

---

## NAVSEA REVIEWED ASTM F-718

ITW - American Safety Technologies  
MS-8CZ

---

MIL-PRF-24667  
MIL-PRF-24613  
MIL-PRF-3134  
MIL-PRF-3135

---

If this product is to be applied as part of a coating system, all components of the system must be as listed on the QPL.

This NAVSEA-REVIEWED ASTM F-718 data sheet is the only data sheet approved for use when utilizing this coating for U.S. Navy preservation projects. NAVSEA's review covers only the application process for the material. The review does not denote the material as a qualified product, nor does it constitute an approval for purchase/procurement of the material. For products on the Qualified Products List (QPL) for this MILSPEC, please refer to <https://assist.daps.dla.mil/quicksearch/>.

Questions regarding modifications or updates of this ASTM F-718 shall be directed toward:

NST Center  
(502) 638-4400  
[F718Admin@nstcenter.com](mailto:F718Admin@nstcenter.com)

ASTM F 718  
SHIPBUILDERS AND MARINE PAINTS AND COATINGS PRODUCT/PROCEDURE DATA SHEET  
**MS-8CZ**

CONTINUATION SHEET USED:  YES  
Last Updated: 05-05-2010

I. GENERIC TYPE AND DESCRIPTION: Epoxy – Anti-corrosive Polyamide Based Primer – 94 - 96% Solids  
Specification Number, Type, Class and/or Grade (If Applicable): MIL-PRF-24667(All Revisions), MIL-PRF-24613, MIL-PRF-3134, MIL-PRF-3135

II. MANUFACTURERS DATA:

- (a) MANUFACTURER: ITW AMERICAN SAFETY TECHNOLOGIES, 130 Commerce Drive, Montgomeryville, PA 18936
- (b) PRODUCT DESIGNATION: MS-8CZ Ultra High Performance Anti-Corrosive Primer
- (c) COLOR(S): HAZE GRAY, BUFF, DARK GRAY
- (d) USES: PRIMER TO BE USED WITH AST'S EXTERIOR AND INTERIOR DECKING SYSTEMS
- (e) TECHNICAL SERVICE REPRESENTATIVE  
(Include Telephone Nos.): 215-855-8450 / FAX: 215-855-4688 E-MAIL: [SALES@ITWPOLYTECH.COM](mailto:SALES@ITWPOLYTECH.COM), WEBSITE: WWW.ITWAST.COM
- (f) NOT RECOMMENDED FOR: N/A

III. PROPERTIES:

- (a) % VOLUME SOLIDS (ASTM D 2697): 94 - 96%
- (b) % WEIGHT SOLIDS (ASTM D 1475): (FTMS 141<sub>a</sub> 4184.1): 11.80 lbs per gallon +/-0.2lbs
- (c) FLASH POINT: >102F (39C) CC
- (d) WEIGHT PER VOLUME: (FTMS 141<sub>a</sub>4184.1): 12.36 ± 0.20 lb
- (e) % EDGE RETENTION (IF REQUIRED BY APPLICABLE SPECIFICATION): N/A
- (f) SHELF LIFE: 1 Year Per MIL-PRF-24667( All Revisions)
- (g) VISCOSITY MIXED: (FTMS 141<sub>a</sub> 4281): ASTM D-256 75-95 KU (Thixotropic ) Brookfield Viscosity = 1000-4000 cps
- (h) PACKAGING: 5 gals in 6 ½ gal. pails
- (i): NUMBER OF COMPONENTS: 2
- (j) GLOSS (ASTM D 523): N/A
- (k) STORAGE REQUIREMENTS: TEMP. MIN. 40°F MAX. 100°F (Long Term)  
24 HRS PRIOR TO MIXING: TEMP. MIN. 50°F MAX. 90°F  
(Colder temperatures will extend cure time)
- (l) VOLATILE ORGANIC COMPOUND (EPA TEST METHOD 24): 64.52+/- 5 g/l
- (m) WEIGHT OF DRY FILM (WEIGHT/FT<sup>2</sup> AT 1 MIL THICKNESS): 3.3 – 3.4 grams or 0.0073 – 0.0075 lbs
- (n): SPECIAL PROPERTIES Anti-Corrosive, Zinc Complex Epoxy Primer (**Contains 0% Free Zinc Metal**)

