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**INCH-POUND**  
MIL-PRF-25690B  
AMENDMENT 1  
27 June 1995

### PERFORMANCE SPECIFICATION

#### PLASTIC, SHEETS AND FORMED PARTS, MODIFIED ACRYLIC BASE, MONOLITHIC, CRACK PROPAGATION RESISTANT

This Amendment forms a part of MIL-P-25690B, dated 29 January 1993, and is approved for use by all Departments and Agencies of the Department of Defense

#### PAGE 5

Table I, under "Limits of permissible deviation", delete "inch" and substitute "inches"

#### PAGE 6

3.7: Delete lines 1 & 2 and substitute: "Thickness from 0.250 inch and above shall be tested. Thicknesses greater than 0.500 inch shall be machined to 0.500 inch for test."

#### PAGE 7

Table III:

a. Under "Resistance to crack propagation" add:  
"Formed parts or                   2200                   2600  
formed sections"

b. Delete the average requirement for tensile strength and add:  
"Individual value - 10,000; Average value - 10,500"

4.3.2, line 4: Delete "ACSTD (Code 6061), Warminster, PA 18974-5000" and substitute: "Air Vehicle Engineering Department (434100R08), P. O. Box 5152, Warminster, PA 18974-5091."

#### PAGE 11

4.4.1, line 2: Delete "in figure I"

4.4.1.1, delete and substitute: "4.4.1.1 Inspection number 1. The starting sheet shall be material approved for listing on the Qualified Products List for MIL-P-8184 (Class 1 or Class 2)".

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4.4.1.2, line 4, after "operation.", add: "The samples shall be designated "for forming" or "for sized flat sheets"."

4.4.1.3:

a. Line 1, insert new sentence at start of paragraph. " The test samples selected in 4.4.1.2 designated "for sized flat sheets" shall be tested to the requirements of Table VI."

a. Line 3, delete: "Blanks are not inspected until after the forming process."

4.4.1.4:

a. Line 1: Add new sentence at start of paragraph: "Inspection No. 4 shall be conducted after the stretched sheet is cut into blanks and formed into parts."

b. Line 1, delete "new fixture" and substitute: "newly designed fixture"

c. Line 5, delete the third sentence and substitute: "Unless otherwise specified, the forming facility shall generate one set of test data, after part forming, from every fifth stretched sheet that has been cut into blanks. This shall be accomplished by testing edge cut-outs, other trim areas of a part or by flat forming the sample from designated "for forming". Tests shall be as specified in Table VI, except craze resistance which shall be performed as specified in 4.4.1.2."

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Table V:

a. Add "Angular deviation - See 3.5.2 1/"

b. Add footnote: "1/ Perform only on sized sheets for direct delivery to the Government (Inspection #3)."

Table VI: Delete "Angular deviation 3.5.2 4.6.2"

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4.6.6.2.3, line 6, after "inch." add: Measurement of the average slow fracture crack length may be by any acceptable means. One suggested method is to use a Bausch & Lomb Hastings lens, or equivalent, with 7X magnification and a

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magnifier ruler with 0.005 inch divisions"

4.6.7.1, delete the last 2 sentences and substitute: "Each specimen shall be conditioned for not less than 48 hours at 70° to 82°C (160° to 180°F). Conditioning times and temperatures are for qualification tests (These conditions are optional with the supplier for Quality conformance testing). Diameters A and B shall be measured to the nearest 0.01 inch, using an appropriate optical measuring device."

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4.6.9, line 2, after "tested", add: Thicknesses below 0.100 inch shall not be tested."

4.6.10.1, line 4: After "180°F)", add: "Thicknesses below 0.250 inch shall not be tested."

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5.2, line 2, delete: "be"

PAGE 20

5.3.2, line 3: After "SHEETS AND" ADD "FORMED"

PAGE 22

6.3:

- a. Line 11, delete: "AIR-5304, Washington, DC 20361-5110" and substitute: "Code 4.3.4.4, 1421 Jefferson Davis Highway, Arlington, VA 22243-5304".
- b. Line 14, delete: "Warminster, ACSTD (Code 6061), Warminster, PA 18974-5000" and substitute: "Air Vehicle Engineering Department (434100R08), P.O. Box 5152, Warminster, PA 18974-0591".

