

NOTICE OF CHANGE
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MIL-STD-2098(AS)  
NOTICE 1  
30 September 1999

DEPARTMENT OF DEFENSE  
STANDARD

ORDNANCE PREPARATION AND APPLICATION OF  
INTUMESCENT SHEET, TYPE III

TO ALL HOLDERS OF MIL-STD-2098(AS):

1. THE FOLLOWING PAGES OF MIL-STD-2098(AS) HAVE BEEN REVISED AND SUPERSEDE THE PAGES LISTED:

NEW PAGE	DATE	SUPERSEDED PAGE	DATE
1	30 September 1999	1	2 June 1980
2	30 September 1999	2	2 June 1980
3	30 September 1999	3	2 June 1980
4	30 September 1999	4	2 June 1980

2. RETAIN THIS NOTICE AND INSERT BEFORE TABLE OF CONTENTS.
3. Holders of MIL-STD-2098(AS) will verify that page changes and additions indicated above have been entered. This notice page will be retained as a check sheet. This issuance, together with appended pages, is a separate publication. Each notice is to be retained by stocking points until the standard is completely revised or canceled.

Preparing activity:  
NAVY – AS

(Project 8010-N137)

AMSC N/A

FSC 8010

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

## MIL-STD-2098(AS)

## 1. SCOPE

1.1 General. This standard provides general instruction for the preparation and application of an intumescent sheet on ordnance items.

1.2 Classification. The intumescent sheet shall be of the Type III, as described in MIL-C-81945(AS).

## 2. REFERENCED DOCUMENTS

2.1 Issues of documents. The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of this standard to the extent specified herein.

## SPECIFICATION

## FEDERAL

TT-L-50	-	Lacquer, Nitrocellulose, Acrylic and Acrylic-Butyrate, Aerosol (In Pressurized Dispensers)
TT-R-251	-	Remover; Paint (Organic Solvent Type)
P-W-2891	-	Wipe Solvents, Low Vapor Pressure
PPP-T-680	-	Tape, Pressure-Sensitive Adhesive; Packaging and Packing of

## MILITARY

MIL-PRF-23377	-	Primer Coatings, Epoxy, High-Solids
MIL-C-81945(AS)	-	Coating Compounds, Weapon Insulation, Intumescent

(Copies of specifications, standards, drawings, and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

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## 3. DEFINITIONS (not applicable).

## 4. GENERAL REQUIREMENTS

4.1 Application. This document is applicable where Type III intumescent coating is applied for added protection of ordnance items in fuel fire environment.

4.2 Quality assurance inspection. Inspections shall be performed by Quality Assurance Inspectors to determine that the requirements of this document are met in preparation of the ordnance item and material, conformance of materials, application, and workmanship of the completed item.

4.3 General information on application of intumescent sheet. Close adherence to this standard is vital to assure proper application and to provide a high quality end product. Satisfactory performance of an epoxy adhesive and intumescent sheet system is dependent upon properly prepared surfaces and the careful application of materials. The accomplishing activity shall insure that:

- a. Surfaces to be coated shall be free of dirt, oil, grease, silicone, salt deposits, moisture, and other surface contaminants.
- b. The intumescent sheet is applied as soon as practical after cleaning to prevent contamination of the surface.

## 5. DETAILED REQUIREMENTS

5.1 Materials. The following materials are required to accomplish this procedure.

- a. Primer, strontium chromate, MIL-PRF-23377, Type I.
- b. DeVilbiss Model JGA spray equipment (or equal) or brush, paint, 3".
- c. Flexible epoxy adhesive, 3-M 2216 Clear Amber or equal.
- d. Intumescent sheet material, MIL-C-81945(AS), Type III.
- e. Putty knife, 3" blade.

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- f. Wet film thickness gage, range 0.002 to 0.003 inch min.
- g. Dry film thickness gage, range 0.0006 to 0.001 inch min.
- h. Velostatic bag 10 inch dia. 0.003 to 0.006 inch thick material, or equal (anti-static).
- i. Vacuum pump (capable of obtaining a minimum vacuum of 6-10 inches of mercury) and manifold assembly.
- j. Paint stripper, TT-R-251 Type III Class A.
- k. Abrasive blasting equipment.
- l. Solvent, P-W-2891.
- m. Tape, adhesive, PPP-T-680, Type III, Class I.
- n. Paint, stencil marking, aerosol pack, TT-L-50, flat black.
- o. Paint, clear lacquer, aerosol pack, TT-L-50.
- p. Oven, thermostatically controlled ( $54 \pm 3$  degrees Centigrade).

5.2 Ordnance preparation. Remove all items (fuzes, detonation assemblies, armament cable assemblies, etc.) from the ordnance item in accordance with the applicable documents. Mask all openings that are not to be permanently coated.

5.2.1 Ordnance information and identification. Record all information printed on the ordnance item. This information shall accompany the ordnance item through the process for later copying to the outer surface of the newly coated item.

5.2.2 Type of paint. Determine the type of paint present on the ordnance item and the type of surface preparation required to remove it.

5.2.3 Paint stripping. Strip paint from all surfaces of the ordnance item by using chemical strippers, abrasive blasting or by mechanical scraping. After cleaning, wipe surfaces with solvent conforming to P-W-2891.

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CAUTION: Personnel preparing surfaces shall wear impervious gloves and an approved organic vapor respirator. The solvents shall be contained in an approved safety container.

5.3 Application method. Pressurized spray equipment or brush shall be used to apply primer to the ordnance item. The first coat of primer shall be applied to all surfaces within one hour after the final solvent wipe.

5.3.1 Sprayer. A DeVilbiss Model JGA or equal with air pressure regulator valve attached to the gun shall be used.

5.3.2 Hoses. Air supply hoses shall be clean at the start of primer application. An in-line filter shall be placed on the air supply hose to the pressure pot.

5.3.3 Spray tests. Test spray equipment assembly by using normal shop procedures. Perform the following tests before starting work on the ordnance.

- a. Adjust spray pattern to ensure the spray gun is properly atomizing the primer. The spray gun shall be held 18 inches away from a clean sheet of cardboard (12 inches by 24 inches). A short (one second) application shall be made and the spray obtained shall be observed.
- b. The equipment shall be adjusted until a uniform pattern with no heavy spots is obtained. Do not use equipment that is not capable of producing a uniform spray pattern. The equipment must be free from leaks, splatters and other spray defects.

5.3.4 Primer application. Apply primer in accordance with MIL-PRF-23377 to obtain a final dry film thickness of 0.0006 to 0.0009 inch.

5.3.5 Curing. Allow primer to dry approximately 16 to 24 hours at 15 to 27 degrees Centigrade before continuing coating operations.

5.4 Cutting of the intumescent sheet. Prepare the primed ordnance item for vacuum bagging by plugging, if necessary, both ends with wooden or foam type plugs to prevent damage to the vacuum bags and to protect the ends of the sheet material during curing time. Measure the item to be coated and determine the size of sheet required. Cut the

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