ITW Polymers Sealants North America

MS-7CZ Epoxy Polyamide Based Primer

PRODUCT DESIGNATIONS

MS-7CZ / MS703R Gray / MS700R Buff / MS704R Light Gray / MS790H Part B

MIL-PRF-24667

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://qpldocs.dla.mil/search/default.aspx.

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

NSWCPD

NSWCPD_ASTM_F718.fct@navy.mil

SHIPBUILDERS AND MARINE PAINTS AND COATINGS PRODUCT/PROCEDURE DATA SHEET

CONTINUATION SHEET USED: ☒ YES ☐ NO

Date: 8 October 2019

I. GENERIC TYPE AND DESCRIPTION: MS-7CZ Epoxy Polyamide Based Primer
Specification Number: MIL-PRF-24667
NOTE: For Type/Grade/Class/Application information see QPL-24667

II. MANUFACTURERS DATA:

(a) MANUFACTURER: ITW Polymers Sealants North America, 111 S Nursery Road, Irving, TX 75060

(b) PRODUCT DESIGNATION: MS-7CZ / MS703R Gray / MS700R Buff / MS704R Light Gray / MS790H Part B

(c) COLOR(S): Gray, Buff, Light Gray

(d) USES: Primer to be used with American Safety Technologies Exterior and Interior Decking Systems

(e) TECHNICAL SERVICE REPRESENTATIVE
(Include Telephone Number): 800-878-7876, Fax: 972-554-3939, Email: orders1@itwsealants.com, web site: www.itwast.com

(f) NOT INTENDED FOR USE ON: N/A

III. PROPERTIES:

(a) % VOLUME SOLIDS (ASTM D2697): 73 ± 1%

(b) % WEIGHT SOLIDS (ASTM D2369): 84 ± 2%

(c) FLASH POINT (ASTM D3278): Part A > 102˚F (39˚C) Part B > 105˚F (40˚C)

(d) WEIGHT PER VOLUME (ASTM D1475): 12.6 lbs. per gallon

(e) % EDGE RETENTION (IF REQUIRED BY APPLICABLE SPECIFICATION – LIST TEST METHOD USED): N/A

(f) SHELF LIFE: 1 Year

(g) VISCOSITY (ASTM D2196): PART A: 2,000 – 4,000 cps (Brookfield viscosity)

PART B: 500 – 900 cps (Brookfield viscosity)

MIXED: 2000 - 3000 cps (Brookfield viscosity)

(h) PACKAGING: Part A: 3 gallons in 6 ½ gallon pail, Part B: 1 gallon in a 1.3-gallon (5 liter) bag

(i) NUMBER OF COMPONENTS: 2

(j) GLOSS (ASTM D523): N/A

(k) STORAGE REQUIREMENTS: TEMP. MIN. 40˚F MAX. 100˚F

24 HOURS PRIOR TO MIX: TEMP. MIN. 50˚F MAX. 90˚F

(l) VOLATILE ORGANIC COMPOUND (VOC- EPA TEST METHOD 24): 240 g/l (2.0 lb/gal)

(m) WEIGHT PER AREA OF DRY FILM PER SQ. FT. AT 1 MIL THICKNESS: 3.95 – 4.27 grams (0.0087 – 0.0094 lbs).

(n) SPECIAL PROPERTIES: Anti-Corrosive, Zinc Complex Epoxy Primer (Contains 0% Free Zinc Metal).

IV. SURFACE PREPARATION MINIMUM REQUIREMENTS:

(a) INITIAL: Remove grease, oil and dirt (SSPC-SP1) or other approved method followed by abrasive blasting or UHP water jetting.

MIN: SSPC SP-10/NACE 2

UHP Water Jetting – SSPC-SP WJ-2/NACE WJ-2

(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 SP-11 is recommended. A minimum anchor tooth profile of 2 mils is required.

(c) PROFILE (ASTM D4417 Method B or C): MIN. 3 MILS MAX. 6 MILS

(d) SPECIAL INSTRUCTIONS: Application of nonskid coating systems on substrates which exhibit anchor tooth profile depths greater than 7 mils deep is not recommended.

