



TECHNICAL DATA SHEET – MS-440G LR

Revised:4/2018

PRODUCT DESCRIPTION

MS-440G LR (Low Radar Signature) is a high solid, sprayable two-part, general purpose non-skid deck coating designed to provide maximum wear and impact resistance for US Naval vessels.

Fire retardant in the cured state, **MS-440G LR** is formulated with epoxy resins to give maximum adhesion to steel, toughness and corrosion resistance. It is resistant to fire and jet blast, most acids, alkali's, solvents, grease, oil, salt water, detergents, alcohol, gasoline, jet fuels, cellulube and other hydraulic fluids. Because of its tenacious bond, rust will not creep under the coating if fractured.

MS-440G LR is formulated specifically for spray applications on U.S. Navy critical and non-critical decks. **MS-440G LR** series non-skids are designed in accordance with NAVSEA guidance to non-skid systems, and to be used in conjunction with the following American Safety Technologies MIL-SPEC and NAVSEA approved products: MS-7CZ Primer and MS-200/ MS-201 Color Topping.

SURFACE PREPARATION

MS-440G LR is recommended to any clean, dry surface that has an approved proprietary primer system in place. All rust, mill scale, paint, dirt, grease, oil, etc. must be completely removed.

Recommended methods of cleaning worn out non-skid or delaminated steel surface are as follows.

METAL DECKS – GRIT BLASTING

a. Grit-blasting to a SA 2.5 (near white metal) or SSPC-SP10, is the preferred method of cleaning and results in the best surface for

adhesion for MS-7CZ Metal Primer.

- b. Where grit-blasting is not feasible, power tool cleaning utilizing power sanders fitted with #16 grit aluminum oxide sanding discs can produce a sufficiently clean surface provided cleaning is carefully and intensively done.
- c. If there is oil or grease on the surface, it must be removed prior to cleaning. The preferred method is to scrub with a strong approved biodegradable detergent and flush area thoroughly with fresh water while detergent is still wet. An alternative method is to remove the grease or oil with an approved solvent. Solvents are flammable and must be handled with care, it is important that the solvent not be allowed to evaporate during the cleaning process and redeposit grease or oil on the deck.

It is recommended that the MS-7CZ Primer be applied on steel surfaces immediately after the surface has been cleaned and before rust or oxidation has had a chance to form or surface becomes dirty or contaminated in any way.

HIGH AND ULTRA HIGH-PRESSURE WATER JETTING

Note: 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.

All surfaces to be recoated shall be cleaned in accordance with NACE/SSPC WJ-/NV-2.

WJ-2: A WJ-2 surface shall be cleaned to a matte (dull, mottled) finish which, when viewed without magnification, is free of all visible oil, grease, dirt, and rust except for randomly dispersed stains of rust, tightly adherent thin coatings, and other tightly adherent foreign matter.

MS-440G LR

LOW RADAR REFLECTING TYPE I/IV COMP G
SPRAYABLE HIGH SOLIDS NON-SKID DECK
COATING SYSTEM MIL-PRF-24667C

The staining or tightly adherent matter is limited to a maximum of 5% of the surface.

NV-2: An NV-2 surface shall have less than 7mg/cm² chloride contaminants, less than 10 mg/cm² of soluble ferrous ion levels, and less than 17 mg/cm² of sulfate contaminants as verified by field or laboratory analysis using reliable, reproducible test equipment.

MIXING AND APPLICATION

MS-440G LR is designed to be applied over a primer.

1. **MS-440G LR** is a two-part coating consisting of a base material and a hardener.
2. Pre-mix base component, making sure all settlement is lifted off the bottom of the container and is uniformly dispersed in the material.
3. Pour entire contents of hardener bag into base material. Mix hardener and base material with a mechanical mixer for approximately 3-5 minutes or until mixed material assumes a uniform color and appearance. Material can be immediately applied since induction time is not required.
4. Working pot life is approximately 2 hours at 70°F (21°C). Pot life is increased at lower temperatures and decreased at higher temperatures.
5. **MS-440G LR** can be applied at ambient temperatures between 50°F and 100°F. At below 50°F surface temperature curing time will increase substantially. Application when surface temperature is above 120°F or below 50°F is not recommended. Avoid application during periods of high humidity.

