH 61			
DESIGNED BY: JTT	CHECKED BY: TDM	DWG. NO. 19549	

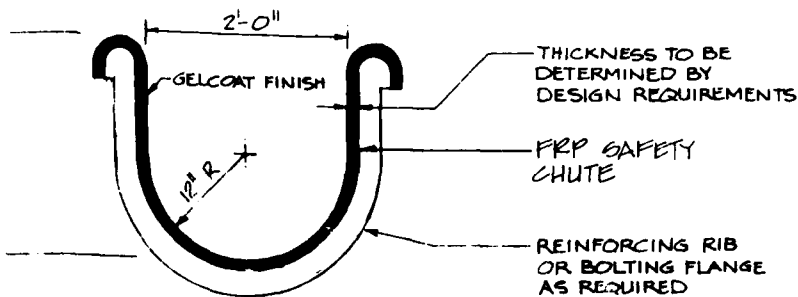
CORPS OF ENGINEERS



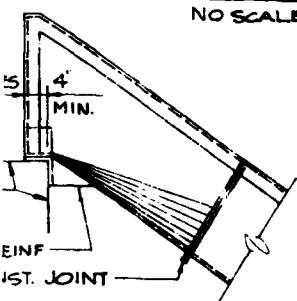
LING

GENERAL NOTES:

1. FRP SHALL BE FIBERGLASS REINFORCED PLASTIC FABRICATED FROM A PREMIUM GRADE, GLASS REINFORCED, CHEMICAL RESISTANT, POLYESTER RESIN. RESIN SHALL BE FIRE RETARDANT, CLASS 1, AS PER ASTM D-635 AND E-84 TESTS. ALL CUT EDGES SHALL BE PROPERLY SEALED WITH RESIN. SURFACES SHALL BE FREE FROM FIBER BLEMISHES.
2. SUPPORT STRUCTURE TO BE DESIGNED & FABRICATED FROM MATERIAL BEST SUITED TO THE ATMOSPHERIC ENVIRONMENT & DESIGN LOAD CONDITIONS. FRP STRUCTURAL MEMBERS, IF USED, SHALL BE PULTRUDED STRUCTURAL SHAPES.
3. FRP CHUTE SHALL BE ONE PIECE-SEAMLESS CONSTRUCTION WHENEVER POSSIBLE. IF ONE PIECE CONSTRUCTION IS NOT POSSIBLE, JOINTS SHALL BE DESIGNED SO AS NOT TO INTERFERE WITH PERSONNEL SLIDING TO GROUND. ACTUAL SECTIONAL CONFIGURATION OF FRP CHUTE SHALL BE DETERMINED BY SAFETY REQUIREMENTS AND STRUCTURAL ANALYSIS OF INDIVIDUAL CHUTE CONDITIONS.
4. SAFETY CHUTE CONFIGURATION SHALL BE IN ACCORDANCE WITH AMCR 385-100 PARAGRAPH 5.9.
5. ENTRANCE AND EXIT AREA OF SAFETY CHUTE MUST HAVE CLEAR RUNWAY WITH NO OBSTRUCTIONS IN ESCAPE PATH.
6. AN ELECTROSTATIC EVALUATION OF ALL FRP MATERIALS SHOWN ON THIS DRAWING SHALL BE MADE IN ACCORDANCE WITH NFPA STANDARD NO. 77 AND DARCOM AMCR 385-100.

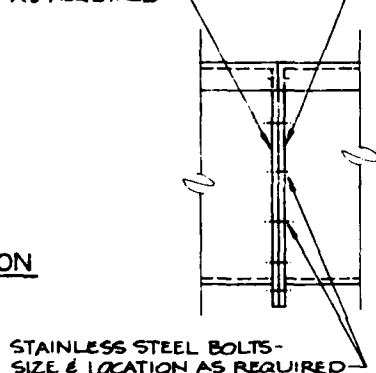


SECTION A-A
NO SCALE

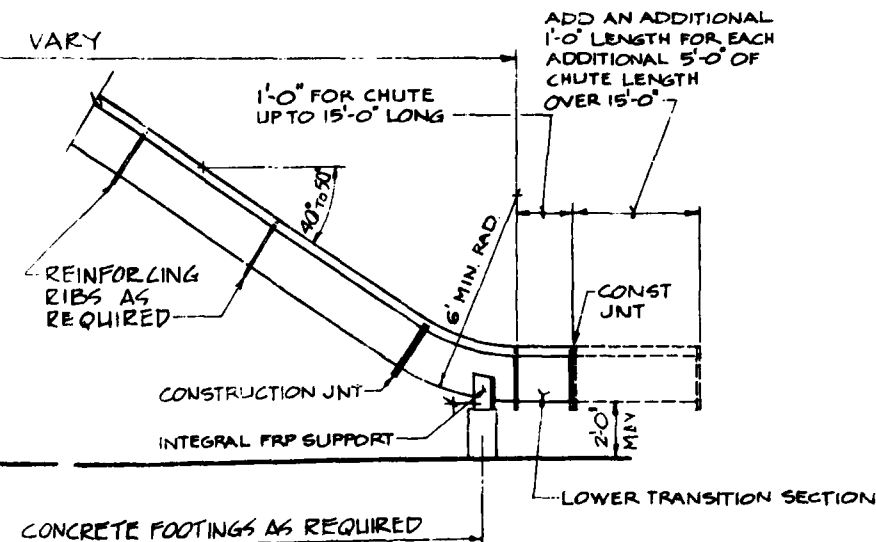


UPPER TRANSITION
SECTION
NO SCALE

SIZE & THICKNESS OF BOLTING FLANGES
AS REQUIRED



CONSTRUCTION JOINT
DETAIL
NO SCALE



SYNOPSIS		DATE APPROVED	
REVISIONS			
BLACK & VEATCH CONSULTING ENGINEERS KANSAS CITY, MISSOURI		US ARMY ENGINEER DIVISION HUNTSVILLE CORPS OF ENGINEERS HUNTSVILLE, ALABAMA	
OFFICE OF THE PROJECT MANAGER FOR MUNITIONS PRODUCTION BASE MODERNIZATION AND EXPANSION DOVER, NEW JERSEY		STANDARD DETAILS	
NITROGLYCERIN, NITROCELLULOSE, SINGLE BASE, AND MULTIBASE FACILITY		FRP ESCAPE CHUTE	
DATE: 19 MARCH '81		QWR NO. 19550	
DES. BY: HLE		CHK. BY: TPH	

2