(e) PRIMER REQUIREMENTS: N/A

(f) MAXIMUM ALLOWABLE CONDUCTIVITY (BRESLE PATCH METHOD ISO 8502-9): 70µS/cm for non-submersible structures

(g) MAXIMUM DEGREE OF FLASH RUSTING ALLOWED: LIGHT (NACE WJ-2/SSPC-SP WJ-2)

SPECIAL SAFETY PRECAUTIONS:

CAUTIONS TO BE TAKEN IN HANDLING AND STORING: WARNING! IRRITANT, **Read MSDS before use.** Do not get in eyes, avoid contact with skin and clothing, and 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: Improperly mixed material will not cure properly

(a) MIXING RATIOS BY WEIGHT: 5.75:1 (Part A to Part B)
BY VOLUME: 3.0:1 (Part A to Part B)

(b) INDUCTION TIME: N/A

(c) RECOMMENDED SOLVENT – No Thinning allowed: CLEAN UP: S-31 Solvent, S-426 Solvent, Isopropyl Alcohol, Aromatic Naphtha, MAK

(d) POT LIFE:

2 Hr.(s) @	90˚F (32°C)
4 Hr.(s) @	70˚F (21°C)
6 Hr.(s) @	50˚F (10°C)

(e) SPECIAL INSTRUCTIONS: Premix 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 minutes or until the mixed material assumes a uniform color and appearance. **Warning- Improperly mixed material will not cure properly.**

VI. APPLICATION:

(a) ENVIRONMENTAL LIMITATIONS:

SUBSTRATE SURFACE TEMPERATURE:	MIN. 50˚F	MAX. 120˚F
AMBIENT TEMPERATURE :	MIN. 50˚F	MAX. 100˚F

MINIMUM SUBSTRATE TEMPERATURE DIFFERENCE ABOVE THE DEW POINT: 5˚F
MAXIMUM PERCENT RELATIVE HUMIDITY: 85%

(b) FILM THICKNESS (SSPC PA2-73T) -

PER COAT:	
WET MIN. 3 Mils	WET MAX. 10 Mils
DRY MIN. 3 Mils	DRY MAX. 9 Mils
TOTAL SYSTEM:	
DRY MIN. N/A	DRY MAX. 14 Mils

(c) DRY TIMES (ASTM D 1640):

Surface Temperature	50˚F	70°F (21.1°C)	90°F (32.2°C)	120°F (48.8°C)
Overcoat – Min*	6 Hrs.	2 Hrs.	1 – 1.5 Hrs.	45 – 60 Min
Overcoat - Min**	30 Hrs.	12 Hrs.	6 Hrs.	3 Hrs.
Overcoat – Max	28 Days	14 Days	7 Days	3 Days
Cure to Full Service	14 Days	7 Days	5 Days	3 Days
Recoat-Reactivation***	28 Days	14 Days	7 Days	3 Days

* Overcoat minimum for primer to primer / stripe coat

** Overcoat minimum for non-skid or color topping over primer

*** Reactivation by sanding and tack coat

Temperatures below 50˚F should not be considered in the cure time calculations for MS-7CZ. When temperatures are expected to fall below 50˚F for an extended period, it is suggested to use MIL-PRF-24667 Type VIII MS-11CZ for primer applications. Monitor stripe coats especially at weld beads to prevent excessive wet film builds (combined films > 14 mils) that may cause solvent entrapment and may result in intercoat delamination. Note: Changes in environmental conditions (post application) are affected by day/night cure temperatures and exposure to sun light. Recorded temperature data will assist in determining an approximate overcoat time within a 24-hour period utilizing cure graph provided.

(d) EQUIPMENT REQUIREMENTS: Spray, Roller, or Brush, ½ HP mechanical mixer and suitable mixing blade.

(e) SPECIAL INSTRUCTIONS: A two coat primer system is not recommended for CVN tail hook impact areas.

