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AIRTIGHTNESS TEST OF CASKET FOR HUMAN REMAINS.(U)
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AIRTIGHTNESS TEST OF CASKET FOR HUMAN REMAINS

AFALD/PTP
AIR FORCE PACKAGING EVALUATION AGENCY
Wright-Patterson AFB OH 45433

October 1976

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ABSTRACT

A test for airtightness utilizing the Halogen Leak Detector was performed on a casket for human remains as requested by AFLC/DEHM (Memorial Affairs Division). The casket was a Batesville R58-845-A sealer casket serial No. L-47446 supplied by the Batesville Casket Company, Inc., located in Batesville, Indiana. Although the casket leaked at one spot, it was concluded that satisfactory airtightness performance may readily be achieved.

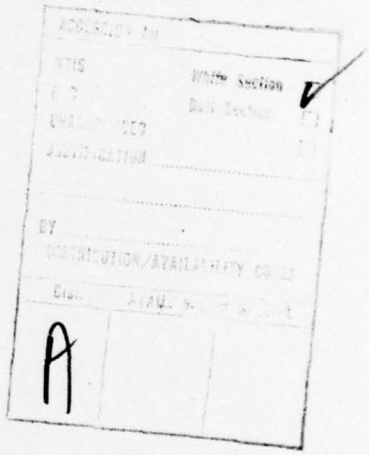

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TABLE OF CONTENTS

INTRODUCTION

PURPOSE: The purpose of this test was to evaluate the supplied casket for airtightness in accordance with requirements set forth in Air Force Specification, Care of Remains of Deceased Personnel, Amendment 5, Revised March 1976. The test was performed on 6 August 1976 at the Air Force Packaging Evaluation Agency (AFPEA). Testing was witnessed by Mr. Cam Beauchemin, AFLC/DEHM, and Mr. John F. Metz, Batesville Casket Company, Inc.

BACKGROUND: The casket sample submitted to the AFPEA for testing was provided by the Batesville Casket Company, Inc. This casket is presently being proposed by prospective contract funeral directors. Testing for airtightness was performed to determine if the sealing requirement presented in the Air Force specification is satisfied.

TEST SPECIMEN AND EQUIPMENT

DESCRIPTION OF TEST SPECIMEN: The test specimen is a Batesville, R58-845-A, sealer casket serial No. L-47446. The casket is constructed of Monogard 20 gauge steel. Outside dimensions of the casket are 83 x 28 x 23 inches.

TEST EQUIPMENT: Low Temperature Chamber - Tenney Engineering Company. Halide Gas Leak Detector - Turner Company, Model LP777.

TEST PROCEDURES AND RESULTS

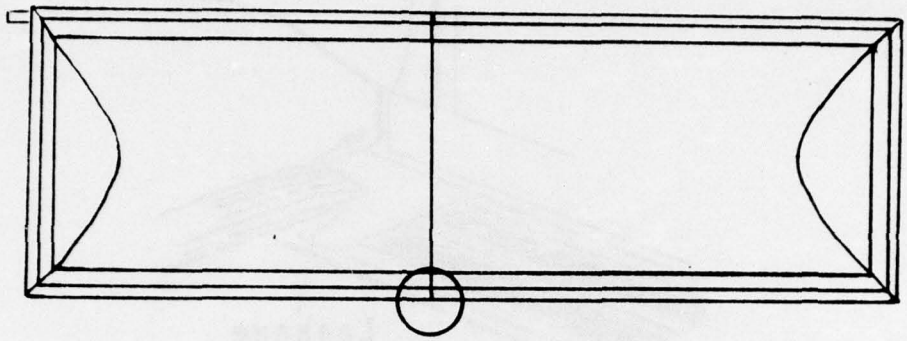
PROCEDURE: The open casket, with all bedding material removed, was first cooled 20 degrees below ambient temperature (Fahrenheit) in the low temperature chamber for 30 minutes. While still in the chamber, some dichlorodifluoromethane refrigerant gas (Kaiser 12) was released into the casket and the lids drawn shut. The casket was then removed from the chamber and placed on a pallet in front of a large fan for 10 minutes. The fan served to disperse any residual gas concentrations about the casket and also expedite warming up of the casket. Warming up of the casket (20 degrees) to ambient temperature was calculated to induce an internal pressure of about 0.75 pounds per square inch to

assist in detecting any leakage. The Halide Gas Leak Detector was moved along all seams, welds, and closures of the entire casket.

RESULTS AND DISCUSSION: The test results indicated the presence of one leak located as shown in Figure 1. Initial observations attributed the probable cause of leakage to misalignment of the two lids. Lid misalignment was obvious as both lids failed to line up "flush" at their interface. Further examination revealed that leakage occurred through the gap which would normally be filled by the gasket between the lids. Lid misalignment aggravated the seal by causing a larger cavity at the point of leakage and prevented the gasket from completely filling the cavity (see Figure 2).

