MS-440G – TECHNICAL BULLETIN #2036A

PRODUCT DESCRIPTION

MS-440G is a high solid, 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 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.

In accordance with NAVSEA guidance to non-skid systems, MS-440G is designed 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 is recommended to any clean, dry surface. 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.
MIXING AND APPLICATION
MS-440G is designed to be applied over a primer.
1. **MS-440G** 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** can be applied at ambient temperatures between 40°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.

APPLICATION TECHNIQUES
ROLLER
1. Use a phenolic roller sleeve; it is important that the rolled profile expose the maximum amount of non-slip aggregate. If aggregate is not properly exposed, the coating may become slippery when wet.
2. Pour a “ribbon” of **MS-440G** series non-skid on the surface 2’-3’ (0.61m-0.914m) long and approximately 4”-6” (.219m-.829m) wide. Roll material in one direction only, in straight strokes pulling material toward you with a moderate amount of pressure on roller handle. Note: When the correct pressure is applied it should be possible to feel the grit under the roller core, this means that the coating is being applied at the correct film build. Do not over-roll too many times or press down to heavily. Be careful that material does not build up too thickly along welds (roll across welds, not along them). Material applied too thickly may not cure properly causing mud cracking and possible future delamination.
3. Higher temperatures will shorten drying time and conversely, lower temperatures and high relative 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.
**NOTCHED TROWEL**

1. Use an approved NAVSEA notched trowel for military applications. Notches may be selected according to desired effect and texture intended.
2. Pour a “ribbon” of MS-440G non-skid on the surface 2’-3’ (0.61m-0.91m) long and approximately 4”-6” (1.219m-1.829m) wide. Spread material by pushing trowel.
3. Using an even stroke, pull the non-skid toward the applier at a 60˚ degree angle from the deck to the handle. Remove any excess skid build-up from the trowel prior to making a second pass by hitting rubber insert on deck. When pouring non-skid for continuation of ridge profile, pour non-skid on top of end trail to avoid gaps or low spots.
4. The supplier should obtain straight even strokes to give the area a uniform appearance.

**CLEANING TECHNIQUES**

To maintain the performance of MS-440G, 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.

**PRODUCT SPECIFICATIONS**

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<thead>
<tr>
<th>GENERIC DESCRIPTION</th>
<th>2 Component Epoxy Polyamine Non-skid Coating</th>
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<tbody>
<tr>
<td>V.O.C</td>
<td>1.8 lbs per gallon (215 grams/liter)</td>
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<td>SOLIDS BY WEIGHT</td>
<td>90 ± 2%</td>
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<td>WEIGHT PER GALLON</td>
<td>12.38 ± 0.2 lbs per gallon</td>
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<tr>
<td>ESTIMATE COVERAGE</td>
<td>20-30 sq. ft./gal-Roller 18-22 sq. ft./gal Notched trowel</td>
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<tr>
<td>AVAILABLE COLORS</td>
<td>Dark Gray (36076) Black (37038)</td>
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<td>CUSTOM COLORS</td>
<td>Available subject to special requirements</td>
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<tr>
<td>SHELF LIFE</td>
<td>1 Year (MIL-PRF 24667) Requirement</td>
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<tr>
<td>FLASH POINT</td>
<td>≥ 102˚ F (39˚C) mixed</td>
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<td>PACKAGING</td>
<td>5 Gallon kit in a 6½ Gallon Pail</td>
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Further product specifications adhere to manufacturers ASTM F718

**CAUTION:** Read Material 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 Performance Polymers (herein referred 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 Performance Polymers has been advised of the possibility of such claim.