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AEDC-TR-92-23  
APPENDIX D, VOL. II



Duct Protection Coating Concept  
Development and Test

Appendix D, Volume II: Test Specimen Fabrication,  
Conditioning, and Testing Documentation

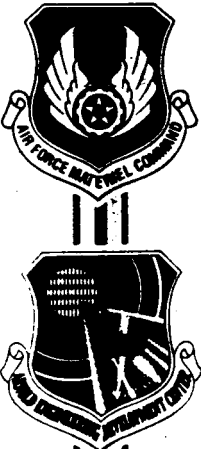
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January 1993

Final Report for February 1992

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## APPROVAL STATEMENT

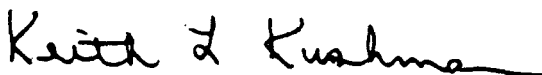
This report has been reviewed and approved.



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Deputy for Operations

Approved for publication:

FOR THE COMMANDER



KEITH L. KUSHMAN  
Director of Technology  
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12a. DISTRIBUTION/AVAILABILITY STATEMENT <b>Approved for public release; distribution is unlimited.</b>		12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) <b>The overall objective of the program was to develop and test a surface cleaning/preparation and corrosion resistant protective polymer coating for the interior of the AEDC Environment Test Facility ferrous metal air supply ducts. The types of cleaning techniques acceptable to the AEDC were basically limited to chemical approaches. Typically, sand or abrasive blasting is used to produce corrosion-free, clean surfaces for coating steel substrates. These particular techniques are strongly discouraged and basically "outlawed" at the AEDC facilities. Water blasting is an acceptable technique, but requires a high pressure water stream, expensive equipment, and considerable clean up.</b>			
14. SUBJECT TERMS <b>coating steel substrates      polymer coating      supply ducts</b>		15. NUMBER OF PAGES <b>277</b>	
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**DUCT PROTECTION COATING CONCEPT  
DEVELOPMENT AND TEST**

CONTRACT: F40600-89-C-0002

FINAL TECHNICAL REPORT (CDRL A002)

APPENDIX D: TEST SPECIMEN FABRICATION, CONDITIONING,  
AND TESTING DOCUMENTATION.

PART II: SETS I Through 28

15 February 1992

Submitted to: ✓

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MRC Fabrication/Conditioning/Test Form 90-1

Set: I            Sample: AS-4

Comments: o MARB-33 AS-4 Original (Most testing)  
 o MARB 2 for hot hardness  
 o MARB2-33 + MARB2 for cold hardness  
 o Primer only Cold non-cracking  
 o wire brushed (lower 1/5th only)

Materials: MARB-33/ MARB2-33

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
07/03/90	Acid clean	-	HCL cleaned
08/01/90	Acid clean	-	Reclean
08/01/90	Coat	-	Brush coat 4 formula sections
08/01/90	Cure	O	1 hr @ 480 F
08/02/90	1/4 hrs @ -100 F	C	
08/02/90	1 hr @ 250 F	C	
08/02/90	15 hrs @ 130 F	H	
08/03/90	1/4 hrs @ -90 F	C	
08/03/90	1/4 hrs @ 280 F	C	
08/06/90	1 hr @ -100 F	C	
08/07/90	5 hrs @ 140 F	H	
08/10/90	1 hr @ -110 F	C	autocycle
08/10/90	1 hr @ 600 F	C	autocycle

**NRC Fabrication/Conditioning/Test Form 90-1**

Set: I            Sample: AS-4

Comments: Page 2

Materials: MARB-33/MARB2-33

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
08/13/90	1 hr @ -100 F	C	Autocycle
08/14/90	1 hr @ -100 F	C	Altered Autocycle
08/14/90	1/2 hr @ 600 F	C	Altered Autocycle
08/16/90	5 hrs @ 140 F	H	
08/17/90	1/2 hrs @ 20 F	H	
08/17/90	3 hrs @ 130 F	H	
08/20/90	16 hrs @ 160 F	H	
08/21/90	1 hr @ -100 F	C	
08/21/90	16 hrs @ 120 F	H	
08/22/90	1 hr @ -100 F	C	Autocycle
08/22/90	1 hr @ 600 F	C	Autocycle
08/22/90	15 hrs @ 125 F	H	
08/23/90	2 hrs/600 F	O	

2

MRC Fabrication/Conditioning/Test Form 90-1

Set: I Sample: AS-4

Comments: Page 3

Materials: MARB-33/MARB2-33

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
08/23/90	15 hrs @ 125 F	H	
08/28/90	22 hrs @ 125 F	H	
08/29/90	5 hrs @ 600 F	O	
08/29/90	14 hrs @ 125 F	H	Humid
08/30/90	4 hrs @ 600 F	O	
09/05/90	1 hr @ -100 F	C	Autocycle
09/05/90	16 hrs @ 160 F	H	
09/06/90	3 hrs @ 600 F	O	
09/06/90	15 hrs @ 125 F	H	Humid to dry
09/07/90	1 hr @ -125 F	C	Autocycle
09/07/90	1 hr @ 800 F	C	Manual HIGH heat
09/20/90	Test (Location 1)	A	>1050 No Failure knock off 35% clean Substrate/ 65% C
09/24/90	3 hrs @ 600 F	O	

3

MRC Fabrication/Conditioning/Test Form 90-1

Set: I            Sample: AS-4

Comments: page 4

Materials: MARB-33/MARB2-33

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
09/24/90	13 hrs @ 120 F	H	
09/25/90	1 hr @ 487 F	O	
09/25/90	16 hrs @ 120 F	H	
09/26/90	3 hrs @ 600 F	O	
09/27/90	40 hrs @ 120 F	H	
09/29/90	Test (Location 2)	A	1050 PSI (90% C; 10% A)
10/01/90	3.5 hrs @ 610 F	O	
10/01/90	16 hrs @ 120 F	H	
10/02/90	1 hr @ -100 F	C	
10/03/90	23 hrs @ 120/150 F	H	
10/04/90	1 hr @ -100 F	C	
10/04/90	1 hr @ 600 F	C	
10/04/90	15 hrs @ 120-160 F	H	

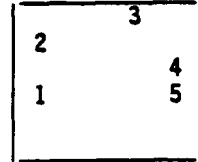
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MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 22R - AS4      Comments:

Materials: MARB 45

Equip Definitions: See Page 1



Date	Action	Equip	Results/Comments
03/12/91	16 hrs @ 115 F	H	
03/14/91	Test (Location 4)	A	>1000 PSI
03/19/91	3 hrs @ 610 F	O	dry
03/19/91	17 hrs @ 116 F	H	
03/20/91	3 hrs @ 650 F	O	
03/20/91	1 hr @ -100 F	C	
03/20/91	16 hrs @ 140 F	H	
03/21/91	1 hr @ -100 F	C	
03/21/91	1 hr @ 640 F	O	dry oven
03/21/91	16 hrs @ 140 F	H	
03/22/91	1 hr @ -100 F	C	auto
03/22/91	1 hr @ 640 F	O	dry heat
03/22/91	1 hr @ -100 F	C	
03/22/91	43 hrs @ 115 F	H	
03/24/91	1 hr @ -100 F	C	
03/28/91	Test (Location 5)	A	550 PSI (50% C; 50% dolly) cold

MRC Fabrication/Conditioning/Test Form 90-1

Set: I Sample: AS-4

Comments: page 5

Materials: MARB-33/ MARB2-33

AEDC-TR-92-23

Equip Definitions: O - Oven; C - Heat/Cooling Chamber; H - Humidity Chamber; A - Adhesion Tester

Date	Action	Equip	Results/Comments
10/06/90	1 hr @ 487 F	O	
10/08/90	1 hr @ -100 F	C	
10/08/90	1 hr @ 600 F	C	autocycle
10/08/90	20 hrs @ 120 F	H	very humid
10/09/90	1 hr @ -100 F	C	
10/10/90	Test (Location 3 TR)	A	>1000 PSI (85% C; 15% C/I black oxide)
10/10/90	1 hr @ -100 F	C	
10/10/90	8 hrs @ 350 F	O	
10/11/90	18 hrs @ 120 F	H	very humid
10/19/90	65 hrs @ 100 F	H	very humid
10/22/90	24 hrs @ 120/135 F	H	very humid STOP TESTING
Top quarter of panel is AS4 and very rusty with coating failure			
Conclusion: Do not apply thick brush coats; Increase Aluminum content. See 22R- AS4 01/15/91			

## MRC Fabrication/Conditioning/Test Form 91-1

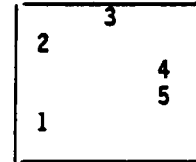
Page 1

Set-Sample: 22R - AS4      Comments: Repair Test

Substrate/Preparation: 516/ light rusting

Materials: MARB-45

Equip Definitions: O = Oven; C = Heat/Cooling Chamber;  
 H = Humidity Chamber;  
 A = Adhesion Tester; T = Misc Tests



Date	Action	Equip	Results/Comments
Formerly I-AS4 (See form 90-1)			- Gel clean and tape remove loose MARB
01/15/91	Clean	-	Gel clean 15 minutes
01/16/91	Coat panel	-	Spray coat 3 layers of MARB-45
01/17/91	1 hr @ 487 F	O	Cure slow to temperature
01/17/91	15 hrs @ 120 F	H	very humid
01/18/91	28 hrs @ 120 F	H	dry
01/19/91	1 hr @ -110 F	C	autocycle cold
01/19/91	1 hr @ 580 F	O	hot
01/21/91	1 hr @ -100 F	C	cold
01/21/91	2 hrs @ 600 F	O	hot
01/22/91	2 hrs @ 610 F	O	hot
01/22/91	1 hr @ -110 F	C	cold
01/22/91	16 hrs @ 115 F	H	humid
01/23/91	1 hr @ -110 F	C	cold
01/26/91	Test (Location 1)	A	>1000 PSI (no failure)
01/30/91	1 hr @ -110 F	C	cold
01/30/91	41 hrs @ 115 F	H	very humid
02/01/91	1 hr @ -110 F	C	autocycle
02/01/91	1 hr @ 600 F	C	autocycle
02/04/91	2.5 hrs @ 600 F	O	dry heat

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 22R - AS4      Comments: Repair test

Materials: MARB-45

Equip Definitions: See Page 1

	3
2	
	4
1	5

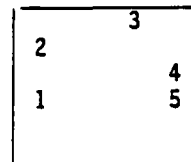
Date	Action	Equip	Results/Comments
02/04/91	42 hrs @ 115-150 F	H	very humid
02/06/91	2.5 hrs @ 58 F	O	
02/07/91	3 hrs @ 590 F	O	
02/08/91	1 hr @ -100 F	C	autocycle
02/09/91	1 hr @ -100 F	C	autocycle
02/11/91	1 hr @ -100 F	C	autocycle
02/11/91	2 hrs @ 620 F	O	dry heat
02/11/91	16 hrs @ 115 F	H	
02/12/91	1 hr @ -100 F	C	autocycle
02/12/91	2 hrs @ 600 F	O	
02/12/91	18 hrs @ 115 F	H	
02/13/91	1 hr @ -100 F	C	
02/13/91	15 hrs @ 118 F	H	
02/14/91	1 hr @ -100 F	C	
02/14/91	2 hrs @ 590 F	O	
02/14/91	16 hrs @ 120 F	H	
02/15/91	0.5 hrs @ -40 F	C	
02/18/91	Test (Location 2)	A	800 PSI (90% C, 10% F) some failure
02/22/91	2 hrs @ 590 F	C	dry heat
02/22/91	19 hrs @ 115 F	H	humid
02/25/91	2 hrs @ 600 F	O	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 22R - AS4      Comments:

Materials: MARB 45

Equip Definitions: See Page 1



Date	Action	Equip	Results/Comments
02/25/91	1 hr @ -100 F	C	autocycle
02/27/91	1 hr @ -100 F	C	autocycle
02/27/91	2 hrs @ 350 F	O	dry
02/28/91	1 hr @ -100 F	C	
02/28/91	2 hrs @ 600 F	O	
02/28/91	18 hrs @ 115 F	H	
03/04/91	Test (Location 3)	A	750 PSI (100% C)
	overlapped previous coating dolly location		
03/04/91	1 hr @ 487 F	O	dry oven
03/04/91	1 hr @ -100 F	C	auto
03/05/91	1 hr @ -100 F	C	auto
03/05/91	1 hr @ 600 F	O	dry heat
03/05/91	16.5 hrs @ 116 F	H	humid
03/08/91	1 hr @ -100 F	C	
03/08/91	2 hrs @ 600 F	O	
03/08/91	64 hrs @ 140 F	H	
03/11/91	1 hr @ -100 F	C	
03/11/91	2 hrs @ 600 F	O	
03/11/91	17 hrs @ 115 F	H	
03/12/91	1 hr @ -100 F	C	
03/12/91	1 hr @ 480 F	O	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I

Sample: ST-4

Comments:

Materials: 4 Silicones on A516-70 steel  
Acid cleaned

1. 50% solids SR-240

3. 50% solids MARB Blend

2. Thin SR-240

4. Thin MARB Blend

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
07/24/90	Acid clean	-	60% HCL/rinse
07/25/90	Formulate	-	Silicone 1. SR240 thick cracking
07/26/90	Coat	-	Brush 4.over 2. + 2. worst scratch
07/26/90	1 hr @ 410 F	O	Bake 3. Thick resin blend cracking
07/27/90	Test at 250 F	E	Scratch 2.over 4. + 4. thin blend best
07/27/90	1 hr @ 40 F	H	
07/27/90	0.5 hrs @ 10 F	H	
07/27/90	20 hrs @ 130 F	H	
07/29/90	Test	E	Scratch
07/30/90	2 hrs @ -100 F	C	Cracking evident #1 & #3
07/31/90	1 hr @ 480 F	C	
07/31/90	20 hrs @ 130 - 145 F	H	very humid 8 hrs
08/02/90	0.25 hrs @ -100 F	C	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I            Sample: ST-4

Comments: page 2

Materials: Thinning Silicones

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
08/02/90	1 hr @ 250 F	C	
08/02/90	15 hrs @ 130 F	H	
08/03/90	Test	E	Scratch
08/06/90	1 hrs @ -100 F	C	

Blended resins is best; Must be applied thin.

MRC Fabrication/Conditioning/Test Form 90-1

Set: I                      Sample: SB-7                      Comments: Testing Blends for microcracking

Materials: 7 Silicone Blends on one A517 panel

Equip Definitions: O - Oven; C - Heat/Cooling Chamber; H - Humidity Chamber; A - Adhesion Tester  
E - Scratch Tester Balanced Beam                      Elcometer

Date	Action	Equip	Results/Comments
07/24/90	Clean	-	60% HCl/ rinse
07/25/90	Formulate	-	Silicone Blend formulations:
			1      2      3      4      5      6      7
			SR-240    100    0    17    67    33    50    83    %
			6-2230    0    100    83    33    67    50    17    %
07/25/90	Coating	-	Brushcoat 3.5 mils wet (too thick)
07/25/90	1 hr @ 480 F	O	Bake cure
07/26/90	1 hr @ 410 F	O	Dry heat
07/27/90	Scratch testing @ 250 F	E/O	#2 & #3 Best; #1 & #7 Worst
07/27/90	1 hr @ 40 F	H	
07/27/90	1/2 hrs @ 10 F	H	
07/27/90	20 hrs @ 130 F	H	
07/29/90	Scratch Test	E	

**MRC Fabrication/Conditioning/Test Form 90-1**

**Set: I            Sample: SB-7**

**Comments: Page 2**

**Materials: 7 Silicone Blends**

**Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester**

<b>Date</b>	<b>Action</b>	<b>Equip</b>	<b>Results/Comments</b>
07/30/90	2 hrs @ -100 F	C	
07/31/90	1 hr @ 480 F	C	
07/31/90	20 hrs @ 130-145 F	H	8 hrs very humid
08/02/90	1/4 hrs @ -100 F	C	
08/02/90	1 hr @ 250 F	C	
08/02/90	15 hrs @ 130 F	H	Humid
08/03/90	Scratch Test	E	
08/06/90	1 hr @ -100 F	C	Autocycle
08/06/90	1 hr @ 600 F	C	Autocycle
			Best #1/ #4/ #7    #5 is MARB blend

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**NRC Fabrication/Conditioning/Test Form 90-1**

**Set: I-P2      Sample: 1      Comments: Mass weight loss**

**Materials: Silicone Blend (no filler) used in MARB**

**Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester**

Date	Action	Equip	Results/Comments
08/03/90	Acid clean	-	Remove mill scale both sides of panel
08/07/90	Acid clean	-	Reclean to remove spot rust
08/11/90	Clean	-	Consultant cleaner both sides 44B-FFPVA
08/11/90	Coat	-	Brush coat Silicone Blend      100% panel 78in <sup>2</sup>
08/13/90	1 hr @ 480 F	O	Cure
08/14/90	2 hrs @ 600 F	O	
08/16/90	2 hrs @ 600 F	O	
08/17/90	2 hrs @ 600 F	O	
08/20/90	2 hrs @ 600 F	O	
08/21/90	2 hrs @ 600 F	O	
08/22/90	2 hrs @ 600 F	O	
08/23/90	2 hrs @ 600 F	O	
08/23/90	15 hrs @ 125 F	H	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 1

Comments: Page 2

Materials: MARB

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
08/27/90	6 hrs @ 580 F	O	
08/28/90	22 hrs @ 125 F	H	
08/29/90	5 hrs @ 600 F	O	
08/29/90	14 hrs @ 125 F	H	
08/30/90	4 hrs @ 600 F	O	
09/05/90	1 hr @ -100 F	C	Autocycle
09/05/90	16 hrs @ 125 F	H	
09/06/90	3 hrs @ 600 F	O	
09/06/90	15 hrs @ 125 F	H	Humid to dry
09/07/90	1 hr @ -125 F	C	Autocycle
09/07/90	1 hr @ 800 F	C	Manual HIGH heat      Too high heat - failed

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MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 2

Comments: Mass weight loss

Materials: MARB

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
08/03/90	Acid clean	-	Remove mill scale both sides of panel
08/07/90	Acid clean	-	Reclean to remove spot rust
08/11/90	Clean	-	Consultant cleaner both sides 44B-FFPVA
08/11/90	Coat	-	Brush coat MARB 100% panel 78in <sup>2</sup>
08/13/90	1 hr @ 480 F	O	Cure
08/14/90	2 hrs @ 600 F	O	
08/16/90	2 hrs @ 600 F	O	
08/17/90	2 hrs @ 600 F	O	
08/20/90	2 hrs @ 600 F	O	
08/21/90	2 hrs @ 600 F	O	
08/22/90	2 hrs @ 600 F	O	
08/23/90	2 hrs @ 600 F	O	
08/23/90	15 hrs @ 125 F	H	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 2

Comments: Page 2

Materials: MARB

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
08/27/90	6 hrs @ 580 F	O	
08/28/90	22 hrs @ 125 F	H	
08/29/90	5 hrs @ 600 F	O	
08/29/90	14 hrs @ 125 F	H	
08/30/90	4 hrs @ 600 F	O	
09/05/90	1 hr @ -100 F	C	Autocycle
09/05/90	16 hrs @ 125 F	H	
09/06/90	3 hrs @ 600 F	O	
09/06/90	15 hrs @ 125 F	H	Humid to dry
09/07/90	1 hr @ -125 F	C	Autocycle
09/07/90	1 hr @ 800 F	C	Manual HIGH heat
09/11/90	1 hr @ -100 F	C	
09/11/90	1 hr @ 590 F	C	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 2

Comments: page 3

Materials: MARB

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
09/12/90	1 hr @ -100 F	C	
09/12/90	3 hrs @ 600 F	O	
09/12/90	16 hrs @ 125 F	H	
09/13/90	21 hrs @ 125 F	H	very humid
09/14/90	1 hr @ -100 F	C	
09/18/90	1 hr @ -100 F	C	
09/18/90	1 hr @ 600 F	O	
09/19/90	1 hr @ 15 F	H	
09/19/90	21 hrs @ 15 F	H	
09/20/90	Test (Location 1)	A	600 PSI (100% C/I)
09/24/90	3 hrs @ 600 F	O	
09/24/90	13 hrs @ 120 F	H	
09/25/90	1 hr @ 487 F	O	



MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2

Sample: 3

Comments: Mass weight loss

Materials: DC 6-2230 Silicone Resin

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
08/03/90	Acid clean	-	Remove mill scale both sides of panel
08/07/90	Acid clean	-	Reclean to remove spot rust - Drill hole to hang
08/11/90	Clean	-	Consultant cleaner both sides 44B-FFPVA / weigh
08/11/90	Coat	-	Brush coat Silicone resin 100% of panel 78 in <sup>2</sup>
08/13/90	1 hr @ 480 F	O	Cure
08/14/90	2 hrs @ 600 F	O	
08/16/90	2 hrs @ 600 F	O	
08/17/90	2 hrs @ 600 F	O	
08/20/90	2 hrs @ 600 F	O	
08/21/90	2 hrs @ 600 F	O	
08/22/90	2 hrs @ 600 F	O	
08/23/90	2 hrs @ 600 F	O	
08/23/90	15 hrs @ 125 F	H	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2

Sample: 3

Comments: Page 2

Materials: DC 2230 Silicone Resin

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
08/27/90	6 hrs @ 580 F	O	
08/28/90	22 hrs @ 125 F	H	
08/29/90	5 hrs @ 600 F	O	
08/29/90	14 hrs @ 125 F	H	
08/30/90	4 hrs @ 600 F	O	
09/05/90	1 hr @ -100 F	C	Autocycle
09/05/90	16 hrs @ 125 F	H	
09/06/90	3 hrs @ 600 F	O	
09/06/90	15 hrs @ 125 F	H	Humid to dry
09/07/90	1 hr @ -125 F	C	Autocycle
09/07/90	1 hr @ 800 F	C	Manual HIGH heat

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2

Sample: 4

Comments: Mass weight loss

Materials: Sherwin Williams - Silver-Brite  
 Hi-Heat resisting Aluminum paint  
 B59S3

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
08/03/90	Acid clean	-	Remove mill scale both sides of panel
08/07/90	Acid clean	-	Reclean to remove spot rust; drill hole to hang in oven
08/11/90	Clean	-	Consultant cleaner both sides 44B-FFPVA; weigh
08/11/90	Coat	-	Brush coat SW Silver-Brite B59S3 100% panel 78in <sup>2</sup>
08/13/90	48 hrs ambient	-	Dry
08/14/90	2 hrs @ 600 F	O	
08/16/90	2 hrs @ 600 F	O	
08/17/90	2 hrs @ 600 F	O	
08/20/90	2 hrs @ 600 F	O	
08/21/90	2 hrs @ 600 F	O	
08/22/90	2 hrs @ 600 F	O	
08/23/90	2 hrs @ 600 F	O	
08/23/90	15 hrs @ 125 F	H	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 4

Comments: Page 2

Materials: SW Silver-Brite

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
08/27/90	6 hrs @ 580 F	O	
08/28/90	22 hrs @ 125 F	H	
08/29/90	5 hrs @ 600 F	O	
08/29/90	14 hrs @ 125 F	H	
08/30/90	4 hrs @ 600 F	O	
09/05/90	1 hr @ -100 F	C	Autocycle
09/05/90	16 hrs @ 125 F	H	
09/06/90	3 hrs @ 600 F	O	
09/06/90	15 hrs @ 125 F	H	Humid to dry
09/07/90	1 hr @ -125 F	C	Autocycle
09/07/90	1 hr @ 800 F	C	Manual HIGH heat
09/11/90	1 hr @ -100 F	C	
09/11/90	1 hr @ 590 F	C	

NRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 4

Comments: page 3

Materials: SW Silver Brite

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
09/12/90	1 hr @ -100 F	C	
09/12/90	3 hrs @ 600 F	O	
09/12/90	16 hrs @ 125 F	H	
09/13/90	21 hrs @ 125 F	H	very humid
09/14/90	1 hr @ -100 F	C	
09/18/90	1 hr @ -100 F	C	
09/18/90	1 hr @ 600 F	O	
09/19/90	1 hr @ 15 F	H	
09/19/90	21 hrs @ 130 F	H	
09/20/90	Test (Location 1)	A	250 PSI (75% C; 25% I)
09/24/90	3 hrs @ 600 F	O	
09/24/90	13 hrs @ 120 F	H	
09/25/90	1 hr @ 487 F	O	



MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P Sample: 9001

Comments:

Materials: MARB 2 over MARS 3

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
07/16/90	Acid Clean	-	Remove mill scale both sides of panel
07/18/90	Medium rust	H	
08/07/90	Clean	-	Acid clean and wire brush and xylene wipe
08/07/90	Coat	-	Brush MARS 3-33% Thin 2 coats
08/07/90	Coat	-	Brush MARB 2-33% Thin 2 coats Brush strokes
08/08/90	1 hr @ 480 F	O	Cure slowly heatup
08/10/90	1 hr @ -110 F	C	Autocycle
08/10/90	1 hr @ 600 F	C	Autocycle
08/13/90	1 hr @ -100 F	C	Cold autocycle
08/14/90	1 hr @ -100 F	C	Cold autocycle
08/14/90	1/2 hr @ 600 F	C	Hot altered autocycle
08/16/90	5 hrs @ 140 F	H	Humid
08/17/90	1/2 hr @ 20 F	H	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P Sample: 9001

Comments: Page 2

Materials: MARB 2 over MARS 3

Equip Definitions: O - Oven; C - Heat/Cooling Chamber; H - Humidity Chamber; A - Adhesion Tester

Date	Action	Equip	Results/Comments
08/17/90	3 hrs @ 130 F	H	
08/20/90	16 hrs @ 160 F	H	
08/21/90	1 hr @ -100 F	C	Cold
08/21/90	16 hrs @ 120 F	H	
08/22/90	1 hr -100 F	C	Cold
08/22/90	1 hr @ 600 F	C	Hot General stroke rusting
08/22/90	15 hrs @ 125 F	H	
08/23/90	1 hr @ -100 F	C	
08/23/90	1 hr @ 600 F	C	
08/23/90	15 hrs @ 125 F	H	
08/28/90	22 hrs @ 125 F	H	
08/29/90	5 hrs @ 600 F	O	
08/29/90	14 hrs @ 125 F	H	

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MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P Sample: 9001

Comments: Page 3

Materials: MARB 2 over MARS 3

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
08/30/90	4 hrs @ 600 F	O	
09/05/90	1 hr @ -100 F	C	
09/05/90	16 hrs @ 125 F	H	
09/06/90	3 hrs @ 600 F	O	
09/06/90	15 hrs @ 125 F	H	Humid to dry
09/07/90	1 hr @ -125 F	C	Autocycle
09/07/90	1 hr @ 800 F	C	Manual HIGH heat Severe pitting at strokes
09/20/90	Test (Location 1)	A	>1050 PSI No Failure knockoff 85% substrate; 15% C
09/24/90	3 hrs @ 600 F	O	
09/24/90	13 hrs @ 120 F	H	
09/25/90	1 hr @ 487 F	O	
09/25/90	16 hrs @ 120 F	H	
09/26/90	3 hrs @ 600 F	O	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P Sample: 9001

Comments: page 4

Materials: MARB 2 over MARS 3

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
09/27/90	40 hrs @ 120 F	H	
09/29/90	Test (Location 2)	A	700 PSI (100% C)
10/01/90	3.5 hrs @ 610 F	O	
10/01/90	16 hrs @ 120 F	H	
10/02/90	1 hr @ -100 F	C	
10/03/90	23 hrs @ 120/150 F	H	
10/04/90	1 hr @ -100 F	C	
10/04/90	1 hr @ 600 F	C	autocycle
10/04/90	15 hrs @ 120/160 F	H	
10/06/90	1 hr @ 487 F	O	
10/08/90	1 hr @ -100 F	C	
10/08/90	1 hr @ 600 F	C	autocycle
10/08/90	20 hrs @ 120 F	H	very humid



MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P      Sample: 9002

Comments:

Materials: Sheffield #326

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
07/16/90	Acid clean	-	Remove mill scale both sides of panel
07/18/90	Medium rusting	H	
08/16/90	Clean	-	Acid clean and consultant clean
08/16/90	Coat	-	Brush coat (thin)      air dry      1239.7g
08/17/90	Coat	-	Brush Coat (thin)      air dry      1240.2g
08/20/90	1 hr @ 480 F	O	Cure      (1.5 hrs slowly)
08/22/90	15 hrs @ 125 F	H	
08/23/90	1 hr @ -100 F	C	Autocycle
08/23/90	1 hr @ 600 F	C	Autocycle
08/23/90	15 hrs @ 125 F	H	
08/28/90	22 hrs @ 125 F	H	
08/29/90	5 hrs @ 600 F	O	
08/29/90	14 hrs @ 125 F	H	

NRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P Sample: 9002

Comments: Page 2

Materials: Sheffield #326

Equip Definitions: O - Oven; C - Heat/Cooling Chamber; H - Humidity Chamber; A - Adhesion Tester

Date	Action	Equip	Results/Comments
08/30/90	4 hrs @ 600 F	O	
09/05/90	1 hr @ -100 F	C	
09/05/90	16 hrs @ 125 F	H	
09/06/90	3 hrs @ 600 F	O	
09/06/90	15 hrs @ 125 F	H	Humid to dry
09/07/90	1 hr @ -125 F	C	Autocycle
09/07/90	1 hr @ 800 F	C	Manual HIGH heat No damage
09/11/90	1 hr @ -100 F	C	autocycle
09/11/90	1 hr @ 590 F	C	altered autocycle
09/12/90	1 hr @ -100 F	C	autocycle
09/12/90	3 hrs @ 600 F	O	
09/12/90	16 hrs @ 125 F	H	
09/13/90	21 hrs @ 125 F	H	

**MRC Fabrication/Conditioning/Test Form 90-1**

**Set: I-21P      Sample: 9002**

**Comments: Page 3**

**Materials: Sheffield #326**

**Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester**

<b>Date</b>	<b>Action</b>	<b>Equip</b>	<b>Results/Comments</b>
09/14/90	1 hr @ -100 F	C	
09/18/90	1 hr @ -100 F	C	
09/18/90	1 hr @ 600 F	O	
09/19/90	1 hr @ 15 F	H	
09/19/90	21 hrs @ 130 F	H	
09/20/90	Test (Location 1)	A	200 PSI (100% C)
09/24/90	3 hrs @ 600 F	O	
09/24/90	13 hrs @ 120 F	H	
09/25/90	1 hr @ 487 F	O	
09/25/90	16 hrs @ 120 F	H	
09/26/90	3 hrs @ 600 F	O	
09/27/90	40 hrs @ 120 F	H	
09/29/90	Test (Location 2)	A	50 PSI (100% C)

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MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P Sample: 9002

Comments: Page 4

Materials: Sheffield #326

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
10/01/90	3.5 hrs @ 610 F	O	
10/01/90	16 hrs @ 120 F	H	
10/02/90	1 hr @ -100 F	C	
10/03/90	23 hrs @ 120/150 F	H	
10/04/90	1 hr @ -100 F	C	
10/04/90	1 hrs @ 600 F	C	autocycle
10/04/90	15 hrs @ 120/160 F	H	
10/06/90	1 hr @ 487 F	O	
10/08/90	1 hr @ -100 F	C	
10/08/90	1 hr @ 600 F	C	autocycle
10/08/90	20 hrs @ 120 F	H	very humid
10/10/90	Test (Location 1 C)	A	50 PSI (90% F; 10% C) no test
10/10/90	1 hr @ -100 F	C	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P Sample: 9002

Comments: page 5

Materials: Sheffield #326

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
10/10/90	8 hrs @ 350 F	O	
10/11/90	18 hrs @ 120 F	H	
11/08/90	89 hrs @ 140 F	H	
11/26/90	1 hr @ 450 F	C	
11/26/90	4 hrs @ 600 F	O	
11/27/90	6 hrs @ 600 F	O	
11/27/90	40 hrs @ 140 F	H	very humid
11/29/90	4.5 rs @ 550 F	O	
11/29/90	20 hrs @ 140 F	H	very humid
12/03/90	Test (Location 4)	A	50 PSI (100% F)
Events: 21 H; 1 C (800F); 18 O/C (350 to 650F); 11 C (100F) = 51 total			
12/04/90	3 hrs @ 550 F	O	
12/04/90	15 hrs @ 120-160 F	H	dry

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MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P Sample: 9002

Comments: page 6

Materials: Sheffield #326

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

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Date	Action	Equip	Results/Comments
12/05/90	1 hr @ -100 F	C	autocycle
12/05/90	1 hr @ 600 F	C	autocycle
12/05/90	16 hrs @ 120 F	H	
12/06/90	1 hr @ -110 F	C	autocycle
12/06/90	3 hrs @ 560 F	C	autocycle
12/07/90	5 hrs @ 560 F	O	
12/08/90	1 hr @ -110 F	C	autocycle
12/10/90	1 hr @ -110 F	C	autocycle
12/10/90	3 hrs @ 570 F	O	
12/11/90	1 hr @ -110 F	C	autocycle
12/11/90	3 hrs @ 570 F	O	
12/12/90	3 hrs @ 580 F	O	removed @ 225 F
12/12/90	1 hr @ -110 F	C	remove @ 20 F

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P Sample: 9002

Comments: page 7

Materials: Sheffield # 326

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
12/12/90	18 hrs @ 140 F	H	very humid
12/13/90	5 hrs @ 580 F	O	
12/15/90	30 hrs @ 115/140 F	H	dry
12/15/90	15 hrs @ 120 F	H	humid
12/17/90	3 hrs @ 560 F	O	
12/17/90	32 hrs @ 140 F	H	very humid
12/17/90	12 hrs @ 120 F	H	very humid
12/19/90	3 hrs @ 560 F	O	
12/19/90	1 hr @ -110 F	C	autocycle
01/14/91	Sent for watercleaning @ NLB		

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MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P

Sample: 9003

Comments:

Materials: Sherwin Williams Superbrite

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
07/16/90	Acid Clean	-	Remove mill scale both sides of panel
07/16/90	Rust	H	
08/17/90	Clean	-	Acid clean and consultant clean
08/17/90	Coat	-	Brush coat (thin) 1226.3g
08/20/90	1 hr @ 480 F	O	Cure first coat
08/20/90	Coat	-	Brush coat (thin)
08/21/90	Coat	-	Brush coat (thin)
08/22/90	2 hrs @ 600 F	O	Slowly heat-up
08/22/90	15 hrs @ 125	H	
08/23/90	1 hr @ -100 F	C	Cold autocycle
08/23/90	1 hr @ 600 F	C	Hot autocycle
08/23/90	15 hrs @ 125 F	H	
08/28/90	22 hrs @ 125 F	H	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P Sample: 9003

Comments: Page 2

Materials: Sherwin Williams Silverbrite

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
08/29/90	5 hrs @ 600 F	O	
08/29/90	14 hrs @ 125 F	H	
08/30/90	4 hrs @ 600 F	O	
09/05/90	1 hr @ -100 F	C	
09/05/90	16 hrs @ 125 F	H	
09/06/90	3 hrs @ 600 F	O	
09/06/90	15 hrs @ 125 F	H	Humid to dry
09/07/90	1 hr @ -125 F	C	Autocycle
09/07/90	1 hr @ 800 F	C	Manual HIGH heat Stop testing

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MRC Fabrication/Conditioning/Test Form 90-1

Set: I-21P Sample: 9004

Comments: Spray tests

Materials: Red Hot Spraying

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
	old 7104 sample		Backside clean
			1290.9 As cleaned
			1290.0 1st coat
			1291.1 2nd coat
			1291.2 3rd coat
			4th coat
09/12/90	3 hrs @ 600 F	O	
09/12/90	16 hrs @ 125 F	H	
09/13/90	21 hrs @ 125 F	H	
09/20/90			Stop testing

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 9005

Comments:

Materials: Red Hot Spraying

(mill scale on back)