CONCLUSIONS AND RECOMMENDATIONS

It was concluded that the casket submitted for test is adequately manufactured to achieve the structural integrity necessary for airtightness. It is, however, recommended that the lid gasket design be lengthened so that any slight misalignment of the lids will not affect the airtightness feature of the casket.

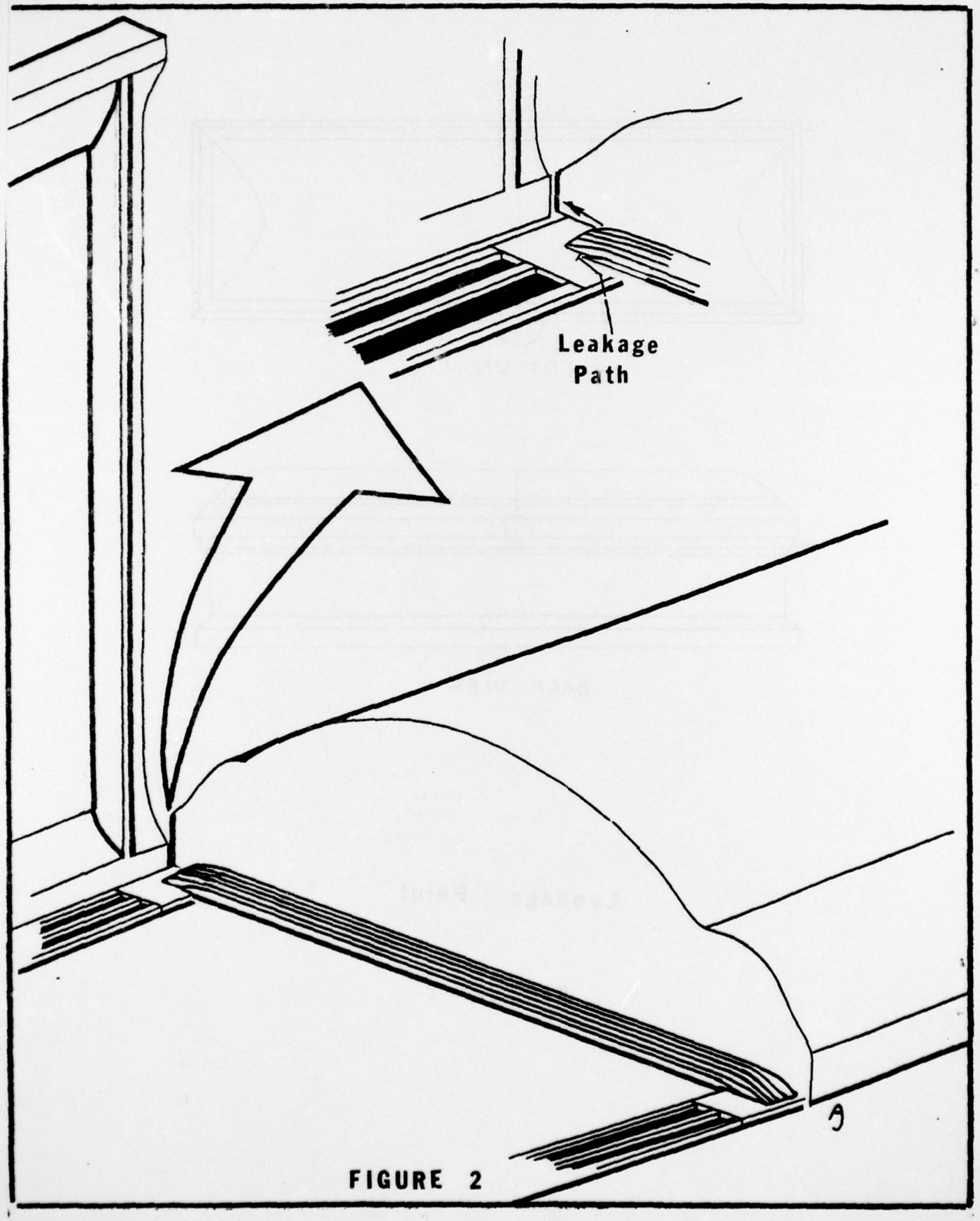


TOP VIEW

BACK VIEW

Leakage Point

FIGURE 1



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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

A test for airtightness utilizing the Halogen Leak Detector was performed on a casket for human remains as requested by AFLC/DEHM (Memorial Affairs Division). The casket was a Batesville R58-845-A sealer casket, serial No. L-47446, supplied by the Batesville Casket Company, Inc., located in Batesville, Indiana. Although the casket leaked at one spot, it was concluded that satisfactory airtightness performance may readily be achieved.

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