PRODUCT SPECIFICATIONS

GENERIC DESCRIPTION	2 Component Epoxy Polyamine Non-skid Coating
V.O.C	1.25 - 1.33 lbs per gallon (150 - 160 grams/ liter)
SOLIDS BY WEIGHT	92.8 ± 2%
WEIGHT PER GALLON	17.6 ± 0.2 lbs per gallon
ESTIMATE COVERAGE	45-50 sq. ft./ gal sprayed
STANDARD COLOR	Dark Gray (36076)
CUSTOM COLORS	Available subject to special requirements
SHELF LIFE	1 Year (MIL-PRF 24667) Requirement
FLASH POINT	≥ 102° F (39°C) mixed
PACKAGING	5 Gallon kit in a 6½ Gallon Pail

Further product specifications adhere to manufacturers ASTM F718

RECOMMENDED EQUIPMENT FOR APPLICATION
Suggested Equipment (Or Equal) for Spraying MS-440G LR Non-Skid

ITEM	PART NUMBER	DESCRIPTION	QTY	COMMENTS
Paint tank	Binks 83G-1023	10 gallon tank with two regulators and air driven agitator	1	Bottom outlet will be used for this product
Kit	Binks QMS-433	1" Bottom outlet kit with ball valve	1	Remove plug from tank and install kit
Spray gun	Binks 7E2, Box Number 6102-3525-9	Spray gun with ¼" fluid nozzle and internal mix air cap	1	Standard internal mix w/SS (391) air cap. Replace air cap with carbide (191)
Air Cap Insert	Binks 46-2191	Carbide insert (fan pattern) to replace standard SS air cap	1	Replace standard air cap insert with this one for longevity
Adapter	Binks 72-55	3/8" NPSF X ¼" NPSM	1	For gun inlet air
Hose, Air	Binks 71-1355	3/8" ID X 25 ft air hose to gun	1	Heavy duty air hose from tank to gun
Hose, material	Binks 71-284	¾" ID X 25 ft	1	Material hose to gun
Fitting, hose	Binks 72-417	¾" NPSF Punch-Lok	2	Attach to material hose

At time of application, in accordance with MIL-PRF-24667 Material Temperature should be no lower than 50°F or higher than 90°F. Caution should be taken that the surface temperature is at least 5°F above the dew point at application. **MS-440G LR** 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 document.

During spray applications aggregate has a tendency to rebound, caution should be taken to mask any surfaces not to receive non-skid.

High temperatures will shorten drying time and conversely, lower temperatures and high humidity will lengthen drying time. Exterior applications must be protected from rain for 12-24 hours after application depending on temperature and humidity conditions encountered. Protect from heavy or extended exposure to water, oil and chemicals for 5-7 days during final cure.

CLEANING TECHNIQUES

To maintain the performance of **MS-440G LR** series non-skids, we recommend periodic cleaning with an approved cleaner/degreaser in accordance with military directives. Scrub surface with a long handled, fiber-bristled brush or floor machine. Rinse with clean water and dry.

CAUTION: Read Safety Data Sheet before using this material. Use only with adequate cross ventilation. Keep away from extreme heat, sparks and open flame. Keep from freezing. Avoid prolonged breathing of vapors. For dizziness, seek fresh air. Avoid contact with skin. Use gloves, goggles and coveralls. In case of spillage on clothing, change clothing to prevent prolonged contact with skin. Wash contaminated clothing before reuse. In case of accidental contact with skin, wash immediately with soap and water. In case of eye contact, flush thoroughly with plenty of water and call physician. If swallowed accidentally, do not induce vomiting. Seek medical attention immediately. The user of this product is responsible for making its own evaluation and tests regarding the capabilities, safety, utility, suitability and application of the product, and assumes all risks and liabilities resulting from the use or application of the product, whether used alone or with other products. ITW Polymers Sealants North America, Inc. (herein referenced to as the COMPANY) warrants only that the product conforms to the specifications contained in product Technical Data Sheets published By the COMPANY, a copy of which is available to the user. If the product fails to conform to this warranty, the user shall return the product within 10 days of the purchase date with a note specifying the defect and the COMPANY will either replace the product or at its option, return the purchase price. EXCEPT AS EXPRESSLY PROVIDED IN THIS PARAGRAPH, THE COMPANY MAKES NO REPRESENTATIONS OR WARRANTIES OF ANY KIND, NATURE OR DESCRIPTION, EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE, AND HEREBY DISCLAIMS THE SAME. In no event shall the COMPANY be liable to the user of this product, whether in contract or in tort or any other legal theory (including, without limitation, negligence), for damages which exceed the purchase price of the product, or for any indirect, incidental, consequential or similar damages, arising out of sale, use or application of the product, or for any claim made against the user by any other party, even if ITW Polymers Sealants North America, Inc. has been advised of the possibility of such claim.