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

-----  
Date      Action      Equip      Results/Comments  
-----

old 7701 sample    Solvent cleaned and oversprayed 09/04/90  
-----

09/06/90    3 hrs @ 600 F      O

09/06/90    15 hrs @ 125 F      H

09/07/90    1 hr @ -100 F      C

09/07/90    1 hr @ 800 F      C      HOT

09/11/90    1 hr @ -100 F      C

09/11/90    1 hr @ 590 F      C

09/12/90    1 hr @ -100 F      C

09/12/90    3 hrs @ 600 F      O

09/12/90    16 hrs @ 125 F      H

09/13/90    21 hrs @ 125 F      H

09/20/90    Test (Location 1)      A      550 PSI (80% C; 20% I)  
-----

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 9005

Comments: page 2

Materials: Red Hot Spraying

(mill scale on back)

Equip Definitions: O - Oven; C - Heat/Cooling Chamber; H - Humidity Chamber; A - Adhesion Tester

Date	Action	Equip	Results/Comments
09/24/90	3 hrs @ 600 F	O	
09/24/90	13 hrs @ 120 F	H	
09/25/90	1 hr @ 487 FF	O	
09/25/90	16 hrs @ 120 F	H	
09/26/90	3 hrs @ 600 F	O	
09/27/90	40 hrs @ 120 F	H	
09/29/90	Test (Location 2)	A	800 PSI (75% C; 10% A; 15% F)
10/01/90	3.5 hrs @ 610 F	O	
10/01/90	16 hrs @ 120 F	H	
10/02/90	1 hr @ -100 F	C	
10/03/90	23 hrs @ 120/150 F	H	
10/04/90	1 hr @ -100 F	C	
10/04/90	1 hr @ 600	C	autocycle

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 9005

Comments: Page 3

Materials: Red Hot Spraying

(mill scale on back)

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
10/04/90	15 hrs @ 120/150 F	H	
10/06/90	1 hr @ 487 F	O	
10/08/90	1 hr @ -100 F	C	
10/08/90	1 hr @ 600 F	C	autocycle
10/08/90	20 hrs @ 120 F	H	very humid
10/09/90	1 hr @ -100 F	C	
10/10/90	Test (Location 3 C)	A	600 PSI (90% C; 10% C/I black oxide)
10/10/90	1 hr @ -100 F	C	
10/10/90	8 hrs @ 350 F	O	
10/11/90	18 hrs @ 120 F	H	very humid
			Stop testing

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 9007

Comments: A516-70

Materials: MARB-47

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
07/12/90	Acid clean	-	Remove mill scale both sides of panel
07/12/90	16 hrs @ 130 F	H	Rusting panels
07/13/90	2 hrs @ 620 F	O	Aging panel
07/13/90	17 hrs @ 135 F	H	Rusting panel
07/19/90	20 hrs @ 130 F	H	Salt spray rusting
09/07/90	Acid reclean	-	One side
09/07/90	Coat	-	Cloth wipe on MARB
09/07/90	Coat	-	Spray light coat MARB 1227.7g
09/07/10	Coat	-	Spray coat MARB 1227.9g
09/07/90	Coat	-	Spray topcoat MARB dry wt: 1228.4g
09/10/90	1 hr @ 487 F	O	cure
09/11/90	1 hr @ -100 F	C	
09/11/90	1 hr @ 590 F	C	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 9007

Comments: page 2

Materials: MARB-47

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
09/12/90	1 hr @ -100 F	C	
09/12/90	3 hrs @ 600 F	O	
09/12/90	16 hrs @ 125 F	H	
09/13/90	21 hrs @ 125 F	H	very humid
09/14/90	1 hr @ -100 F	C	
09/18/90	1 hr @ -100 F	C	
09/18/90	1 hr @ 600 F	O	
09/19/90	1 hr @ 15 F	H	
09/19/90	21 hrs @ 130 F	H	
09/20/90	Test (Location 1)	A	600 PSI (100% C/I)
09/24/90	3 hrs @ 600 F	O	
09/24/90	13 hrs @ 120 F	H	
09/25/90	1 hr @ 487 F	O	

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MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 9007

Comments: page 3

Materials: MARB-47

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
09/25/90	16 hrs @ 120 F	H	
09/26/90	3 hrs @ 600 F	O	
09/27/90	40 hrs @ 120 F	H	
09/29/90	Test (Location 2)	A	500 PSI (100% C/I)
10/01/90	3.5 hrs @ 610 F	O	
10/01/90	16 hrs @ 120 F	H	
10/02/90	1 hr @ -100 F	C	
10/03/90	23 hrs @ 120/150 F	H	
10/04/90	1 hr @ -100 F	C	
10/04/90	1 hr @ 600 F	C	autocycle
10/04/90	15 hrs @ 120/160 F	H	
10/06/90	1 hr @ 487 F	O	
10/08/90	1 hr @ -100 F	C	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 9007

Comments: page 4

Materials: MARB-47

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
10/08/90	1 hr @ 600 F	C	autocycle
10/08/90	20 hrs @ 120 F	H	very humid
10/09/90	1 hr @ -100 F	C	
10/10/90	Test (Location 3 TL)	A	600 PSI (100% C/I) Grey, lots of lint
10/10/90	1 hr @ -100 F	C	
10/10/90	8 hrs @ 350 F	O	
10/11/90	18 hrs @ 120 F	H	
10/19/90	65 hrs @ 100 F	H	very humid
10/22/90	24 hrs @ 120/135 F	H	very humid
11/08/90	89 hrs @ 140 F	H	very humid
11/26/90	1 hr @ 450 F	C	
11/26/90	4 hrs @ 600 F	O	
11/27/90	6 hrs @ 600 F	O	

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MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 9007

Comments: page 5

Materials: MARB-47

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
11/27/90	40 hrs @ 140 F	H	very humid
11/29/90	4.5 hrs @ 550 F	O	
11/29/90	20 hrs @ 140 F	H	very humid
12/03/90	Test (Location 4)	A	950 PSI (100% C/I)
12/04/90	3 hrs @ 550 F	O	
12/04/90	15 hrs @ 120-160 F	H	dry
12/05/90	1 hr @ -100 F	C	
12/05/90	1 hr @ 600 F	C	auto
12/05/90	16 hrs @ 120 F	H	
12/06/90	1 hr @ -110 F	C	auto
12/06/90	3 hrs @ 560 F	O	
12/07/90	5 hrs @ 560 F	O	
12/08/90	1 hr @ -110 F	C	auto

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 9007

Comments: page 6

Materials: MARB-47

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
12/10/90	1 hr @ -110 F	C	auto
12/10/90	3 hrs @ 570 F	O	
12/11/90	1 hr @ -110 F	C	auto
12/12/90	3 hrs @ 580 F	O	removed at 225 F end before ambient
12/12/90	1 hr @ -110 F	C	removed at 20 F autocycle close to end
12/12/90	18 hrs @ 140 F	H	very humid
12/13/90	5 hrs @ 580 F	O	
12/15/90	30 hrs @ 115-140	H	dry
12/15/90	15 hrs @ 120 F	H	humid
12/17/90	3 hrs @ 560 F	O	
12/17/90	32 hrs @ 140 F	H	very humid
12/17/90	12 hrs @ 120 F	H	very humid
12/19/90	3 hrs @ 560 F	O	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 9007

Comments: page 7

Materials: MARB-47

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
12/19/90	1 hr @ -110	C	auto
12/28/90	Test (location 5)	A	1000 PSI (60% C/I; 40 % F) Continued on Test Form 91-1
01/15/91	1 hr @ -110 F	C	auto
01/15/91	1 hr @ 600 F	C	auto
01/15/91	16 hrs @ 118 F	H	
01/16/91	20 hrs @ 120 F	H	very humid
01/17/91	15 hrs @ 120 F	H	
01/18/91	28 hrs @ 120 F	H	
01/19/91	1 hr @ -110 F	C	
01/19/91	1 hr @ 580 F	O	
01/21/91	1 hr @ -100 F	C	
01/21/91	2 hrs @ 600 F	O	
01/22/91	2 hrs @ 610 F	O	

## MRC Fabrication/Conditioning/Test Form 91-1

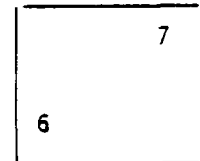
Page 1

Set-Sample: IP2 - 9007      Comments: See 1990 Testing

Substrate/Preparation: 516/ medium salt pitting

Materials: MARB-47 (cloth wipe and 3 spray coats)

Equip Definitions: O = Oven; C = Heat/Cooling Chamber;  
 H = Humidity Chamber;  
 A = Adhesion Tester; T = Misc Tests



Date	Action	Equip	Results/Comments
07/12/90	See 1990 Test Form 90-1		Mill Scale removed both sides
09/07/90	" " "		Coat date; cured: 09/10/90
12/28/90	" " "		3 month testing completed: 65 events
12/28/90	Test (Location 5)	A	1000 PSI (60% C/I; 40% F)
01/15/91	1 hr @ -110 F	C	Cold Autocycle
01/15/91	1 hr @ 600 F	C	Hot Autocycle
01/15/91	16 hrs @ 118 F	H	Humid
01/16/91	1/2 hr @ -95 F	C	Cold (aborted autocycle)
01/16/91	20 hrs @ 120 F	H	very Humid
01/17/91	15 hrs @ 120 F	H	very humid
01/18/91	28 hrs @ 120 F	H	dry
01/19/91	1 hr @ -110 F	C	autocycle cold
01/19/91	1 hr @ 580 F	O	hot
01/21/91	1 hr @ -100 F	C	cold
01/21/91	2 hrs @ 600 F	O	hot,dry
01/22/91	2 hrs @ 610 F	O	hot,dry
01/22/91	1 hr @ -110 F	C	cold
01/22/91	16 hrs @ 115 F	H	very humid
01/23/91	1 hr @ -110 F	C	cold
01/26/91	Test (Location 6)	A	900 PSI (20% C/I; 70% F; 10% dolly)

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: IP2 - 9007      Comments: Page 2

Materials: MARB-47

Equip Definitions: See Page 1



Date	Action	Equip	Results/Comments
01/30/91	1 hr @ -110 F	C	cold
01/30/91	41 hrs @ 115 F	H	very humid
02/01/91	1 hr @ -110 F	C	autoclave
02/01/91	1 hr @ 600 F	C	autoclave
02/04/91	2.5 hrs @ 600 F	O	dry heat
02/04/91	42 hrs @ 115/150 F	H	very humid
02/06/91	2.5 hrs @ 580 F	O	dry heat
02/07/91	3 hrs @ 590 F	O	dry heat
02/08/91	1 hr @ -100 F	C	autocycle
02/09/91	1 hr @ -100 F	C	
02/11/91	1 hr @ -100 F	C	autocycle
02/11/91	2 hrs @ 620 F	O	heat
02/11/91	16 hrs @ 115 F	H	
02/12/91	1 hr @ -100 F	C	autocycle
02/12/91	2 hrs @ 600 F	O	
02/12/91	18 hrs @ 115 F	H	
02/13/91	1 hr @ -100 F	C	
02/13/91	15 hrs @ 118 F	H	
02/14/91	1 hr @ -100 F	C	
02/14/91	2 hrs @ 590 F	O	
02/14/91	16 hrs @ 120 F	H	



MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 9008

Comments:

Materials: MZRB-60

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
07/12/90	Acid clean	-	Remove mill scale both sides of panel
07/12/90	16 hrs @ 130 F	H	Rusting panels
07/13/90	2 hrs @ 620 F	O	Aging panel
07/13/90	17 hrs @ 135 F	H	Rusting panel
07/19/90	20 hrs @ 130 F	H	Salt spray rusting
09/07/90	Acid reclean	-	One side
09/07/90	Coat	-	Cloth wipe on MZRB-60
09/07/90	Coat	-	light coat MZRB-60
09/07/10	Coat	-	Brush coat MZRB-60
09/10/90	1 hr @ 487 F	O	cure
09/11/90	1 hr @ -100 F	C	
09/11/90	1 hr @ 590 F	C	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 9008

Comments: page 2

Materials: MZRB-60

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
09/12/90	1 hr @ -100 F	C	
09/12/90	3 hrs @ 600 F	O	
09/12/90	16 hrs @ 125 F	H	
09/13/90	21 hrs @ 125 F	H	very humid
09/14/90	1 hr @ -100 F	C	
09/18/90	1 hr @ -100 F	C	
09/18/90	1 hr @ 600 F	O	
09/19/90	1 hr @ 15 F	H	
09/19/90	21 hrs @ 130 F	H	
09/20/90	Test (Location 1)	A	>1050 No Failure      Knockoff 95% Substrate; 5% C
09/24/90	3 hrs @ 600 F	O	
09/24/90	13 hrs @ 120 F	H	
09/25/90	1 hr @ 487 F	O	

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MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 9008

Comments: page 3

Materials: MZRB-60

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
09/25/90	16 hrs @ 120 F	H	
09/26/90	3 hrs @ 600 F	O	
09/27/90	40 hrs @ 120 F	H	
09/29/90	Test (Location 2)	A	400 PSI (99% C/I; 1% F)
10/01/90	3.5 hrs @ 610 F	O	
10/01/90	16 hrs @ 120 F	H	
10/02/90	1 hr @ -100 F	C	
10/03/90	23 hrs @ 120/150 F	H	
10/04/90	1 hr @ -100 F	C	
10/04/90	1 hr @ 600 F	C	autocycle
10/04/90	15 hrs @ 120/160 F	H	
10/06/90	1 hr @ 487 F	O	
10/08/90	1 hr @ -100 F	C	autocycle

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 9008

Comments: page 4

Materials: MZRB-60 Spraying

Equip Definitions: O - Oven; C - Heat/Cooling Chamber; H - Humidity Chamber; A - Adhesion Tester

Date	Action	Equip	Results/Comments
10/08/90	1 hr @ 600 F	C	autocycle
10/08/90	20 hrs @ 120 F	H	very humid
10/09/90	1 hr @ -100 F	C	
10/10/90	Test (Location 3 C)	A	>1000 no failure
10/10/90	1 hr @ -100 F	C	
10/10/90	8 hrs @ 350 F	O	
10/11/90	18 hrs @ 120 F	H	very humid
11/08/90	89 hrs @ 140 F	H	
11/26/90	1 hr @ 450 F	C	
11/26/90	4 hrs @ 600 F	O	
11/27/90	6 hrs @ 600 F	O	
11/27/90	40 hrs @ 140 F	H	very humid
11/29/90	4.5 hrs @ 550 F	O	

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**MRC Fabrication/Conditioning/Test Form 90-1**

Set: I-P2      Sample: 9008

Comments: page 5

Materials: MZRB-60

**Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester**

Date	Action	Equip	Results/Comments
11/29/90	20 hrs @ 140 F	H	very humid
12/03/90	Test (Location 4)	A	550 PSI (100% C)
12/04/90	3 hrs @ 550 F	O	
12/04/90	15 hrs @ 120-160 F	H	dry
12/05/90	1 hr @ -100 F	C	
12/05/90	1 hr @ 600 F	C	auto
12/05/90	16 hrs @ 120 F	H	
12/06/90	1 hr @ -110 F	C	auto
12/06/90	3 hrs @ 560 F	O	
12/07/90	5 hrs @ 560 F	O	
12/08/90	1 hr @ -110 F	C	auto
12/10/90	1 hr @ -110 F	C	auto
12/10/90	3 hrs @ 570 F	O	
12/11/90	1 hr @ -110 F	C	auto

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2

Sample: 9008

Comments: page 6

Materials: MZRB-60

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
12/11/90	3 hrs @ 570 F	O	
12/12/90	3 hrs @ 580 F	O	removed at 225 F end before ambient
12/12/90	1 hr @ -110 F	C	removed at 20 F autocycle close to end
12/12/90	18 hrs @ 140 F	H	very humid
12/13/90	5 hrs @ 580 F	O	
12/15/90	30 hrs @ 115-140	H	dry
12/15/90	15 hrs @ 120 F	H	humid
12/17/90	3 hrs @ 560 F	O	
12/17/90	32 hrs @ 140 F	H	very humid
12/17/90	12 hrs @ 120 F	H	very humid
12/19/90	3 hrs @ 560 F	O	
12/19/90	1 hr @ -110	C	auto
12/28/90	Test (location 5)	A	400 PSI (95% C; 5% F) STOP TESTING

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MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 9009

Comments:

1 2 3 4  
5

Materials: MARB-47 over MZRB-60

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
07/12/90	Acid clean	-	Remove mill scale both sides of panel
07/12/90	16 hrs @ 130 F	H	Rusting panels
07/13/90	2 hrs @ 620 F	O	Aging panel
07/13/90	17 hrs @ 135 F	H	Rusting panel
07/19/90	20 hrs @ 130 F	H	Salt spray and severely pit rusting
09/07/90	Acid reclean	-	One side; grind over corner    1226.7g
09/07/90	Coat	-	Cloth wipe on MZRB-60            1227.6g
09/07/90	Coat	-	Spray light coat MARB            1227.7g
09/07/10	Coat	-	Spray coat            MARB            1227.9g
09/07/90	Coat	-	Spray topcoat MARB    dry wt: 1228.4g
09/10/90	1 hr @ 487 F	O	cure
09/11/90	1 hr @ -100 F	C	
09/11/90	1 hr @ 590 F	C	

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MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 9009

Comments: page 2

Materials: MARB-47 over MZRB-60

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
09/12/90	1 hr @ -100 F	C	
09/12/90	3 hrs @ 600 F	O	
09/12/90	16 hrs @ 125 F	H	
09/13/90	21 hrs @ 125 F	H	very humid
09/14/90	1 hr @ -100 F	C	
09/18/90	1 hr @ -100 F	C	
09/18/90	1 hr @ 600 F	O	
09/19/90	1 hr @ 15 F	H	
09/19/90	21 hrs @ 130 F	H	
09/20/90	Test (Location 1)	A	1050 PSI (90 % A; 10% F) Lint hairs
09/24/90	3 hrs @ 600 F	O	
09/24/90	13 hrs @ 120 F	H	
09/25/90	1 hr @ 487 F	O	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2

Sample: 9009

Comments: page 3

Materials: MARB-47 over MZRB-60

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
09/25/90	16 hrs @ 120 F	H	
09/26/90	3 hrs @ 600 F	O	
09/27/90	40 hrs @ 120 F	H	
09/29/90	Test (Location 3)	A	510 PSI (50% C; 5% C/I)
10/01/90	3.5 hrs @ 610 F	O	
10/01/90	16 hrs @ 120 F	H	
10/02/90	1 hr @ -100 F	C	
10/03/90	23 hrs @ 120/150 F	H	
10/04/90	1 hr @ -100 F	C	
10/04/90	1 hr @ 600 F	C	Autocycle
10/04/90	15 hrs @ 120/160 F	H	
10/06/90	1 hr @ 487 F	O	
10/08/90	1 hr @ -100 F	C	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2

Sample: 9009

Comments: page 4

Materials: MARB-47 over MZRB-60

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
10/08/90	1 hr @ 600 F	C	autocycle
10/08/90	20 hrs @ 120 F	H	very humid
10/09/90	1 hr @ -100 F	C	
10/10/90	Test (Location 4 TC)	A	750 PSI (50% C; 50% C/I black)
10/10/90	1 hr @ -100 F	C	
10/10/90	8 hrs @ 350 F	O	to Ken to check black oxide
11/08/90	89 hrs @ 140 F	H	
11/26/90	1 hr @ 450 F	C	
11/26/90	4 hrs @ 600 F	O	
11/27/90	6 hrs @ 600 F	O	
11/27/90	40 hrs @ 140 F	H	very humid
11/29/90	4.5 hrs @ 550 F	O	
11/29/90	20 hrs @ 140 F	H	very humid

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MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2

Sample: 9009

Comments: page 5

Materials: MARB-47 over MZRB-60

AEDEC-TR-92-23

Equip Definitions: O - Oven; C - Heat/Cooling Chamber; H - Humidity Chamber; A - Adhesion Tester

Date	Action	Equip	Results/Comments
12/03/90	Test (Location 2)	A	700 PSI (100% C)
12/04/90	3 hrs @ 550 F	O	
12/04/90	15 hrs @ 120-160 F	H	dry
12/05/90	1 hr @ -100 F	C	
12/05/90	1 hr @ 600 F	C	auto
12/05/90	16 hrs @ 120 F	H	
12/06/90	1 hr @ -110 F	C	auto
12/06/90	3 hrs @ 560 F	O	
12/07/90	5 hrs @ 560 F	O	
12/08/90	1 hr @ -110 F	C	auto
12/10/90	1 hr @ -110 F	C	auto
12/10/90	3 hrs @ 570 F	O	
12/11/90	1 hr @ -110 F	C	auto

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MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2

Sample: 9009

Comments: page 6

Materials: MARB-47 over MZRB-60

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
12/11/90	3 hrs @ 570 F	O	removed at 225 F
12/12/90	3 hrs @ 580 F	O	removed at 225 F end before ambient
12/12/90	1 hr @ -110 F	C	removed at 20 F autocycle close to end
12/12/90	18 hrs @ 140 F	H	very humid
12/13/90	5 hrs @ 580 F	O	
12/15/90	30 hrs @ 115-140	H	dry
12/15/90	15 hrs @ 120 F	H	humid
12/17/90	3 hrs @ 560 F	O	
12/17/90	32 hrs @ 140 F	H	very humid
12/17/90	12 hrs @ 120 F	H	very humid
12/19/90	3 hrs @ 560 F	O	
12/19/90	1 hr @ -110	C	auto
12/28/90	Test (location 5)	A	600 PSI (40% C; 60% F) STOP TESTING

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MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 9010

Comments:

Materials: MARB-47

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
07/13/90	Acid clean	-	Remove mill scale both sides of panel
07/16/90	3 hrs @ 130 F	H	Rusting panels
07/18/90	16 hrs @ 130 F	H	Rusting panels
07/19/90	Salt Spray	-	Spray panels with Sea Salt solution
07/19/90	20 hrs @ 130 F	H	Severe rusting of panels
07/20/90	5 hrs @ 140 F	H	Re-salt spray
07/23/90	8 hrs @ 170 F	H	
07/23/90	4 hrs @ 140 F	H	severe pitting corrosion
09/17/90	Clean (1 hour)	-	Consultant gel
09/24/90	Clean (5 minutes)	-	Flash rust removal with XII-04      very clean
09/24/90	Coat	-	Spray coat 2 thin layers
09/25/90	Coat	-	Spray coat 2 layers
09/25/90	1 hr @ 487 F	O	Slow cure

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 9010

Comments: Page 2

Materials: MARB-47

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
09/25/90	16 hrs @ 120 F	H	
09/26/90	3 hrs @ 600 F	O	
09/27/90	40 hrs @ 120 F	H	
09/29/90	Test (Location 1)	A	350 PSI (85% C; 15% F)
10/01/90	3.5 hrs @ 610 F	O	
10/01/90	16 hrs @ 120 F	H	
10/02/90	1 hr @ -100 F	C	
10/03/90	23 hrs @ 120/150 F	H	Excellent condition; rough due to Aluminum globs and salt pitting
10/04/90	1 hr @ -100 F	C	
10/04/90	1 hr @ 600 F	C	
10/04/90	15 hrs @ 120/160 F	H	
10/06/90	1 hr @ 487 F	O	
10/08/90	1 hr @ -120 F	C	

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MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 9010

Comments: page 3

Materials: MARB-47

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
10/08/90	1 hr @ 600 F	C	autocycle
10/08/90	20 hrs @ 120 F	H	very humid
10/09/90	1 hr @ -100 F	C	
10/10/90	Test (Location 2 TL)	A	500 PSI (100% C)
10/10/90	1 hr @ -100 F	C	
10/10/90	8 hrs @ 350 F	O	
10/11/90	18 hrs @ 120 F	H	very humid
10/19/90	65 hrs @ 100 F	H	very humid
10/22/90	24 hrs @ 120/135 F	H	very humid
11/08/90	89 hrs @ 140 F	H	very humid
11/29/90	4.5 hrs @ 550 F	O	
11/29/90	20 hrs @ 140 F	H	very humid
12/03/90	Test (Location 3)	A	650 PSI (100% C)

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 9010

Comments: page 4

Materials: MARB-47

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
12/04/90	3 hrs @ 550 F	O	
12/04/90	15 hrs @ 120-160 F	H	dry
12/05/90	1 hr @ -100 F	C	
12/05/90	1 hr @ 600 F	C	autocycle
12/05/90	16 hrs @ 120 F	H	
12/06/90	1 hr @ -110 F	C	autocycle
12/06/90	3 hrs @ 560 F	O	
12/07/90	5 hrs @ 560 F	O	
12/08/90	1 hr @ -110 F	C	autocycle
12/10/90	1 hr @ -110 F	C	autocycle
12/10/90	3 hrs @ 570 F	O	
12/11/90	1 hr @ -110 F	C	autocycle
12/11/90	3 hrs @ 570 F	O	

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NRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 9010

Comments: page 5

Materials: MARB-47

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
12/12/90	3 hrs @ 580 F	O	removed at 225 F
12/12/90	1 hr @ -110 F	C	removed at 20 F autocycle
12/12/90	18 hrs @ 140 F	H	very humid
12/13/90	5 hrs @ 580 F	O	
12/15/90	30 hrs @ 115-140 F	H	dry
12/15/90	15 hrs @ 120 F	H	humid
12/17/90	3 hrs @ 560 F	O	
12/17/90	32 hrs @ 140 F	H	very humid
12/17/90	12 hrs @ 120 F	H	very humid
12/19/90	3 hrs @ 560 F	O	
12/19/90	1 hr @ -110 F	C	autocycle
12/28/90	Test (location 4 & 5)	A	200 & 300 PSI (100% C)
See 1991 testing on new format			

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AEDC-TR-92-23

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2

Sample: 9010

Comments: page 6

Materials: MARB-47

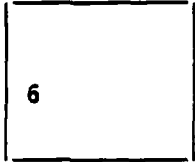
Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
01/17/91	15 hrs @ 120 F	H	humid
01/18/91	28 hrs @ 120 F	H	dry
01/19/91	1 hr @ -110 F	C	autocycle
01/19/91	1 hr @ 580 F	O	dry heat
01/21/91	1 hr @ -100 F	C	cold
01/21/91	2 hrs @ 600 F	O	dry heat
01/22/91	2 hrs @ 610 F	O	dry heat
01/22/91	1 hr @ -110 F	C	cold autocycle
01/22/91	16 hrs @ 115 F	H	very humid
01/23/91	1 hr @ -110 F	C	cold
01/26/91	Test (location 6)	A	100 PSI (100% C)
			4 spray coats practice and was not intended to be tested) Holds up well
See 1991 format			

Set-Sample: IP2-9010      Comments: See form 90-1

Substrate/Preparation: 51./Severe SS pitting

Materials: MARB-47



Equip Definitions: O = Oven; C = Heat/Cooling Chamber;  
 H = Humidity Chamber;  
 A = Adhesion Tester; T = Misc Tests

Date	Action	Equip	Results/Comments
07/13/90	remove mil scale	-	HCL clean both sides
07/23/90	See Test form 90-1	H	Severe SS rust pitting
09/24/90	See Test form 90-1	-	Spray 4 coats
09/25/90	1 hr @ 487 F Cure	O	Slow to temperature
12/28/90	See Test Form 90-1	-	47 events in 3 months
01/15/91	16 hrs @ 118 F	H	humid
01/16/91	1/2 hr @ -95 F	C	
01/17/91	15 hrs @ 120 F	H	very humid
01/18/91	28 hrs @ 120 F	H	dry
01/19/91	1 hr @ -110 F	C	autocycle cold
01/19/91	1 hr @ 580 F	O	hot
01/21/91	1 hr @ -100 F	C	cold
01/21/91	2 hrs @ 600 F	O	hot
01/22/91	2 hrs @ 610 F	O	hot
01/22/91	1 hr @ -110 F	C	cold
01/22/91	16 hrs @ 115 F	H	very humid
01/23/91	1 hr @ -110 F	C	cold      Poor spray application
01/26/91	Test (Location 6)	A	100 PSI (100% C)
01/30/91	1 hr @ -110 F	C	
01/30/91	41 hrs @ 115 F	H	

## MRC Fabrication/Conditioning/Test Form 91-1

. Page 2

Set-Sample: IP2 - 9010    Comments: page 2

Materials: MARB-47

Equip Definitions: See Page 1



Date	Action	Equip	Results/Comments
02/01/91	1 hr @ -110 F	C	
02/01/91	1 hr @ 600 F	C	
02/04/91	2.5 hrs @ 600 F	O	
02/04/91	42 hrs @ 115-150 F	H	very humid
02/06/91	2.5 hrs @ 580 F	O	
02/07/91	3 hrs @ 590 F	O	
02/08/91	1 hr @ -100 F	C	autocycle
02/09/91	1 hr @ -100 F	C	autocycle
02/11/91	1 hr @ -100 F	C	autocycle
02/11/91	2 hrs @ 620 F	O	
02/11/91	16 hrs @ 115 F	H	
02/12/91	1 hr @ -100 F	C	
02/12/91	2 hrs @ 600 F	O	
02/12/91	18 hrs @ 115 F	H	
02/13/91	1 hr @ -100 F	C	
02/13/91	15 hrs @ 118 F	H	
02/14/91	1 hr @ -100 F	C	
02/14/91	2 hrs @ 590 F	O	
02/14/91	16 hrs @ 120 F	H	
02/15/91	0.5 hrs @ -40 F	C	
02/18/91	Test (Location 7)	A	100 PSI (100% C)    Testing completed
03/08/91	Clean off MARB	HCL/ Sander	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 9011 - 9013      Comments: Q Panels/ Sprayed

Materials: MARB-47   1 coat, 2 coats, 3 coats

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
09/25/90	Clean	-	Wipe Q-Panels with Xylene
09/25/90	Coat	-	Spray one coat 9011
			Spray two coats 9012
			Spray 3 coats 9013
09/25/90	1 hr @ 487 F	O	Curing slowly
09/25/90	16 hrs @ 120 F	H	
09/26/90	3 hrs @ 600 F	O	
09/26/90	40 hrs @ 120 F	H	
10/01/90	3.5 hrs @ 610 F	O	
10/01/90	16 hrs @ 120 F	H	
10/02/90	1 hr @ -100 F	C	
10/03/90	23 hrs @ 120/150 F	H	
10/04/90	1 hr @ -100 F	C	

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 9011;9012;9013      Comments: page 2

Materials: MARB-47 on Q-panels

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
10/04/90	1 hr @ 600 F	C	
10/04/90	15 hrs @ 120 F/160 F	H	
10/06/90	1 hr @ 487 F	O	
10/08/90	1 hr @ -100 F	C	
10/08/90	1 hr @ 600 F	C	autocycle
10/08/90	20 hrs @ 120 F	H	very humid
10/10/90	Test (Location 1)	A	50 PSI (100% F no test) 9013 only
Stop Tests			

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MRC Fabrication/Conditioning/Test Form 90-1

Set: 21

Sample: 9014

Comments: A-516 steel Materials: MARB-47

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
10/04/90	Remove mill scale	-	HCL acid clean both sides
10/04/90	15 hrs @ 120/160 F	H	Light rusting
10/05/90	Clean	-	Consultant gel XIX-01 (5 min)/ Rinse
10/05/90	Coat	-	Spray coat 2 thin layers (small air sprayer)
			Let dry 15 minutes between coats
	Coat	-	Spray coat 3rd coat - 2 passes
10/06/90	Cure 1 hr @ 487 F	O	slow to temperature
10/08/90	1 hr @ -100 F	C	
10/08/90	1 hr @ 600 F	C	autocycle
10/08/90	20 hrs @ 120 F	H	Very humid
10/09/90	1 hr @ -100 F	C	
10/10/90	Test (Location 1 TL)	A	>1000 PSI No Failure
10/10/90	1 hr @ -100 F	C	

MRC Fabrication/Conditioning/Test Form 90-1

Set: 21

Sample: 9014

Comments: page 2

Materials: MARB-47

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
10/10/90	8 hrs @ 350 F	O	To Ken to check Black Oxide
11/08/90	89 hrs @ 140 F	H	No rusting
11/26/90	1 hr @ 450 F	C	
11/26/90	4 hrs @ 600 F	O	
11/27/90	6 hrs @ 600 F	O	
11/27/90	40 hrs @ 140 F	H	very humid
11/29/90	4.5 hrs @ 550 F	O	
11/29/90	20 hrs @ 140 F	H	very humid
12/03/90	Test (Location 2)	A	700 PSI (30% C/I; 30% C; 10% F; 30% dolly)
12/04/90	3 hrs @ 550 F	O	
12/04/90	15 hrs @ 120-160 F	H	dry
12/05/90	1 hr @ -100 F	C	
12/05/90	1 hr @ 600 F	C	auto

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NRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 9014

Comments: page 3

Materials: MARB-47

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
12/05/90	16 hrs @ 120 F	H	
12/06/90	1 hr @ -110 F	C	auto
12/06/90	3 hrs @ 560 F	O	
12/07/90	5 hrs @ 560 F	O	
12/08/90	1 hr @ -110 F	C	auto
12/10/90	1 hr @ -110 F	C	auto
12/10/90	3 hrs @ 570 F	O	
12/11/90	1 hr @ -110 F	C	auto
12/11/90	3 hrs @ 570 F	O	
12/12/90	3 hrs @ 580 F	O	removed at 225 F end before ambient
12/12/90	1 hr @ -110 F	C	removed at 20 F autocycle close to end
12/12/90	18 hrs @ 140 F	H	very humid
12/13/90	5 hrs @ 580 F	O	
12/15/90	30 hrs @ 115-140	H	dry

MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2      Sample: 9014

Comments: page 4

Materials: MARB-47

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
12/15/90	15 hrs @ 120 F	H	humid
12/17/90	3 hrs @ 560 F	O	
12/17/90	32 hrs @ 140 F	H	very humid
12/17/90	12 hrs @ 120 F	H	very humid
12/19/90	3 hrs @ 560 F	O	
12/19/90	1 hr @ -110	C	auto
12/28/90	Test (location 3)	A	1000 PSI (60% C/I; 40 % F)

Poor 4 coats spray application; not intended to test; rusting bottom edge

CONTINUED in 1992 format

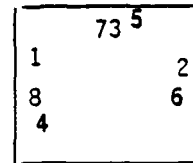
MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 21 - 9014 Comments: See form 90-1

Substrate/Preparation: 5167 light rusting

Materials: MARB-47

Equip Definitions: O = Oven; C = Heat/Cooling Chamber;  
 H = Humidity Chamber;  
 A = Adhesion Tester; T = Misc Tests



Date	Action	Equip	Results/Comments
10/04/90	Remove mill scale	-	HCL clean both sides
10/05/90	See 1990 test form 90-1		Coat date; 3 spray coats
10/06/90	Cure 1 hr @ 487 F	O	Slow rise to temperature
12/28/90	1990 Test series ended		37 events in two months Edge rust
01/15/91	1 hr @ -110 F	C	autocycle
01/15/91	1 hr @ 600 F	C	autocycle
01/15/91	16 hrs @ 118 F	H	humid
01/16/91	1/2 hr @ -95 F	C	Liq Nitrogen low - aborted autocycle
01/16/91	20 hrs @ 120 F	H	very humid
01/17/91	15 hrs @ 120 F	H	very humid
01/18/91	28 hrs @ 120 F	H	dry heat
01/19/91	1 hr @ -110 F	C	autocycle cold
01/19/91	1 hr @ 580 F	O	hot
01/21/91	1 hr @ -100 F	C	autocycle cold Rust appearing - small spots
01/21/91	2 hrs @ 600 F	O	hot dry
01/22/91	2 hrs @ 610 F	O	hot dry
01/22/91	1 hr @ -110 F	C	cold autocycle
01/22/91	16 hrs @ 115 F	H	very humid
01/23/91	1 hr @ -110 F	C	cold
01/26/91	Test (Location 4)	A	1000 PSI (70% F; 20% C/I; 10% dolly)

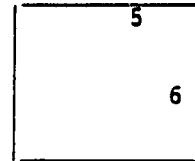
## MRC Fabrication/Conditioning/Test Form 91-1

