# Mascoat 450EN

# HIGH BUILD NOVOLAC EPOXY

## Selection & Specification Data

| | |
|---|---|
| **Product Name** | Mascoat 450EN |
| **Product No.** | M-450EN |
| **Description** | Mascoat 450EN is to be used under insulating coatings or conventional insulation in highly corrosive environments. It is designed to provide CUI protection per NACE SP0198. When used under insulation, 450EN offers outstanding resistance to wet & dry cycling at high temperatures up to 450˚F. The coating can be used on steel for offshore platforms, barges, refineries, petrochemical plants, power plants, pulp & paper mills, and many other areas as recommended. The coating can also be used to line steel tanks at a higher film thickness. |
| **Features** | ♦ Excellent corrosion protection<br>♦ Ambient temperature cure<br>♦ Easy to apply<br>♦ Excellent thermal shock resistance<br>♦ Excellent build on edges<br>♦ Single coat capability<br>♦ High build formulation<br>♦ VOC compliant |
| **Color** | White, Medium Grey |
| **Finish** | Semi-gloss |
| **Volume Solids Content (mixed)** | 80% ±1% |
| **Mix Ratio** | Full kits only |
| **WFT per Coat** | 8–12 mils (200-300µ) |
| **DFT per Coat** | 6–10 mils (150-250µ) |
| **Theoretical Dry Coat Coverage** | 1283 $ft^2$/gallon @ 1 mil<br>(31.5 $m^2$/liter @ 25µ) |
| **VOC Content** | |
| Unthinned | 0.8 lbs/gallon (448 gram/liter) |
| Reducer 3-400 | 0.8 lbs/gallon (448 gram/liter) |
| Reducer 4-400 | 2.2 lbs/gallon (263 gram/liter) |
| **Limitations** | Continuous temperature: 425˚F (218˚C).<br>Non-continuous temperature: 450˚F (232˚C)<br>Discoloration may occur above 250˚F(121˚C) |

## Substrates & Surface Protection

Remove oil and grease from the surface with solvent or a commercial cleaner, which does not leave a residue according to SSPC-SP1.

**Steel**:

**Non-Immersion Service:** Abrasive blast to a White Metal cleanliness according to SSPC-SP6 to achieve 1.5 – 3 mil anchor profile.

**Immersion Service:** Abrasive blast to a White Metal cleanliness according to SSPC-SP5 to achieve 1.5 – 3 mil anchor profile.

## Application Equipment

Listed below are the general equipment guidelines for the application of this product.

| | |
|---|---|
| **Conventional Sprayer** | Industrial sprayers such as DeVilbiss MBC or JGA and Binks 18 or 62 having double regulated pressure pot, 3/8' I.D. minimum material hose and a .070" I.D. fluid tip and air cap are recommended. |
| **Airless Sprayer** | Sprayer such as Graco's Extreme with a 60:1 ratio and a 0.017–0.021" tip is recommended. A 30 mesh inline filter is recommended |
| **Power Mixer** | Use only explosion proof power mixers |
| **Brush or Roll** | Use a medium brush and short nap roller with solvent resistant fibers and core. For small areas and touch-up only. |

## Application Conditions

| | Material | Surface | Ambient |
|---|---|---|---|
| **Minimum** | 50˚F (10˚C) | 50˚F (10˚C) | 50˚F (10˚C) |
| **Maximum** | 90˚F (32˚C) | 110˚F (43˚C) | 110˚F (43˚C) |

Special reducing and application procedures are required outside these temperatures. Surface temperatures should be 5˚F (2.7˚C) above dew point to prevent condensation.