IV. SURFACE PREPARATION MINIMUM REQUIREMENTS (USE SPECIFIC STANDARD NUMBERS):

- (a) INITIAL - INITIAL - Remove grease, oil, and dirt (SSPC-SP1) or other approved method followed by grit or shot blasting.
- (b) TOUCH-UP - For deck edges, hard to reach areas and for areas not to receive non-skid, use power tool cleaning to bare metal, SSPC-SP11 is recommended.
- (c) PROFILE (INCLUDE METHOD USED) - Abrasive Blasting RECOMMENDED MIN. 3 MILS - MAX. 4.5 MILS.  
MIN. - SSPC-10/NACE 2 MAX. SSPC-5/NACE 1  
UHP Water Jetting - NACE5/SSPC SP12/ WJ-2/NV-2 **NOTE:** Cleaning via UHP-WJ does not create an anchor tooth profile. The substrate may require abrasive blasting in order to produce an acceptable minimum or specified anchor tooth profile prior to application of primer.
- (d) SPECIAL INSTRUCTIONS - - Substrate Anchor Tooth Profile: A minimum of 2 mils anchor tooth profile is required for all areas designated to receive nonskid. An anchor tooth profile depth of 3 – 4.5 mils is required for the application of nonskid coatings systems on Aircraft Carrier flight and hangar decks as per Navy Standard Items. Application of nonskid coatings systems on substrates which exhibit anchor tooth profile depths greater than 7 mils deep is not recommended. PRIMER REQUIREMENTS (IF APPLICABLE): Should be applied minimum 2-3 mils, DFT, above the averaged anchor tooth profile.- CONTINUED ADDITIONAL DATA/ INSTRUCTIONS BLOCK – PAGE 3

MS-8CZ Page 1 of 3

**SPECIAL SAFETY PRECAUTIONS:**

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: WARNING! IRRITANT. **Read MSDS before use.** Do not get in eyes. Avoid contact with skin and clothing. Avoid inhalation vapor or mist. Use with adequate ventilation. Wash thoroughly after handling, and before eating, drinking or smoking. Remove contaminated clothing and wash before use.

OTHER PRECAUTIONS: Avoid extreme heat - **keep away from flame or other ignition source.**

**V. MIXING PROCEDURES:**

(a) MIXING RATIOS BY WEIGHT - 5.23: 1 (Base to hardener)  
BY VOLUME – 2.70: 1 (Base to Hardener)

(b) INDUCTION TIME – N/A

(c) RECOMMENDED SOLVENT – THINNING – NO THINNING ALLOWED  
CONFINED AREAS - NO THINNING ALLOWED  
NON-CONFINED AREAS - NO THINNING ALLOWED  
CLEAN UP - 1) Isopropyl Alcohol  
2) Aromatic Naphtha  
3) N-Methyl Amyl Ketone (MAK)  
4) S-426 Solvent

(d) THINNING REQUIREMENTS (RATIO) – NO THINNING ALLOWED

(e) POT LIFE - 2.5-3.0 Hrs @ 90° F ( 32C)  
3.5-4.0 Hrs @ 70° F ( 21C)  
8.0-9.0 Hrs @ 50° F ( 10C)

(f) SPECIAL INSTRUCTIONS – CONTINUED ADDITIONAL DATA/ INSTRUCTIONS BLOCK

**VI. APPLICATION:**

(a) ENVIRONMENTAL LIMITATIONS :

SUBSTRATE TEMPERATURE: MIN. 40°F MAX. 140°F

MINIMUM SUBSTRATE TEMPERATURE DIFFERENCE ABOVE THE DEW POINT: 5° F

RELATIVE HUMIDITY: MIN. 0% MAX. 85%F

AMBIENT TEMPERATURE: MIN. 40°F MAX. 100°F

(b) FILM THICKNESS (SSPC-PA 2):

PER COAT: WET MIN. 3 mils WET MAX. 10 mils  
DRY MIN. 2 mils DRY MAX. 8 mils  
(Total DFT for multiple coats should not exceed 14 mils)

Surface Temperature	40°F (4.4°C)	70°F (21.1°C)	90°F (32.2°C)	120°F (48.8°C)	140°F (60°C)
Tack Free	10-12 hrs	2-3 hrs	1-1.5 hrs	30-60 Min	15-30 Min
Dry To Touch*	18-24 hrs	6-8 hrs	3-4 hrs	1-2 hrs	30-60 Min
Dry Through**	36-48 hrs	12-16 hrs	6-8 hrs	2-3 hrs	60-90 Min
Dry To Handle ***	72-96 hrs	36-48 hrs	18-24 hrs	4-6 hrs	2-3 hrs
Overcoat - Min	36-48 hrs	12-16 hrs	6-8 hrs	2-3 hrs	1-1.5 hrs
Overcoat - Max	28 days	14 Days	7 Days	3 Days	1 Days
Cure To Full Service****	30 Days	7 Days	5 Days	3 Days	1 Days
Recoat-Reactivation	30 Days	10 Days	7 Days	4 Days	3 Days
Top coat with color Topping*****	30 days	30 days	21 Days	14 Days	10 Days

\*Stripe coats can be overcoated. \*\*Allows additional primer coat, limited access to applicator with appropriate footwear.\*\*\*Passes Finger Impression Test \*\*\*\* Reactivation by sanding and mist coating \*\*\*\*\* Max Re-coat time for color topping

(d) EQUIPMENT REQUIREMENTS (INCLUDE PREFERRED, SUITABLE, NOT SUITABLE REQUIREMENTS)

Spray, Roller or Brush. 1/2 HP mechanical mixer and suitable mixing blade

IF PLURAL COMPONENT EQUIPMENT IS REQUIRED, STATE SO – N/A • IF HEATED LINES ARE REQUIRED, STATE SO – N/A

(e) **IMPORTANT** – When using multiple coats of primer for additional corrosion resistance it is recommended to use additional drying times between coats to ensure a full dry. An additional full coat of primer resets recoat time. **A two coat primer process is not recommended for CV/CVN tail hook impact areas.**

