

**INCH-POUND**

MIL-P-24441/2C(SH)

23 July 1991

SUPERSEDING

MIL-P-24441/2B(SH)

15 May 1986

## MILITARY SPECIFICATION SHEET

PAINT, EPOXY-POLYAMIDE, EXTERIOR TOPCOAT,  
HAZE GRAY, FORMULA 151, TYPE I

This specification is approved for use by the Naval Sea Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-P-24441.

FORMULA. This formula covers haze gray (R=27) epoxy-polyamide paint designated Navy Formula 151, type I, for interior or exterior use. The paint shall consist of the ingredients specified in the quantities specified.

Component A

	<u>Pounds</u>
Thixotrop <u>1/</u>	---
Polyamide <u>2/</u>	21
Polyamide adduct <u>3/</u>	297
Magnesium silicate <u>4/</u>	398
Titanium dioxide <u>5/</u>	106
Butyl alcohol <u>6/</u>	265
Lampblack <u>7/</u>	1.6

Component B

	<u>Pounds</u>
Thixotrope <u>1/</u>	---
Epoxy resin <u>8/</u>	530
Magnesium silicate <u>4/</u>	265
Naphtha <u>9/</u>	221

See footnotes on next page.

AMSC N/A

FSC 8010

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

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QUANTITATIVE REQUIREMENTS. The paint shall meet the following quantitative requirements and the qualitative requirements of section 3 of the general specification. Components A and B shall be mixed 1:1 by volume for mixed components tests. Tests shall be performed in accordance with the general specification.

<u>Requirements</u>	<u>Component A</u>		<u>Component B</u>		<u>Mixed components</u>	
	<u>Min</u>	<u>Max</u>	<u>Min</u>	<u>Max</u>	<u>Min</u>	<u>Max</u>
Pigment content, percent	44.8	48.8	24.8	28.8	---	---
Volatiles, percent	28.8	30.8	19.6	21.6	---	---
Nonvolatile vehicle, percent	22.2	24.2	49.6	53.6	---	---
Water, percent	---	1.5	---	0.5	---	---
Coarse particles, percent	---	0.3	---	0.3	---	0.5
Consistency, grams	165	310	115	185	120	170
Pounds per gallon (lb/gal)	10.8	11.2	10.1	10.5	10.4	10.8
Set-to-touch time, hours at 40°F	---	---	---	---	---	2
Set-to-touch time, hours at 73°F	---	---	---	---	---	2
Dry-hard, hours at 40°F	---	---	---	---	---	24
Dry-hard, hours at 73°F	---	---	---	---	---	6
Fineness of grind, NS	5	---	5	---	5	---
Flash point, °F	99	---	115	---	99	---
Titanium dioxide, percent of pigment	18.5	---	---	---	---	---
Pot life, hours at 73°F	---	---	---	---	6	---
Gloss, 60° specular, percent	---	---	---	---	---	30
Sag resistance, mils	---	---	---	---	8	---
Color dry film to match standard color chip <u>10</u> /	---	---	---	---	Conform	
Weight per epoxy, (vehicle)	---	---	175	195	---	---
Contrast ratio, 3 mils dry film	---	---	---	---	0.98	---
VOC, ASTM D 3960, lb/gal	---	---	---	---	---	2.8

- 1/ The amount and type of thixotrope shall be selected by the manufacturer to meet all requirements of the general specification and this specification sheet. For VOC calculations: 10.6 lbs and 1.27 gals allocated in each component. Thixotrope is a pigment for calculations.
- 2/ GENAMID 2000, Henkel Corporation; UNIREZ 2810, Union Camp; AZAMIDE 600, AZ Products; ANCAMINE 507, Pacific Anchor Chemical Corp.; EPOTUF SF7791, Reichhold Chemical; TriChem 9200, Trimont Chemicals.
- 3/ VERSAMID 280B75, Henkel Corporation; UNIREZ 2180B75, Union Camp; AZAMIDE 680B75, AZ Products; ANCAMINE 700B75, Pacific Anchor Chemical Corp.; EPOTUF SF7792, Reichhold Chemical; TriChem 9280-B-75, Trimont Chemicals.
- 4/ Pfizer Talc MP 30-36; Cyprus Montana Talc, Mistron 400, "Mistron 500".
- 5/ DuPont Tipure R960; NL Chemicals, TX 2101; Kerr-McGee, Tronox Tr 822.
- 6/ Conforming to ASTM D 304.
- 7/ Pfizer M1011.

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- 8/ EPON 828, Shell Chemical Co.; ARALDITE 6010, Ciba-Geigy; DER 331, Dow Chemical Co.; AZEPOXY 128, AZ Products; EPO-TUF 37-140, Reichhold Chemical; EPI-REZ 510, Celanese; TriChem 728, Trimont Chemicals.
- 9/ Amsco Super High Flash Naphtha.
- 10/ Use FED-STD-595 color chip no. 26270. When the instrument method of measuring color difference is used the color difference (E) shall be no more than 4 units.

Use of alternate ingredients in this formula must have prior approval by the Naval Sea Systems Command. Approval will be based on review of data showing equivalent physical and chemical characteristics to the specified ingredient. It will be necessary to demonstrate that paint made using the ingredient will conform to all requirements of this specification.

Revision letters are not used to denote changes due to the extensiveness of the changes.

Preparing activity:  
Navy - SH  
(Project 8010-N231)