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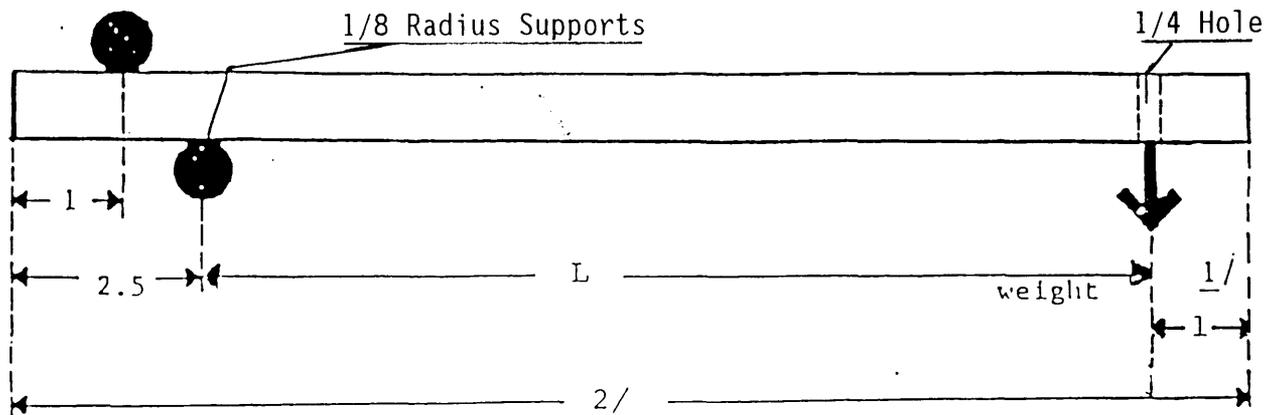
Figure 1: Delete in entirety.

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Figure 7: Delete and substitute new Figure 7 attached.

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**SIDE VIEW**



1/ Applied weight as follows;

$$W = \frac{w t^2 \sigma}{6L}$$

Where:

- W = applied weight (pounds)
- w = specimen width (1 inch)
- t = specimen thickness (inch)
- $\sigma$  = outer fiber stress [5000 psi (When no craze occurs, the Government qualifying activity will increase the outer fiber stress to 5500 psi in an attempt to induce craze. This is for data gathering only.)]
- L = Distance from fulcrum to load point (dependent on thickness, 6.5 or 11.5 inch)

**DIMENSIONS w AND t are measured to the nearest 0.001 inch**

2/ Specimen thickness to 0.25 inch = 10 inch specimen length. Specimen thickness 0.25 inch and over = 15 inch specimen length.

**TOP VIEW**

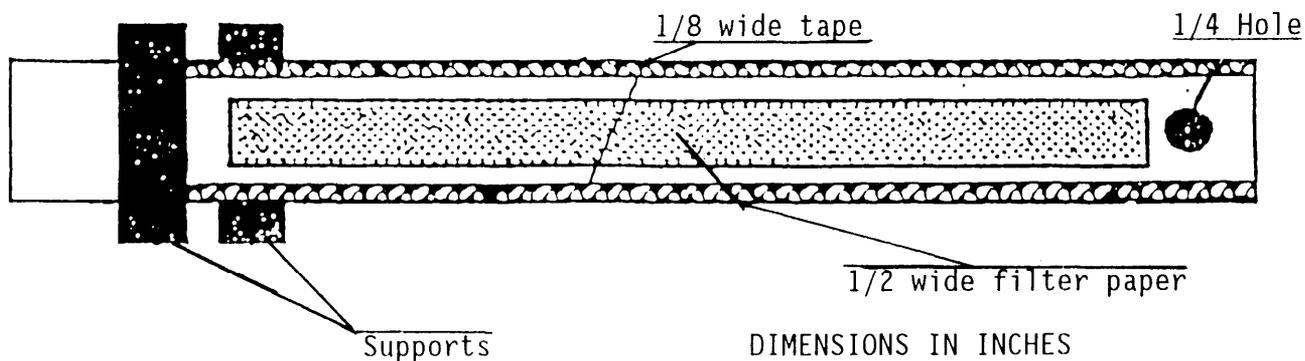


FIGURE 7. Crazing apparatus configuration.

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Custodians:  
Army - AV  
Navy - AS  
Air Force - 11

Review Activity:  
DLA - GS

Preparing Activity:  
Navy - AS  
(Project No. 9330-1298)