IF OVERCOAT WINDOW HAS BEEN EXCEEDED FOR CRITICAL APPLICATIONS RECEIVING NONSKID: Please refer to NAVSEA Standard item 009-32 and NSTM Chapter 634 guidelines for secondary surface preparation.

IF OVERCOAT WINDOW HAS BEEN EXCEEDED FOR CRITICAL APPLICATIONS NOT RECEIVING NONSKID: This includes zone tie-in areas where the primer is to be overcoated with itself (up to 12 inches), borders, aircraft securing fitting, deck edge coaming, drains and fixtures. If less than 7 days has elapsed since the application of the primer coat, perform a complete cleaning by solvent wipe down of the primed area to be overcoated. After day 7 and up to day 30, if the next coat has not been applied, the entire surface shall be cleaned in accordance with SSPC-SP1. Ensure the surface has fully dried following solvent cleaning, and then lightly abrade with abrasive blast, power sanding, or hand sanding using 80-120 grit. Perform a solvent re-clean of the abraded surface and allow any visible traces of solvent to fully evaporate. The MS-7CZ primer or color topping may be applied after visual inspection confirms the absence of surface containments following solvent cleaning and after ensuring surfaces have completely dried and all solvent has evaporated.

IF OVERCOAT WINDOW HAS BEEN EXCEEDED FOR NON-CRITICAL APPLICATIONS: If less than 7 days has elapsed since the application of the primer coat perform a complete cleaning by solvent wipe down of the primed area to be overcoated. The MS-7CZ primer, nonskid or color topping may be applied after visual inspection confirms the absence of surface containments following solvent cleaning and after ensuring surfaces have completely dried and all solvent has evaporated. After day 7 and up to day 30, if the next coat has not been applied, the entire surface shall be cleaned in accordance with SSPC-SP1. Ensure the surface has fully dried following solvent cleaning and then lightly abrade with abrasive blast, power sanding or by hand sanding using 80-120 grit. Perform a solvent re-clean of the abraded surface and allow any visible traces of solvent to fully evaporate, apply a tack coat (2-3 mils/ 50-75 microns WFT) of MS-7CZ primer. Minimum overcoat dry times for application of a “tack coat” applied to a primer coat shall be those indicated within the Dry Time table in section VI. (c).

ADDITIONAL DATA/INSTRUCTIONS:

II. MANUFACTURERS DATA: N/A

III. PROPERTIES: N/A

IV. SURFACE PREPARATION MINIMUM REQUIREMENTS: 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.

V. MIXING PROCEDURES: N/A

VI. APPLICATION REQUIREMENTS: NOTE: Dry times are a function of humidity, ventilation, and temperature. Dry time information provided is to be used as a guideline only. When substrate temperatures fall below 50˚F after application, the MS-7CZ Primer system dry time is retarded requiring additional dry time. Applicators must take this into consideration before the next coating process is started in allowing for sufficient dry time.

For interior decking products applied over MS-7CZ: 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 on the MS-7CZ primer 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 tack coat.

STRIPE COAT PROCEDURES – 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 directly to the prepared metal surface before application of full primer coat. Please refer to NAVSEA Standard Item 009-32 Guidelines for stripe coating.
If stripe coat is applied following the base coat application or prior to the application of an intermediate (barrier) coat, the stripe coat must be allowed to dry to its full minimum cure time before additional coat is applied. If a stripe coat is applied following the installation of an intermediate (barrier) coat, the stripe coat must be allowed to dry to its full minimum cure time before additional top coat is applied.

SPECIAL INSTRUCTIONS: (1) Do not apply primer when surface is under 50˚F or over 120°F. (2) At time of application, in accordance with NAVSEA Standard Item 009-32, MATERIAL TEMPERATURE should be no lower than 50°F or higher than 90°F. (3) Requirement: Surface temperature must be at least 5°F above the dew point during application.

NOTE: MS-7CZ is formulated to be applied within the parameters listed on this document. NAVSEA Standard Item 009-32 applications may adjust the environmental and application procedures recommended by this ASTM F-718.

WARRANTY DISCLAIMER: The technical data supplied herein has been compiled for the applicator's assistance and guidance and 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.