## Physical Data

| Item | Results | Test Method |
|---|---|---|
| **Impact Resistance** | 80 in-lbs – Direct Impact | ASTM D-2794 |
| **Adhesion** | 3913 psi | ASTM D-4541 |
| **Abrasion Resistance** | 1 kg load/1000 cycles – weight loss<br>CS 17 wheel – 60 mg | ASTM D-4060 |
| **Molten Sulfur Cyclic Test** | Pass | NACE SP0302 |

## Resistance

| Exposure | Immersion | Splash/Spillage | Fumes |
|---|---|---|---|
| **Acidic** | Excellent | Excellent | Excellent |
| **Alkaline** | Excellent | Excellent | Excellent |
| **Solvents** | Good | Excellent | Excellent |
| **Salt water** | Excellent | Excellent | Excellent |
| **Water** | Excellent | Excellent | Excellent |

## Mixing & Reducing

**Mixing** Power mix Part A, then blend Part B into Part A and mix until uniform at the following ratio:

| | 1 Gal. Kit | 5 Gal. Kit |
|---|---|---|
| Part A | 0.89 gallon | 4.45 gallon |
| Part B | 0.11 gallon | 0.55 gallon |

**Reducing** M-450EN may be thinned up to 1 pint per gallon with Reducer 3-400. For application to a hot surface, Reducer 4-400 is recommended. Reduction of M-450EN will reduce the film build.

**Pot life** Two hours at 75°F (24˚C). Less at higher temperatures. Pot life ends by loss of film build

## Packaging, Handling, & Storage

| | 1 Gal. Kit | 5 Gal. Kit |
|---|---|---|
| **Packaging Unit** | | |
| Part A | 0.89 gallon | 4.45 gallon |
| Part B | 0.11 gallon | 0.55 gallon |
| **Shipping Weight** | | |
| Package Unit | 12 lbs. (5.4 kg) | 60 lbs. (27.2 kg) |
| | 1 Gal | 5 Gal |
| Reducer 3-400 | 12 lbs (5.4 kg) | 60 lbs (27.2 kg) |
| Reducer 4-400 | 9 lbs. (4.1 kg) | 45 lbs. (20.4 kg) |
| **Flash Point** | | |
| Part A | 0˚F (-18˚C) | |
| Part B | >200˚F (93˚C) | |
| Reducer 3-400 | 100˚F (37˚C) | |
| Reducer 4-400 | 0˚F (-18˚C) | |

**Shelf Life** 2 years for both Part A and Part B when stored inside at 40–110˚F (4.4–43.3˚C)

## Cleanup & Safety

**Cleanup** Cleanup with Reducer 3-400 or acetone

**Safety** For minimum protection, Mascoat recommends a half mask respirator with organic vapor cartridge. In confined spaces, a fresh airline respirator may be used. Tight sealing safety goggles recommended for eye protection.

**Ventilation** Adequate ventilation should be used as the first measure to ensure airborne thresholds listed in Section 8 of the SDS are not exceeded.

**Clothing** Wear suitable protective clothing (long sleeved clothing, chemical resistant apron, antistatic boots. Impervious clothing such as Tyvek® coveralls for light protection or Saranex® 23-P for moderate protection.

**Skin Contact** If product comes into contact with skin, wash thoroughly with soap and plenty of water for at least 15 minutes. Do not use solvents or thinners to dissolve material.

**Caution** Read and follow all caution statements on this sheet and the Safety Data Sheet. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. All equipment should be non-sparking and explosion proof. Remove all sources of ignition. Remove contaminated clothing and shoes.

## Dry & Cure Times

The following minimum times are based on a 10 mil DFT and adequate air ventilation. Higher thickness and reduced air circulation increase drying times.

| Surface Temperature | To Touch | To Handle | Final Cure |
|---|---|---|---|
| **60˚F (15˚C)** | 16 hours | 72 hours | 14 days |
| **75˚F (24˚C)** | 8 hours | 36 hours | 7 days |
| **90˚F (32˚C)** | 4 hours | 18 hours | 4 day |

Elevated temperature final cure will increase the resistance of M-450EN. Product can be topcoated at “To Handle” time frame.

## Maximum Recoat

| Surface Temperature | Days |
|---|---|
| **60˚F (15˚C)** | 14 |
| **70˚F (21˚C)** | 7 |
| **80˚F (27˚C)** | 4 |
| **90˚F (32˚C)** | 1 |

If the maximum recoat time is exceeded, the coating should be sweep blasted with fine aggregate to roughen surface.