Page 2

Set-Sample: 21 - 9014    Comments: Page 2

Materials: MARB-47

Equip Definitions: See Page 1



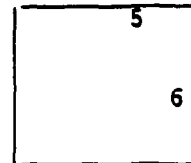
Date	Action	Equip	Results/Comments
01/30/91	1 hr @ -110 F	C	cold
01/30/91	41 hrs @ 115 F	H	very humid
02/01/91	1 hr @ -110 F	C	autoclave
02/01/91	1 hr @ 600 F	C	autoclave
02/04/91	2.5 hrs @ 600 F	O	dry heat
02/04/91	42 hrs @ 115/150 F	H	very humid
02/06/91	2.5 hrs @ 580 F	O	dry heat
02/07/91	3 hrs @ 590 F	O	dry heat
02/08/91	1 hr @ -100 F	C	autocycle
02/09/91	1 hr @ -100 F	C	
02/11/91	1 hr @ -100 F	C	autocycle
02/11/91	2 hrs @ 620 F	O	heat
02/11/91	16 hrs @ 115 F	H	
02/12/91	1 hr @ -100 F	C	autocycle
02/12/91	2 hrs @ 600 F	O	
02/12/91	18 hrs @ 115 F	H	
02/13/91	1 hr @ -100 F	C	
02/13/91	15 hrs @ 118 F	H	
02/14/91	1 hr @ -100 F	C	
02/14/91	2 hrs @ 590 F	O	
02/14/91	16 hrs @ 120 F	H	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 21 - 9014 Comments:

Materials: MARB 47

Equip Definitions: See Page 1



Date	Action	Equip	Results/Comments
02/15/91	0.5 hrs @ -40 F	C	
02/18/91	Test (Location 5)	A	500 PSI (95% C, 2% A, 3% F)
02/22/91	2 hrs @ 590 F	O	
02/22/91	19 hsr @ 115 F	H	humid
02/25/91	2 hrs @ 600 F	O	dry heat
02/25/91	1 hr @ -100 F	C	autocycle
02/27/91	1 hr @ -100 F	C	autocycle
02/27/91	2 hrs @ 350 F	O	dry low heat
02/28/91	1 hr @ -100 F	C	auto
02/28/91	2 hrs @ 600 F	O	dry heat
02/28/91	18 hrs @ 115 F	H	humid
03/04/91	Test (Location 6)	A	>1000 PSI
03/04/91	1 hr @ 487 F	O	dry
03/04/91	1 hr @ -100 F	C	
03/05/91	1 hr @ -100 F	C	
03/05/91	1 hr @ 600 F	O	
03/05/91	16.5 hrs @ 116 F	H	
03/04/91	Test (Location 7)	A	1000 PSI
03/24/91	13 events later	C, A, O	
	Test (Location 8)	A	1000 PSI

MRC Fabrication/Conditioning/Test Form 90-1

Set: 21

Sample: 9015

Comments:

Materials: MZRB-60

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
10/04/90	Remove mill scale	-	HCL acid clean both sides
10/04/90	15 hrs @ 120/160 F	H	Light rusting
10/05/90	Clean	-	Consultant gel XIX-01 (5 min)/ Rinse
10/05/90	Coat	-	Spray coat 1 layer (atomizer sprayer) 3 mils wet (too Thick) Let dry 15 minutes between coats
	Coat	-	Spray coat 2nd coat - 1 pass
10/06/90	Cure 1 hr @ 487 F	O	slow to temperature (remove coating from .125 inch square)
10/08/90	1 hr @ -100 F	C	
10/08/90	1 hr @ 600 F	C	autocycle
10/08/90	20 hrs @ 120 F	H	Very humid
10/09/90	1 hr @ -100 F	C	
10/10/90	Test (Location 1 TL)	A	>450 PSI (no test 100% F) no bonding to coating
10/10/90	1 hr @ -100 F	C	

MRC Fabrication/Conditioning/Test Form 90-1

Set: 21      Sample: 9015

Comments: page 2

Materials: MZRB-60

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
10/10/90	8 hrs @ 350 F	O	
10/11/90	18 hrs @ 120 F	H	
10/19/90	65 hrs @ 100 F	H	very humid
10/22/90	24 hrs @ 120/150 F	H	very humid
11/08/90	89 hrs @ 140 F	H	very humid      no rusting, but cracked where too thin
11/26/90	1 hr @ 450 F	C	
11/26/90	4 hrs @ 600 F	O	
11/27/90	6 hrs @ 600 F	O	
11/27/90	40 hrs @ 140 F	H	very humid
11/29/90	4.5 hrs @ 550 F	O	
11/29/90	20 hrs @ 140 F	H	very humid
12/03/90	Test (Location 2 TR)	A	1050 PSI (85% C; 15% F)
12/04/90	3 hrs @ 550 F	O	

MRC Fabrication/Conditioning/Test Form 90-1

Set: 21

Sample: 9015

Comments: page 3

Materials: MZRB-60

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
12/04/90	15 hrs @ 120-160 F	H	dry
12/05/90	1 hr @ -100 F	C	
12/05/90	1 hr @ 600 F	C	auto
12/05/90	16 hrs @ 120 F	H	
12/06/90	1 hr @ -110 F	C	auto
12/06/90	3 hrs @ 560 F	O	
12/07/90	5 hrs @ 560 F	O	
12/08/90	1 hr @ -110 F	C	auto
12/10/90	1 hr @ -110 F	C	auto
12/10/90	3 hrs @ 570 F	O	
12/11/90	1 hr @ -110 F	C	auto
12/11/90	3 hrs @ 570 F	O	
12/12/90	3 hrs @ 580 F	O	removed at 225 F end before ambient
12/12/90	1 hr @ -110 F	C	removed at 20 F autocycle close to end

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MRC Fabrication/Conditioning/Test Form 90-1

Set: I-P2 Sample: 9015

Comments: page 4

Materials: MZRB-60

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
12/12/90	18 hrs @ 140 F	H	very humid
12/13/90	5 hrs @ 580 F	O	
12/15/90	30 hrs @ 115-140	H	dry
12/15/90	15 hrs @ 120 F	H	humid
12/17/90	3 hrs @ 560 F	O	
12/17/90	32 hrs @ 140 F	H	very humid
12/17/90	12 hrs @ 120 F	H	very humid
12/19/90	3 hrs @ 560 F	O	
12/19/90	1 hr @ -110	C	auto
12/28/90	Test (location 3)	A	500 PSI (90% C; 10 % F)
01/15/91	1 hr @ -110 F	C	auto
01/15/91	1 hr @ 600 F	C	auto
01/15/91	16 hrs @ 118 F	H	
01/15/91	STOP TESTING		100% mudcracking

MRC Fabrication/Conditioning/Test Form 90-1

Set: 21      Sample: 9016      Comments:

Materials: MZRB-blend; MZRB-33; MZRB-47; MZRB-60; MZRB-80

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
10/04/90	Remove mill scale	-	HCL acid clean both sides
10/04/90	15 hrs @ 120/160 F	H	Light rusting
10/05/90	Clean	-	Consultant gel XIX-01 (5 min)/ Rinse
10/05/90	Coat	-	Brush coat 1 layer as shown above drawing
10/06/90	Cure 1 hr @ 487 F	O	slow to temperature
10/08/90	1 hr @ -100 F	C	
10/08/90	1 hr @ 600 F	C	autocycle
10/08/90	20 hrs @ 120 F	H	Very humid
10/09/90	1 hr @ -100 F	C	
10/10/90	Test (Location 1 TR)	A	-33 1000 PSI (100% F)
10/10/90	Test (Location 2 CL)	A	-47 700 PSI (100% F)
10/10/90	Test (Location 3 CR)	A	-60 >1000 PSI (100% F)
10/10/90	Test (Location 4 BL)	A	-80 700 PSI (100% F)

MRC Fabrication/Conditioning/Test Form 90-1

Set: 21

Sample: 9016

Comments: page 2

Materials: MZRB Blends; Zinc loadings

Equip Definitions: O - Oven; C - Heat/Cooling Chamber; H - Humidity Chamber; A - Adhesion Tester

Date	Action	Equip	Results/Comments
10/10/90	1 hr @ -100 F	C	
10/10/90	8 hrs @ 350 F	O	
10/11/90	18 hrs @ 120 F	H	very humid
10/19/90	65 hrs @ 100 F	H	very humid
10/22/90	24 hrs @ 120/135 F	H	very humid
11/08/90	89 hrs @ 140 F	H	very humid no rusting under good coating 33% best
11/26/90	1 hr @ 450 F	C	
11/26/90	4 hrs @ 600 F	O	
11/27/90	6 hrs @ 600 F	O	
11/27/90	40 hrs @ 140 F	H	very humid
11/29/90	4.5 hrs @ 550 F	O	
11/29/90	20 hrs @ 140 F	H	very humid

**MRC Fabrication/Conditioning/Test Form 90-1**

Set: 21

Sample: 9016

Comments: page 3

Materials: MZRB Blends; Zinc loadings

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
12/03/90	Test (Location 5 TR)	A	>1050 PSI
12/03/90	Test (Location 6 CL)	A	>1050 PSI
12/03/90	Test (Location 7 CR)	A	1050 PSI (50% C; 50% F)
12/03/90	Test (Location 8 BL)	A	1000 PSI (50% C; 50% F)
12/04/90	3 hrs @ 550 F	O	
12/04/90	15 hrs @ 120-160 F	H	dry
12/05/90	1 hr @ -100 F	C	
12/05/90	1 hr @ 600 F	C	auto
12/05/90	16 hrs @ 120 F	H	
12/06/90	1 hr @ -110 F	C	auto
12/06/90	3 hrs @ 560 F	O	
12/07/90	5 hrs @ 560 F	O	
12/08/90	1 hr @ -110 F	C	auto

NRC Fabrication/Conditioning/Test Form 90-1

Set: 21

Sample: 9016

Comments: page 4

Materials: MZRB Blends; Zinc loadings

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
12/10/90	1 hr @ -110 F	C	auto
12/10/90	3 hrs @ 570 F	O	
12/11/90	1 hr @ -110 F	C	auto
12/11/90	3 hrs @ 570 F	O	
12/12/90	3 hrs @ 580 F	O	removed at 225 F end before ambient
12/12/90	1 hr @ -110 F	C	removed at 20 F autocycle close to end
12/12/90	18 hrs @ 140 F	H	very humid
12/13/90	5 hrs @ 580 F	O	
12/15/90	30 hrs @ 115-140	H	dry
12/15/90	15 hrs @ 120 F	H	humid
12/17/90	3 hrs @ 560 F	O	
12/17/90	32 hrs @ 140 F	H	very humid
12/17/90	12 hrs @ 120 F	H	very humid
12/19/90	3 hrs @ 560 F	O	

90



MRC Fabrication/Conditioning/Test Form 90-1

Set: 21      Sample: 9017      Comments:

Materials: MARB-blend; MARB-15; MARB-33; MARB-47

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
10/04/90	Remove mill scale	-	HCL acid clean both sides
10/04/90	15 hrs @ 120/160 F	H	Light rusting
10/05/90	Clean	-	Consultant gel XIX-01 (5 min)/ Rinse
10/05/90	Coat	-	Brush coat 1 layer
			Let dry 15 minutes between coats
	Coat	-	Brush 2nd coat
10/06/90	Cure 1 hr @ 487 F	O	slow to temperature
10/08/90	1 hr @ -100 F	C	1/2 soaked to center (scratched)
10/08/90	1 hr @ 600 F	C	autocycle      o cracking in blend
10/08/90	20 hrs @ 120 F	H	Very humid      o Failing on non-soaked side
10/09/90	1 hr @ -100 F	C	o Rusting at cracks, & exposed interface
10/10/90	Test (Location 1 TR)	A	>1000 PSI no failure      and under blend      Dolly knocked off
10/10/90	Test (Location 2 CL)	A	>1000 PSI no failure

MRC Fabrication/Conditioning/Test Form 90-1

Set: 21

Sample: 9017

Comments: page 2

Materials: MARB variations

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
10/10/90	Test (Location 3 CR)	A	>1000 PSI no failure
10/10/90	Test (Location 4 BL)	A	>1000 PSI no failure
10/10/90	1 hr @ -100 F	C	
10/10/90	8 hrs @ 350 F	O	
10/11/90	18 hrs @ 120 F	H	very humid
10/19/90	65 hrs @ 100 F	H	very humid
10/22/90	24 hrs @ 120/135 F	H	very humid
11/08/90	89 hrs @ 140 F	H	very humid
11/26/90	1 hr @ 450 F	C	
11/26/90	4 hrs @ 600 F	O	
11/27/90	6 hrs @ 600 F	O	
11/27/90	40 hrs @ 140 F	H	very humid
11/29/90	4.5 hrs @ 550 F	O	
11/29/90	20 hrs @ 140 F	H	very humid

MRC Fabrication/Conditioning/Test Form 90-1

Set: 21

Sample: 9017

Comments: page 3

Materials: MARB Blend; Aluminum filler loadings

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
12/03/90	Test (Location 5 TL)	A	>1000 PSI resin blend
12/03/90	Test (Location 6 CR)	A	>1050 PSI MARB-15
12/03/90	Test (Location 7 CL)	A	>1000 PSI MARB-33
12/03/90	Test (Location 8 BR)	A	900 PSI (90% C/I; 10% dolly)
12/04/90	3 hrs @ 550 F1	O	
12/04/90	15 hrs @ 120-160 F	H	dry
12/05/90	1 hr @ -100 F	C	
12/05/90	1 hr @ 600 F	C	auto
12/05/90	16 hrs @ 120 F	H	
12/06/90	1 hr @ -110 F	C	auto
12/06/90	3 hrs @ 560 F	O	
12/07/90	5 hrs @ 560 F	O	
12/08/90	1 hr @ -110 F	C	auto

MRC Fabrication/Conditioning/Test Form 90-1

Set: 21

Sample: 9017

Comments: page 4

Materials: Aluminum loadings

Equip Definitions: O = Oven; C = Heat/Cooling Chamber; H = Humidity Chamber; A = Adhesion Tester

Date	Action	Equip	Results/Comments
12/10/90	1 hr @ -110 F	C	auto
12/10/90	3 hrs @ 570 F	O	
12/11/90	1 hr @ -110 F	C	auto
12/11/90	3 hrs @ 570 F	O	
12/12/90	3 hrs @ 580 F	O	removed at 225 F end before ambient
12/12/90	1 hr @ -110 F	C	removed at 20 F autocycle close to end
12/12/90	18 hrs @ 140 F	H	very humid
12/13/90	5 hrs @ 580 F	O	
12/15/90	30 hrs @ 115-140	H	dry
12/15/90	15 hrs @ 120 F	H	humid
12/17/90	3 hrs @ 560 F	O	
12/17/90	32 hrs @ 140 F	H	very humid
12/17/90	12 hrs @ 120 F	H	very humid
12/19/90	3 hrs @ 560 F	O	

95



## MRC Fabrication/Conditioning/Test Form 91-1

Page 1

Set-Sample: 22P - 9100      Comments:

Substrate/Preparation: 516/ light rusting

Materials: MARB-DC45; Blends; MARB-45; MZRB-50

Equip Definitions: O = Oven; C = Heat/Cooling Chamber;  
H = Humidity Chamber; A = Adhesion

1	3	5	9
2	10	4	6

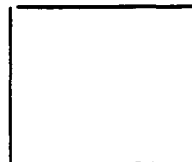
Date	Action	Equip	Results/Comments
12/14/90	HCL clean	-	Mill scale removed both sides
01/14/91	Clean	-	Gel clean 15 minutes
01/14/91	Coat panel	-	Brush coat MARB-DC-47;blends;MARB-47;MZRB
01/14/91	1 hr @ 487 F	O	Cure
01/15/91	1 hr @ -110 F	C	cold autocycle
01/15/91	1 hr @ 600 F	C	hot autocycle
01/15/91	16 hrs @ 118 F	H	Humid (MZRB has 100% mudcracking)
01/16/91	1/2 hr @ -95 F	C	Low liquid N <sub>2</sub> (MARB-DC-X1-0409 cracks)
01/16/91	20 hrs @ 120 F	H	very humid
01/17/91	15 hrs @ 120 F	H	very humid
01/18/91	28 hrs @ 120 F	H	dry
01/19/91	1 hr @ -110 F	C	autocycle cold
01/19/91	1 hr @ 580 F	O	hot
01/21/91	1 hr @ -100 F	C	cold
01/21/91	2 hrs @ 600 F	O	hot
01/22/91	2 hrs @ 610 F	O	hot
01/22/91	1 hr @ -110 F	C	cold
01/22/91	16 hrs @ 115 F	H	humid
01/23/91	1 hr @ -110 F	C	cold
01/26/91	Test (Location 1)	A	1000 PSI (90% F; 8% dolly; 2% C)
01/26/91	Test (Location 2)	A	800 PSI (75% F; 20% C; 5% dolly)

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 22P - 9100      Comments:

Materials: see page 1

Equip Definitions: See Page 1



Date	Action	Equip	Results/Comments
01/30/91	1 hr @ -110 F	C	cold
01/30/91	41 hrs @ 115 F	H	very humid
02/01/91	1 hr @ -110 F	C	autocycle
02/01/91	1 hr @ 600 F	C	autocycle hot
02/04/91	2.5 hrs @ 600 F	O	dry heat
02/04/91	42 hrs @ 115-150 F	H	very humid
02/06/91	2.5 hrs @ 58 F	O	
02/07/91	3 hrs @ 590 F	O	
02/08/91	1 hr @ -100 F	C	autocycle
02/09/91	1 hr @ -100 F	C	autocycle
02/11/91	1 hr @ -100 F	C	autocycle
02/11/91	2 hrs @ 620 F	O	dry heat
02/11/91	16 hrs @ 115 F	H	
02/12/91	1 hr @ -100 F	C	autocycle
02/12/91	2 hrs @ 600 F	O	
02/12/91	18 hrs @ 115 F	H	
02/13/91	1 hr @ -100 F	C	
02/13/91	15 hrs @ 118 F	H	
02/14/91	1 hr @ -100 F	C	
02/14/91	2 hrs @ 590 F	O	
02/14/91	16 hrs @ 120 F	H	

## MRC Fabrication/Conditioning/Test Form 91-1

Page 3

Set-Sample: 22P - 9100      Comments:

Substrate/Preparation: 516/ light rusting

Materials: MARB-DC45; Blends; MARB-45; MZRB-50

Equip Definitions: O = Oven; C = Heat/Cooling Chamber;  
H = Humidity Chamber; A = Adhesion

1	3	5	9
2	10	4	6

Date	Action	Equip	Results/Comments
02/15/91	0.5 hrs @ -40 F	C	
02/18/91	Test (Location 3)	A	500 PSI (100% C)
02/18/91	Test (Location 4)	A	700 PSI (50% C, 50% F)
02/22/91	2 hrs @ 590 F	O	
02/22/91	19 hrs @ 115 F	H	
02/25/91	2 hr @ 600 F	O	
02/25/91	1 hr @ -100 F	C	autocycle
02/27/91	1 hr @ -100 F	C	autocycle
02/27/91	2 hrs @ 350 F	O	
02/28/91	1 hr @ -100 F	C	auto
02/28/91	2 hrs @ 600 F	O	
02/28/91	18 hrs @ 115 F	H	humid
03/04/91	Test (Location 5)	A	550 PSI (100% C)
03/04/91	Test (Location 6)	A	600 PSI (50% C; 50% F)
03/04/91	1 hr @ 487 F	O	
03/04/91	1 hr @ -100 F	C	
03/05/91	1 hr @ -100 F	H	
03/05/91	1 hr @ 600 F	O	
03/05/91	16.5 hrs @ 116 F	H	
03/08/91	1 hr @ -100 F	C	
03/08/91	2 hrs @ 600 F	O	

Set-Sample: 22P - 9100 Comments:

Substrate/Preparation: 516/ light rusting

Materials: MARB-DC45; Blends; MARB-45; MZRB-50

Equip Definitions: O = Oven; C = Heat/Cooling Chamber;  
 H = Humidity Chamber; A = Adhesion

1	3	5	9
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2	10	4	6

Date	Action	Equip	Results/Comments
03/08/91	64 hrs @ 140 F	H	very humid
03/11/91	1 hr @ -100 F	C	
03/11/91	2 hrs @ 600 F	O	
03/11/91	17 hrs @ 115 F	H	
03/12/91	1 hr @ -100 F	C	
03/12/91	1 hr @ 480 F	O	
03/12/91	16 hrs @ 115 F	H	
03/14/91	Test (Location 7)	A	400 PSI (80% C/I; 18% C; 2% F, dolly)
03/14/91	Test (Location 8)	A	700 PSI (10% C; 40% F; 50% dolly)
03/19/91	3 hrs @ 610 F	O	
03/28/91	Test (Location 9)	A	400 PSI (100% C)
03/28/91	Test (Location 10)	A	825 PSI (20% C/I; 50% F; 30% dolly)
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## MRC Fabrication/Conditioning/Test Form 91-1

Page 1

Set-Sample: 22 - 9101      Comments:

Substrate/Preparation: 285/ light rusting

Materials: MARB-45 Dilute

Equip Definitions: O = Oven; C = Heat/Cooling Chamber;  
 H = Humidity Chamber;  
 A = Adhesion Tester; T = Misc Tests

1

Date	Action	Equip	Results/Comments
12/14/90	HCL clean	-	Mill scale removed both sides
01/15/91	Clean	-	Gel clean 15 minutes
01/16/91	Coat panel	-	Spray coat 3 layers of MARB-45 dilute
01/17/91	1 hr @ 487 F	O	Cure slow to temperature
01/17/91	15 hrs @ 120 F	H	very humid
01/18/91	28 hrs @ 120 F	H	dry
01/19/91	1 hr @ -110 F	C	autocycle cold
01/19/91	1 hr @ 580 F	O	hot
01/21/91	1 hr @ -100 F	C	cold
01/21/91	2 hrs @ 600 F	O	hot
01/22/91	2 hrs @ 610 F	O	hot
01/22/91	1 hr @ -110 F	C	cold
01/22/91	16 hrs @ 115 F	H	humid
01/23/91	1 hr @ -110 F	C	cold
01/26/91	Test (Location 1)	A	550 PSI (100% C)      Testing stopped
Some coating failure - Ambient control, compare with 9102 or 9103			

## MRC Fabrication/Conditioning/Test Form 91-1

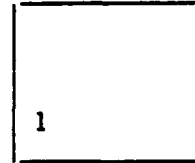
Page 1

Set-Sample: 22 - 9102 Comments:

Substrate/Preparation: 516/ light rusting

Materials: MARB-45 dilute

Equip Definitions: O = Oven; C = Heat/Cooling Chamber;  
 H = Humidity Chamber;  
 A = Adhesion Tester; T = Misc Tests



Date	Action	Equip	Results/Comments
12/14/90	HCL clean	-	Mill scale removed both sides
01/15/91	Clean	-	Gel clean 15 minutes
01/16/91	Coat panel	-	Spray coat 3 layers of MARB-45 dilute
01/17/91	1 hr @ 487 F	O	Cure slow to temperature
01/17/91	15 hrs @ 120 F	H	very humid
01/18/91	28 hrs @ 120 F	H	dry
01/19/91	1 hr @ -110 F	C	autocycle cold
01/19/91	1 hr @ 580 F	O	hot
01/21/91	1 hr @ -100 F	C	cold
01/21/91	2 hrs @ 600 F	O	hot
01/22/91	2 hrs @ 610 F	O	hot
01/22/91	1 hr @ -110 F	C	cold
01/22/91	16 hrs @ 115 F	H	humid
01/23/91	1 hr @ -110 F	C	cold
01/26/91	Test (Location 1)	A	600 PSI (100% C)
01/30/91	1 hr @ -110 F	C	cold
01/30/91	41 hrs @ 115 F	H	very humid
02/01/91	1 hr @ -110 F	C	autocycle
02/01/91	1 hr @ 600 F	C	autocycle
02/04/91	2.5 hrs @ 600 F	O	dry, heat



Set-Sample: 22 - 9103      Comments:

Substrate/Preparation: 203/ light rusting

Materials: MARB-45 dilute

Equip Definitions: O = Oven; C = Heat/Cooling Chamber;  
 H = Humidity Chamber;  
 A = Adhesion Tester; T = Misc Tests



Date	Action	Equip	Results/Comments
12/14/90	HCL clean	-	Mill scale removed both sides
01/15/91	Clean	-	Gel clean 15 minutes
01/16/91	Coat panel	-	Spray coat 3 layers of MARB-45 dilute
01/17/91	1 hr @ 487 F	O	Cure slow to temperature
01/17/91	15 hrs @ 120 F	H	very humid
01/18/91	28 hrs @ 120 F	H	dry
01/19/91	1 hr @ -110 F	C	autocycle cold
01/19/91	1 hr @ 580 F	O	hot
01/21/91	1 hr @ -100 F	C	cold
01/21/91	2 hrs @ 600 F	O	hot
01/22/91	2 hrs @ 610 F	O	hot
01/22/91	1 hr @ -110 F	C	cold
01/22/91	16 hrs @ 115 F	H	humid
01/23/91	1 hr @ -110 F	C	cold
01/26/91	Test (Location 1)	A	500 PSI (15% C/I; 70% C; 15% dolly)
01/30/91	1 hr @ -110 F	C	cold
01/30/91	41 hrs @ 115 F	H	very humid
02/01/91	1 hr @ -110 F	C	autocycle
02/01/91	1 hr @ 600 F	C	autocycle
02/04/91	2.5 hrs @ 600 F	O	dry heat



MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 22P - 9200 Comments:

Substrate/Preparation: 516/ light rusting

Materials: MARB-40; MARB-DC-40

Equip Definitions: O = Oven; C = Heat/Cooling Chamber;  
H = Humidity Chamber; A = Adhesion

1	3
2	4

Date	Action	Equip	Results/Comments
12/14/90	HCL clean	-	Mill scale removed both sides
01/14/91	Clean	-	Gel clean 15 minutes
01/14/91	Coat panel	-	Brush coat MARB-40; MARB-DC-47
01/14/91	1 hr @ 487 F	O	Cure
01/15/91	1 hr @ -110 F	C	cold autocycle
01/15/91	1 hr @ 600 F	C	hot autocycle
01/15/91	16 hrs @ 118 F	H	Humid
01/16/91	1/2 hr @ -95 F	C	Low liquid N <sub>2</sub>
01/16/91	20 hrs @ 120 F	H	very humid
01/17/91	15 hrs @ 120 F	H	very humid
01/18/91	28 hrs @ 120 F	H	dry
01/19/91	1 hr @ -110 F	C	autocycle cold
01/19/91	1 hr @ 580 F	O	hot
01/21/91	1 hr @ -100 F	C	cold
01/21/91	2 hrs @ 600 F	O	hot
01/22/91	2 hrs @ 610 F	O	hot
01/22/91	1 hr @ -110 F	C	cold
01/22/91	16 hrs @ 115 F	H	humid
01/23/91	1 hr @ -110 F	C	cold
01/26/91	Test (Location 1)	A	1000 PSI (40% C; 40% F; 20% dolly)
01/26/91	Test (Location 2)	A	1000 PSI (50% C; 40% F; 10% dolly)

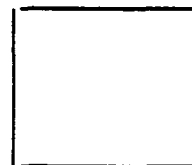
## MRC Fabrication/Conditioning/Test Form 91-1

Page 2

Set-Sample: 22P - 9200      Comments:

Materials: see page 1

Equip Definitions: See Page 1



Date	Action	Equip	Results/Comments
01/30/91	1 hr @ -110 F	C	cold
01/30/91	41 hrs @ 115 F	H	very humid
02/01/91	1 hr @ -110 F	C	autocycle
02/01/91	1 hr @ 600 F	C	autocycle hot
02/04/91	2.5 hrs @ 600 F	O	dry heat
02/04/91	42 hrs @ 115-150 F	H	very humid
02/06/91	2.5 hrs @ 58 F	O	
02/07/91	3 hrs @ 590 F	O	
02/08/91	1 hr @ -100 F	C	autocycle
02/09/91	1 hr @ -100 F	C	autocycle
02/11/91	1 hr @ -100 F	C	autocycle
02/11/91	2 hrs @ 620 F	O	dry heat
02/11/91	16 hrs @ 115 F	H	
02/12/91	1 hr @ -100 F	C	autocycle
02/12/91	2 hrs @ 600 F	O	
02/12/91	18 hrs @ 115 F	H	
02/13/91	1 hr @ -100 F	C	
02/13/91	15 hrs @ 118 F	H	
02/14/91	1 hr @ -100 F	C	
02/14/91	2 hrs @ 590 F	O	
02/14/91	16 hrs @ 120 F	H	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 22P - 9200 Comments:

Materials: see page 1

Equip Definitions: See Page 1

	5
1	3
2	6 4

Date	Action	Equip	Results/Comments
02/15/91	0.5 hrs @ -40 F	C	
02/18/91	Test (Location 3)	A	150 PSI (100% C)
02/18/91	Test (Location 4)	A	100 PSI (100% C)
02/22/91	2 hrs @ 590 F	O	
02/22/91	19 hrs @ 115 F	H	
02/25/91	2 hrs @ 600 F	O	
02/25/91	1 hr @ -100 F	C	
02/27/91	1 hr @ -100 F	C	
02/27/91	2 hrs @ 350 F	O	
02/28/91	1 hr @ -100 F	C	
02/28/91	2 hrs @ 600 F	O	
02/28/91	18 hrs @ 115 F	H	
03/04/91	Test (Location 5)	A	700 PSI (100% C)
03/04/91	Test (Location 6)	A	750 PSI (100% C)

## MRC Fabrication/Conditioning/Test Form 91-1

Page 1

Set-Sample: 22R - 9201      Comments: Repair test on panel 8701

Substrate/Preparation: 516/ remove loose MARB

Materials: MARB-45 dilute

Equip Definitions: O = Oven; C = Heat/Cooling Chamber;  
 H = Humidity Chamber;  
 A = Adhesion Tester; T = Misc Tests

1

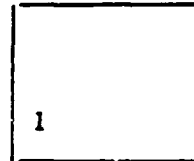
Date	Action	Equip	Results/Comments
Formerly Panel 8701 (See form 90-1)			Gel clean and tape remove loose MARB
01/15/91	Clean	-	Gel clean 15 minutes
01/16/91	Coat panel	-	Spray coat 3 layers of MARB-45
01/17/91	1 hr @ 487 F	O	Cure slow to temperature
01/17/91	15 hrs @ 120 F	H	very humid
01/18/91	28 hrs @ 120 F	H	dry
01/19/91	1 hr @ -110 F	C	autocycle cold
01/19/91	1 hr @ 580 F	O	hot
01/21/91	1 hr @ -100 F	C	cold
01/21/91	2 hrs @ 600 F	O	hot
01/22/91	2 hrs @ 610 F	O	hot
01/22/91	1 hr @ -110 F	C	cold
01/22/91	16 hrs @ 115 F	H	humid
01/23/91	1 hr @ -110 F	C	cold
01/26/91	Test (Location 1)	A	300 PSI (60% C/I; 30% C; 10 % A rusty)
STOP TESTING			
03/05/91	coating completely removed with 3M sander stripper		

Set-Sample: 22R - 9202      Comments: Repair test on panel 8702

Substrate/Preparation: 516/ remove loose MARB

Materials: MARB-45 dilute

Equip Definitions: O = Oven; C = Heat/Cooling Chamber;



Date	Action	Equip	Results/Comments
Formerly Panel 8702 (See form 90-1)			Gel clean and tape remove loose MARB
01/15/91	Clean	-	Gel clean 15 minutes
01/16/91	Coat panel	-	Spray coat 3 layers of MARB-45
01/17/91	1 hr @ 487 F	O	Cure slow to temperature
01/17/91	15 hrs @ 120 F	H	very humid
01/18/91	28 hrs @ 120 F	H	dry
01/19/91	1 hr @ -110 F	C	autocycle cold
01/19/91	1 hr @ 580 F	O	hot
01/21/91	1 hr @ -100 F	C	cold
01/21/91	2 hrs @ 600 F	O	hot
01/22/91	2 hrs @ 610 F	O	hot
01/22/91	1 hr @ -110 F	C	cold
01/22/91	16 hrs @ 115 F	H	humid
01/23/91	1 hr @ -110 F	C	cold
01/26/91	Test (Location 1)	A	200 PSI (50% C/I; 50% C alum)
01/30/91	1 hr @ -110 F	C	cold
01/30/91	41 hrs @ 115 F	H	very humid
02/01/91	1 hr @ -110 F	C	autocycle cold
02/01/91	1 hr @ 600 F	C	autocycle hot
02/04/91	2.5 hrs @ 600 F	O	dry heat      STOP TESTING - FAILURE
03/05/91	Coating completely removed in 1 minute with 3M sander stripper		

## MRC Fabrication/Conditioning/Test Form 91-1

Page 1

Set-Sample: 22R - 9203      Comments: Repair test on panel 8603

Substrate/Preparation: 516/ remove loose MARB

Materials: MARB-45 dilute

Equip Definitions: O = Oven; C = Heat/Cooling Chamber;

1

Date	Action	Equip	Results/Comments
Formerly Panel 8603 (See form 90-1)			Gel clean and tape remove loose MARB
01/15/91	Clean	-	Gel clean 15 minutes
01/16/91	Coat panel	-	Spray coat 3 layers of MARB-45
01/17/91	1 hr @ 487 F	O	Cure slow to temperature
01/17/91	15 hrs @ 120 F	H	very humid
01/18/91	28 hrs @ 120 F	H	dry
01/19/91	1 hr @ -110 F	C	autocycle cold
01/19/91	1 hr @ 580 F	O	hot
01/21/91	1 hr @ -100 F	C	cold
01/21/91	2 hrs @ 600 F	O	hot
01/22/91	2 hrs @ 610 F	O	hot
01/22/91	1 hr @ -110 F	C	cold
01/22/91	16 hrs @ 115 F	H	humid
01/23/91	1 hr @ -110 F	C	cold
01/26/91	Test (Location 1)	A	100 PSI (100% C/I grey - 1/2% F)
01/30/91	1 hr @ -110 F	C	cold
01/30/91	41 hrs @ 115 F	H	very humid
02/01/91	1 hr @ -110 F	C	autocycle cold
02/01/91	1 hr @ 600 F	C	autocycle hot
02/04/91	2.5 hrs @ 600 F	O	dry heat      STOP TESTING - FAILURE
03/05/91	Coating completely removed in 1 minute with 3M sander stripper		

MRC Fabrication/Conditioning/Test Form 91-1

Set/Sample: 22P - 9300                      Comments:

Substrate/Preparation: 516/ light rusting

Materials: MARB-DC-40

Equip Definitions: O = Oven; C = Heat/Cooling Chamber;  
H = Humidity Chamber; A = Adhesion

2
1

Date	Action	Equip	Results/Comments
12/14/90	HCL clean	-	Mill scale removed both sides
01/14/91	Clean	-	Gel clean 15 minutes
01/14/91	Coat panel	-	Brush coat MARB-DC-40
01/14/91	1 hr @ 487 F	O	Cure
01/15/91	1 hr @ -110 F	C	cold autocycle
01/15/91	1 hr @ 600 F	C	hot autocycle
01/15/91	16 hrs @ 118 F	H	Humid
01/16/91	1/2 hr @ -95 F	C	Low liquid N <sub>2</sub>
01/16/91	20 hrs @ 120 F	H	very humid
01/17/91	15 hrs @ 120 F	H	very humid
01/18/91	28 hrs @ 120 F	H	dry
01/19/91	1 hr @ -110 F	C	autocycle cold
01/19/91	1 hr @ 580 F	O	hot
01/21/91	1 hr @ -100 F	C	cold
01/21/91	2 hrs @ 600 F	O	hot
01/22/91	2 hrs @ 610 F	O	hot
01/22/91	1 hr @ -110 F	C	cold
01/22/91	16 hrs @ 115 F	H	humid
01/23/91	1 hr @ -110 F	C	cold
01/26/91	Test (Location 1)	A	1000 PSI (10% C; 80% F; 10% dolly)

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 22P - 9300      Comments:

Materials: see page 1

Equip Definitions: See Page 1

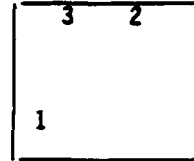


Date	Action	Equip	Results/Comments
01/30/91	1 hr @ -110 F	C	cold
01/30/91	41 hrs @ 115 F	H	very humid
02/01/91	1 hr @ -110 F	C	autocycle
02/01/91	1 hr @ 600 F	C	autocycle hot
02/04/91	2.5 hrs @ 600 F	O	dry heat
02/04/91	42 hrs @ 115-150 F	H	very humid
02/06/91	2.5 hrs @ 58 F	O	
02/07/91	3 hrs @ 590 F	O	
02/08/91	1 hr @ -100 F	C	autocycle
02/09/91	1 hr @ -100 F	C	autocycle
02/11/91	1 hr @ -100 F	C	autocycle
02/11/91	2 hrs @ 620 F	O	dry heat
02/11/91	16 hrs @ 115 F	H	
02/12/91	1 hr @ -100 F	C	autocycle
02/12/91	2 hrs @ 600 F	O	
02/12/91	15 hrs @ 118 F	H	
02/13/91	1 hr @ -100 F	C	
02/13/91	15 hrs @ 118 F	H	
02/14/91	1 hr @ -100 F	C	
02/14/91	2 hrs @ 590 F	O	
02/14/91	16 hrs @ 120 F	H	

Set-Sample: 22P - 9300    Comments:

Materials: see page 1

Equip Definitions: See Page 1



Date	Action	Equip	Results/Comments
02/15/91	0.5 hrs @ -40 F	C	
02/18/91	Test (Location 2)	A	>1000 PSI (no failure)
02/22/91	2 hrs @ 590 F	O	
02/22/91	19 hrs @ 115 F	H	
02/25/91	2 hrs @ 600 F	O	
02/25/91	1 hr @ -100 F	C	
02/27/91	1 hr @ -100 F	C	
02/27/91	2 hrs @ 350 F	O	
02/28/91	1 hr @ -100 F	C	
02/28/91	2 hrs @ 600 F	O	
02/28/91	18 hrs @ 115 F	H	
03/04/91	Test (Location 3)	A	600 PSI (80% C; 20% F)
03/04/91	1 hr @ 487 F	O	
03/04/91	1 hr @ -100 F	C	
03/05/91	1 hr @ -100 F	C	
03/05/91	1 hr @ 600 F	O	
03/05/91	16.5 hrs @ 116 F	H	

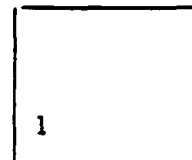
MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 23 - 9301 Comments:

Substrate/Preparation: 285/ light rusting

Materials: MARB-DC-40

Equip Definitions: O = Oven; C = Heat/Cooling Chamber;  
 H = Humidity Chamber;  
 A = Adhesion Tester; T = Misc Tests



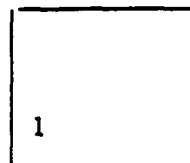
Date	Action	Equip	Results/Comments
12/14/90	HCL clean	-	Mill scale removed both sides
01/15/91	Clean	-	Gel clean 15 minutes
01/16/91	Coat panel	-	Spray coat 3 layers of MARB-DC-40
01/17/91	1 hr @ 487 F	O	Cure slow to temperature
01/17/91	15 hrs @ 120 F	H	very humid
01/18/91	28 hrs @ 120 F	H	dry
01/19/91	1 hr @ -110 F	C	autocycle cold
01/19/91	1 hr @ 580 F	O	hot
01/21/91	1 hr @ -100 F	C	cold
01/21/91	2 hrs @ 600 F	O	hot
01/22/91	2 hrs @ 610 F	O	hot
01/22/91	1 hr @ -110 F	C	cold
01/22/91	16 hrs @ 115 F	H	humid
01/23/91	1 hr @ -110 F	C	cold
01/26/91	Test (Location 1)	A	1000 PSI (10% C; 70% F; 20% dolly)
	STOP TESTING - Control ambient panel for 9302-9303 Looks spotty		
02/25/91	one of two panels to CDN for HB salt-spray environment testing		

Set-Sample: 23 - 9302 Comments:

Substrate/Preparation: 516/ light rusting

Materials: MARB-DC-40

Equip Definitions: O = Oven; C = Heat/Cooling Chamber;  
 H = Humidity Chamber;  
 A = Adhesion Tester; T = Misc Tests



Date	Action	Equip	Results/Comments
12/14/90	HCL clean	-	Mill scale removed both sides
01/15/91	Clean	-	Gel clean 15 minutes
01/16/91	Coat panel	-	Spray coat 3 layers of MARB-DC-40
01/17/91	1 hr @ 487 F	O	Cure slow to temperature
01/17/91	15 hrs @ 120 F	H	very humid
01/18/91	28 hrs @ 120 F	H	dry
01/19/91	1 hr @ -110 F	C	autocycle cold
01/19/91	1 hr @ 580 F	O	hot
01/21/91	1 hr @ -100 F	C	cold
01/21/91	2 hrs @ 600 F	O	hot
01/22/91	2 hrs @ 610 F	O	hot
01/22/91	1 hr @ -110 F	C	cold
01/22/91	16 hrs @ 115 F	H	humid
01/23/91	1 hr @ -110 F	C	cold
01/26/91	Test (Location 1)	A	1000 PSI (50% C; 50% F; 6% dolly)
01/30/91	1 hr @ -110 F	C	autocycle
01/30/91	41 hrs @ 115 F	H	very humid
02/01/91	1 hr @ -110 F	C	autocycle
02/01/91	1 hr @ 600 F	C	autocycle
02/04/91	2.5 hrs @ 600 F	O	dry heat

## MRC Fabrication/Conditioning/Test Form 91-1

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Set-Sample: 23 - 9302      Comments: Repair test

Materials: MARB-DC-40

Equip Definitions: See Page 1

2
1

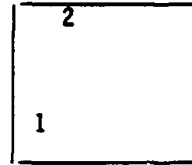
Date	Action	Equip	Results/Comments
02/04/91	42 hrs @ 115-150 F	H	very humid
02/06/91	2.5 hrs @ 58 F	O	
02/07/91	3 hrs @ 590 F	O	
02/08/91	1 hr @ -100 F	C	autocycle
02/09/91	1 hr @ -100 F	C	autocycle
02/11/91	1 hr @ -100 F	C	autocycle
02/11/91	2 hrs @ 620 F	O	dry heat
02/11/91	16 hrs @ 115 F	H	
02/12/91	1 hr @ -100 F	C	autocycle
02/12/91	2 hrs @ 600 F	O	
02/12/91	18 hrs @ 115 F	H	
02/13/91	1 hr @ -100 F	C	
02/13/91	15 hrs @ 118 F	H	
02/14/91	1 hr @ -100 F	C	
02/14/91	2 hrs @ 590 F	O	
02/14/91	16 hrs @ 120 F	H	
02/15/91	0.5 hrs @ -40 F	C	
02/18/91	Test (Location 2)	A	100 PSI (90% C, 10% F)
02/19/91	STOP TESTING		poor results
03/05/91	Coating completely removed in 1 minute with 3M sander stripper		

Set-Sample: 23 - 9303      Comments:

Substrate/Preparation: 203/ light rusting

Materials: MARB-DC-40

Equip Definitions: O = Oven; C = Heat/Cooling Chamber;  
 H = Humidity Chamber;  
 A = Adhesion Tester; T = Misc Tests



Date	Action	Equip	Results/Comments
12/14/90	HCL clean	-	Mill scale removed both sides
01/15/91	Clean	-	Gel clean 15 minutes
01/16/91	Coat panel	-	Spray coat 3 layers of MARB-DC-40
01/17/91	1 hr @ 487 F	O	Cure slow to temperature
01/17/91	15 hrs @ 120 F	H	very humid
01/18/91	28 hrs @ 120 F	H	dry
01/19/91	1 hr @ -110 F	C	autocycle cold
01/19/91	1 hr @ 580 F	O	hot
01/21/91	1 hr @ -100 F	C	cold
01/21/91	2 hrs @ 600 F	O	hot
01/22/91	2 hrs @ 610 F	O	hot
01/22/91	1 hr @ -110 F	C	cold
01/22/91	16 hrs @ 115 F	H	humid
01/23/91	1 hr @ -110 F	C	cold
01/26/91	Test (Location 1)	A	1000 PSI (70% C; 20% F; 10% dolly)
01/30/91	1 hr @ -110 F	C	cold
01/30/91	41 hrs @ 115 F	H	very humid
02/01/91	1 hr @ -110 F	C	autocycle
02/01/91	1 hr @ 600 F	C	auticycle
02/04/91	2.5 hrs @ 600 F	O	dry heat

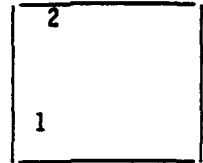
## MRC Fabrication/Conditioning/Test Form 91-1

Page 2

Set-Sample: 23 - 9303      Comments: Repair test

Materials: MARB-DC-40

Equip Definitions: See Page 1



Date	Action	Equip	Results/Comments
02/04/91	42 hrs @ 115-150 F	H	very humid
02/06/91	2.5 hrs @ 58 F	O	
02/07/91	3 hrs @ 590 F	O	
02/08/91	1 hr @ -100 F	C	autocycle
02/09/91	1 hr @ -100 F	C	autocycle
02/11/91	1 hr @ -100 F	C	autocycle
02/11/91	2 hrs @ 620 F	O	dry heat
02/11/91	16 hrs @ 115 F	H	
02/12/91	1 hr @ -100 F	C	autocycle
02/12/91	2 hrs @ 600 F	O	
02/12/91	18 hrs @ 115 F	H	
02/13/91	1 hr @ -100 F	C	
02/13/91	15 hrs @ 118 F	H	
02/14/91	1 hr @ -100 F	C	
02/14/91	2 hrs @ 590 F	O	
02/14/91	16 hrs @ 120 F	H	
02/15/91	0.5 hrs @ -40 F	C	
02/18/91	Test (Location 2)	A	50 PSI (85% C/I, 15% F)
02/19/91	STOP TESTING		dark oxide interface, very poor results
03/05/91	Coating completely removed with 3M sander stripper		
03/08/91	Backside rust cleaned off with HCL		







## MRC Fabrication/Conditioning/Test Form 91-1

Page 1

Set-Sample: 24 - 9402      Comments:

Materials: MARB 40 (Oct 30, 1990)      Substrate: A-203-E

Equip Definitions:

	1	2
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Date	Action	Equip	Results/Comments
10/30/90	Acid cleaned		HCL to remove mill scale
01/20/91	Gel cleaned		Corrosion inhibitor study
01/24/91	Gel cleaned		5 minutes, rinsed, dried
01/24/91	Coat		Spray coat right 33%
01/24/91	Coat		Spray coat right 66%
01/24/91	Cure	O	4 hrs air dry, 1 hr @ 450 F slowly
01/30/91	1 hr @ -110 F	C	
01/30/91	41 hrs @ 115 F	H	
02/01/91	1 hr @ -110 F	C	autocycle
02/01/91	1 hr @ 600 F	C	autocycle
02/04/91	2.5 hrs @ 600 F	O	dry heat
02/04/91	42 hrs @ 115-150 F	H	very humid
02/06/91	2.5 hrs @ 580 F	O	
02/07/91	3 hrs @ 590 F	O	
02/08/91	1 hr @ -100 F	C	
02/09/91	1 hr @ -100 F	C	
02/11/91	1 hr @ -100 F	C	
02/11/91	2 hrs @ 620 F	O	dry heat
02/11/91	16 hrs @ 115 F	H	
02/12/91	1 hr @ -100 F	C	
02/12/91	2 hrs @ 600 F	O	



## MRC Fabrication/Conditioning/Test Form 91-1

Page 1

Set-Sample: 24 - 9404 Comments:

Materials: MARB 40 (Oct 30, 1990) Substrate: A-516-70

Equip Definitions:

	1	2
	3	6
	5	4

Date	Action	Equip	Results/Comments
10/30/90	Acid cleaned		HCL to remove mill scale
01/20/91	Gel cleaned		Corrosion inhibitor study
01/24/91	Gel cleaned		5 minutes, rinsed, dried
01/24/91	Coat		Spray coat right 33%
01/24/91	Coat		Spray coat right 66%
01/24/91	Cure	O	4 hrs air dry, 1 hr @ 450 F slowly
01/30/91	1 hr @ -110 F	C	
01/30/91	41 hrs @ 115 F	H	
02/01/91	1 hr @ -110 F	C	autocycle
02/01/91	1 hr @ 600 F	C	autocycle
02/04/91	2.5 hrs @ 600 F	O	dry heat
02/04/91	42 hrs @ 115-150 F	H	very humid
02/06/91	2.5 hrs @ 580 F	O	
02/07/91	3 hrs @ 590 F	O	
02/08/91	1 hr @ -100 F	C	
02/09/91	1 hr @ -100 F	C	
02/11/91	1 hr @ -100 F	C	
02/11/91	2 hrs @ 620 F	O	dry heat
02/11/91	16 hrs @ 115 F	H	
02/12/91	1 hr @ -100 F	C	
02/12/91	2 hrs @ 600 F	O	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 24 - 9404 Comments:

Materials: MARB-40

Substrate: A516-70

Equip Definitions:

	1	2
	3	6
	5	4

Date	Action	Equip	Results/Comments
02/12/91	18 hrs @ 115 F	H	
02/13/91	1 hr @ -100 F	C	
02/13/91	15 hrs @ 118 F	H	
02/14/91	1 hr @ -100 F	C	
02/14/91	2 hrs @ 590 F	O	
02/14/91	16 hrs @ 120 F	H	
02/15/91	0.5 hrs @ -40 F	C	
02/18/91	Test (Location 1)	A	150 PSI (50% C; 50% C/I)
02/18/91	Test (Location 2)	A	300 PSI (100% C, C/I)
02/22/91	2 hrs @ 590 F	O	
02/22/91	19 hrs @ 115 F	H	
02/25/91	2 hrs @ 600 F	O	
02/25/91	1 hr @ -100 F	C	
02/27/91	1 hr @ -100 F	C	
02/27/91	2 hrs @ 350 F	O	
02/28/91	1 hr @ -100 F	C	
02/28/91	2 hrs @ 600 F	O	
02/28/91	18 hrs @ 115 F	H	
03/04/91	Test (Location 3)	A	620 PSI (60% C/I; 40% C) 1 coat rusting
03/04/91	Test (Location 4)	A	200 PSI (20% F; 80% C/I)
03/04/91	1 hr @ 487 F	O	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 24 - 9404 Comments:

Materials: MARB-40

Substrate: A516-70

Equip Definitions:

	1	2
	3	6
	5	4

Date	Action	Equip	Results/Comments
03/04/91	1 hr @ -100 F	C	
03/05/91	1 hr @ -100 F	C	
03/05/91	1 hr @ 600 F	O	
03/05/91	16.5 hrs @ 116 F	H	
03/08/91	1 hr @ -100 F	C	
03/08/91	2 hrs @ 600 F	O	
03/08/91	64 hrs @ 140 F	H	
03/11/91	1 hr @ -100 F	C	
03/11/91	2 hrs @ 600 F	O	
03/11/91	17 hrs @ 115 F	H	
03/12/91	1 hr @ -100 F	C	
03/12/91	1 hr @ 480 F	O	
03/12/91	16 hrs @ 115 F	H	
03/14/91	Test (Location 5)	A	100 PSI (90% C/I; 5% C; 5% F) 1 coat
03/14/91	Test (Location 6)	A	350 PSI (50% dolly) poor test, low pressure
03/19/91	3 hrs @ 610 F	O	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 24 - 9406 Comments:

Materials: MARB 40 (Oct 30, 1990) Substrate: A-285

	1	2
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Equip Definitions:

Date	Action	Equip	Results/Comments
10/30/90	Acid cleaned		HCL to remove mill scale
01/20/91	Gel cleaned		Corrosion inhibitor study
01/24/91	Gel cleaned		5 minutes, rinsed, dried
01/24/91	Coat		Spray coat right 33%
01/24/91	Coat		Spray coat right 66%
01/24/91	Cure	O	4 hrs air dry, 1 hr @ 450 F slowly
01/30/91	1 hr @ -110 F	C	
01/30/91	41 hrs @ 115 F	H	
02/01/91	1 hr @ -110 F	C	autocycle
02/01/91	1 hr @ 600 F	C	autocycle
02/04/91	2.5 hrs @ 600 F	O	dry heat
02/04/91	42 hrs @ 115-150 F	H	very humid
02/06/91	2.5 hrs @ 580 F	O	
02/07/91	3 hrs @ 590 F	O	
02/08/91	1 hr @ -100 F	C	
02/09/91	1 hr @ -100 F	C	
02/11/91	1 hr @ -100 F	C	
02/11/91	2 hrs @ 620 F	O	dry heat
02/11/91	16 hrs @ 115 F	H	
02/12/91	1 hr @ -100 F	C	
02/12/91	2 hrs @ 600 F	O	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 24 - 9406 Comments:

Materials: MARB-40

Substrate: A285

	1	2
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Equip Definitions:

Date	Action	Equip	Results/Comments
02/12/91	18 hrs @ 115 F	H	
02/13/91	1 hr @ -100 F	C	
02/13/91	15 hrs @ 118 F	H	
02/14/91	1 hr @ -100 F	C	
02/14/91	2 hrs @ 590 F	O	
02/14/91	16 hrs @ 120 F	H	
02/15/91	0.5 hrs @ -40 F	C	
02/18/91	Test (Location 1)	A	100 PSI (95% C/I; 5% C)
02/18/91	Test (Location 2)	A	150 PSI (48% C; 50% C/I; 2% F)

STOP TESTING

Set-Sample: 25A - 9507 Comments:

Materials: Silicone Release DC-1-2531

Equip Definitions:

		5
		2
		6
as		4
is	3	1

Date	Action	Equip	Results/Comments
01/31/91	Acid cleaned		HCL both sides
01/31/91	Gel cleaned		
02/08/91	Gel cleaned		
02/08/91	Coat		Brush coat top half
02/08/91	Coat		Brush coat left half (top right 2 coats)
02/08/91	Cure	O	air dry, 1 hr @ 400 F
02/11/91	16 hrs @ 115 F	H	
02/12/91	1 hr @ -100 F	C	
02/12/91	2 hrs @ 600 F	O	
02/12/91	18 hrs @ 115 F	H	
02/13/91	1 hr @ -100 F	C	
02/13/91	15 hrs @ 118 F	H	
02/14/91	1 hr @ -100 F	C	
02/14/91	2 hrs @ 590 F	O	
02/14/91	16 hrs @ 120 F	H	
02/15/91	0.5 hrs @ -40 F	C	
02/18/91	Test (Location 1)	A	>1000 PSI (1 coat - no failure)
02/18/91	Test (Location 2)	A	1000 PSI (2 coats - 90% C, 9% F, 1% dolly)
02/22/91	2 hrs @ 590 F	O	
02/22/91	19 hrs @ 115 F	H	
02/25/91	2 hrs @ 600 F	O	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 25A - 9507 Comments:

Materials: Silicone Release Resin

Equip Definitions:

	5
	2
	6
	4
3	1

Date	Action	Equip	Results/Comments
02/25/91	1 hr @ -100 F	C	
02/27/91	1 hr @ -108 F	C	
02/27/91	2 hrs @ 350 F	O	
02/28/91	1 hr @ -100 F	C	
02/28/91	2 hrs @ 600 F	O	
02/28/91	18 hrs @ 115 F	H	
03/04/91	Test (Location 3)	A	>1000 PSI But looks rusty underneath
03/04/91	1 hr @ 487 F	O	
03/04/91	1 hr @ -100 F	C	
03/05/91	1 hr @ -100 F	C	
03/05/91	1 hr @ 600 F	O	
03/05/91	16.5 hrs @ 116 F	H	
03/08/91	1 hr @ -100 F	C	cold auto
03/08/91	2 hrs @ 600 F	O	
03/08/91	64 hrs @ 140 F	H	
03/11/91	1 hr @ -100 F	C	
03/11/91	2 hrs @ 600 F	O	
03/11/91	17 hrs @ 115 F	H	
03/12/91	1 hr @ -100 F	C	
03/12/91	1 hr @ 487 F	O	
03/12/91	16 hrs @ 115 F	H	

Set-Sample: 25A - 9507      Comments: Silicone Release

03/14/91	Test (Location 4)	A	1000 PSI (60% F; 40% dolly)	1 coat
03/14/91	Test (Location 5)	A	>1000 PSI	2 coats
03/19/91	3 hrs @ 610 F	O		
03/19/91	17 hrs @ 116 F	H		
03/20/91	3 hrs @ 650 F	O		
03/20/91	1 hr @ -100 F	C		
03/20/91	16 hrs @ 140 F	H		
03/21/91	1 hr @ -100 F	C		
03/21/91	1 hr @ 640 F	O		
03/21/91	16 hrs @ 140 F	H		
03/22/91	1 hr @ -100 F	C		
03/22/91	1 hr @ 640 F	O		
03/22/91	1 hr @ -100 F	C		
03/22/91	43 hrs @ 115 F	H		
03/24/91	1 hr @ -100 F	C	46 events (350 hours)	
03/28/91	Test (Location 6)	A	650 PSI (50% C/I; 50% F /dolly)	

STOP TESTING - 100% Rusting Add Zinc or Aluminum in 9508 paint

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 25A -9508

Comments:

A516-70 panel  
 Materials: Silicone Release As is  
 Aluminum filled

Equip Definitions:

0
1 3
2 4

Date	Action	Equip	Results/Comments
03/14/91			
03/19/91	3 hrs @ 610 F	O	
03/19/91	17 hrs @ 116 F	H	
03/20/91	3 hrs @ 650 F	O	
03/20/91	1 hr @ -100 F	C	
03/20/91	16 hrs @ 140 F	H	
03/21/91	1 hr @ -100 F	C	
03/21/91	1 hr @ 640 F	O	
03/21/91	16 hrs @ 140 F	H	
03/22/91	1 hr @ -100 F	C	AM
03/22/91	1 hr @ 640 F	O	
03/22/91	1 hr @ -100 F	C	PM
03/22/91	43 hrs @ 115 F	H	
03/24/91	1 hr @ -100 F	C	
03/25/91	1 hr @ -100 F	C	
03/25/91	17 hrs @ 140 F	H	
03/25/91	1 hr @ 0 F	C	
03/26/91	1 hr @ 700 F	O	Very hot
03/27/91	2 hrs @ 650 F	O	

## MRC Fabrication/Conditioning/Test Form 91-1

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Set-Sample: 25A - 9508      Comments: Silicone Release with aluminum / upper  
with zinc (grey)/ lower

03/27/91	1 hr @ -100 F	C		
03/28/91	1 hr @ -100 F	C		
03/28/91	2 hrs @ 650 F	O		
03/29/91	Test (Location 1)	A	800 PSI (50% C, 15% A, 20% F)	0.5 mils
03/29/91	Test (Location 2)	A	600 PSI (80% C/I, 20 % F)	0.55 mils
03/29/91	20 hrs @ 120 F	H		
03/30/91	1 hr @ -100 F	C		
03/30/91	44 hrs @ 118 F	H		
04/01/91	1 hr @ -100 F	C		
04/01/91	2 hrs @ 650 F	O		
04/01/91	20 hrs @ 120 F	H		
04/02/91	1 hr @ -100 F	C		
04/02/91	17 hrs @ 120 F	H		
04/03/91	1 hr @ -100 F	C		
04/03/91	17 hrs @ 120 F	H		
04/04/91	1 hr @ -150 F	C		
04/04/91	2 hrs @ 650 F	O		
04/04/91	20 hrs @ 120 F	H		
04/05/91	1 hr @ -100 F	C		
04/05/91	1 hr @ 650 F	O		
04/06/91	Test (Location 3)	A	>1000 PSI	
04/06/91	Test (Location 4)	A	550 PSI (90% C; 10% F)	
04/08/91	2 hrs @ 650 F	O		
04/08/91	1 hr @ -100 F	C		

## MRC Fabrication/Conditioning/Test Form 91-1

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Set-Sample: 25A - 9508      Comments: Silicone Release with aluminum / upper  
with zinc (grey) / lower

04/08/91	40 hrs @ 120 F	H
04/10/91	1 hr @ -100 F	C
04/10/91	2 hrs @ 650 F	O
04/11/91	4 hrs @ 650 F	O
04/11/91	14 hrs @ 150 F	H
04/12/91	1 hr @ -100 F	C
04/12/91	65 hrs @ 120 F	H
04/15/91	1 hr @ -100 F	C
04/15/91	40 hrs @ 115 F	H
04/17/91	1 hr @ -100 F	C
04/17/91	1 hr @ -100 F	C
04/17/91	2 hrs @ 650 F	O
04/17/91	14 hrs @ 115 F	H
04/18/91	1 hr @ -100 F	C

Stopped events

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 25 - 15 panels      Comments: 9510-9524

Materials: Corrosion Inhibitor variation

Equip Definitions:



Date	Action	Equip	Results/Comments
02/10/91	Clean	All panels	HCL cleaned of mill scale
02/20/91	Clean	Gel (0291)	clean 15 minutes
02/20/91	Rinse	Tap water,	do not dry
02/20/91	Rinse	Corrosion inhibitor	final rinse, hang
02/21/91	Report	Observations on	Test plan sheet
02/21/91	Select -	9510; 9511; 9512; 9514; 9517; 9518; 9520; 9521; & 9522	
02/21/91	Reject -		
	9513	SH3 Sharp	1 to 300 Blast      Rust, film, discoloration
	9515	N2 K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	1 to 1 (1/2)      "
	9516	H1 HN-(C <sub>2</sub> H <sub>5</sub> OH) <sub>2</sub>	1 to 0 Normal      "
	9519	E2 NaNO <sub>3</sub> Ed's	1 to 20 Normal      "
	9523	B3 NaNO <sub>3</sub> Brulin	1 to 30 (1/2)      "
	9524	B4 NaNO <sub>3</sub> Brulin	1 to 3.5 (4X)      "
02/21/91	Coat selected panels -	See individual sheets.	

## MRC Fabrication/Conditioning/Test Form 91-1

Page 1

Set-Sample: 25 - 9510      Comments: Control S4

Materials: MARB 4 (on cleaned, force air dried A516-70)

4	0	2
		3
		1

Equip Definitions:

Date	Action	Equip	Results/Comments
02/10/91	Clean	Panel HCL	cleaned of mill scale
02/20/91	Clean	Ge1 (0291)	clean 15 minutes
02/20/91	Rinse	Tap water,	do not dry
02/20/91	Rinse	Tap water,	force air dry, hang on hook
02/21/91	Report	Observations	on Test plan sheet - No rusting
02/21/91	Coat	Spray three	coats MARB 4
02/21/91	1 hr @ 480 F	O	Cure
02/22/91	2 hrs @ 590 F	O	dry heat
02/22/91	19 hrs @ 115 F	H	humid
02/25/91	2 hrs @ 600 F	O	dry heat
02/25/91	1 hr @ -100 F	C	auto
02/26/91	Test (Location 1)	A	>1000 PSI
02/27/91	1 hr @ -100 F	C	auto
02/27/91	2 hrs @ 350 F	O	dry
02/28/91	1 hr @ -100 F	C	auto
02/28/91	2 hrs @ 600 F	O	dry, hot
02/28/91	18 hrs @ 115 F	H	
03/04/91	Test (Location 2)	A	1000 PSI (100% C)
03/04/91	1 hr @ 487 F	O	
03/04/91	1 hr @ -100 F	C	
03/05/91	1 hr @ -100 F	C	

## MRC Fabrication/Conditioning/Test Form 91-1

Page 2

Set-Sample: 25 - 9510      Comments: S-4

03/05/91	1 hr @ 600 F	O	
03/05/91	16.5 hrs @ 116 F	H	
03/08/91	1 hr @ -100 F	C	
03/08/91	2 hrs @ 600 F	O	
03/08/91	64 hrs @ 140 F	H	
03/11/91	1 hr @ -100 F	C	
03/11/91	2 hrs @ 600 F	O	
03/11/91	17 hrs @ 115 F	H	
03/12/91	1 hr @ -100 F	C	
03/12/91	1 hr @ 487 F	O	
03/12/91	16 hrs @ 115 F	H	
03/13/91	1 hr @ -100 F	C	
03/13/91	2 hrs @ 600 F	O	
03/13/91	16 hrs @ 140 F	H	
03/14/91	1 hr @ -100 F	C	
03/14/91	1 hr @ 525 F	C	
03/15/91	Test (Location 3)	A	300 PSI (100% C)
03/19/91	3 hrs @ 610 F	O	
03/19/91	17 hrs @ 116 F	H	
03/20/91	3 hrs @ 650 F	O	
03/20/91	1 hr @ -100 F	C	
03/20/91	16 hrs @ 140 F	H	
03/21/91	1 hr @ -100 F	C	
03/21/91	1 hr @ 640 F	O	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 25 - 9510      Comments: S4

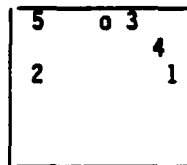
03/21/91	16 hrs @ 140 F	H	
03/22/91	1 hr @ -100 F	C	
03/22/91	1 hr @ 640 F	O	
03/22/91	1 hr @ -100 F	C	
03/22/91	43 hrs @ 115 F	H	
03/24/91	1 hr @ -100 F	C	
03/25/91	1 hr @ -100 F	C	
03/25/91	17 hrs @ 140 F	H	
03/28/91	Test (Location 4)	A	300 PSI (100% C - very rough failure)

STOP TESTING

Set-Sample: 25 - 9511 Comments: SH1

Materials: MARB 4 over Sharp Rust Inhibitor

Equip Definitions:



Date	Action	Equip	Results/Comments
02/10/91	Clean		Panel HCL cleaned of mill scale
02/20/91	Clean		Gel (0291) clean 15 minutes
02/20/91	Rinse		Tap water, do not dry
02/20/91	Rinse		Corrosion inhibitor final rinse, hang
02/21/91	Report		Observations on Test plan sheet
02/21/91	Coat		Spray three coats MARB 4
02/21/91	1 hr @ 480 F	O	Cure
02/22/91	2 hrs @ 590 F	O	dry heat
02/22/91	19 hrs @ 115 F	H	humid
02/25/91	2 hrs @ 600 F	O	dry heat
02/25/91	1 hr @ -100 F	C	auto
02/26/91	Test (Location 1)	A	>1000 PSI
02/27/91	Test (Location 2)	A	>1000 PSI
02/27/91	1 hr @ -100 F	C	auto
02/27/91	2 hrs @ 350 F	O	dry
02/28/91	1 hr @ -100 F	C	auto
02/28/91	2 hrs @ 600 F	O	dry, hot
02/28/91	18 hrs @ 115 F	H	
03/04/91	Test (Location 3)	A	900 PSI (100% C)
03/04/91	1 hr @ 487 F	O	
03/04/91	1 hr @ -100 F	C	

## MRC Fabrication/Conditioning/Test Form 91-1

Page 2

Set-Sample: 25 - 9511      Comments: SH-1

03/05/91	1 hr @ -100 F	C	
03/05/91	1 hr @ 600 F	O	
03/05/91	16.5 hrs @ 116 F	H	
03/08/91	1 hr @ -100 F	C	
03/08/91	2 hrs @ 600 F	O	
03/08/91	64 hrs @ 140 F	H	
03/11/91	1 hr @ -100 F	C	
03/11/91	2 hrs @ 600 F	O	
03/11/91	17 hrs @ 115 F	H	
03/12/91	1 hr @ -100 F	C	
03/12/91	1 hr @ 487 F	O	
03/12/91	16 hrs @ 115 F	H	
03/13/91	1 hr @ -100 F	C	
03/13/91	2 hrs @ 600 F	O	
03/13/91	16 hrs @ 140 F	H	
03/14/91	1 hr @ -100 F	C	
03/14/91	1 hr @ 525 F	C	
03/15/91	Test (Location 4)	A	800 PSI (100% C)
03/19/91	3 hrs @ 610 F	O	
03/19/91	17 hrs @ 116 F	H	
03/20/91	3 hrs @ 650 F	O	
03/20/91	1 hr @ -100 F	C	
03/20/91	16 hrs @ 140 F	H	
03/21/91	1 hr @ -100 F	C	
03/21/91	1 hr @ 640 F	O	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 25 - 9511      Comments: SH-1

03/21/91	16 hrs @ 140 F	H	
03/22/91	1 hr @ -100 F	C	
03/22/91	1 hr @ 640 F	O	
03/22/91	1 hr @ -100 F	C	
03/22/91	43 hrs @ 115 F	H	
03/24/91	1 hr @ -100 F	C	
03/25/91	1 hr @ -100 F	C	
03/25/91	17 hrs @ 140 F	H	
03/28/91	Test (Location 5)	A	250 PSI (100% C)

STOP TESTING

## MRC Fabrication/Conditioning/Test Form 91-1

Page 1

Set-Sample: 25 - 9512 Comments: SH2

Materials: MARB 4 over Sharp Rust Inhibitor (normal: 1 to 30)

Equip Definitions:

	0	3
2		1

Date	Action	Equip	Results/Comments
02/10/91	Clean	Panel HCL	cleaned of mill scale
02/20/91	Clean	Gel (0291)	clean 15 minutes
02/20/91	Rinse	Tap water,	do not dry
02/20/91	Rinse	Corrosion inhibitor	final rinse, hang
02/21/91	Report	Observations on	Test plan sheet
02/21/91	Coat	Spray three coats	MARB 4
02/21/91	1 hr @ 480 F	O	Cure
02/22/91	2 hrs @ 590 F	O	dry heat
02/22/91	19 hrs @ 115 F	H	humid
02/25/91	2 hrs @ 600 F	O	dry heat
02/25/91	1 hr @ -100 F	C	auto
02/26/91	Test (Location 1)	A	350 PSI (100% A - I) grey
02/27/91	Test (Location 2)	A	300 PSI (100% C/I) grey
	STOP TESTS	continue with new	9512 (old 9525)
03/13/91	16 hrs @ 140 F	H	
03/14/91	1 hr @ -100 F	C	
03/14/91	1 hr @ 525 F	C	
03/15/91	Test (Location 1)	A	350 PSI (30% C; 20% A; 20% F; 30% dolly)
03/19/91	3 hrs @ 610 F	O	
03/19/91	17 hrs @ 116 F	H	
03/20/91	3 hrs @ 650 F	O	



Set-Sample: 26 -9602		Comments:	Page 2
03/22/91	1 hr @ 640 F	O	
03/22/91	1 hr @ -100 F	C	PM
03/22/91	43 hrs @ 115 F	H	
03/24/91	1 hr @ -100 F	C	
03/25/91	1 hr @ -100 F	C	
03/25/91	17 hrs @ 140 F	H	very humid
03/26/91	1 hr @ 0 F	C	
03/26/91	1 hr @ 700 F	O	very hot
03/27/91	2 hrs @ 650 F	O	
03/27/91	1 hr @ -100 F	C	
03/28/91	1 hr @ -100 F	C	
03/28/91	2 hrs @ 650 F	O	50% coating discoloration
03/29/91	Test (Location 3b)	A	500 PSI (100% C) 1.2 mils
03/29/91	Test (Location 4)	A	300 PSI (100% C/I, C) 1.0 mils
03/29/91	20 hrs @ 120 F	H	
03/30/91	1 hr @ -100 F	C	
03/30/91	44 hrs @ 118 F	H	
04/01/91	1 hr @ -100 F	C	
04/01/91	2 hrs @ 650 F	O	
04/01/91	20 hrs @ 120 F	H	
04/02/91	1 hr @ -100 F	C	
04/02/91	17 hrs @ 120 F	H	1271.0 g
04/03/91	1 hr @ -100 F	C	
04/03/91	17 hrs @ 120 F	H	
04/04/91	1 hr @ -150 F	C	Manual 15 to 8% N <sub>2</sub>
04/04/91	2 hrs @ 650 F	O	



## MRC Fabrication/Conditioning/Test Form 91-1

Page 1

Set-Sample: 25 - 9514      Comments: NI

Materials: MARB 4 over Potassium Chromate ( $K_2Cr_2O_7$ )

Equip Definitions:

5	o	3
2		4
		1

Date	Action	Equip	Results/Comments
02/10/91	Clean	Panel HCL	cleaned of mill scale
02/20/91	Clean	Gel (0291)	clean 15 minutes
02/20/91	Rinse	Tap water,	do not dry
02/20/91	Rinse	Corrosion inhibitor	final rinse, hang
02/21/91	Report	Observations on	Test plan sheet
02/21/91	Coat	Spray three coats	MARB 4
02/21/91	1 hr @ 480 F	O	Cure
02/22/91	2 hrs @ 590 F	O	dry heat
02/22/91	19 hrs @ 115 F	H	humid
02/25/91	2 hrs @ 600 F	O	dry heat
02/25/91	1 hr @ -100 F	C	auto
02/26/91	Test (Location 1)	A	975 PSI (100% C)
02/27/91	Test (Location 2)	A	550 PSI (100% C)
02/27/91	1 hr @ -100 F	C	auto
02/27/91	2 hrs @ 350 F	O	dry
02/28/91	1 hr @ -100 F	C	auto
02/28/91	2 hrs @ 600 F	O	dry, hot
02/28/91	18 hrs @ 115 F	H	
03/04/91	Test (Location 3)	A	300 PSI (100% C) spotty
03/04/91	1 hr @ 487 F	O	
03/04/91	1 hr @ -100 F	C	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 25 - 9514      Comments: N1

03/05/91	1 hr @ -100 F	C	
03/05/91	1 hr @ 600 F	O	
03/05/91	16.5 hrs @ 116 F	H	
03/08/91	1 hr @ -100 F	C	
03/08/91	2 hrs @ 600 F	O	
03/08/91	64 hrs @ 140 F	H	
03/11/91	1 hr @ -100 F	C	
03/11/91	2 hrs @ 600 F	O	
03/11/91	17 hrs @ 115 F	H	
03/12/91	1 hr @ -100 F	C	
03/12/91	1 hr @ 487 F	O	
03/12/91	16 hrs @ 115 F	H	
03/13/91	1 hr @ -100 F	C	
03/13/91	2 hrs @ 600 F	O	
03/13/91	16 hrs @ 140 F	H	
03/14/91	1 hr @ -100 F	C	
03/14/91	1 hr @ 525 F	C	
03/15/91	Test (Location 4)	A	500 PSI (95% C; 5% F)
03/19/91	3 hrs @ 610 F	O	
03/19/91	17 hrs @ 116 F	H	
03/20/91	3 hrs @ 650 F	O	
03/20/91	1 hr @ -100 F	C	
03/20/91	16 hrs @ 140 F	H	
03/21/91	1 hr @ -100 F	C	
03/21/91	1 hr @ 640 F	O	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 25 - 9514      Comments: NI

03/21/91	16 hrs @ 140 F	H	
03/22/91	1 hr @ -100 F	C	
03/22/91	1 hr @ 640 F	O	
03/22/91	1 hr @ -100 F	C	
03/22/91	43 hrs @ 115 F	H	
03/24/91	1 hr @ -100 F	C	
03/25/91	1 hr @ -100 F	C	
03/25/91	17 hrs @ 140 F	H	
03/28/91	Test (Location 5)	A	150 PSI (100 % C)

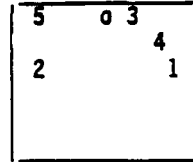
STOP TESTING

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 25 - 9517      Comments: H2

Materials: MARB 4 over HN- (C<sub>2</sub>H<sub>5</sub>OH)<sub>2</sub>

Equip Definitions:



Date	Action	Equip	Results/Comments
02/10/91	Clean	Panel HCL	cleaned of mill scale
02/20/91	Clean	Gel (0291)	clean 15 minutes
02/20/91	Rinse	Tap water,	do not dry
02/20/91	Rinse	Corrosion inhibitor	final rinse, hang
02/21/91	Report	Observations on	Test plan sheet
02/21/91	Coat	Spray three coats	MARB 4
02/21/91	1 hr @ 480 F	O	Cure
02/22/91	2 hrs @ 590 F	O	dry heat
02/22/91	19 hrs @ 115 F	H	humid
02/25/91	2 hrs @ 600 F	O	dry heat
02/25/91	1 hr @ -100 F	C	auto
02/26/91	Test (Location 1)	A	>1000 PSI
02/27/91	Test (Location 2)	A	>1000 PSI
02/27/91	1 hr @ -100 F	C	auto
02/27/91	2 hrs @ 350 F	O	dry
02/28/91	1 hr @ -100 F	C	auto
02/28/91	2 hrs @ 600 F	O	dry, hot
02/28/91	18 hrs @ 115 F	H	
03/04/91	Test (Location 3)	A	>1000 PSI
03/04/91	1 hr @ 487 F	O	
03/04/91	1 hr @ -100 F	C	

## MRC Fabrication/Conditioning/Test Form 91-1

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Set-Sample: 25 - 9517      Comments: H-2

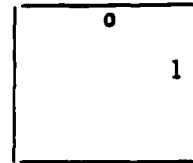
03/05/91	1 hr @ -100 F	C	
03/05/91	1 hr @ 600 F	O	
03/05/91	16.5 hrs @ 116 F	H	
03/08/91	1 hr @ -100 F	C	
03/08/91	2 hrs @ 600 F	O	
03/08/91	64 hrs @ 140 F	H	
03/11/91	1 hr @ -100 F	C	auto
03/11/91	2 hrs @ 600 F	O	
03/11/91	17 hrs @ 115 F	H	
03/12/91	1 hr @ -100 F	C	
03/12/91	1 hr @ 487 F	O	
03/12/91	16 hrs @ 115 F	H	
03/13/91	1 hr @ -100 F	C	
03/13/91	2 hrs @ 600 F	O	
03/13/91	16 hrs @ 140 F	H	
03/14/91	1 hr @ -100 F	C	
03/14/91	1 hr @ 525 F	C	
03/15/91	Test (Location 4)	A	300 PSI (50% C; 50% F)
03/19/91	3 hrs @ 610 F	O	
03/19/91	17 hrs @ 116 F	H	
03/20/91	3 hrs @ 650 F	O	
03/20/91	1 hr @ -100 F	C	
03/20/91	16 hrs @ 140 F	H	
03/21/91	1 hr @ -100 F	C	
03/21/91	1 hr @ 640 F	O	





Set-Sample: 25 - 9520    Comments: E4

Materials: MARB 4 over Sodium Nitrite (Ed's Formulation MB)



Equip Definitions:

Date	Action	Equip	Results/Comments
02/10/91	Clean		Panel HCL cleaned of mill scale
02/20/91	Clean		Gel (0291) clean 15 minutes
02/20/91	Rinse		Tap water, do not dry
02/20/91	Rinse		Corrosion inhibitor final rinse, hang
02/21/91	Report		Observations on Test plan sheet
02/21/91	Coat		Spray three coats MARB 4
02/21/91	1 hr @ 480 F	0	Cure
02/22/91	2 hrs @ 590 F	0	dry heat
02/22/91	19 hrs @ 115 F	H	humid
02/25/91	2 hrs @ 600 F	0	dry heat
02/25/91	1 hr @ -100 F	C	auto
02/26/91	Test (Location 1)	A	250 PSI (100% A-I) grey

STOP TESTING

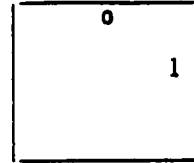


MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 25 - 9522 Comments: B2

Materials: MARB 4 over Sodium Nitrite (Brulin's)

Equip Definitions:



Date	Action	Equip	Results/Comments
02/10/91	Clean		Panel HCL cleaned of mill scale
02/20/91	Clean		Gel (0291) clean 15 minutes
02/20/91	Rinse		Tap water, do not dry
02/20/91	Rinse		Corrosion inhibitor final rinse, hang
02/21/91	Report		Observations on Test plan sheet
02/21/91	Coat		Spray three coats MARB 4
02/21/91	1 hr @ 480 F	0	Cure
02/22/91	2 hrs @ 590 F	0	dry heat
02/22/91	19 hrs @ 115 F	H	humid
02/25/91	2 hrs @ 600 F	0	dry heat
02/25/91	1 hr @ -100 F	C	auto
02/26/91	Test (Location 1)	A	300 PSI (50% A; 50% C) rust, copper specks
STOP TESTING			

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 25A - 9507      Comments:

Materials: Silicone Release DC-1-2531

Equip Definitions:

	5
	2
	6
as	4
is	3 1

Date	Action	Equip	Results/Comments
01/31/91	Acid cleaned		HCL both sides
01/31/91	Gel cleaned		
02/08/91	Gel cleaned		
02/08/91	Coat		Brush coat top half
02/08/91	Coat		Brush coat left half (top right 2 coats)
02/08/91	Cure	O	air dry, 1 hr @ 400 F
02/11/91	16 hrs @ 115 F	H	
02/12/91	1 hr @ -100 F	C	
02/12/91	2 hrs @ 600 F	O	
02/12/91	18 hrs @ 115 F	H	
02/13/91	1 hr @ -100 F	C	
02/13/91	15 hrs @ 118 F	H	
02/14/91	1 hr @ -100 F	C	
02/14/91	2 hrs @ 590 F	O	
02/14/91	16 hrs @ 120 F	H	
02/15/91	0.5 hrs @ -40 F	C	
02/18/91	Test (Location 1)	A	>1000 PSI (1 coat - no failure)
02/18/91	Test (Location 2)	A	1000 PSI (2 coats - 90% C, 9% F, 1% dolly)
02/22/91	2 hrs @ 590 F	O	
02/22/91	19 hrs @ 115 F	H	
02/25/91	2 hrs @ 600 F	O	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 25A - 9507 Comments:

Materials: Silicone Release Resin

Equip Definitions:

	5
	2
	6
	4
3	1

Date	Action	Equip	Results/Comments
02/25/91	1 hr @ -100 F	C	
02/27/91	1 hr @ -108 F	C	
02/27/91	2 hrs @ 350 F	O	
02/28/91	1 hr @ -100 F	C	
02/28/91	2 hrs @ 600 F	O	
02/28/91	18 hrs @ 115 F	H	
03/04/91	Test (Location 3)	A	>1000 PSI But looks rusty underneath
03/04/91	1 hr @ 487 F	O	
03/04/91	1 hr @ -100 F	C	
03/05/91	1 hr @ -100 F	C	
03/05/91	1 hr @ 600 F	O	
03/05/91	16.5 hrs @ 116 F	H	
03/08/91	1 hr @ -100 F	C	cold auto
03/08/91	2 hrs @ 600 F	O	
03/08/91	64 hrs @ 140 F	H	
03/11/91	1 hr @ -100 F	C	
03/11/91	2 hrs @ 600 F	O	
03/11/91	17 hrs @ 115 F	H	
03/12/91	1 hr @ -100 F	C	
03/12/91	1 hr @ 487 F	O	
03/12/91	16 hrs @ 115 F	H	

## MRC Fabrication/Conditioning/Test Form 91-1

Page 3

Set-Sample: 25A - 9507      Comments: Silicone Release

03/14/91	Test (Location 4)	A	1000 PSI (60% F; 40% dolly)	1 coat
03/14/91	Test (Location 5)	A	>1000 PSI	2 coats
03/19/91	3 hrs @ 610 F	O		
03/19/91	17 hrs @ 116 F	H		
03/20/91	3 hrs @ 650 F	O		
03/20/91	1 hr @ -100 F	C		
03/20/91	16 hrs @ 140 F	H		
03/21/91	1 hr @ -100 F	C		
03/21/91	1 hr @ 640 F	O		
03/21/91	16 hrs @ 140 F	H		
03/22/91	1 hr @ -100 F	C		
03/22/91	1 hr @ 640 F	O		
03/22/91	1 hr @ -100 F	C		
03/22/91	43 hrs @ 115 F	H		
03/24/91	1 hr @ -100 F	C	46 events (350 hours)	
03/28/91	Test (Location 6)	A	650 PSI (50% C/I; 50% F /dolly)	

-----  
 STOP TESTING - 100% Rusting Add Zinc or Aluminum in 9508 paint  
 -----  
 -----  
 -----  
 -----  
 -----  
 -----  
 -----  
 -----  
 -----

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 25A -9508

Comments:

Materials: A516-70 panel  
 Silicone Release As is  
 Aluminum filled

Equip Definitions:

0
1 3
2 4

Date	Action	Equip	Results/Comments
03/14/91			
03/19/91	3 hrs @ 610 F	O	
03/19/91	17 hrs @ 116 F	H	
03/20/91	3 hrs @ 650 F	O	
03/20/91	1 hr @ -100 F	C	
03/20/91	16 hrs @ 140 F	H	
03/21/91	1 hr @ -100 F	C	
03/21/91	1 hr @ 640 F	O	
03/21/91	16 hrs @ 140 F	H	
03/22/91	1 hr @ -100 F	C	AM
03/22/91	1 hr @ 640 F	O	
03/22/91	1 hr @ -100 F	C	PM
03/22/91	43 hrs @ 115 F	H	
03/24/91	1 hr @ -100 F	C	
03/25/91	1 hr @ -100 F	C	
03/25/91	17 hrs @ 140 F	H	
03/25/91	1 hr @ 0 F	C	
03/26/91	1 hr @ 700 F	O	Very hot
03/27/91	2 hrs @ 650 F	O	

## MRC Fabrication/Conditioning/Test Form 91-1

Page 2

Set-Sample: 25A - 9508      Comments: Silicone Release with aluminum / upper  
with zinc (grey)/ lower

03/27/91	1 hr @ -100 F	C		
03/28/91	1 hr @ -100 F	C		
03/28/91	2 hrs @ 650 F	O		
03/29/91	Test (Location 1)	A	800 PSI (50% C, 15% A, 20% F)	0.5 mils
03/29/91	Test (Location 2)	A	600 PSI (80% C/I, 20 % F)	0.55 mils
03/29/91	20 hrs @ 120 F	H		
03/30/91	1 hr @ -100 F	C		
03/30/91	44 hrs @ 118 F	H		
04/01/91	1 hr @ -100 F	C		
04/01/91	2 hrs @ 650 F	O		
04/01/91	20 hrs @ 120 F	H		
04/02/91	1 hr @ -100 F	C		
04/02/91	17 hrs @ 120 F	H		
04/03/91	1 hr @ -100 F	C		
04/03/91	17 hrs @ 120 F	H		
04/04/91	1 hr @ -150 F	C		
04/04/91	2 hrs @ 650 F	O		
04/04/91	20 hrs @ 120 F	H		
04/05/91	1 hr @ -100 F	C		
04/05/91	1 hr @ 650 F	O		
04/06/91	Test (Location 3)	A	>1000 PSI	
04/06/91	Test (Location 4)	A	550 PSI (90% C; 10% F)	
04/08/91	2 hrs @ 650 F	O		
04/08/91	1 hr @ -100 F	C		

Set-Sample: 25A - 9508      Comments: Silicone Release with aluminum / upper  
with zinc (grey)/ lower

04/08/91	40 hrs @ 120 F	H
04/10/91	1 hr @ -100 F	C
04/10/91	2 hrs @ 650 F	O
04/11/91	4 hrs @ 650 F	O
04/11/91	14 hrs @ 150 F	H
04/12/91	1 hr @ -100 F	C
04/12/91	65 hrs @ 120 F	H
04/15/91	1 hr @ -100 F	C
04/15/91	40 hrs @ 115 F	H
04/17/91	1 hr @ -100 F	C
04/17/91	1 hr @ -100 F	C
04/17/91	2 hrs @ 650 F	O
04/17/91	14 hrs @ 115 F	H
04/18/91	1 hr @ -100 F	C

Stopped events

## MRC Fabrication/Conditioning/Test Form 91-1

Page 1

Set-Sample: 26 -9601

Comments:

A516-70 panel  
 Materials: Sherwin Williams B59S3 Silicone paint

	o	6b
2		1
		3b
		4
		5

Equip Definitions:

Date	Action	Equip	Results/Comments
03/06/91	Clean	-	Remove all mill scale with 50% HCL
03/11/91	Clean	-	5 minutes gel, rinse, quick air dry
03/11/91	Coat	S	Spray entire panel
03/12/91	1 hr @ 480 F	O	Bake 1244.2 g
03/12/91	16 hrs @ 115 F	H	Humid
03/13/91	1 hr @ -100 F	C	auto cold
03/13/91	2 hrs @ 600 F	O	hot, dry
03/13/91	16 hrs @ 140 F	H	Humid
03/14/91	1 hr @ -100 F	C	auto
03/14/91	1 hr @ 525 F	C	manual
03/15/91	Test (Location 1)	A	550 PSI (100% dolly)
03/19/91	Test (Location 2)	A	>1000 PSI No Failure
03/19/91	3 hrs @ 610 F	O	hot, dry 1244.1 g
03/19/91	17 hrs @ 116 F	H	humid
03/20/91	3 hrs @ 650 F	O	hot, dry
03/20/91	1 hr @ -100 F	C	
03/20/91	16 hrs @ 140 F	H	
03/21/91	1 hr @ -100 F	C	
03/21/91	1 hr @ 640 F	O	
03/21/91	16 hrs @ 140 F	H	
03/22/91	1 hr @ -100 F	C	AM

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26 -9601      Comments:

Materials: A516-70 panel  
 Sherwin Williams B59S3 Silicone paint

	o	6b
2		1
		3b
		4
		5

Equip Definitions:

Date	Action	Equip	Results/Comments
03/22/91	1 hr @ 640 F	O	
03/22/91	1 hr @ -100 F	C	PM
03/22/91	43 hrs @ 115 F	H	
03/24/91	1 hr @ -100 F	C	
03/25/91	1 hr @ -100 F	C	
03/25/91	17 hrs @ 140 F	H	very humid
03/26/91	1 hr @ 0 F	C	
03/26/91	1 hr @ 700 F	O	very hot
03/27/91	2 hrs @ 650 F	O	
03/27/91	1 hr @ -100 F	C	
03/28/91	1 hr @ -100 F	C	rusting where thin; flaking where thick
03/28/91	2 hrs @ 650 F	O	very rusty, 85% coating failure
03/29/91	Test (Location 3b)	A	450 PSI (90% C, 5% F, 5% A) rust 0.8 mils
03/29/91	Test (Location 4)	A	400 PSI (100% C/I, C) 0.4 mils
03/29/91	20 hrs @ 120 F	H	
03/30/91	1 hr @ -100 F	C	
03/30/91	44 hrs @ 118 F	H	
04/01/91	1 hr @ -100 F	C	
04/01/91	2 hrs @ 650 F	O	
04/01/91	20 hrs @ 120 F	H	
04/02/91	1 hr @ -100 F	C	

## MRC Fabrication/Conditioning/Test Form 91-1

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Set-Sample: 26 -9601		Comments:	
04/02/91	17 hrs @ 120 F	H	1244.3 g
04/03/91	1 hr @ -100 F	C	
04/03/91	17 hrs @ 120 F	H	
04/04/91	1 hr @ -150 F	C	Manual 15 to 8% N <sub>2</sub>
04/04/91	2 hrs @ 650 F	O	
04/04/91	20 hrs @ 120 F	H	
04/05/91	1 hr @ -100 F	C	
04/05/91	1 hr @ 650 F	O	
04/06/91	Test (Location 5)	A	800 PSI (100% C) rust and oxide
04/08/91	2 hrs @ 650 F	O	
04/08/91	1 hr @ -100 F	C	
04/08/91	40 hrs @ 120 F	H	
04/10/91	1 hr @ -100 F	C	
04/10/91	2 hrs @ 650 F	O	
04/11/91	4 hrs @ 650 F	O	
04/11/91	14 hrs @ 150 F	H	
04/12/91	1 hrs @ -100 F	C	
04/12/91	65 hrs @ 120 F	H	
04/15/91	1 hr @ -100 F	C	95% visual failure
04/17/91	Test (Location 6b)	A	800 PSI (80% C/I; 20% C-10% rust)
STOP TESTING /REPORT GENERATED 1244.5g 52 events (-150 to 700°F)			
Do not continue testing 05/06/91		0.3g wt gain	

