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PRESSURE TEST OF PPP-C-96 CANS.(U)
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PRESSURE TEST OF PPP-C-96 CANS

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

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ABSTRACT

The Air Force Packaging Evaluation Agency (AFPEA) is aware that overprotection is a costly condition that exists in some packaging applications. In an attempt to find lower cost packaging that is qualified to provide equal protection within a certain limit, most cost effective containers are currently being investigated. One such type of container was sent to the AFPEA from Ogden ALC, Hill AFB UT, to determine if this sample was structurally designed to withstand 15 psig pressure without leaking. All container specimens (four each) tested under this project were found to be adequate. There were no leaks found when tested according to the appropriate military specifications.

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INTRODUCTION

Personnel from OO-ALC/DSTC, Hill AFB UT requested the Air Force Packaging Evaluation Agency (AFPEA) to perform pressurized test on a sample of PPP-C-96 cans. These cans are used to package MXU-4A/A and MXU-129/A jet engine starter cartridges.

Four of the PPP-C-96 cans were received on 3 February and testing was completed 17 February 1977.

PROCEDURE

Each of the four cans were fitted with an air inlet and connection outlet for multiple testing. Each container was tested in turn and then multiple container tests were conducted to verify accuracy. During each test, air was supplied to the specimen container at a pressure of 15 psig. This was accomplished to comply with requirements stated in MIL-D-6054, para 4.5.1, procedure A. The test was conducted on each container three separate times, all with similar results.

RESULTS

Test results are as follows:

PRESSURE TEST OF PPP-C-96 CANS *

ELAPSED TIME (MIN)	PRESSURE (PSIG) CAN #1	CAN #2	CAN #3	CAN #4
0	15.00	15.0	15.0	15.0
5	14.75	14.65	14.65	14.55
10	14.50	14.35	14.40	14.30
15	14.30	14.25	14.20	14.15
20	14.15	14.15	14.15	14.05
25	14.05	14.10	14.10	14.00
30	14.00	14.00	14.05	13.90

* At the beginning of each time interval the subject can was rotated under water through each axis.

There was a very gradual pressure drop in each can over the thirty minutes test time. However, no bubbles were observed that would indicate air escaping from the container.

At conclusion of this test, the containers were connected in series for an extended period of time, again under 15 psig pressure. No leaks or bubbles were observed.

DISCUSSION

A uniform air leak was identified in each system used during the test. There was, however, no evidence of air bubbling from any of the containers. The air supply system leak probably caused the thirty minute pressure drop, although, this slight pressure drop might also be caused by flexible line expansion due to the pressure involved. The system pressure drop was verified and the pressure drop recorded without a container on line was identical to that with the container connected.

Acceptance testing of the four containers indicate only how they would react under 15 psig pressure. In light of the fact that PPP-C-96 cans are not usually tested to 15 psig some type of quality control/ assurance must be maintained for all future procurement of these cans if they are to be used for this high pressure application.

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