**OPTIONAL** – Stripe coating is intended for filling voids, spots and porous metal on deck edges, edges of deck protrusions, and weld beads. Use a brush or roller to apply the stripe coat. The stripe coat may be applied to the prepared metal surface or applied over a full primer coat. The primer may coat the stripe coat while wet, dry or dry to touch. CONTINUED ADDITIONAL DATA/ INSTRUCTIONS BLOCK – PAGE 3

ADDITIONAL DATA/ INSTRUCTIONS:

**IV. SURFACE PREPARATION MINIMUM REQUIREMENTS CONTINUED:**

(e) **PRIMER REQUIREMENTS (IF APPLICABLE): For interior decking products applied over MS-8CZ Primer:** If the surface has become contaminated, ensure the area is clean prior to over coating. A tack coat is not normally required provided the next step in the proprietary system is not delayed more than 7 days at 70°F (21°C). After 7 days, the primed surface must be mechanically abraded or brush blasted prior to application of a tack coat.

(f) **MAXIMUM ALLOWABLE CONDUCTIVITY (BRESLE PATCH METHOD):** 70 Microsiemens/Centimeter ( $\mu\text{S}/\text{cm}$ )

(g) **MAXIMUM DEGREE OF FLASH RUSTING ALLOWABLE:** Light (NACE5/SSPC SP12/ WJ-2/NV-2)

**V. MIXING PROCEDURES CONTINUED:**

(f) **SPECIAL INSTRUCTIONS** – Pre-mix Part A, base component, to ensure all materials which may have settled during storage are lifted from the bottom. Using a clean mixing paddle and adequate mechanical mixer mix Part A and Part B components together for a minimum of 3 to 5 minutes or until the mixed material assume a uniform color and appearance. **WARNING – Improperly mixed material will not cure properly!**

**VI. APPLICATION REQUIREMENTS CONTINUED:**

**NOTE:** "while wet" is prohibited by NAVSEA for all products covered under MIL-PRF-24667.

**SPECIAL INSTRUCTIONS:** 1) Do not apply when surface temperature is under 40°F or over 140°F. 2) At time of application, and in accordance with MIL-PRF-24667, MATERIAL TEMPERATURE should be no lower than 50°F or higher than 90°F. 3) Caution should be taken that the surface temperature is at least 5° F above the dew point at application.

**NOTE:** MS-8CZ is formulated to be applied within the parameters listed on this document. MIL-PRF-24667 QPD applications may adjust the environmental and application procedures recommended by this ASTM-F718.

**PRIMER REPAIR PROCEDURE FOR COMPOSITION "G" NON-SKID AREAS DESIGNATED AS CRITICAL COATED:** The primer over coat window for application of nonskid shall not exceed 7 days. If the non-skid application is delayed beyond 36 hours, or the surface becomes contaminated, solvent clean the area before applying nonskid. After 7 days, the primed surface must be re-cleaned, that is, all coatings removed and new primer applied. For MIL-PRF-24667 applications applicable government specifications shall take precedence for overcoat requirements. When over coating primer with Color Topping only, refer to the (Top Coat with Color Topping) section of the preceding surface temperature chart.

**PRIMER REPAIR PROCEDURES FOR COMPOSITION "G" NON-SKID AREAS DESIGNATED AS NON-CRITICAL APPLICATIONS:** If less than 7 days has elapsed since the application of the primer coat, a proprietary non-skid or color topping may be applied, IAW the preceding surface temperature chart, after visual inspection to confirm the absence of grease, dirt, salts, or other surface contaminants. If prior to applying nonskid, surface contamination is suspected as a result of visual inspection, or if the primer has been exposed for 36 hours or more, the entire primed surface shall be solvent cleaned in accordance with SSPC-SP 1 and allowed to dry before applying nonskid. Apply the proprietary non-skid or color topping after surfaces have completely dried. When over coating primer with Color Top only, refer to the (Top Coat with Color Topping) section of the preceding surface temperature chart.

If more than 7 days, but less than 30 days has elapsed since the application of the proprietary primer coat, the entire surface shall be cleaned in accordance with SSPC-SP 1, and may be re-activated as indicated in the preceding surface temperature chart. Ensure the surface has fully dried, then lightly abrade with abrasive blast, power or hand sanding using 80-120 grit and then apply a tack coat of (2-3 MILS/ 50-75 MICRONS WFT) of proprietary primer.

**\*\*\*Note:** Because the MS-8CZ coating is a high solids liquid resin coating, the coating surface will not skim over as does a traditional solvent based coating during the cure process. Therefore, the Tack Coat shall be allowed to cure until it can be touched with a finger and only a slight impression is left in the coating but with no coating remaining on the finger tip when removed.

**WARRANTY DISCLAIMER:** The technical data supplied herein has been compiled for the applicator's assistance and guidance and is based on experience and knowledge. However, as a manufacturer, we have no control over the use to which this information is put, no warranty, expressed or implied, is intended or given.