Set-Sample: 26 -9602                      Comments:                      Page 3

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-----
04/04/91  20 hrs @ 120 F      H
-----
04/05/91  1 hr @ -100 F       C
-----
04/05/91  1 hr @ 650 F       O
-----
04/06/91  Test (Location 5)    A          900 PSI (100% C)  mostly clean
-----
04/08/91  2 hrs @ 650 F       O
-----
04/08/91  1 hr @ -100 F       C
-----
04/08/91  40 hrs @ 120 F      H
-----
04/10/91  1 hr @ -100 F       C
-----
04/10/91  2 hrs @ 650 F       O
-----
04/11/91  4 hrs @ 650 F       O
-----
04/11/91  14 hrs @ 150 F      H
-----
04/12/91  1 hrs @ -100 F      C
-----
04/12/91  65 hrs @ 120 F     H
-----
04/15/91  1 hr @ -100 F       C          25% visual failure
-----
04/17/91  Test (Location 6)    A          700 PSI (90% C; 10% F)
-----
                STOP TESTING /REPORT GENERATED 1271.0 g  52 events (-150 to 700oF)
-----
Continue Testing to 90% failure          0.05 g wt loss
-----
05/06/91  17 hrs @ 120 F      H
-----
05/07/91  12 hr @ -100 F     C
-----
05/07/91  3 hrs @ 650 F       O
-----
05/07/91  15 hrs @ 120 F    H
-----
05/08/91  1 hr @ -100 F     C
-----
05/08/91  3 hrs @ 690 F       O
-----
05/09/91  1 hr @ -100 F     C
-----
05/09/91  87 hrs @ 124 F    H
-----
05/13/91  1 hr @ -100 F     C
-----

```

Set-Sample: 26 -9602	Comments:	Page 4
05/13/91	2 hrs @ 650 F	O
05/15/91	1 hr @ -100 F	C
05/15/91	1 hr @ 600 F	C
05/16/91	1 hr @ -100 F	C
05/17/91	1 hr @ -100 F	C
05/17/91	1 hr @ 600 F	C
05/17/91	20 hrs @ 120 F	H
05/17/91	46 hrs @ 120-140 F	H
05/21/91	1 hr @ -100 F	C
05/22/91	3 hrs @ 650 F	O
05/24/91	4 hrs @ 680 F	O
05/28/91	5 hrs @ 650 F	O
05/28/91	16 hrs @ 120 F	H
05/29/91	4 hrs @ 650 F	O
05/29/91	1 hr @ -100 F	C
05/30/91	1 hr @ -100 F	C
05/30/91	3 hrs @ 630 F	O
05/30/91	17 hrs @ 120 F	H
05/31/91	1 hr @ -100 F	C
06/03/91	3 hrs @ 650 F	O
06/03/91	22 hrs @ 140 F	H
06/04/91	66 hrs @ 120 F	H
06/12/91	5 hrs @ 600 F	O
06/13/91	4 hrs @ 600 F	O
06/13/91	1 hr @ -120 F	C manual
06/13/91	40 hrs @ 120 F	H

Set-Sample: 26 -9602

Comments:

Page 5

06/15/91	2 hrs @ 600 F	0	
06/17/91	2 hrs @ 650 F	0	
06/17/91	1 hr @ -100 F	C	
06/17/91	18 hrs @ 120 F	H	
06/18/91	5 hrs @ 650 F	0	92 events (-150 to 700 F) 30% failure
07/08/91	Test (Location 7)	A	550 PSI (60% C/I; 40% F)



Set-Sample: 26 -9603		Comments:		Page 2
03/22/91	1 hr @ 640 F	O		
03/22/91	1 hr @ -100 F	C	PM	
03/22/91	43 hrs @ 115 F	H		
03/24/91	1 hr @ -100 F	C		
03/25/91	1 hr @ -100 F	C		
03/25/91	17 hrs @ 140 F	H	very humid	
03/26/91	1 hr @ 0 F	C		
03/26/91	1 hr @ 700 F	O	very hot	
03/27/91	2 hrs @ 650 F	O		
03/27/91	1 hr @ -100 F	C		
03/28/91	1 hr @ -100 F	C		
03/28/91	2 hrs @ 650 F	O	30% fail; some rust	
03/29/91	Test (Location 3b)	A	500 PSI (100% C)	0.6 mils
03/29/91	Test (Location 4)	A	500 PSI (100% C)	0.8 mils
03/29/91	20 hrs @ 120 F	H		
03/30/91	1 hr @ -100 F	C		
03/30/91	44 hrs @ 118 F	H		
04/01/91	1 hr @ -100 F	C		
04/01/91	2 hrs @ 650 F	O		
04/01/91	20 hrs @ 120 F	H		
04/02/91	1 hr @ -100 F	C		
04/02/91	17 hrs @ 120 F	H	1257.4 g	
04/03/91	1 hr @ -100 F	C		
04/03/91	17 hrs @ 120 F	H		
04/04/91	1 hr @ -150 F	C	Manual 15 to 8% N <sub>2</sub>	
04/04/91	2 hrs @ 650 F	O		

Set-Sample:	26 -9603	Comments:	Page 3
04/04/91	20 hrs @ 120 F	H	
04/05/91	1 hr @ -100 F	C	
04/05/91	1 hr @ 650 F	H	
04/06/91	Test (Location 5)	A	400 PSI (100% C) clean, some A
04/08/91	2 hrs @ 650 F	O	
04/08/91	1 hr @ -100 F	C	
04/08/91	40 hrs @ 120 F	H	
04/10/91	1 hr @ -100 F	C	
04/10/91	2 hrs @ 650 F	O	
04/11/91	4 hrs @ 650 F	O	
04/11/91	14 hrs @ 150 F	H	
04/12/91	1 hrs @ -100 F	C	
04/12/91	65 hrs @ 120 F	H	
04/15/91	1 hr @ -100 F	C	40% visual failure
04/17/91	Test (Location 6b)	A	500 PSI (100% C/F)
STOP TESTING /REPORT GENERATED 52 events (-150 to 700 F)			
05/06/91			1257.3 g 0.1 g wt gain
05/06/91	17 hrs @ 120 F	H	
05/07/91	12 hr @ -100 F	C	
05/07/91	3 hrs @ 650 F	O	
05/07/91	15 hrs @ 120 F	H	
05/08/91	1 hr @ -100 F	C	
05/08/91	3 hrs @ 690 F	O	
05/09/91	1 hr @ -100 F	C	
05/09/91	87 hrs @ 124 F	H	
05/13/91	1 hr @ -100 F	C	

Set-Sample: 26 -9603

Comments:

Page 4

Date	Duration	Temp	Comments
05/13/91	2 hrs @	650 F	O
05/15/91	1 hr @	-100 F	C
05/15/91	1 hr @	600 F	C
05/16/91	1 hr @	-100 F	C
05/17/91	1 hr @	-100 F	C
05/17/91	1 hr @	600 F	C
05/17/91	20 hrs @	120 F	H
05/18/91	46 hrs @	120-140 F	H
05/21/91	1 hr @	-100 F	C
05/22/91	3 hrs @	650 F	O
05/24/91	4 hrs @	680 F	O
05/28/91	5 hrs @	650 F	O
05/28/91	16 hrs @	120 F	H
05/29/91	4 hrs @	650 F	O
05/29/91	1 hr @	-100 F	C
05/30/91	1 hr @	-100 F	C
05/30/91	3 hrs @	630 F	O
05/30/91	17 hrs @	120 F	H
05/31/91	1 hr @	-100 F	C
06/03/91	3 hrs @	650 F	O
06/03/91	22 hrs @	140 F	H
06/04/91	66 hrs @	120 F	H
06/12/91	5 hrs @	600 F	O
06/13/91	4 hrs @	600 F	O
06/13/91	1 hr @	-120 F	C manual
06/13/91	40 hrs @	120 F	H

Set-Sample: 26 -9603                      Comments:                      Page 5

06/15/91	2 hrs @ 600 F	0		
06/17/91	2 hrs @ 650 F	0		
06/17/91	1 hr @ -100 F	C		
06/17/91	18 hrs @ 120 F	H		
06/18/91	5 hrs @ 650 F	0	92 events (-150 to 700 F)	30% failure
07/08/91	Test (Location 7)	A	550 PSI	(85% C; 15% F)

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26 - 9604 Comments: poor spraying

Materials: MARB-4 Old Lot:October 1990 A285 steel

Equip Definitions: 1 side brushed over

:	0	6b
2:	4	1
:		3b
:		
:		5
:		

Date	Action	Equip	Results/Comments
03/06/91	Clean	-	Remove all mill scale with 50% HCL
03/12/91	Clean	-	5 minutes gel, rinse, quick air dry
03/12/91	Coat	S	Spray entire panel - clumpy, poor uniform
03/12/91	1 hr @ 480 F	O	Cure 1271.0 g
03/12/91	16 hrs @ 115 F	H	Humid
03/13/91	1 hr @ -100 F	C	auto cold
03/13/91	2 hrs @ 600 F	O	hot, dry
03/13/91	16 hrs @ 140 F	H	Humid
03/14/91	1 hr @ -100 F	C	auto
03/14/91	1 hr @ 520 F	C	manual
03/15/91	Test (Location 1)	A	100 PSI (90% A; 10% F)
03/19/91	Test (Location 2)	A	1000 PSI (50% F; 50% C/I/A) flaky
03/19/91	3 hrs @ 610 F	O	1270.8 g
03/19/91	17 hrs @ 116 F	H	
03/20/91	3 hrs @ 650 F	O	
03/20/91	1 hr @ -100 F	C	
03/20/91	16 hrs @ 140 F	H	
03/21/91	1 hr @ -100 F	C	
03/21/91	1 hr @ 640 F	O	
03/21/91	16 hrs @ 140 F	H	
03/22/91	1 hr @ -100 F	C	AM

Set-Sample: 26 -9604

Comments:

Page 2

03/22/91	1 hr @ 640 F	O	
03/22/91	1 hr @ -100 F	C	PM
03/22/91	43 hrs @ 115 F	H	
03/24/91	1 hr @ -100 F	C	
03/25/91	1 hr @ -100 F	C	
03/25/91	17 hrs @ 140 F	H	very humid
03/26/91	1 hr @ 0 F	C	
03/26/91	1 hr @ 700 F	O	very hot
03/27/91	2 hrs @ 650 F	O	
03/27/91	1 hr @ -100 F	C	
03/28/91	1 hr @ -100 F	C	
03/28/91	2 hrs @ 650 F	O	50% failure brush side; 10% fail back
03/29/91	Test (Location 3b)	A	750 PSI (70% C; 25% F; 5% dolly) 2.3 mils
03/29/91	Test (Location 4)	A	600 PSI (100% C) 1.05 mils
03/29/91	20 hrs @ 120 F	H	
03/30/91	1 hr @ -100 F	C	
03/30/91	44 hrs @ 118 F	H	
04/01/91	1 hr @ -100 F	C	
04/01/91	2 hrs @ 650 F	O	
04/01/91	20 hrs @ 120 F	H	
04/02/91	1 hr @ -100 F	C	
04/02/91	17 hrs @ 120 F	H	1270.7 g
04/03/91	1 hr @ -100 F	C	
04/03/91	17 hrs @ 120 F	H	
04/04/91	1 hr @ -150 F	C	Manual 15 to 8% N <sub>2</sub>
04/04/91	2 hrs @ 650 F	O	

Set-Sample: 26 -9604      Comments:      Page 3

04/04/91	20 hrs @ 120 F	H		
04/05/91	1 hr @ -100 F	C		
04/05/91	1 hr @ 650 F	O		
04/06/91	Test (Location 5)	A	>1000 PSI	
04/08/91	2 hrs @ 650 F	O		
04/08/91	1 hr @ -100 F	C		
04/08/91	40 hrs @ 120 F	H		
04/10/91	1 hr @ -100 F	C		
04/10/91	2 hrs @ 650 F	O		
04/11/91	4 hrs @ 650 F	O		
04/11/91	14 hrs @ 150 F	H		
04/12/91	1 hrs @ -100 F	C		
04/12/91	65 hrs @ 120 F	H		
04/15/91	1 hr @ -100 F	C	5% visual failure	
04/17/91	Test (Location 6)	A	600 PSI (100 % C)	1270.6g
STOP TESTING /REPORT GENERATED 52 events (-150 to 700 F)				
05/06/91	continued testing 0.4 to 0.2 g wt loss			
05/06/91	17 hrs @ 120 F	H		
05/07/91	12 hr @ -100 F	C		
05/07/91	3 hrs @ 650 F	O		
05/07/91	15 hrs @ 120 F	H		
05/08/91	1 hr @ -100 F	C		
05/08/91	3 hrs @ 690 F	O		
05/09/91	1 hr @ -100 F	C		
05/09/91	87 hrs @ 124 F	H		
05/13/91	1 hr @ -100 F	C		

Set-Sample: 26 -9604	Comments:	Page 4
05/13/91	2 hrs @ 650 F	O
05/15/91	1 hr @ -100 F	C
05/15/91	1 hr @ 600 F	C
05/16/91	1 hr @ -100 F	C
05/17/91	1 hr @ -100 F	C
05/17/91	1 hr @ 600 F	C
05/17/91	20 hrs @ 120 F	H
05/17/91	46 hrs @ 120-140 F	H
05/21/91	1 hr @ -100 F	C
05/22/91	3 hrs @ 650 F	O
05/24/91	4 hrs @ 680 F	O
05/28/91	5 hrs @ 650 F	O
05/28/91	16 hrs @ 120 F	H
05/29/91	4 hrs @ 650 F	O
05/29/91	1 hr @ -100 F	C
05/30/91	1 hr @ -100 F	C
05/30/91	3 hrs @ 630 F	O
05/30/91	17 hrs @ 120 F	H
05/31/91	1 hr @ -100 F	C
06/03/91	3 hrs @ 650 F	O
06/03/91	22 hrs @ 140 F	H
06/04/91	66 hrs @ 120 F	H
06/12/91	5 hrs @ 600 F	O
06/13/91	4 hrs @ 600 F	O
06/13/91	1 hr @ -120 F	C manual
06/13/91	40 hrs @ 120 F	H

Set-Sample: 26 -9604

Comments:

Page 5

06/15/91	2 hrs @ 600 F	0	
06/17/91	2 hrs @ 650 F	0	
06/17/91	1 hr @ -100 F	C	
06/17/91	18 hrs @ 120 F	H	
06/18/91	5 hrs @ 650 F	0	92 events (-150 to 700 F) 20% failure
07/08/91	Test (Location 7)	A	500 PSI (90% C; 10% F)

The failure was on thin coated side

## MRC Fabrication/Conditioning/Test Form 91-1

Page 1

Set-Sample: 26 - 9605 Comments:

Materials: MARB-4 New Lot

Equip Definitions:

	o	6b
2	4	1
		3b
		5

Date	Action	Equip	Results/Comments
03/06/91	Clean	-	Remove all mill scale with 50% HCL
03/12/91	Clean	-	5 minutes gel, rinse, quick air dry
03/12/91	Coat	S	Spray entire panel
03/12/91	1 hr @ 480 F	O	Cure Good hard coating 1281.6 g
03/12/91	16 hrs @ 115 F	H	Humid
03/13/91	1 hr @ -100 F	C	auto cold
03/13/91	2 hrs @ 600 F	O	hot, dry
03/13/91	16 hrs @ 140 F	H	Humid
03/14/91	1 hr @ -100 F	C	auto
03/14/91	1 hr @ 520 F	C	manual
03/15/91	Test (Location 1)	A	500 PSI (90% dolly; 10% F)
03/19/91	Test (Location 2)	A	1000 PSI (80% dolly; 20% F)
03/19/91	3 hrs @ 610 F	O	1281.6 g
03/19/91	17 hrs @ 116 F	H	
03/20/91	3 hrs @ 650 F	O	
03/20/91	1 hrs @ -100 F	C	
03/20/91	16 hrs @ 140 F	H	
03/21/91	1 hr @ -100 F	C	
03/21/91	1 hr @ 640 F	O	
03/21/91	16 hrs @ 140 F	H	
03/22/91	1 hr @ -100 F	C	AM

Set-Sample:	26 -9605	Comments:	Page 2
03/22/91	1 hr @ 640 F	O	
03/22/91	1 hr @ -100 F	C	PM
03/22/91	43 hrs @ 115 F	H	
03/24/91	1 hr @ -100 F	C	
03/25/91	1 hr @ -100 F	C	
03/25/91	17 hrs @ 140 F	H	very humid
03/26/91	1 hr @ 0 F	C	
03/26/91	1 hr @ 700 F	O	very hot
03/27/91	2 hrs @ 650 F	O	
03/27/91	1 hr @ -100 F	C	
03/28/91	1 hr @ -100 F	C	
03/28/91	2 hrs @ 650 F	O	10% coating fail, no rust
03/29/91	Test (Location 3b)	A	500 PSI (60% F; 40% C) 1.1 mils
03/29/91	Test (Location 4)	A	600 PSI (100% C/I, C) 0.85 mils
03/29/91	20 hrs @ 120 F	H	
03/30/91	1 hr @ -100 F	C	
03/30/91	44 hrs @ 118 F	H	
04/01/91	1 hr @ -100 F	C	
04/01/91	2 hrs @ 650 F	O	
04/01/91	20 hrs @ 120 F	H	
04/02/91	1 hr @ -100 F	C	
04/02/91	17 hrs @ 120 F	H	1281.5 g
04/03/91	1 hr @ -100 F	C	
04/03/91	17 hrs @ 120 F	H	
04/04/91	1 hr @ -150 F	C	Manual 15 to 8% N <sub>2</sub>
04/04/91	2 hrs 650 F	O	

Set-Sample: 26 -9605                      Comments:                      Page 3

04/04/91	20 hrs @ 120 F	H	
04/05/91	1 hr @ -100 F	C	
04/05/91	1 hr @ 650 F	O	
04/06/91	Test (Location 5)	A	>1000 PSI
04/08/91	2 hrs @ 650 F	O	
04/08/91	1 hr @ -100 F	C	
04/08/91	40 hrs @ 120 F	H	
04/10/91	1 hr @ -100 F	C	
04/10/91	2 hrs @ 650 F	O	
04/11/91	4 hrs @ 650 F	O	
04/11/91	14 hrs @ 150 F	H	
04/12/91	1 hrs @ -100 F	C	
04/12/91	65 hrs @ 120 F	H	
04/15/91	1 hr @ -100 F	C	1% visual failure
04/17/91	Test (Location 6)	A	900 PSI (100% C)
	STOP TESTING /REPORT GENERATED		1281.4g 52 events (-150 to 700 F)
05/06/91	Continue testing to failure		0.35 g wt gain
05/06/91	17 hrs @ 120 F	H	
05/07/91	12 hr @ -100 F	C	
05/07/91	3 hrs @ 650 F	O	
05/07/91	15 hrs @ 120 F	H	
05/08/91	1 hr @ -100 F	C	
05/08/91	3 hrs @ 690 F	O	
05/09/91	1 hr @ -100 F	C	
05/09/91	87 hrs @ 124 F	H	
05/13/91	1 hr @ -100 F	C	

Set-Sample: 26 -9605

Comments:

Page 4

Date	Time	Temp	Comments
05/13/91	2 hrs @	650 F	O
05/15/91	1 hr @	-100 F	C
05/15/91	1 hr @	600 F	C
05/16/91	1 hr @	-100 F	C
05/17/91	1 hr @	-100 F	C
05/17/91	1 hr @	600 F	C
05/17/91	20 hrs @	120 F	H
05/17/91	46 hrs @	120-140 F	H
05/21/91	1 hr @	-100 F	C
05/22/91	3 hrs @	650 F	O
05/24/91	4 hrs @	680 F	O
05/28/91	5 hrs @	650 F	O
05/28/91	16 hrs @	120 F	H
05/29/91	4 hrs @	650 F	O
05/29/91	1 hr @	-100 F	C
05/30/91	1 hr @	-100 F	C
05/30/91	3 hrs @	630 F	O
05/30/91	17 hrs @	120 F	H
05/31/91	1 hr @	-100 F	C
06/03/91	3 hrs @	650 F	O
06/03/91	22 hrs @	140 F	H
06/04/91	66 hrs @	120 F	H
06/12/91	5 hrs @	600 F	O
06/13/91	4 hrs @	600 F	O
06/13/91	1 hr @	-120 F	C manual
06/13/91	40 hrs @	120 F	H

Set-Sample: 26 -9605                      Comments:                      Page 5

06/15/91	2 hrs @ 600 F	0		
06/17/91	2 hrs @ 650 F	0		
06/17/91	1 hr @ -100 F	C		
06/17/91	18 hrs @ 120 F	H		
06/18/91	5 hrs @ 650 F	0	92 events (-150 to 700 F)	5% failure
07/08/91	Test (Location 7)	A	850 PSI (90 % C; 10% F)	

SEE SET26.OLD for 9601 and 9606; SET26.AMB for Ambient testing

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26 - 9606 Comments:

Materials: Sherwin Williams Spray Aluminum

Equip Definitions:

	o	6b
2	4	1
3b		
		5

Date	Action	Equip	Results/Comments
03/06/91	Clean	-	Remove all mill scale with 50% HCL
03/11/91	Clean	-	5 minutes gel, rinse, quick air dry
03/11/91	Coat	S	Spray entire panel
03/12/91	1 hr @ 480 F	O	Bake 1284.15 g
03/12/91	16 hrs @ 115 F	H	Humid
03/13/91	1 hr @ -100 F	C	auto cold
03/13/91	2 hrs @ 600 F	O	hot, dry
03/13/91	16 hrs @ 140 F	H	Humid
03/14/91	1 hr @ -100 F	C	auto
03/14/91	1 hr @ 520 F	C	manual
03/15/91	Test (Location 1)	A	100 PSI (70% C; 30% A)
03/19/91	Test (Location 2)	A	550 PSI (85% C; 4% A; 1% dolly)
03/19/91	3 hrs @ 610 F	O	1284.0 g
03/19/91	17 hrs @ 116 F	H	
03/20/91	3 hrs @ 650 F	O	
03/20/91	1 hr @ -100 F	C	
03/20/91	16 hrs @ 140 F	H	
03/21/91	1 hr @ -100 F	C	
03/21/91	1 hr @ 640 F	O	
03/21/91	16 hrs @ 140 F	H	
03/22/91	1 hr @ -100 F	C	AM

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26 -9606

Comments:

A516-70 panel  
 Materials: Sherwin Williams Spray Aluminum

	0	6b
2	4	1
3b		
		5

Equip Definitions:

Date	Action	Equip	Results/Comments
03/22/91	1 hr @ 640 F	O	
03/22/91	1 hr @ -100 F	C	PM
03/22/91	43 hrs @ 115 F	H	
03/24/91	1 hr @ -100 F	C	
03/25/91	1 hr @ -100 F	C	
03/25/91	17 hrs @ 140 F	H	very humid
03/26/91	1 hr @ 0 F	C	
03/26/91	1 hr @ 700 F	O	very hot
03/27/91	2 hrs @ 650 F	O	
03/27/91	1 hr @ -100 F	C	
03/28/91	1 hr @ -100 F	C	
03/28/91	2 hrs @ 650 F	O	90% fail; alot of rust
03/29/91	Test (Location 3b)	A	950 PSI (50% C; 20% A; 30% F,D) 0.4 mils
03/29/91	Test (Location 4)	A	600 PSI (60% C/I,C; 40% A) 0.9 mils
03/29/91	20 hrs @ 120 F	H	
03/30/91	1 hr @ -100 F	C	
03/30/91	44 hrs @ 118 F	H	
04/01/91	1 hr @ -100 F	C	
04/01/91	2 hrs @ 650 F	O	
04/01/91	20 hrs @ 120 F	H	
04/02/91	1 hr @ -100 F	C	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26 -9606                      Comments:

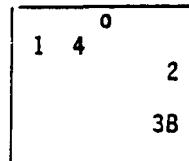
04/02/91	17 hrs @ 120 F	H	1284.3 g
04/03/91	1 hr @ -100 F	C	
04/03/91	17 hrs @ 120 F	H	
04/04/91	1 hr @ -150 F	C	Manual 15 to 8% N <sub>2</sub>
04/04/91	2 hrs @ 650 F	O	
04/04/91	20 hrs @ 120 F	H	
04/05/91	1 hr @ -100 F	C	
04/05/91	1 hr @ 650 F	O	
04/06/91	Test (Location 5)	A	900 PSI (20% D; 60% F; 20% C)
04/08/91	2 hrs @ 650 F	O	
04/08/91	1 hr @ -100 F	C	
04/08/91	40 hrs @ 120 F	H	
04/10/91	1 hr @ -100 F	C	
04/10/91	2 hrs @ 650 F	O	
04/11/91	4 hrs @ 650 F	O	
04/11/91	14 hrs @ 150 F	H	
04/12/91	1 hrs @ -100 F	C	
04/12/91	65 hrs @ 120 F	H	
04/15/91	1 hr @ -100 F	C	90% visual failure
04/17/91	Test (Location 6)	A	650 PSI (80% C; 10% F; 10% A/ rust)

STOP TESTING /REPORT GENERATED

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26 -9601A      Comments:

Materials: A516-70 panel  
 Sherwin Williams B59S3 Silicone paint



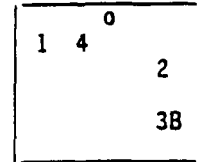
Equip Definitions:

Date	Action	Equip	Results/Comments
03/06/91	Clean	-	Remove all mill scale with 50% HCL
03/11/91	Clean	-	5 minutes gel, rinse, quick air dry
03/11/91	Coat	S	Spray entire panel
Ambient drying			
03/19/91	Test (Location 1)	A	100 PSI (100% C) near Epoxy
04/15/91	Test (Location 2)	A	100 PSI (100% C)
	Hardness	B	600g medium scrape
04/15/91	1 hr @ 487 F	O	1 month late cure
04/15/91	40 hrs @ 115 F	H	
04/17/991	1 hr @ -100 F	C	
04/17/91	2 hrs @ 650 F	O	
04/17/91	14 hrs @ 115 F	H	
04/18/91	1 hr @ -100 F	C	
04/18/91	2 hrs @ 650 F	O	
04/18/91	17 hrs @ 120 F	H	
04/19/91	1 hr @ -100 F	C	
04/19/91	1 hr @ 620 F	O	
04/19/91	18 hrs @ 120 F	H	
04/20/91	1 hr @ -100 F	C	
04/20/91	2 hrs @ 650 F	O	
04/20/91	44 hrs @ 118 F	H	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26 -9601A      Comments: See pg 1

Materials: A516-70 panel  
 SW B59S3



Equip Definitions:

Date	Action	Equip	Results/Comments
04/22/91	1 hr @ -100 F	C	
04/22/91	1 hr @ 650 F	O	
04/22/91	15 hrs @ 115 F	H	
04/23/91	1 hr @ -100 F	C	
04/23/91	3 hrs @ 780 F	O	very hot
04/23/91	17 hrs @ 118 F	H	very humid
04/24/91	1 hr @ -100 F	C	
04/24/91	4 hrs @ 650 F	O	
04/25/91	1 hr @ -100 F	C	
04/25/91	3 hrs @ 630 F	O	
04/27/91	Test (Location 3B)	A	>800 no failure    General rusting
04/29/91	1 hr @ -100 F	C	
04/29/91	3 hrs @ 650 F	O	
04/29/91	16 hrs @ 118 F	H	wet panels before exposure
04/30/91	1 hr @ 480 F	O	
04/30/91	1 hr @ -100 F	C	
04/30/91	17 hrs @ 118 F	O	
05/01/91	1 hr @ -100 F	C	
05/01/91	3 hrs @ 790 F	O	HOT
05/02/91	3 hrs @ 750 F	O	HOT
05/02/91	18 hrs @ 117 F	H	

## MRC Fabrication/Conditioning/Test Form 91-1

Page 3

Set-Sample: 26 -9601A      Comments:

05/03/91	3 hrs @ 690 F	0	
05/03/91	64 hrs @ 120 F	H	
05/06/91	3 hrs @ 690 F	0	
05/06/91	1 hr @ -100 F	C	
05/06/91	17 hrs @ 120 F	H	
05/07/91	1 hr @ -100 F	C	
05/07/91	3 hrs @ 650 F	0	
05/07/91	15 hrs @ 120 F	H	
05/08/91	1 hr @ -100 F	C	
05/08/91	3 hrs @ 690 F	0	
05/09/91	1 hr @ -100 F	C	
05/09/91	87 hrs @ 124 F	H	
05/13/91	1 hr @ -100 F	C	
05/13/91	2 hrs @ 650 F	0	
05/15/91	1 hr @ -100 F	C	autocycle
05/15/91	1 hr @ 600 F	C	autocycle
05/16/91	1 hr @ -100 F	C	
05/17/91	1 hr @ -100 F	C	autocycle
05/17/91	1 hr @ 600 F	C	autocycle
05/17/91	20 hrs @ 120 F	H	
05/18/91	46 hrs @ 120-140 F	H	
05/21/91	1 hr @ -100 F	C	
05/22/91	3 hrs @ 650 F	0	
05/24/91	4 hrs @ 680 F	0	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26 -9601A      Comments:

Materials: A516-70 panel  
 Sherwin Williams B59S3 Silicone paint

		0
1	4	
		2
		3B

Equip Definitions:

Date	Action	Equip	Results/Comments
05/28/91	5 hrs @ 650 F	O	
05/28/91	16 hrs @ 120 F	H	
05/29/91	4 hrs @ 650 F	O	
05/29/91	1 hr @ -100 F	C	
05/30/91	1 hr @ -100 F	C	
05/30/91	3 hrs @ 630 F	O	
05/30/91	17 hrs @ 120 F	H	
05/31/91	1 hr @ -100 F	C	
06/03/91	3 hrs @ 650 F	O	
06/05/91	22 hrs @ 140 F	H	
06/06/91	66 hrs @ 120 F	H	
06/12/91	5 hrs @ 600 F	O	
06/13/91	4 hrs @ 600 F	O	
06/13/91	1 hr @ -120 F	C	manual
06/13/91	40 hrs @ 120 F	H	
06/15/91	2 hrs @ 600 F	O	
06/17/91	2 hrs @ 650 F	O	
06/17/91	1 hr @ -100 F	C	
06/17/91	18 hrs @ 120 F	H	
06/18/91	5 hrs @ 650 F	O	Pictures 76 events (-150 to 790 F)
07/08/91	Test (Location 4)	A	>1000 PSI      90% RUSTING

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26 -9602A      Comments:

                  A516-70 panel  
 Materials: Sherwin Williams B59S8 Silicone paint

	0	
1		2
		3

Equip Definitions:

Date	Action	Equip	Results/Comments
03/06/91	Clean	-	Remove all mill scale with 50% HCL
03/11/91	Clean	-	5 minutes gel, rinse, quick air dry
03/11/91	Coat	S	Spray entire panel
	Ambient drying		
03/19/91	Test (Location 1)	A	100 PSI (100% C) near Epoxy
04/15/91	Test (Location 2)	A	100 PSI (100% C)
	Hardness	B	600g medium scrape
04/15/91	1 hr @ 487 F	O	1 month late cure
04/15/91	40 hrs @ 115 F	H	
04/17/91	1 hr @ -100 F	C	
04/17/91	2 hrs @ 650 F	O	
04/17/91	14 hrs @ 115 F	H	
04/18/91	1 hr @ -100 F	C	
04/18/91	2 hrs @ 650 F	O	
04/18/91	17 hrs @ 120 F	H	
04/19/91	1 hr @ -100 F	C	
04/19/91	1 hr @ 620 F	O	
04/19/91	18 hrs @ 120 F	H	
04/20/91	1 hr @ -100 F	C	
04/20/91	2 hrs @ 650 F	O	
04/20/91	44 hrs @ 118 F	H	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26 -9602A      Comments:

Materials: A516-70 panel  
 SW B59S8

	0	
1		2
		3

Equip Definitions:

Date	Action	Equip	Results/Comments
04/22/91	1 hr @ -100 F	C	
04/22/91	1 hr @ 650 F	O	
04/22/91	15 hrs @ 115 F	H	
04/23/91	1 hr @ -100 F	C	
04/23/91	3 hrs @ 780 F	O	very hot
04/23/91	17 hrs @ 118 F	H	very humid
04/24/91	1 hr @ -100 F	C	
04/24/91	4 hrs @ 650 F	O	
04/25/91	1 hr @ -100 F	C	
04/25/91	3 hrs @ 630 F	O	
04/27/91	Test (Location 3)	A	>800 no failure Little rusting
04/29/91	1 hr @ -100 F	C	
04/29/91	3 hrs @ 650 F	O	
04/29/91	16 hrs @ 118 F	H	wet panels before exposure
04/30/91	1 hr @ 480 F	O	
04/30/91	1 hr @ -100 F	C	
04/30/91	17 hrs @ 118 F	O	
05/01/91	1 hr @ -100 F	C	
05/01/91	3 hrs @ 790 F	O	HOT
05/02/91	3 hrs @ 750 F	O	HOT
05/02/91	18 hrs @ 117 F	H	

Set-Sample: 26 -9602A

Comments:

Page 3

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-----
05/03/91  3 hrs @ 690 F      0
-----
05/03/91  64 hrs @ 120 F     H
-----
05/06/91  3 hrs @ 690 F      0
-----
05/06/91  1 hr @ -100 F     C
-----
05/06/91  17 hrs @ 120 F    H
-----
05/07/91  1 hr @ -100 F     C
-----
05/07/91  3 hrs @ 650 F      0
-----
05/07/91  15 hrs @ 120 F    H
-----
05/08/91  1 hr @ -100 F     C
-----
05/08/91  3 hrs @ 690 F      0
-----
05/09/91  1 hr @ -100 F     C
-----
05/09/91  87 hrs @ 124 F    H
-----
05/13/91  1 hr @ -100 F     C
-----
05/13/91  2 hrs @ 650 F      0
-----
05/15/91  1 hr @ -100 F     C      autocycle
-----
05/15/91  1 hr @ 600 F      C      autocycle
-----
05/16/91  1 hr @ -100 F     C
-----
05/17/91  1 hr @ -100 F     C      autocycle
-----
05/17/91  1 hr @ 600 F      C      autocycle
-----
05/17/91  20 hrs @ 120 F    H
-----
05/18/91  46 hrs @ 120-140 F H
-----
05/21/91  1 hr @ -100 F     C
-----
05/22/91  3 hrs @ 650 F      0
-----
05/24/91  4 hrs @ 680 F      0
-----

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MRC Fabrication/Conditioning/Test Form 91-1

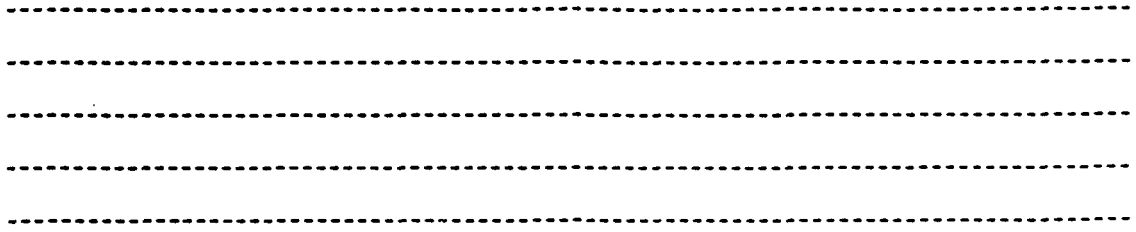
Set-Sample: 26 -9602A      Comments:

Materials: A516-70 panel  
 Sherwin Williams B59S8 Silicone paint

	0	
1		2
		3

Equip Definitions:

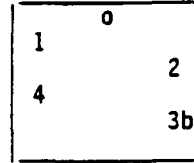
Date	Action	Equip	Results/Comments
05/28/91	5 hrs @ 650 F	O	
05/28/91	16 hrs @ 120 F	H	
05/29/91	4 hrs @ 650 F	O	
05/29/91	1 hr @ -100 F	C	
05/30/91	1 hr @ -100 F	C	
05/30/91	3 hrs @ 630 F	O	
05/30/91	17 hrs @ 120 F	H	
05/31/91	1 hr @ -100 F	C	
06/03/91	3 hrs @ 650 F	O	
06/05/91	22 hrs @ 140 F	H	
06/06/91	66 hrs @ 120 F	H	
06/12/91	5 hrs @ 600 F	O	
06/13/91	4 hrs @ 600 F	O	
06/13/91	1 hr @ -120 F	C	manual
06/13/91	40 hrs @ 120 F	H	
06/15/91	2 hrs @ 600 F	O	
06/17/91	2 hrs @ 650 F	O	
06/17/91	1 hr @ -100 F	C	
06/17/91	18 hrs @ 120 F	H	
06/18/91	5 hrs @ 650 F	O	Pictures 76 events (-150 to 790 F)
07/08/91	Test (Location 4)	A	>1000 PSI      10% RUSTING



MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26 -9603A      Comments: Mar 6 - Jul 8

A516-70 panel  
 Materials: Sheffield #392 siliconized



Equip Definitions:

Date	Action	Equip	Results/Comments
03/06/91	Clean	-	Remove all mill scale with 50% HCL
03/11/91	Clean	-	5 minutes gel, rinse, quick air dry
03/11/91	Coat	S	Spray entire panel
	Ambient drying		
03/19/91	Test (Location 1)	A	100 PSI (100% C)
04/15/91	Test (Location 2)	A	100 PSI (100% C)
	Hardness	B	600g medium scrape
04/15/91	1 hr @ 487 F	O	1 month late cure
04/15/91	40 hrs @ 115 F	H	
04/17/991	1 hr @ -100 F	C	
04/17/91	2 hrs @ 650 F	O	
04/17/91	14 hrs @ 115 F	H	
04/18/91	1 hr @ -100 F	C	
04/18/91	2 hrs @ 650 F	O	
04/18/91	17 hrs @ 120 F	H	
04/19/91	1 hr @ -100 F	C	
04/19/91	1 hr @ 620 F	O	
04/19/91	18 hrs @ 120 F	H	
04/20/91	1 hr @ -100 F	C	
04/20/91	2 hrs @ 650 F	O	
04/20/91	44 hrs @ 118 F	H	

Set-Sample: 26 -9603A		Comments:	Page 2
04/22/91	1 hr @ -100 F	C	
04/22/91	1 hr @ 650 F	O	
04/22/91	15 hrs @ 115 F	H	
04/23/91	1 hr @ -100 F	C	
04/23/91	3 hrs @ 780 F	O	very hot
04/23/91	17 hrs @ 118 F	H	very humid
04/24/91	1 hr @ -100 F	C	
04/24/91	4 hrs @ 650 F	O	
04/25/91	1 hr @ -100 F	C	
04/25/91	3 hrs @ 630 F	O	
04/27/91	Test (Location 3b)	A	>800 no failure General rusting
04/29/91	1 hr @ -100 F	C	
04/29/91	3 hrs @ 650 F	O	
04/29/91	16 hrs @ 118 F	H	wet panels before exposure
04/30/91	1 hr @ 480 F	O	
04/30/91	1 hr @ -100 F	C	
04/30/91	17 hrs @ 118 F	O	
05/01/91	1 hr @ -100 F	C	
05/01/91	3 hrs @ 790 F	O	HOT
05/02/91	3 hrs @ 750 F	O	HOT
05/02/91	18 hrs @ 117 F	H	
05/03/91	3 hrs @ 690 F	O	
05/03/91	64 hrs @ 120 F	H	
05/06/91	3 hrs @ 690 F	O	
05/06/91	1 hr @ -100 F	C	
05/06/91	17 hrs @ 120 F	H	

Set-Sample: 26 -9603A		Comments:	Page 3
05/07/91	1 hr @ -100 F	C	
05/07/91	3 hrs @ 650 F	O	
05/07/91	15 hrs @ 120 F	H	
05/08/91	1 hr @ -100 F	C	
05/08/91	3 hrs @ 690 F	O	
05/09/91	1 hr @ -100 F	C	
05/09/91	87 hrs @ 124 F	H	
05/13/91	1 hr @ -100 F	C	
05/13/91	2 hrs @ 650 F	O	
05/15/91	1 hr @ -100 F	C	autocycle
05/15/91	1 hr @ 600 F	C	autocycle
05/16/91	1 hr @ -100 F	C	
05/17/91	1 hr @ -100 F	C	autocycle
05/17/91	1 hr @ 600 F	C	autocycle
05/17/91	20 hrs @ 120 F	H	
05/18/91	46 hrs @ 120-140 F	H	
05/21/91	1 hr @ -100 F	C	
05/22/91	3 hrs @ 650 F	O	
05/24/91	4 hrs @ 680 F	O	
05/28/91	5 hrs @ 650 F	O	
05/28/91	16 hrs @ 120 F	H	
05/29/91	4 hrs @ 650 F	O	
05/29/91	1 hr @ -100 F	C	
05/30/91	1 hr @ -100 F	C	
05/30/91	3 hrs @ 630 F	O	
05/30/91	17 hrs @ 120 F	H	



MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26 -9604A      Comments:

Materials: A516-70 panel  
Old MARB 4

	0	4
1		2
		3

Equip Definitions:

Date	Action	Equip	Results/Comments
03/06/91	Clean	-	Remove all mill scale with 50% HCL
03/11/91	Clean	-	5 minutes gel, rinse, quick air dry
03/11/91	Coat	S	Spray entire panel
Ambient dry			
03/19/91	Test (Location 1)	A	100 PSI (100% C) near F
04/15/91	Test (Location 2)	A	150 PSI (100% C)
	Hardness	B	600g medium scrape
04/15/91	1 hr @ 487 F	O	1 month late cure
04/15/91	40 hrs @ 115 F	H	
04/17/991	1 hr @ -100 F	C	
04/17/91	2 hrs @ 650 F	O	
04/17/91	14 hrs @ 115 F	H	
04/18/91	1 hr @ -100 F	C	
04/18/91	2 hrs @ 650 F	O	
04/18/91	17 hrs @ 120 F	H	
04/19/91	1 hr @ -100 F	C	
04/19/91	1 hr @ 620 F	O	
04/19/91	18 hrs @ 120 F	H	
04/20/91	1 hr @ -100 F	C	
04/20/91	2 hrs @ 650 F	O	
04/20/91	44 hrs @ 118 F	H	

Set-Sample: 26 -9604A		Comments:	Page 2
04/22/91	1 hr @ -100 F	C	
04/22/91	1 hr @ 650 F	O	
04/22/91	15 hrs @ 115 F	H	
04/23/91	1 hr @ -100 F	C	
04/23/91	3 hrs @ 780 F	O	very hot
04/23/91	17 hrs @ 118 F	H	very humid
04/24/91	1 hr @ -100 F	C	
04/24/91	4 hrs @ 650 F	O	
04/25/91	1 hr @ -100 F	C	
04/25/91	3 hrs @ 630 F	O	Poor coating; aluminum specks protruding
04/27/91	Test (Location 3)	A	>900 no failure General rusting
04/29/91	1 hr @ -100 F	C	
04/29/91	3 hrs @ 650 F	O	
04/29/91	16 hrs @ 118 F	H	wet panels before exposure
04/30/91	1 hr @ 490 F	O	
04/30/91	1 hr @ -100 F	C	
04/30/91	17 hrs @ 118 F	O	
05/01/91	1 hr @ -100 F	C	
05/01/91	3 hrs @ 790 F	O	HOT
05/02/91	3 hrs @ 750 F	O	HOT
05/02/91	18 hrs @ 117 F	H	
05/03/91	3 hrs @ 690 F	O	
05/03/91	64 hrs @ 120 F	H	
05/06/91	3 hrs @ 690 F	O	
05/06/91	1 hr @ -100 F	C	
05/06/91	17 hrs @ 120 F	H	

Set-Sample: 26 -9604A	Comments:	Page 3
05/07/91	1 hr @ -100 F	C
05/07/91	3 hrs @ 650 F	O
05/07/91	15 hrs @ 120 F	H
05/08/91	1 hr @ -100 F	C
05/08/91	3 hrs @ 690 F	O
05/09/91	1 hr @ -100 F	C
05/09/91	87 hrs @ 124 F	H
05/13/91	1 hr @ -100 F	C
05/13/91	2 hrs @ 650 F	O
05/15/91	1 hr @ -100 F	C autocycle
05/15/91	1 hr @ 600 F	C autocycle
05/16/91	1 hr @ -100 F	C
05/17/91	1 hr @ -100 F	C autocycle
05/17/91	1 hr @ 600 F	C autocycle
05/17/91	20 hrs @ 120 F	H
05/18/91	46 hrs @ 120-140 F	H
05/21/91	1 hr @ -100 F	C
05/22/91	3 hrs @ 650 F	O
05/24/91	4 hrs @ 680 F	O
05/28/91	5 hrs @ 650 F	O
05/28/91	16 hrs @ 120 F	H
05/29/91	4 hrs @ 650 F	O
05/29/91	1 hr @ -100 F	C
05/30/91	1 hr @ -100 F	C
05/30/91	3 hrs @ 630 F	O
05/30/91	17 hrs @ 120 F	H

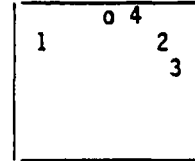
Set-Sample: 26 -9604A                      Comments:    Page 4

05/31/91	1 hr @ -100 F	C			
06/03/91	3 hrs @ 650 F	O			
06/03/91	22 hrs @ 140 F	H			
06/04/91	66 hrs @ 120 F	H			
06/12/91	5 hrs @ 600 F	O			
06/13/91	4 hrs @ 600 F	O			
06/13/91	1 hr @ -120 F	C	manual		
06/13/91	40 hrs @ 120 F	H			
06/15/91	2 hrs @ 600 F	O			
06/17/91	2 hrs @ 650 F	O			
06/17/91	1 hr @ -100 F	C			
06/17/91	18 hrs @ 120 F	H			
06/18/91	5 hrs @ 650 F	O		76 events (-150 F to 790 F)	
07/08/91	Test (Location 4)	A	>1000 PSI	No failure	10% rusting

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26 -9605A      Comments:

Materials: A516-70 panel  
 MARB 4



Equip Definitions:

Date	Action	Equip	Results/Comments
03/06/91	Clean	-	Remove all mill scale with 50% HCL
03/11/91	Clean	-	5 minutes gel, rinse, quick air dry
03/11/91	Coat	S	Spray entire panel
	Ambient drying		
03/19/91	Test (Location 1)	A	250 PSI (100% C)
04/15/91	Test (Location 2)	A	150 PSI (100% C)
	Hardness	B	1000g medium scrape
04/15/91	1 hr @ 487 F	O	1 month late cure
04/15/91	40 hrs @ 115 F	H	
04/17/991	1 hr @ -100 F	C	
04/17/91	2 hrs @ 650 F	O	
04/17/91	14 hrs @ 115 F	H	
04/18/91	1 hr @ -100 F	C	
04/18/91	2 hrs @ 650 F	O	
04/18/91	17 hrs @ 120 F	H	
04/19/91	1 hr @ -100 F	C	
04/19/91	1 hr @ 620 F	O	
04/19/91	18 hrs @ 120 F	H	
04/20/91	1 hr @ -100 F	C	
04/20/91	2 hrs @ 650 F	O	
04/20/91	44 hrs @ 118 F	H	

Set-Sample: 26 -9605A	Comments:	Page 2
04/22/91	1 hr @ -100 F	C
04/22/91	1 hr @ 650 F	O
04/22/91	15 hrs @ 115 F	H
04/23/91	1 hr @ -100 F	C
04/23/91	3 hrs @ 780 F	O very hot
04/23/91	17 hrs @ 118 F	H very humid
04/24/91	1 hr @ -100 F	C
04/24/91	4 hrs @ 650 F	O
04/25/91	1 hr @ -100 F	C
04/25/91	3 hrs @ 630 F	O
04/27/91	Test (Location 3)	A >800 (98% C) No rusting
04/29/91	1 hr @ -100 F	C
04/29/91	3 hrs @ 650 F	O
04/29/91	16 hrs @ 118 F	H wet panels before exposure
04/30/91	1 hr @ 480 F	O
04/30/91	1 hr @ -100 F	C
04/30/91	17 hrs @ 118 F	O
05/01/91	1 hr @ -100 F	C
05/01/91	3 hrs @ 790 F	O HOT
05/02/91	3 hrs @ 750 F	O HOT
05/02/91	18 hrs @ 117 F	H
05/03/91	3 hrs @ 690 F	O
05/03/91	64 hrs @ 120 F	H
05/06/91	3 hrs @ 690 F	O
05/06/91	1 hr @ -100 F	C
05/06/91	17 hrs @ 120 F	H

Set-Sample: 26 -9605A	Comments:	Page 3
05/07/91 1 hr @ -100 F	C	
05/07/91 3 hrs @ 650 F	O	
05/07/91 15 hrs @ 120 F	H	
05/08/91 1 hr @ -100 F	C	
05/08/91 3 hrs @ 690 F	O	
05/09/91 1 hr @ -100 F	C	
05/09/91 87 hrs @ 124 F	H	
05/13/91 1 hr @ -100 F	C	
05/13/91 2 hrs @ 650 F	O	
05/15/91 1 hr @ -100 F	C	autocycle
05/15/91 1 hr @ 600 F	C	autocycle
05/16/91 1 hr @ -100 F	C	
05/17/91 1 hr @ -100 F	C	autocycle
05/17/91 1 hr @ 600 F	C	autocycle
05/17/91 20 hrs @ 120 F	H	
05/18/91 46 hrs @ 120-140 F	H	
05/21/91 1 hr @ -100 F	C	
05/22/91 3 hrs @ 650 F	O	
05/24/91 4 hrs @ 680 F	O	
05/28/91 5 hrs @ 650 F	O	
05/28/91 16 hrs @ 120 F	H	
05/29/91 4 hrs @ 650 F	O	
05/29/91 1 hr @ -100 F	C	
05/30/91 1 hr @ -100 F	C	
05/30/91 3 hrs @ 630 F	O	
05/30/91 17 hrs @ 120 F	H	

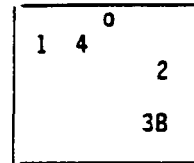
Set-Sample: 26 -9605A                      Comments:    Page 4

05/31/91	1 hr @ -100 F	C		
06/03/91	3 hrs @ 650 F	O		
06/03/91	22 hrs @ 140 F	H		
06/04/91	66 hrs @ 120 F	H		
06/12/91	5 hrs @ 600 F	O		
06/13/91	4 hrs @ 600 F	O		
06/13/91	1 hr @ -120 F	C	manual	
06/13/91	40 hrs @ 120 F	H		
06/15/91	2 hrs @ 600 F	O		
06/17/91	2 hrs @ 650 F	O		
06/17/91	1 hr @ -100 F	C		
06/17/91	18 hrs @ 120 F	H		
06/18/91	5 hrs @ 650 F	O	76 events (-150 to 790 F)	
07/08/91	Test (Location 4)	A	>1000 PSI	2% rusting

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26 -9606A      Comments:

Materials: A516-70 panel  
 Sherwin Williams Spray Paint



Equip Definitions:

Date	Action	Equip	Results/Comments
03/06/91	Clean	-	Remove all mill scale with 50% HCL
03/11/91	Clean	-	5 minutes gel, rinse, quick air dry
03/11/91	Coat	S	Spray entire panel
Ambient drying			
03/19/91	Test (Location 1)	A	200 PSI (100% C)
04/15/91	Test (Location 2)	A	200 PSI (100% C)
	Hardness	B	600g medium scrape
04/15/91	1 hr @ 487 F	O	1 month late cure
04/15/91	40 hrs @ 115 F	H	
04/17/991	1 hr @ -100 F	C	
04/17/91	2 hrs @ 650 F	O	
04/17/91	14 hrs @ 115 F	H	
04/18/91	1 hr @ -100 F	C	
04/18/91	2 hrs @ 650 F	O	
04/18/91	17 hrs @ 120 F	H	
04/19/91	1 hr @ -100 F	C	
04/19/91	1 hr @ 620 F	O	
04/19/91	18 hrs @ 120 F	H	
04/20/91	1 hr @ -100 F	C	
04/20/91	2 hrs @ 650 F	O	
04/20/91	44 hrs @ 118 F	H	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26 -9606A      Comments:

A516-70 panel  
Materials: SW paint spray

	0	
1		2
		3

Equip Definitions:

Date	Action	Equip	Results/Comments
04/22/91	1 hr @ -100 F	C	
04/22/91	1 hr @ 650 F	O	
04/22/91	15 hrs @ 115 F	H	
04/23/91	1 hr @ -100 F	C	
04/23/91	3 hrs @ 780 F	O	very hot
04/23/91	17 hrs @ 118 F	H	very humid
04/24/91	1 hr @ -100 F	C	
04/24/91	4 hrs @ 650 F	O	
04/25/91	1 hr @ -100 F	C	
04/25/91	3 hrs @ 630 F	O	
04/27/91	Test (Location 3B)	A	>900 no failure    General rusting
04/29/91	1 hr @ -100 F	C	
04/29/91	3 hrs @ 650 F	O	
04/29/91	16 hrs @ 118 F	H	wet panels before exposure
04/30/91	1 hr @ 480 F	O	
04/30/91	1 hr @ -100 F	C	
04/30/91	17 hrs @ 118 F	O	
05/01/91	1 hr @ -100 F	C	
05/01/91	3 hrs @ 790 F	O	HOT
05/02/91	3 hrs @ 750 F	O	HOT
05/02/91	18 hrs @ 117 F	H	

Set-Sample: 26 -9606A

Comments:

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-----
05/03/91  3 hrs @ 690 F      0
-----
05/03/91  64 hrs @ 120 F     H
-----
05/06/91  3 hrs @ 690 F      0
-----
05/06/91  1 hr @ -100 F      C
-----
05/06/91  17 hrs @ 120 F     H
-----
05/07/91  1 hr @ -100 F      C
-----
05/07/91  3 hrs @ 650 F      0
-----
05/07/91  15 hrs @ 120 F     H
-----
05/08/91  1 hr @ -100 F      C
-----
05/08/91  3 hrs @ 690 F      0
-----
05/09/91  1 hr @ -100 F      C
-----
05/09/91  87 hrs @ 124 F     H
-----
05/13/91  1 hr @ -100 F      C
-----
05/13/91  2 hrs @ 650 F      0
-----
05/15/91  1 hr @ -100 F      C      autocycle
-----
05/15/91  1 hr @ 600 F      C      autocycle
-----
05/16/91  1 hr @ -100 F      C
-----
05/17/91  1 hr @ -100 F      C      autocycle
-----
05/17/91  1 hr @ 600 F      C      autocycle
-----
05/17/91  20 hrs @ 120 F     H
-----
05/18/91  46 hrs @ 120-140 F   H
-----
05/21/91  1 hr @ -100 F      C
-----
05/22/91  3 hrs @ 650 F      0
-----
05/24/91  4 hrs @ 680 F      0
-----
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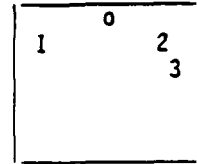
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## MRC Fabrication/Conditioning/Test Form 91-1

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Set-Sample: 26 -9606A      Comments:

A516-70 panel  
 Materials: Sherwin Williams Spray Paint



Equip Definitions:

Date	Action	Equip	Results/Comments
05/28/91	5 hrs @ 650 F	O	
05/28/91	16 hrs @ 120 F	H	
05/29/91	4 hrs @ 650 F	O	
05/29/91	1 hr @ -100 F	C	
05/30/91	1 hr @ -100 F	C	
05/30/91	3 hrs @ 630 F	O	
05/30/91	17 hrs @ 120 F	H	
05/31/91	1 hr @ -100 F	C	
06/03/91	3 hrs @ 650 F	O	
06/03/91	22 hrs @ 140 F	H	
06/04/91	66 hrs @ 120 F	H	
06/12/91	5 hrs @ 600 F	O	
06/13/91	4 hrs @ 600 F	O	
06/13/91	1 hr @ -120 F	C	manual
06/13/91	40 hrs @ 120 F	H	
06/15/91	2 hrs @ 600 F	O	
06/17/91	2 hrs @ 650 F	O	
06/17/91	1 hr @ -100 F	C	
06/17/91	18 hrs @ 120 F	H	
06/18/91	5 hrs @ 650 F	O	76 events (-150 to 790 F) 80% rusting
07/01/91	Test (Location 4)	A	900 PSI (48% C; 48% C/I; 2% rust; 2% F)

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26A - 9607      Comments: MAZRB

Materials: MARB-4 with ZINC

Equip Definitions:

mils  
0.9  
0.63  
0.55

1	4
	3
	2

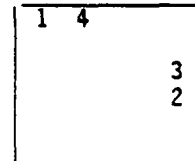
Date	Action	Equip	Results/Comments
03/24/91	MEK wipe	-	Clean sander-stripper prepared panel
03/24/91	Coat	-	Brush on MAZRB
03/24/91	1 hr @ 487 F	O	Cure
03/25/91	1 hr @ -100 F	C	
03/25/91	17 hrs @ 140 F	H	
03/26/91	1 hr @ -100 F	C	
03/26/91	1 hr @ 700 F	O	Very hot, dry
03/27/91	2 hrs @ 650 F	O	
03/27/91	1 hr @ -100 F	C	
03/28/91	1 hr @ -100 F	C	
03/28/91	2 hr @ 650 F	O	
03/29/91	Test (Location 1)	A	>1050 PSI    Excellent condition    0.88 mils
03/29/91	20 hrs @ 120 F	H	
03/30/91	1 hr @ -100 F	C	
03/30/91	44 hrs @ 118 F	H	
04/01/91	1 hr @ -100 F	C	
04/01/91	2 hrs @ 650 F	O	
04/01/91	20 hrs @ 120 F	H	
04/02/91	1 hr @ -100 F	C	
04/02/91	17 hrs @ 120 F	H	1275.9 g (wet & dry)
04/03/91	1 hr @ -100 F	C	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26A - 9607      Comments:      Steel

Materials: MAZRB

Equip Definitions:



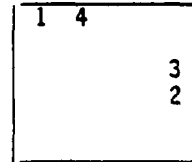
Date	Action	Equip	Results/Comments
04/03/91	17 hrs @ 120 F	H	
04/04/91	1 hr @ -150 F	C	manual
04/04/91	2 hrs @ 650 F	O	
04/04/91	20 hrs @ 120 F	H	
04/05/91	1 hr @ -100 F	C	
04/05/91	1 hr @ 650 F	O	
04/06/91	Test (Location 2)	A	600 PSI (60% d; 40% F/C)
04/06/91	41 hrs @ 120 F	H	
04/08/91	2 hrs @ 650 F	O	
04/08/91	1 hr @ -100 F	C	
04/08/91	40 hrs @ 120 F	H	
04/10/91	1 hr @ -100 F	C	
04/10/91	2 hrs @ 650 F	O	
04/11/91	4 hrs @ 650 F	O	
04/11/91	14 hrs @ 150 F	H	
04/12/91	1 hr @ -100 F	C	
04/12/91	65 hrs @ 120 F	H	
04/15/91	1 hr @ -100 F	C	
04/15/91	40 hrs @ 115 F	H	
04/17/91	1 hr @ -100 F	C	
04/17/91	2 hrs @ 650 F	O	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26A - 9607      Comments: MAZRB

Materials: MARB-4 with ZINC

Equip Definitions:



Date	Action	Equip	Results/Comments
04/17/91	14 hrs @ 115 F	H	
04/18/91	1 hr @ -100 F	C	
04/18/91	2 hrs @ 650 F	O	
04/18/91	17 hrs @ 120 F	H	
04/19/91	1 hr @ -100 F	C	
04/19/91	1 hr @ 620 F	O	
04/19/91	18 hrs @ 120 F	H	
04/20/91	1 hr @ -100 F	C	
04/20/91	2 hrs @ 650 F	O	
04/20/91	44 hrs @ 118 F	H	
04/22/91	1 hr @ -100 F	C	
04/22/91	1 hr @ 650 F	O	
04/22/91	15 hrs @ 115 F	H	
04/23/91	1 hr @ -100 F	C	
04/23/91	3 hrs @ 780 F	O	very hot
04/23/91	17 hrs @ 118 F	H	very humid
04/24/91	1 hr @ -100 F	C	
04/24/91	4 hrs @ 650 F	O	
04/25/91	1 hr @ -100 F	C	
04/25/91	3 hrs @ 630 F	O	Excellent condition except where thick at top
04/27/91	Test (Location 3)	A	500 PSI (100% C) edge rust/cracking top

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26A - 9607      Comments: MAZRB

mils

Materials: MARB-4 with ZINC

0.9

0.63

0.55

Equip Definitions:

1	4
	3
	2

Date	Action	Equip	Results/Comments
04/29/91	1 hr @ -100 F	C	
04/29/91	3 hrs @ 650 F	O	
04/29/91	16 hrs @ 118 F	H	
04/30/91	1 hr @ 480 F	O	
04/30/91	1 hr @ -100 F	C	
04/30/91	17 hrs @ 118 F	H	
05/01/91	1 hr @ -100 F	C	
05/01/91	3 hrs @ 790 F	O	HOT
05/02/91	3 hrs @ 750 F	O	HOT
05/02/91	18 hrs @ 117 F	H	
05/03/91	3 hrs @ 690 F	O	
05/03/91	64 hrs @ 120 F	H	
05/06/91	3 hrs @ 690 F	O	
05/06/91	1 hr @ -100 F	C	
05/06/91	17 hrs @ 120 F	H	
06/07/91	1 hr @ -100 F	C	
05/07/91	3 hrs @ 650 F	O	
05/07/91	15 hrs @ 120 F	H	
05/08/91	1 hr @ -100 F	C	
05/08/91	3 hrs @ 690 F	O	
05/09/91	1 hr @ -100 F	C	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26A - 9607      Comments: A516 Steel

Materials: MAZRB

Equip Definitions:

1	4
	3
	2

Date	Action	Equip	Results/Comments
05/09/91	87 hrs @ 124 F	H	
05/13/91	1 hr @ -100 F	C	
05/13/91	2 hrs @ 650 F	O	
05/15/91	1 hr @ -100 F	C	
05/15/91	1 hr @ 600 F	C	
05/16/91	1 hr @ -100 F	C	
05/17/91	1 hr @ -100 F	C	
05/17/91	1 hr @ 600 F	C	
05/17/91	20 hrs @ 120 F	H	
05/18/91	46 hrs @ 120-140 F	H	
05/21/91	1 hr @ -100 F	C	
05/22/91	3 hrs @ 650 F	O	
05/24/91	4 hrs @ 680 F	O	
05/28/91	5 hrs @ 650 F	O	
05/28/91	16 hrs @ 120 F	O	
05/29/91	4 hrs @ 650 F	O	
05/29/91	1 hr @ -100 F	C	
05/30/91	1 hr @ -100 F	C	
05/30/91	3 hrs @ 630 F	O	
05/30/91	17 hrs @ 120 F	H	
05/31/91	1 hr @ -100 F	C	



MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26A - 9608 Comments: MAZRB

mils

Materials: MARB with Zinc and Aluminum

0.45

0.45

Equip Definitions:

0.37

1	4
	3
	2

Date	Action	Equip	Results/Comments
03/24/91	MEK wipe	-	Clean sander-stripper prepared panel
03/24/91	Coat	-	Brush on MAZRB
03/24/91	1 hr @ 487 F	O	Cure
03/25/91	1 hr @ -100 F	C	
03/25/91	17 hrs @ 140 F	H	
03/26/91	1 hr @ -100 F	C	
03/26/91	1 hr @ 700 F	O	Very hot, dry
03/27/91	2 hrs @ 650 F	O	
03/27/91	1 hr @ -100 F	C	
03/28/91	1 hr @ -100 F	C	
03/28/91	2 hrs @ 650 F	O	
03/29/91	Test (Location 1)	A	>1050 PSI Excellent condition 0.8 mils
03/29/91	22 hrs @ 125 F	H	
03/30/91	1 hr @ -100 F	C	
03/30/91	44 hrs @ 118 F	H	
04/01/91	1 hr @ -100 F	C	
04/01/91	2 hrs @ 650 F	O	
04/01/91	20 hrs @ 120 F	H	
04/02/91	1 hr @ -100 F	C	
04/02/91	17 hrs @ 120 F	H	1279.8 g (1279.7 g dry)
04/03/91	1 hr @ -100 F	C	

## MRC Fabrication/Conditioning/Test Form 91-1

Page 2

Set-Sample: 26A - 9608      Comments:      Steel

Materials: MAZRB

Equip Definitions:

1	4
	3
	2

Date	Action	Equip	Results/Comments
04/03/91	17 hrs @ 120 F	H	
04/04/91	1 hr @ -150 F	C	manual
04/04/91	2 hrs @ 650 F	O	
04/04/91	20 hrs @ 120 F	H	
04/05/91	1 hr @ -100 F	C	
04/05/91	1 hr @ 650 F	O	
04/06/91	Test (Location 2)	A	600 PSI (60% d; 40% F/C)
04/06/91	41 hrs @ 120 F	H	
04/08/91	2 hrs @ 650 F	O	
04/08/91	1 hr @ -100 F	C	
04/08/91	40 hrs @ 120 F	H	
04/10/91	1 hr @ -100 F	C	
04/10/91	2 hrs @ 650 F	O	
04/11/91	4 hrs @ 650 F	O	
04/11/91	14 hrs @ 150 F	H	
04/12/91	1 hr @ -100 F	C	
04/12/91	65 hrs @ 120 F	H	
04/15/91	1 hr @ -100 F	C	
04/15/91	40 hrs @ 115 F	H	
04/17/91	1 hr @ -100 F	C	
04/17/91	2 hrs @ 650 F	O	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26A - 9608      Comments: MAZRB

Materials: MARB-4 with ZINC

Equip Definitions:

1	4
	3
	2

Date	Action	Equip	Results/Comments
04/17/91	14 hrs @ 115 F	H	
04/18/91	1 hr @ -100 F	C	
04/18/91	2 hrs @ 650 F	O	
04/18/91	17 hrs @ 120 F	H	
04/19/91	1 hr @ -100 F	C	
04/19/91	1 hr @ 620 F	O	
04/19/91	18 hrs @ 120 F	H	
04/20/91	1 hr @ -100 F	C	
04/20/91	2 hrs @ 650 F	O	
04/20/91	44 hrs @ 118 F	H	
04/22/91	1 hr @ -100 F	C	
04/22/91	1 hr @ 650 F	O	
04/22/91	15 hrs @ 115 F	H	
04/23/91	1 hr @ -100 F	C	
04/23/91	3 hrs @ 780 F	O	very hot
04/23/91	17 hrs @ 118 F	H	very humid
04/24/91	1 hr @ -100 F	C	
04/24/91	4 hrs @ 650 F	O	
04/25/91	1 hr @ -100 F	C	
04/25/91	3 hrs @ 630 F	O	Event 56      some edge rusting
04/29/91	Test (Location 3)	A	>800 PSI (99% C)      some edge rust

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26A - 9608 Comments: MAZRB

Materials: MARB with Zinc and Aluminum

Equip Definitions:

mils		
0.45	1	4
0.45		3
0.37		2

Date	Action	Equip	Results/Comments
04/29/91	1 hr @ -100 F	C	
04/29/91	3 hrs @ 650 F	O	
04/29/91	16 hrs @ 118 F	H	
04/30/91	1 hr @ 480 F	O	
04/30/91	1 hr @ -100 F	C	
04/30/91	17 hrs @ 118 F	H	
05/01/91	1 hr @ -100 F	C	
05/01/91	3 hrs @ 790 F	O	HOT
05/02/91	3 hrs @ 750 F	O	HOT
05/02/91	18 hrs @ 117 F	H	
05/03/91	3 hrs @ 690 F	O	
05/03/91	64 hrs @ 120 F	H	
05/06/91	3 hrs @ 690 F	O	
05/06/91	1 hr @ -100 F	C	
05/06/91	17 hrs @ 120 F	H	
06/07/91	1 hr @ -100 F	C	
05/07/91	3 hrs @ 650 F	O	
05/07/91	15 hrs @ 120 F	H	
05/08/91	1 hr @ -100 F	C	
05/08/91	3 hrs @ 690 F	O	
05/09/91	1 hr @ -100 F	C	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26A - 9608      Comments: MAZRB

Materials: MARB-4 with ZINC

Equip Definitions:

1	5
	3
	2

Date	Action	Equip	Results/Comments
05/09/91	87 hrs @ 124 F	H	
05/13/91	1 hr @ -100 F	C	
05/13/91	2 hrs @ 650 F	O	
05/15/91	1 hr @ -100 F	C	
05/15/91	1 hr @ 600 F	C	
05/16/91	1 hr @ -100 F	C	
05/17/91	1 hr @ -100 F	C	
05/17/91	1 hr @ 600 F	C	
05/17/91	20 hrs @ 120 F	H	
05/18/91	46 hrs @ 120-140 F	H	
05/21/91	1 hr @ -100 F	C	
05/22/91	3 hrs @ 650 F	O	
05/24/91	4 hrs @ 680 F	O	
05/28/91	5 hrs @ 650 F	O	
05/28/91	16 hrs @ 120 F	O	
05/29/91	4 hrs @ 650 F	O	
05/29/91	1 hr @ -100 F	C	
05/30/91	1 hr @ -100 F	C	
05/30/91	3 hrs @ 630 F	O	
05/30/91	17 hrs @ 120 F	H	
05/31/91	1 hr @ -100 F	C	



MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26B - 9611 Comments: MAZRB 1-4 coats

mils  
0.5

Materials: MARB-4 with ZINC

0.70  
0.75

-----	
4	2
5	3
-----	
1	

Equip Definitions:

1.00

Date	Action	Equip	Results/Comments
04/04/91	Clean	-	Clean sander-stripper prepared panel
04/04/91	Clean	-	No rust evident under coating/ repair
		-	formerly 9525/9512 SH
04/04/91	Clean	-	Tape remove and MEK wipe
04/04/91	Coat	(1/2 hr dry between the brush coats 1, 2, 3, and 4)	
04/04/91	Dry	-	Ambient dry overnight 18 hours
04/05/91	1 hr @ 480 F (250 C)	O	slow cure
04/05/91	1 hr @ 650 F	O	
04/06/91	Test (Location 1)	A	550 PSI (100% C) (1 coat)
04/06/91	Test (Location 2)	A	>1000 PSI no failure (3 coats)
04/06/91	41 hrs @ 120 F	H	
04/08/91	2 hrs @ 650 F	O	
04/08/91	1 hr @ -100 F	C	
04/08/91	40 hrs @ 120 F	H	
04/10/91	1 hr @ -100 F	C	
04/10/91	2 hrs @ 650 F	O	
04/11/91	4 hrs @ 650 F	O	
04/11/91	14 hrs @ 150 F	H	
04/12/91	1 hr @ -100 F	C	
04/12/91	65 hrs @ 120 F	H	
04/15/91	1 hr @ -100 F	C	

## MRC Fabrication/Conditioning/Test Form 91-1

Page 2

Set-Sample: 268 - 9611 Comments:

Materials: MAZRB 1-4 coats

Equip Definitions:



Date	Action	Equip	Results/Comments
04/15/91	40 hrs @ 115 F	H	
04/17/91	1 hr @ -100 F	C	
04/17/91	2 hrs @ 650 F	O	
04/17/91	14 hrs @ 115 F	H	
04/18/91	1 hr @ -100 F	C	
04/18/91	2 hrs @ 650 F	O	
04/18/91	17 hrs @ 120 F	H	
04/19/91	1 hr @ -100 F	C	
04/19/91	1 hrs @ 620 F	O	
04/19/91	18 hrs @ 120 F	H	
04/20/91	1 hr @ -100 F	C	
04/20/91	2 hrs @ 650 F	O	
04/20/91	44 hrs @ 118 F	H	
04/22/91	1 hr @ -100 F	C	
04/22/91	1 hr @ 650 F	O	
04/22/91	15 hrs @ 115 F	H	
04/23/91	1 hr @ -100 F	C	
04/23/91	3 hrs @ 780 F	O	very HOT
04/23/91	17 hrs @ 118 F	H	very humid
04/24/91	1 hr @ -100 F	C	
04/24/91	4 hrs @ 650 F	O	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26B - 9611      Comments: MAZRB

Materials: MARB-4 with ZINC 1-4 coats

Equip Definitions:



Date	Action	Equip	Results/Comments
04/25/91	1 hr @ -100 F	C	
04/25/91	3 hrs @ 630 F	O	
04/29/91	Test (Location 3)	A	>900 PSI (90% C; 10% A) Clean, rough
04/29/91	Test (Location 4)	A	>900 PSI no failure
04/29/91	1 hr @ -100 F	C	
04/29/91	3 hrs @ 650 F	O	
04/29/91	16 hrs @ 118 F	H	
04/30/91	1 hr @ 480 F	O	
04/30/91	1 hrs @ -100 F	C	
04/30/91	17 hrs @ 118 F	H	
05/01/91	1 hr @ -100 F	C	
05/01/91	3 hrs @ 790 F	O	HOT
05/02/91	3 hrs @ 750 F	O	HOT
05/02/91	18 hrs @ 117 F	H	
05/03/91	3 hrs @ 690 F	O	
05/03/91	64 hrs @ 120 F	H	
05/06/91	3 hrs @ 690 F	O	
05/06/91	1 hr @ -100 F	C	
05/06/91	17 hrs @ 120 F	H	
06/07/91	1 hr @ -100 F	C	
05/07/91	3 hrs @ 650 F	O	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26B - 9611      Comments: MAZRB

Materials: MARB-4 with ZINC 1-4 coats

Equip Definitions:



Date	Action	Equip	Results/Comments
05/07/91	15 hrs @ 120 F	H	
05/08/91	1 hr @ -100 F	C	
05/08/91	3 hrs @ 690 F	O	
05/09/91	1 hr @ -100 F	C	
05/09/91	87 hrs @ 124 F	H	
05/13/91	1 hr @ -100 F	C	
05/13/91	2 hrs @ 650 F	O	
05/15/91	1 hr @ -100 F	C	
05/15/91	1 hr @ 600 F	C	
05/16/91	1 hr @ -100 F	C	
05/17/91	1 hr @ -100 F	C	
05/17/91	1 hr @ 600 F	C	
05/17/91	20 hrs @ 120 F	H	
05/18/91	46 hrs @ 120-140 F	H	
05/21/91	1 hr @ -100 F	C	
05/22/91	3 hrs @ 650 F	O	
05/24/91	4 hrs @ 680 F	O	
05/28/91	5 hrs @ 650 F	O	
05/28/91	16 hrs @ 120 F	O	
05/29/91	4 hrs @ 650 F	O	
05/29/91	1 hr @ -100 F	C	

Set-Sample: 26B - 9611    Comments: MAZRB

Materials: MARB-4 with ZINC 1-4 coats

Equip Definitions:



Date	Action	Equip	Results/Comments
05/30/91	1 hr @ -100 F	C	
05/30/91	3 hrs @ 630 F	O	
05/30/91	17 hrs @ 120 F	H	
05/31/91	1 hr @ -100 F	C	
06/03/91	3 hrs @ 650 F	O	
06/03/91	22 hrs @ 140 F	H	
06/04/91	66 hrs @ 120 F	H	
06/12/91	5 hrs @ 600 F	O	
06/13/91	4 hrs @ 600 F	O	
06/13/91	1 hr @ -120 F	C	manual
06/13/91	40 hs @ 120 F	H	
06/15/91	2 hrs @ 600 F	O	
06/17/91	2 hrs @ 650 F	O	
06/17/91	1 hr @ -100 F	C	
06/17/91	18 hrs @ 120 F	H	
06/18/91	5 hrs @ 650 F	O	
06/20/91	Pictures	88 events (-120 to 790 F)	Excellent condition
07/08/91	Test (Location 5)	A	250 PSI (85% C; 15% C/I) No rust

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26B - 9612      Comments: MAZRB 1-4 coats

mils  
0.5

Materials: MARB-4 with ZINC

0.70  
0.75

Equip Definitions:

1.00

	4
1	2
	5
	3

Date	Action	Equip	Results/Comments
04/04/91	Clean	-	Clean sander-stripper prepared panel
04/04/91	Clean	-	No rust evident under coating/ repair formerly 9525/9512 SH
04/04/91	Clean	-	Tape remove and MEK wipe
04/04/91	Coat		(1/2 hr dry between the brush coats 1, 2, 3, and 4)
04/04/91	Dry	-	Ambient dry overnight 18 hours
04/05/91	1 hr @ 480 F (250 C)	O	slow cure
04/05/91	1 hr @ 650 F	O	
04/06/91	Test (Location 1)	A	550 PSI (100% C) (2 coats)
04/06/91	Test (Location 2)	A	>1000 PSI no failure (3 coats)
04/06/91	41 hrs @ 120 F	H	
04/08/91	2 hrs @ 650 F	O	
04/08/91	1 hr @ -100 F	C	
04/08/91	40 hrs @ 120 F	H	
04/10/91	1 hr @ -100 F	C	
04/10/91	2 hrs @ 650 F	O	
04/11/91	4 hrs @ 650 F	O	
04/11/91	14 hrs @ 150 F	H	
04/12/91	1 hr @ -100 F	C	
04/12/91	65 hrs @ 120 F	H	
04/15/91	1 hr @ -100 F	C	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26B - 9612      Comments:

Materials: MAZRB with Zinc

Equip Definitions:



Date	Action	Equip	Results/Comments
04/15/91	40 hrs @ 115 F	H	
04/17/91	1 hr @ -100 F	C	
04/17/91	2 hrs @ 650 F	O	
04/17/91	14 hrs @ 115 F	H	
04/18/91	1 hr @ -100 F	C	
04/18/91	2 hrs @ 650 F	O	
04/18/91	17 hrs @ 120 F	H	
04/19/91	1 hr @ -100 F	C	
04/19/91	1 hrs @ 620 F	O	
04/19/91	18 hrs @ 120 F	H	
04/20/91	1 hr @ -100 F	C	
04/20/91	2 hrs @ 650 F	O	
04/20/91	44 hrs @ 118 F	H	
04/22/91	1 hr @ -100 F	C	
04/22/91	1 hr @ 650 F	O	
04/22/91	15 hrs @ 115 F	H	
04/23/91	1 hr @ -100 F	C	
04/23/91	3 hrs @ 780 F	O	very HOT
04/23/91	17 hrs @ 118 F	H	very humid
04/24/91	1 hr @ -100 F	C	
04/24/91	4 hrs @ 650 F	O	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26B - 9612      Comments: MAZRB

Materials: MARB-4 with ZINC

Equip Definitions:



Date	Action	Equip	Results/Comments
04/25/91	1 hr @ -100 F	C	
04/25/91	3 hrs @ 630 F	O	
04/29/91	Test (Location 3)	A	>900 PSI (90% C; 10% A) Clean, rough
04/29/91	Test (Location 4)	A	>900 PSI no failure
04/29/91	1 hr @ -100 F	C	
04/29/91	3 hrs @ 650 F	O	
04/29/91	16 hrs @ 118 F	H	
04/30/91	1 hr @ 480 F	O	
04/30/91	1 hrs @ -100 F	C	
04/30/91	17 hrs @ 118 F	H	
05/01/91	1 hr @ -100 F	C	
05/01/91	3 hrs @ 790 F	O	HOT
05/02/91	3 hrs @ 750 F	O	HOT
05/02/91	18 hrs @ 117 F	H	
05/03/91	3 hrs @ 690 F	O	
05/03/91	64 hrs @ 120 F	H	
05/06/91	3 hrs @ 690 F	O	
05/06/91	1 hr @ -100 F	C	
05/06/91	17 hrs @ 120 F	H	
06/07/91	1 hr @ -100 F	C	
05/07/91	3 hrs @ 650 F	O	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26B - 9612      Comments: MAZRB

Materials: MARB-4 with ZINC

Equip Definitions:



Date	Action	Equip	Results/Comments
05/07/91	15 hrs @ 120 F	H	
05/08/91	1 hr @ -100 F	C	
05/08/91	3 hrs @ 690 F	O	
05/09/91	1 hr @ -100 F	C	
05/09/91	87 hrs @ 124 F	H	
05/13/91	1 hr @ -100 F	C	
05/13/91	2 hrs @ 650 F	O	
05/15/91	1 hr @ -100 F	C	
05/15/91	1 hr @ 600 F	C	
05/16/91	1 hr @ -100 F	C	
05/17/91	1 hr @ -100 F	C	
05/17/91	1 hr @ 600 F	C	
05/17/91	20 hrs @ 120 F	H	
05/18/91	46 hrs @ 120-140 F	H	
05/21/91	1 hr @ -100 F	C	
05/22/91	3 hrs @ 650 F	O	
05/24/91	4 hrs @ 680 F	O	
05/28/91	5 hrs @ 650 F	O	
05/28/91	16 hrs @ 120 F	O	
05/29/91	4 hrs @ 650 F	O	
05/29/91	1 hr @ -100 F	C	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26B - 9612      Comments: MAZRB

Materials: MARB-4 with ZINC

Equip Definitions:



Date	Action	Equip	Results/Comments
05/30/91	1 hr @ -100 F	C	
05/30/91	3 hrs @ 630 F	O	
05/30/91	17 hrs @ 120 F	H	
05/31/91	1 hr @ -100 F	C	
06/03/91	3 hrs @ 650 F	O	
06/03/91	22 hrs @ 140 F	H	
06/04/91	66 hrs @ 120 F	H	
06/12/91	5 hrs @ 600 F	O	
06/13/91	4 hrs @ 600 F	O	
06/13/91	1 hr @ -120 F	C	manual
06/13/91	40 hs @ 120 F	H	
06/15/91	2 hrs @ 600 F	O	
06/17/91	2 hrs @ 650 F	O	
06/17/91	1 hr @ -100 F	C	
06/17/91	18 hrs @ 120 F	H	
06/18/91	5 hrs @ 650 F	O	
06/20/91	Pictures	88 events (-120 to 790 F)	Excellent condition
07/08/91	Test (Location 5)	A	300 PSI (90% C; 8% C; 2% Rust)

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 268 - 9613      Comments: MAZRB 1-4 coats

mils  
0.5

	1
	2      5
	3
	4

Materials: MARB-4 with ZINC

0.70  
0.75

Equip Definitions:

1.00

Date	Action	Equip	Results/Comments
04/04/91	Clean	-	Clean sander-stripper prepared panel
04/04/91	Clean	-	No rust evident under coating/ repair formerly 9525/9512 SH
04/04/91	Clean	-	Tape remove and MEK wipe
04/04/91	Coat	(1/2 hr dry between the brush coats 1, 2, 3, and 4)	
04/04/91	Dry	-	Ambient dry overnight 18 hours
04/05/91	1 hr @ 480 F (250 C)	0	slow cure
04/05/91	1 hr @ 650 F	0	
04/06/91	Test (Location 1)	A	550 PSI (100% C) (1 coats)
04/06/91	Test (Location 2)	A	>1000 PSI no failure (2 coats)
04/06/91	41 hrs @ 120 F	H	
04/08/91	2 hrs @ 650 F	0	
04/08/91	1 hr @ -100 F	C	
04/08/91	40 hrs @ 120 F	H	
04/10/91	1 hr @ -100 F	C	
04/10/91	2 hrs @ 650 F	0	
04/11/91	4 hrs @ 650 F	0	
04/11/91	14 hrs @ 150 F	H	
04/12/91	1 hr @ -100 F	C	
04/12/91	65 hrs @ 120 F	H	
04/15/91	1 hr @ -100 F	C	

## MRC Fabrication/Conditioning/Test Form 91-1

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Set-Sample: 268 - 9613      Comments:

Materials: MAZRB 1-4 coats

Equip Definitions:



Date	Action	Equip	Results/Comments
04/15/91	40 hrs @ 115 F	H	
04/17/91	1 hr @ -100 F	C	
04/17/91	2 hrs @ 650 F	O	
04/17/91	14 hrs @ 115 F	H	
04/18/91	1 hr @ -100 F	C	
04/18/91	2 hrs @ 650 F	O	
04/18/91	17 hrs @ 120 F	H	
04/19/91	1 hr @ -100 F	C	
04/19/91	1 hrs @ 620 F	O	
04/19/91	18 hrs @ 120 F	H	
04/20/91	1 hr @ -100 F	C	
04/20/91	2 hrs @ 650 F	O	
04/20/91	44 hrs @ 118 F	H	
04/22/91	1 hr @ -100 F	C	
04/22/91	1 hr @ 650 F	O	
04/22/91	15 hrs @ 115 F	H	
04/23/91	1 hr @ -100 F	C	
04/23/91	3 hrs @ 780 F	O	very HOT
04/23/91	17 hrs @ 118 F	H	very humid
04/24/91	1 hr @ -100 F	C	
04/24/91	4 hrs @ 650 F	O	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26B - 9613      Comments: MAZRB

Materials: MARB-4 with ZINC 1-4 coats

Equip Definitions:

3
4

Date	Action	Equip	Results/Comments
04/25/91	1 hr @ -100 F	C	
04/25/91	3 hrs @ 630 F	O	
04/29/91	Test (Location 3)	A	>900 PSI (90% C; 10% A) Clean, rough
04/29/91	Test (Location 4)	A	>900 PSI no failure 4 coats
04/29/91	1 hr @ -100 F	C	
04/29/91	3 hrs @ 650 F	O	
04/29/91	16 hrs @ 118 F	H	
04/30/91	1 hr @ 480 F	O	
04/30/91	1 hrs @ -100 F	C	
04/30/91	17 hrs @ 118 F	H	
05/01/91	1 hr @ -100 F	C	
05/01/91	3 hrs @ 790 F	O	HOT
05/02/91	3 hrs @ 750 F	O	HOT
05/02/91	18 hrs @ 117 F	H	
05/03/91	3 hrs @ 690 F	O	
05/03/91	64 hrs @ 120 F	H	
05/06/91	3 hrs @ 690 F	O	
05/06/91	1 hr @ -100 F	C	
05/06/91	17 hrs @ 120 F	H	
06/07/91	1 hr @ -100 F	C	
05/07/91	3 hrs @ 650 F	O	

## MRC Fabrication/Conditioning/Test Form 91-1

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Set-Sample: 26B - 9613      Comments: MAZRB

Materials: MARB-4 with ZINC 1-4 coats

Equip Definitions:



Date	Action	Equip	Results/Comments
05/07/91	15 hrs @ 120 F	H	
05/08/91	1 hr @ -100 F	C	
05/08/91	3 hrs @ 690 F	O	
05/09/91	1 hr @ -100 F	C	
05/09/91	87 hrs @ 124 F	H	
05/13/91	1 hr @ -100 F	C	
05/13/91	2 hrs @ 650 F	O	
05/15/91	1 hr @ -100 F	C	
05/15/91	1 hr @ 600 F	C	
05/16/91	1 hr @ -100 F	C	
05/17/91	1 hr @ -100 F	C	
05/17/91	1 hr @ 600 F	C	
05/17/91	20 hrs @ 120 F	H	
05/18/91	46 hrs @ 120-140 F	H	
05/21/91	1 hr @ -100 F	C	
05/22/91	3 hrs @ 650 F	O	
05/24/91	4 hrs @ 680 F	O	
05/28/91	5 hrs @ 650 F	O	
05/28/91	16 hrs @ 120 F	O	
05/29/91	4 hrs @ 650 F	O	
05/29/91	1 hr @ -100 F	C	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26B - 9613      Comments: MAZRB

Materials: MARB-4 with ZINC 1-4 coats

Equip Definitions:

	1
2	5
	3
	4

Date	Action	Equip	Results/Comments
05/30/91	1 hr @ -100 F	C	
05/30/91	3 hrs @ 630 F	O	
05/30/91	17 hrs @ 120 F	H	
05/31/91	1 hr @ -100 F	C	
06/03/91	3 hrs @ 650 F	O	
06/03/91	22 hrs @ 140 F	H	
06/04/91	66 hrs @ 120 F	H	
06/12/91	5 hrs @ 600 F	O	
06/13/91	4 hrs @ 600 F	O	
06/13/91	1 hr @ -120 F	C	manual
06/13/91	40 hs @ 120 F	H	
06/15/91	2 hrs @ 600 F	O	
06/17/91	2 hrs @ 650 F	O	
06/17/91	1 hr @ -100 F	C	
06/17/91	18 hrs @ 120 F	H	
06/18/91	5 hrs @ 650 F	O	
06/20/91	Pictures	88 events (-120 to 790 F)	Excellent condition
07/08/91	Test (Location 5)	A	550 PSI (90% C/I; 8% C; 2% rust) 2 coats

## MRC Fabrication/Conditioning/Test Form 91-1

Page 1

Set-Sample: 26R - 9621      Comments: A-203 steel Rusting

Materials: No coating - for rusting and gel temperature tests

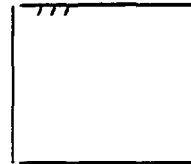
Equip Definitions:

Date	Action	Equip	Results/Comments
03/25/91	MEK wash	-	Removes grease from mill-scale
03/25/91	Aqua regia clean	-	Acid remove mill scale both sides 100%
04/04/91	20 hrs @ 120 F	H	
04/05/91	65 hrs @ 120 F	H	
04/08/91	2 hrs @ 650 F	O	
04/08/91	1 hr @ -100 F	C	
04/08/91	40 hrs @ 120 F	H	
04/10/91	1 hr @ -100 F	C	
04/10/91	2 hrs @ 650 F	O	
04/11/91	4 hrs @ 650 F	O	HOT
04/11/91	14 hrs @ 150 F	H	
04/12/91	1 hr @ -100 F	C	
04/12/91	65 hrs @ 120 F	H	
04/15/91	1 hr @ -100 F	C	
04/15/91	40 hrs @ 115 F	H	
04/17/91	1 hr @ -100 F	C	
04/17/91	2 hrs @ 650 F	O	
04/17/91	14 hrs @ 115 F	H	
04/18/91	1 hr @ 750 F	O	
04/18/91	2 hrs @ 650 F	O	
04/18/91	17 hrs @ 120 F	H	

Set-Sample: 26R - 9621      Comments: A-203 steel Rusting

Materials:

Equip Definitions:



Date	Action	Equip	Results/Comments
04/19/91	2 hr @ 700 F	0	
04/19/91	1 hr @ 620 F	0	
04/19/91	18 hrs @ 120 F	H	
04/20/91	1 hr 700 F	0	
04/20/91	2 hrs @ 650 F	0	24 events
04/20/91	44 hrs @ 118 F	H	
04/22/91	1 hr @ 790 F	0	very hot
04/22/91	1 hr @ 650 F	0	
04/22/91	15 hrs @ 115 F	H	
04/23/91	3 hrs @ 780 F	0	very hot
04/23/91	17 hrs @ 118 F	H	very humid
04/24/91	4 hrs @ 650 F	0	
04/25/91	3 hrs @ 630 F	0	32 events
04/29/91	2 hrs @ 250 F	0	
04/29/91	3 hrs @ 650 F	0	
04/29/91	16 hrs @ 118 F	H	wet panels before exposure
04/30/91	1 hr @ 480 F	0	
04/30/91	17 hrs @ 118 F	H	
05/01/91	3 hrs @ 790 F	0	HOT
05/02/91	3 hrs @ 750 F	0	HOT
05/02/91	18 hrs @ 117 F	H	

Set-Sample: 26R - 9621

Comments: A-203 rusting

Page 3

Date	Action	Equip	Results/comments
05/03/91	3 hrs @ 690 F	O	
05/03/91	64 hrs 120 F	H	
05/06/91	3 hrs @ 690 F	O	
05/06/91	17 hrs @ 120 F	H	44 events (-100 to 790 F) moderate rust
06/05/91	Cut into 9 pieces (2x2) for gel temperature tests		

## MRC Fabrication/Conditioning/Test Form 91-1

Page 1

Set-Sample: 26R - 9622      Comments: A-203 steel Rusting

Materials: No coating - for rusting and gel cleaning

Equip Definitions:



Date	Action	Equip	Results/Comments
03/25/91	MEK wash	-	Removes grease from mill-scale
03/25/91	Aqua regia clean	-	Acid remove mill scale both sides 100%
04/04/91	20 hrs @ 120 F	H	
04/05/91	65 hrs @ 120 F	H	
04/08/91	2 hrs @ 650 F	O	
04/08/91	1 hr @ -100 F	C	
04/08/91	40 hrs @ 120 F	H	
04/10/91	1 hr @ -100 F	C	
04/10/91	2 hrs @ 650 F	O	
04/11/91	4 hrs @ 650 F	O	HOT
04/11/91	14 hrs @ 150 F	H	
04/12/91	1 hr @ -100 F	C	
04/12/91	65 hrs @ 120 F	H	
04/15/91	1 hr @ -100 F	C	
04/15/91	40 hrs @ 115 F	H	
04/17/91	1 hr @ -100 F	C	
04/17/91	2 hrs @ 650 F	O	
04/17/91	14 hrs @ 115 F	H	
04/18/91	1 hr @ 750 F	O	
04/18/91	2 hrs @ 650 F	O	
04/18/91	17 hrs @ 120 F	H	

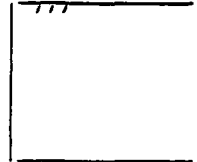
## MRC Fabrication/Conditioning/Test Form 91-1

Page 2

Set-Sample: 26R - 9622      Comments: A-203 steel Rusting

Materials:

Equip Definitions:



Date	Action	Equip	Results/Comments
04/19/91	2 hr @ 700 F	0	
04/19/91	1 hr @ 620 F	0	
04/19/91	18 hrs @ 120 F	H	
04/20/91	1 hr 790 F	0	
04/20/91	2 hrs @ 650 F	0	24 events
04/20/91	44 hrs @ 118 F	H	
04/22/91	1 hr @ 790 F	0	very hot
04/22/91	1 hr @ 650 F	0	
04/22/91	15 hrs @ 115 F	H	
04/23/91	3 hrs @ 780 F	0	very hot
04/23/91	17 hrs @ 118 F	H	very humid
04/24/91	4 hrs @ 650 F	0	
04/25/91	3 hrs @ 630 F	0	32 events
04/29/91	2 hrs @ 250 F	0	
04/29/91	3 hrs @ 650 F	0	
04/29/91	16 hrs @ 118 F	H	wet panels before exposure
04/30/91	1 hr @ 480 F	0	
04/30/91	17 hrs @ 118 F	H	
05/01/91	3 hrs @ 790 F	0	HOT
05/02/91	3 hrs @ 750 F	0	HOT
05/02/91	18 hrs @ 117 F	H	

Set-Sample: 26R - 9622

Comments: A-203 rusting

Page 3

Date	Action	Equip	Results/comments
05/03/91	3 hrs @ 690 F	O	
05/03/91	64 hrs 120 F	H	
05/06/91	3 hrs @ 690 F	O	
05/06/91	17 hrs @ 120 F	H	44 events (-100 to 790 F) moderate rust
06/05/91	Cut into 9 pieces (2x2) for gel temperature tests		

## MRC Fabrication/Conditioning/Test Form 91-1

Page 1

Set-Sample: 26R - 9623      Comments: A-203 steel Rusting

Materials: No coating

Equip Definitions:



Date	Action	Equip	Results/Comments
03/25/91	MEK wash	-	Removes grease from mill-scale
03/25/91	Aqua regia clean	-	Acid remove mill scale both sides 100%
04/04/91	20 hrs @ 120 F	H	
04/05/91	65 hrs @ 120 F	H	
04/08/91	2 hrs @ 650 F	O	
04/08/91	1 hr @ -100 F	C	
04/08/91	40 hrs @ 120 F	H	
04/10/91	1 hr @ -100 F	C	
04/10/91	2 hrs @ 650 F	O	
04/11/91	4 hrs @ 650 F	O	HOT
04/11/91	14 hrs @ 150 F	H	
04/12/91	1 hr @ -100 F	C	
04/12/91	65 hrs @ 120 F	H	
04/15/91	1 hr @ -100 F	C	
04/15/91	40 hrs @ 115 F	H	
04/17/91	1 hr @ -100 F	C	
04/17/91	2 hrs @ 650 F	O	
04/17/91	14 hrs @ 115 F	H	
04/18/91	1 hr @ 750 F	O	
04/18/91	2 hrs @ 650 F	O	
04/18/91	17 hrs @ 120 F	H	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26R - 9623      Comments: A-203 steel Rusting

Materials:

Equip Definitions:



Date	Action	Equip	Results/Comments
04/19/91	2 hr @ 700 F	0	
04/19/91	1 hr @ 620 F	0	
04/19/91	18 hrs @ 120 F	H	
04/20/91	1 hr 700 F	0	
04/20/91	2 hrs @ 650 F	0	24 events
04/20/91	44 hrs @ 118 F	H	
04/22/91	1 hr @ 790 F	0	very hot
04/22/91	1 hr @ 650 F	0	
04/22/91	15 hrs @ 115 F	H	
04/23/91	3 hrs @ 780 F	0	very hot
04/23/91	17 hrs @ 118 F	H	very humid
04/24/91	4 hrs @ 650 F	0	
04/25/91	3 hrs @ 630 F	0	32 events
04/29/91	2 hrs @ 250 F	0	
04/29/91	3 hrs @ 650 F	0	
04/29/91	16 hrs @ 118 F	H	wet panels before exposure
04/30/91	1 hr @ 480 F	0	
04/30/91	17 hrs @ 118 F	H	
05/01/91	3 hrs @ 790 F	0	HOT
05/02/91	3 hrs @ 750 F	0	HOT
5/02/91	18 hrs @ 117 F	H	

Set-Sample: 26R - 9621

Comments: A-203 rusting

Page 3

Date	Action	Equip	Results/comments
05/03/91	3 hrs @ 690 F	O	
05/03/91	64 hrs 120 F	H	
05/06/91	3 hrs @ 690 F	O	
05/06/91	17 hrs @ 120 F	H	44 events (-100 to 790 F) moderate rust
06/05/91	Cut into 9 pieces (2x2) for gel temperature tests		

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26R - 9624      Comments: A-203 steel Rusting

Materials: No coating

Equip Definitions:



Date	Action	Equip	Results/Comments
03/25/91	MEK wash	-	Removes grease from mill-scale
03/25/91	Aqua regia clean	-	Acid remove mill scale both sides 100%
04/04/91	20 hrs @ 120 F	H	
04/05/91	65 hrs @ 120 F	H	
04/08/91	2 hrs @ 650 F	O	
04/08/91	1 hr @ -100 F	C	
04/08/91	40 hrs @ 120 F	H	
04/10/91	1 hr @ -100 F	C	
04/10/91	2 hrs @ 650 F	O	
04/11/91	4 hrs @ 650 F	O	HOT
04/11/91	14 hrs @ 150 F	H	
04/12/91	1 hr @ -100 F	C	
04/12/91	65 hrs @ 120 F	H	
04/15/91	1 hr @ -100 F	C	
04/15/91	40 hrs @ 115 F	H	
04/17/91	1 hr @ -100 F	C	
04/17/91	2 hrs @ 650 F	O	
04/17/91	14 hrs @ 115 F	H	
04/18/91	1 hr @ 750 F	O	
04/18/91	2 hrs @ 650 F	O	
04/18/91	17 hrs @ 120 F	H	

## MRC Fabrication/Conditioning/Test Form 91-1

Page 2

Set-Sample: 26R - 9624      Comments: A-203 steel Rusting

Materials:

Equip Definitions:



Date	Action	Equip	Results/Comments
04/19/91	2 hr @ 700 F	0	
04/19/91	1 hr @ 620 F	0	
04/19/91	18 hrs @ 120 F	H	
04/20/91	1 hr 700 F	0	
04/20/91	2 hrs @ 650 F	0	24 events
04/20/91	44 hrs @ 118 F	H	
04/22/91	1 hr @ 790 F	0	very hot
04/22/91	1 hr @ 650 F	0	
04/22/91	15 hrs @ 115 F	H	
04/23/91	3 hrs @ 780 F	0	very hot
04/23/91	17 hrs @ 118 F	H	very humid
04/24/91	4 hrs @ 650 F	0	
04/25/91	3 hrs @ 630 F	0	32 events
04/29/91	2 hrs @ 250 F	0	
04/29/91	3 hrs @ 650 F	0	
04/29/91	16 hrs @ 118 F	H	wet panels before exposure
04/30/91	1 hr @ 480 F	0	
04/30/91	17 hrs @ 118 F	H	
05/01/91	3 hrs @ 790 F	0	HOT
05/02/91	3 hrs @ 750 F	0	HOT
05/02/91	18 hrs @ 117 F	H	

Set-Sample: 26R - 9624

Comments: A-203 rusting

Page 3

Date	Action	Equip	Results/comments
05/03/91	3 hrs @ 690 F	O	
05/03/91	64 hrs 120 F	H	
05/06/91	3 hrs @ 690 F	O	
05/06/91	17 hrs @ 120 F	H	44 events (-100 to 790 F) moderate rust
06/05/91	Cut into 9 pieces (2x2) for gel temperature tests		

## MRC Fabrication/Conditioning/Test Form 91-1

Page 1

Set-Sample: 26R - 9625      Comments: A-203 steel Rusting

Materials: No coating

Equip Definitions:



Date	Action	Equip	Results/Comments
03/25/91	MEK wash	-	Removes grease from mill-scale
03/25/91	Aqua regia clean	-	Acid remove mill scale both sides 100%
04/04/91	20 hrs @ 120 F	H	
04/05/91	65 hrs @ 120 F	H	
04/08/91	2 hrs @ 650 F	O	
04/08/91	1 hr @ -100 F	C	
04/08/91	40 hrs @ 120 F	H	
04/10/91	1 hr @ -100 F	C	
04/10/91	2 hrs @ 650 F	O	
04/11/91	4 hrs @ 650 F	O	HOT
04/11/91	14 hrs @ 150 F	H	
04/12/91	1 hr @ -100 F	C	
04/12/91	65 hrs @ 120 F	H	
04/15/91	1 hr @ -100 F	C	
04/15/91	40 hrs @ 115 F	H	
04/17/91	1 hr @ -100 F	C	
04/17/91	2 hrs @ 650 F	O	
04/17/91	14 hrs @ 115 F	H	
04/18/91	1 hr @ 750 F	O	
04/18/91	2 hrs @ 650 F	O	
04/18/91	17 hrs @ 120 F	H	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 26R - 9625      Comments: A-203 steel Rusting

Materials:

Equip Definitions:



Date	Action	Equip	Results/Comments
04/19/91	2 hr @ 700 F	0	
04/19/91	1 hr @ 620 F	0	
04/19/91	18 hrs @ 120 F	H	
04/20/91	1 hr 700 F	0	
04/20/91	2 hrs @ 650 F	0	24 events
04/20/91	44 hrs @ 118 F	H	
04/22/91	1 hr @ 790 F	0	very hot
04/22/91	1 hr @ 650 F	0	
04/22/91	15 hrs @ 115 F	H	
04/23/91	3 hrs @ 780 F	0	very hot
04/23/91	17 hrs @ 118 F	H	very humid
04/24/91	4 hrs @ 650 F	0	
04/25/91	3 hrs @ 630 F	0	32 events
04/29/91	2 hrs @ 250 F	0	
04/29/91	3 hrs @ 650 F	0	
04/29/91	16 hrs @ 118 F	H	wet panels before exposure
04/30/91	1 hr @ 480 F	0	
04/30/91	17 hrs @ 118 F	H	
05/01/91	3 hrs @ 790 F	0	HOT
05/02/91	3 hrs @ 750 F	0	HOT
05/02/91	18 hrs @ 117 F	H	

Set-Sample: 26R - 9625      Comments: A-203 rusting      Page 3

Date	Action	Equip	Results/comments
05/03/91	3 hrs @ 690 F	O	
05/03/91	64 hrs 120 F	H	
05/06/91	3 hrs @ 690 F	O	
05/06/91	17 hrs @ 120 F	H	44 events (-100 to 790 F) moderate rust
06/05/91	Cut into 9 pieces (2x2) for gel temperature tests		

## MRC Fabrication/Conditioning/Test Form 91-1

Page 1

Set-Sample: 26R - 9626      Comments: A-203 steel Rusting

Materials: No coating

Equip Definitions:



Date	Action	Equip	Results/Comments
03/25/91	MEK wash	-	Removes grease from mill-scale
03/25/91	Aqua regia clean	-	Acid remove mill scale both sides 100%
04/04/91	20 hrs @ 120 F	H	
04/05/91	65 hrs @ 120 F	H	
04/08/91	2 hrs @ 650 F	O	
04/08/91	1 hr @ -100 F	C	
04/08/91	40 hrs @ 120 F	H	
04/10/91	1 hr @ -100 F	C	
04/10/91	2 hrs @ 650 F	O	
04/11/91	4 hrs @ 650 F	O	HOT
04/11/91	14 hrs @ 150 F	H	
04/12/91	1 hr @ -100 F	C	
04/12/91	65 hrs @ 120 F	H	
04/15/91	1 hr @ -100 F	C	
04/15/91	40 hrs @ 115 F	H	
04/17/91	1 hr @ -100 F	C	
04/17/91	2 hrs @ 650 F	O	
04/17/91	14 hrs @ 115 F	H	
04/18/91	1 hr @ 750 F	O	
04/18/91	2 hrs @ 650 F	O	
04/18/91	17 hrs @ 120 F	H	

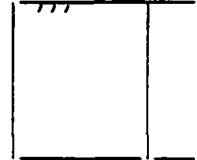
## MRC Fabrication/Conditioning/Test Form 91-1

Page 2

Set-Sample: 26R - 9626      Comments: A-203 steel Rusting

Materials:

Equip Definitions:



Date	Action	Equip	Results/Comments
04/19/91	2 hr @ 700 F	0	
04/19/91	1 hr @ 620 F	0	
04/19/91	18 hrs @ 120 F	H	
04/20/91	1 hr 700 F	0	
04/20/91	2 hrs @ 650 F	0	24 events
04/20/91	44 hrs @ 118 F	H	
04/22/91	1 hr @ 790 F	0	very hot
04/22/91	1 hr @ 650 F	0	
04/22/91	15 hrs @ 115 F	H	
04/23/91	3 hrs @ 780 F	0	very hot
04/23/91	17 hrs @ 118 F	H	very humid
04/24/91	4 hrs @ 650 F	0	
04/25/91	3 hrs @ 630 F	0	32 events
04/29/91	2 hrs @ 250 F	0	
04/29/91	3 hrs @ 650 F	0	
04/29/91	16 hrs @ 118 F	H	wet panels before exposure
04/30/91	1 hr @ 480 F	0	
04/30/91	Gel Cleaning	-	1/3 panel mostly cleaned in 2 hrs
05/01/91	3 hrs @ 790 F	0	HOT
05/02/91	3 hrs @ 750 F	0	HOT
05/02/91	18 hrs @ 117 F	H	

Set-Sample: 26R - 9626      Comments: A-203 rusting      Page 3

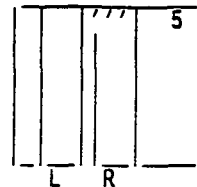
Date	Action	Equip	Results/comments
05/03/91	3 hrs @ 690 F	O	
05/03/91	64 hrs 120 F	H	
05/06/91	3 hrs @ 690 F	O	
05/06/91	17 hrs @ 120 F	H	44 events (-100 to 790 F) moderate rust
06/05/91	Cut into 9 pieces (2x2) for gel temperature tests		

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 27 - 9701      Comments: A-203 steel

Materials:

Equip Definitions:



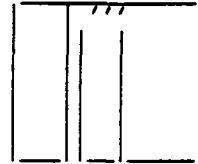
Date	Action	Equip	Results/Comments
03/25/91	MEK wash	-	Removes grease from mill-scale
03/25/91	17 hrs @ 140 F	H	Rusting Panels
03/26/91	23 hrs @ 140 F	H	
03/27/91	2 hrs @ 650 F	O	
03/27/91	17 hrs @ 138 F	H	
03/28/91	2 hrs @ 650 F	O	
03/28/91	21 hrs @ 120 F	H	
03/29/91	20 hrs @ 120 F	H	
03/30/91	44 hrs @ 118 F	H	
04/01/91	2 hrs @ 700 F	O	HOT
04/01/91	2 hrs 650 F	O	
04/01/91	20 hrs @ 120 F	H	
04/02/91	2 hrs @ 750 F	O	HOT      1210.8 g   12 events
PANEL SENT TO INGERSOLL-RAND			
05/14/91	See pictures		1208.9 g returned
	R (center)	40 ipm   35,000 PSI	Some mill-scale flakes remaining
	L	40 ipm   47,000 PSI	Some mill-scale flakes remaining

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 27 - 9702      Comments: A-203 steel

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Materials:



Equip Definitions:

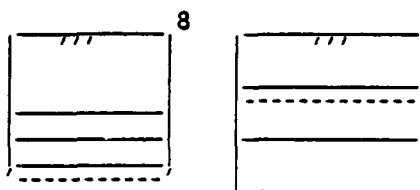
Date	Action	Equip	Results/Comments
03/25/91	MEK wash	-	Removes grease from mill-scale
03/25/91	17 hrs @ 140 F	H	Rusting Panels
03/26/91	23 hrs @ 140 F	H	
03/27/91	2 hrs @ 650 F	O	
03/27/91	17 hrs @ 138 F	H	
03/28/91	2 hrs @ 650 F	O	
03/28/91	21 hrs @ 120 F	H	
03/29/91	20 hrs @ 120 F	H	
03/30/91	44 hrs @ 118 F	H	
04/01/91	2 hrs @ 700 F	O	HOT
04/01/91	2 hrs 650 F	O	
04/01/91	20 hrs @ 120 F	H	
04/02/91	2 hrs @ 750 F	O	HOT      1254.7 g    12 events
PANEL SENT TO INGERSOLL-RAND			
05/14/91	See pictures		1252.7 g returned
	R (Center)	60 ipm    47,000 PSI	mill-scale removed
	L	60 ipm    35,000 PSI	some scale removed

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 27 - 9703 Comments: A-203 steel

Materials:

Equip Definitions:



Date	Action	Equip	Results/Comments
03/25/91	MEK wash	-	Removes grease from mill-scale
03/25/91	17 hrs @ 140 F	H	Rusting Panels
03/26/91	23 hrs @ 140 F	H	
03/27/91	2 hrs @ 650 F	O	
03/27/91	17 hrs @ 138 F	H	
03/28/91	2 hrs @ 650 F	O	
03/28/91	21 hrs @ 120 F	H	
03/29/91	20 hrs @ 120 F	H	
03/30/91	44 hrs @ 118 F	H	
04/01/91	2 hrs @ 700 F	O	HOT
04/01/91	2 hrs 650 F	O	
04/01/91	20 hrs @ 120 F	H	
04/02/91	2 hrs @ 750 F	O	HOT 1221.6 g 12 events
PANEL SENT TO INGERSOLL-RAND			
05/14/91	See pictures		1218.8 g
front	7 top	40 ipm	47,000 PSI
	center	40 ipm	35,000 PSI
backside	8 upper	20 ipm	47,000 PSI Some scale removed
	bottom	40 ipm	47,000 PSI Some scale removed

Set-Sample: 27 - 9711      Comments: A-203 steel

Materials:

Equip Definitions:



Date	Action	Equip	Results/Comments
03/25/91	Gel cleaned 1 hr	-	Removes rust from mill-scale each side
03/25/91	17 hrs @ 140 F	H	Rusting Panels
03/26/91	2 hrs @ 650 F	O	
03/26/91	19 hrs @ 140 F	H	
03/27/91	2 hrs @ 650 F	O	
03/27/91	17 hrs @ 138 F	H	
03/28/91	2 hrs @ 650 F	O	
03/28/91	21 hrs @ 120 F	H	
03/29/91	20 hrs @ 120 F	H	
03/30/91	44 hrs @ 118 F	H	
04/01/91	2 hrs @ 700 F	O	HOT
04/01/91	2 hrs 650 F	O	
04/01/91	20 hrs @ 120 F	H	
04/02/91	2 hrs @ 750 F	O	HOT      1213.7 g    12 events
05/26/91	All rust removed at I-R		

**CONCLUSIONS:**

Only partial removal of mill-scale is accomplished at 35,000 PSI. Even at 47,000 PSI the mill-scale is not completely removed at speeds above 20 ipm. Speeds above 40 ipm leave rough grey colored marks. 40 ipm with 48,000 PSI is the best choice to clean off heavy rust (no mill-scale) as well as MARB coating removal.

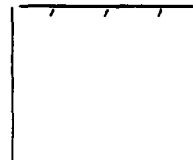
No variations in orifice diameter or R.P.M. were done.

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 27 - 9712 Comments: A-203 steel

Materials:

Equip Definitions:

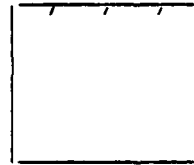


Date	Action	Equip	Results/Comments
03/25/91	Gel cleaned 1 hr	-	Removes rust from mill-scale each side
03/25/91	17 hrs @ 140 F	H	Rusting Panels
03/26/91	2 hrs @ 650 F	O	
03/26/91	19 hrs @ 140 F	H	
03/27/91	2 hrs @ 650 F	O	
03/27/91	17 hrs @ 138 F	H	
03/28/91	2 hrs @ 650 F	O	
03/28/91	21 hrs @ 120 F	H	
03/29/91	20 hrs @ 120 F	H	
03/30/91	44 hrs @ 118 F	H	
04/01/91	2 hrs @ 700 F	O	HOT
04/01/91	2 hrs 650 F	O	
04/01/91	20 hrs @ 120 F	H	
04/02/91	2 hrs @ 750 F	O	HOT 1234.2 g 12 events
PANEL SENT TO INGERSOLL-RAND			
05/16/91	All rust removed at I-R		

Set-Sample: 27 - 9713      Comments: A-203 steel

Materials:

Equip Definitions:



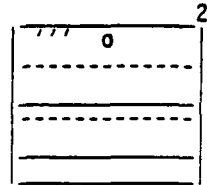
Date	Action	Equip	Results/Comments
03/25/91	Gel cleaned 1 hr	-	Removes rust from mill-scale each side
03/25/91	17 hrs @ 140 F	H	Rusting Panels
03/26/91	2 hrs @ 650 F	O	
03/26/91	19 hrs @ 140 F	H	
03/27/91	2 hrs @ 650 F	O	
03/27/91	17 hrs @ 138 F	H	
03/28/91	2 hrs @ 650 F	O	
03/28/91	21 hrs @ 120 F	H	
03/29/91	20 hrs @ 120 F	H	
03/30/91	44 hrs @ 118 F	H	
04/01/91	2 hrs @ 700 F	O	HOT
04/01/91	2 hrs @ 650 F	O	
04/01/91	20 hrs @ 120 F	H	
04/02/91	2 hrs @ 750 F	O	HOT      1254.6 g    12 events
PANEL SENT TO INGERSOLL-RAND			
05/16/91	All rust removed at I-R		

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 27 - 9721 Comments: A203 Steel

Materials:

Equip Definitions:



Date	Action	Equip	Results/Comments
03/22/91	Acid clean	-	Aqua regia clean to remove mill-scale
03/25/91	17 hrs @ 140 F	H	Rusting Panels
03/26/91	23 hrs @ 140 F	H	
03/27/91	2 hrs @ 650 F	O	
03/27/91	17 hrs @ 138 F	H	
03/28/91	2 hrs @ 650 F	O	
03/28/91	21 hrs @ 120 F	H	
03/29/91	20 hrs @ 120 F	H	
03/30/91	44 hrs @ 118 F	H	
04/01/91	2 hrs @ 700 F	O	HOT
04/01/91	2 hrs 650 F	O	
04/01/91	20 hrs @ 120 F	H	
04/02/91	2 hrs @ 750 F	O	HOT 1251.0 g 12 events
PANEL SENT TO INGERSOLL-RAND			
05/14/91	See pictures		1250.8 g
	Center	60 ipm 47,000 PSI	
	Bottom	60 ipm 35,000 PSI	
05/20/91	Gel cleaned for MARB ambient hardness tests (Set 28)		

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 27 - 9722      Comments: A203 Steel

Materials:

Equip Definitions:

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Date	Action	Equip	Results/Comments
03/22/91	Acid clean	-	Aqua regia clean to remove mill-scale
03/25/91	17 hrs @ 140 F	H	Rusting Panels
03/26/91	23 hrs @ 140 F	H	
03/27/91	2 hrs @ 650 F	O	
03/27/91	17 hrs @ 138 F	H	
03/28/91	2 hrs @ 650 F	O	
03/28/91	21 hrs @ 120 F	H	
03/29/91	20 hrs @ 120 F	H	
03/30/91	44 hrs @ 118 F	H	
04/01/91	2 hrs @ 700 F	O	HOT
04/01/91	2 hrs 650 F	O	
04/01/91	20 hrs @ 120 F	H	
04/02/91	2 hrs @ 750 F	O	HOT      1246.7 g 12 events
PANEL SENT TO INGERSOLL-RAND			
05/14/91	See pictures		1246.3 g
	Upper	40 ipm    35,000 PSI	
	Bottom	40 ipm    47,000 PSI	Best rust cleaning
05/20/91	Gel cleaned for MARB ambient hardness tests (Set 26)		

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 27 - 9723      Comments: A203 Steel

Materials:

Equip Definitions:

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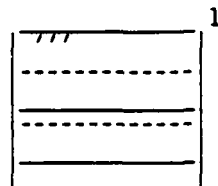
Date	Action	Equip	Results/Comments
03/22/91	Acid clean	-	Aqua regia clean to remove mill-scale
03/25/91	17 hrs @ 140 F	H	Rusting Panels
03/26/91	23 hrs @ 140 F	H	
03/27/91	2 hrs @ 650 F	O	
03/27/91	17 hrs @ 138 F	H	
03/28/91	2 hrs @ 650 F	O	
03/28/91	21 hrs @ 120 F	H	
03/29/91	20 hrs @ 120 F	H	
03/30/91	44 hrs @ 118 F	H	
04/01/91	2 hrs @ 700 F	O	HOT
04/01/91	2 hrs 650 F	O	
04/01/91	20 hrs @ 120 F	H	
04/02/91	2 hrs @ 750 F	O	HOT      1226.9 g 12 events
PANEL SENT TO INGERSOLL-RAND			
05/14/91	See pictures		1226.6 g
	upper 100 ipm	35,000 PSI	very rough marks ))))
	bottom 100 ipm	47,000 PSI	very rough marks ))))
05/20/91	Gel cleaned for MARB ambient hardness tests (Set 28)		

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 27 - 9731      Comments: A203 Steel

Materials:

Equip Definitions:



Date	Action	Equip	Results/Comments
/91	Acid clean	-	Aqua regia clean to remove mill-scale
-----			
Formerly Panel 9103			
-----			
03/25/91	17 hrs @ 140 F	H	Rusting Panels
03/26/91	23 hrs @ 140 F	H	
03/27/91	2 hrs @ 650 F	O	
03/27/91	17 hrs @ 138 F	H	
03/28/91	2 hrs @ 650 F	O	
03/28/91	21 hrs @ 120 F	H	
03/29/91	20 hrs @ 120 F	H	
03/30/91	44 hrs @ 118 F	H	
04/01/91	2 hrs @ 700 F	O	HOT
04/01/91	2 hrs 650 F	O	
04/01/91	20 hrs @ 120 F	H	
04/02/91	2 hrs @ 750 F	O	HOT      1192.4 g 12 events
	PANEL SENT TO INGERSOLL-RAND		1191.9 g returned
	upper 40 ipm	47,000 PSI	Best MARB removal
	center 40 ipm	35,000 PSI	

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 27 - 9733      Comments: A203 Steel

Materials:

Equip Definitions:



Date	Action	Equip	Results/Comments
03/22/91	Acid clean	-	Aqua regia clean to remove mill-scale
Formerly panel 9401			
03/25/91	17 hrs @ 140 F	H	Rusting Panels
03/26/91	23 hrs @ 140 F	H	
03/27/91	2 hrs @ 650 F	O	
03/27/91	17 hrs @ 138 F	H	
03/28/91	2 hrs @ 650 F	O	
03/28/91	21 hrs @ 120 F	H	
03/29/91	20 hrs @ 120 F	H	
03/30/91	44 hrs @ 118 F	H	
04/01/91	2 hrs @ 700 F	O	HOT
04/01/91	2 hrs @ 650 F	O	
04/01/91	20 hrs @ 120 F	H	
04/02/91	2 hrs @ 750 F	O	HOT      1200.8 g    12 events
PANEL SENT TO INGERSOLL-RAND			
05/16/91	Total rust removal by water blast		

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 28 - 9800    Comments: A-203 steel

Materials: KEN'S MARB 20 + clay

Equip Definitions:

Date	Action	Equip	Results/Comments
05/22/91	Clean	-	Gel clean thoroughly I/R panel
05/22/91	Coat	-	Brush coat with Ken's mixture of MARB
05/22/91	Cure	-	Ambient curing
05/27/91	Thickness	M	0.6 mils (0.25-1.1)

Panel looks good but cures slowly at lab temperatures as tested daily for scratch hardness for a month. In addition, Aluminum can be wiped off the surface even 8 months later, although the coating is hard.

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 28 - 9801    Comments: A-203 steel

Materials: MARB4

Equip Definitions:

Date	Action	Equip	Results/Comments
05/22/91	Clean	-	Gel clean thoroughly I, R panel
05/22/91	Coat	-	Brush coat with Ken's mixture of MARB
05/22/91	Cure	-	Ambient curing
05/27/91	Thickness	M	0.6 mils (0.25-1.1)

Panel looks good but cures slowly at lab temperatures as tested daily for scratch hardness for a month. In addition, Aluminum can be wiped off the surface even 8 months later, although the coating is hard.



MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 28 - 9803 Comments: A-203 steel

Materials: MARB-4 + clay

Equip Definitions:



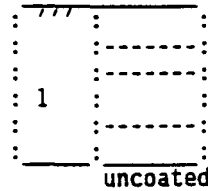
Date	Action	Equip	Results/Comments
05/22/91	Clean	-	Gel clean thoroughly I/R panel
05/22/91	Coat	-	Brush coat with Ken's mixture of MARB
05/22/91	Cure	-	Ambient curing
05/27/91	Thickness	M	0.6 mils (0.25-1.1)
Panel looks good but cures slowly at lab temperatures as tested daily for scratch hardness for a month. In addition, Aluminum can be wiped off the surface even 8 months later, although the coating is hard.			

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 28 - 9804 Comments: A-203 steel

Materials: MARB4 with Spangle

Equip Definitions:



Date	Action	Equip	Results/Comments
05/22/91	clean		Thoroughly gel clean I/R panel (leftside)
05/30/91	coat		Brush coat MARB4/spangle
05/30/91	1 hr @ 485 F	O	cure
05/30/91	17 hrs @ 120 F	H	
05/31/91	1 hr @ -100 F	C	
06/03/91	3 hrs @ 650 F	O	
06/03/91	22 hrs @ 140 F	H	
06/04/91	66 hrs @ 120 F	H	
06/12/91	5 hrs @ 600 F	O	
06/13/91	4 hrs @ 600 F	O	
06/13/91	1 hr @ -120 F	C	manual
06/13/91	40 hrs @ 120 F	H	
06/15/91	2 hrs @ 600 F	O	
06/17/91	2 hrs @ 650 F	O	
06/17/91	1 hr @ -100 F	C	
06/17/91	18 hrs @ 120 F	H	
06/18/91	5 hrs @ 650 F	O	
06/20/91	Pictures	over I/R cleaned paint	15 events (-120 to 650 F)
07/08/91	Test (Location 1)	A	300 PSI (100% cohesive)
			Coating in very good condition

MRC Fabrication/Conditioning/Test Form 91-1

Set-Sample: 28 - 9805 Comments: A-203 steel

Materials: MARB4 with Spangle

Equip Definitions:

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      F
-----: A :
      1 : I :
      : L :
-----:   :
      I/R I/R mill
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Date	Action	Equip	Results/Comments
			Ingersol-rand panel
05/30/91	clean		Gel clean entire panel
05/30/91	coat		Spraycoat MARB4 with spangle (top only)
05/30/91	1 hr @ 485 F	O	cure
05/30/91	17 hrs @ 120 F	H	
05/31/91	1 hr @ -100 F	C	
06/03/91	3 hrs @ 650 F	O	
06/03/91	22 hrs @ 140 F	H	
06/04/91	66 hrs @ 120 F	H	
06/12/91	5 hrs @ 600 F	O	
06/13/91	4 hrs @ 600 F	O	
06/13/91	1 hr @ -120 F	C	manual
06/13/91	40 hrs @ 120 F	H	
06/15/91	2 hrs @ 600 F	O	
06/17/91	2 hrs @ 650 F	O	
06/17/91	1 hr @ -100 F	C	
06/17/91	18 hrs @ 120 F	H	
06/18/91	5 hrs @ 650 F	O	
06/20/91	Pictures	15 events (-120 to 650 F)	Flaking over mill scale, left
07/08/91	Test (Location 1)	A	550 PSI (100% C) over I/R cleaned