

## PRODUCT PROFILE

### DESCRIPTION

#### MS-150 100% Solids Industrial Tile and Structural Adhesive

MS-150 adhesive is a high-strength structural adhesive, supplied as two distinctive colored thixotropic pastes, which the user can easily monitor while blending them into the third final color. Its viscous, thixotropic qualities keep MS-150 in place during application. Although developed primarily for bonding ceramic tile to itself or to metal, it readily bonds to most other solid substrates and shows superior adhesion at temperatures exceeding 450° F. It is especially useful for bonding dissimilar material, where differential expansion and contraction during temperature variations or vibrations would cause release of other adhesives.

### TYPICAL APPLICATIONS

- Tile Adhesive  
(Ceramic tile installation to steel or aluminum)
- Crushers
- Chutes
- Slurry Tanks
- Dry Bag-House Ducts

## TECHNICAL DATA

### PHYSICAL PROPERTIES

Specific Gravity . . . Resin 2.54, Hardener 1.02  
Weight . . . 15.83 pounds/gallon  
Flash Point . . . >200° F (93.5° C)  
Volatile Organic Compounds (VOC) . . . 0 grams/liter  
Thermal Stability (weight loss after 48 hours @ 300° F) . . . 0.0003 gram  
Coefficient of Thermal Expansion (0.00001/per degree F) . . . 1.1  
Color . . . Black  
Coverage per Gallon (theoretical) . . . 12.8 square feet per 1/8" thickness  
Container Size . . . 1 gallon and kits (approximately  
1 gallon divided into 4 units)

### CHEMICAL RESISTANCE

Acetic Acid up to 10%	Hydrogen Sulfide	Potassium Hydroxide*
Ammonium Hydroxide*	Isopropyl Alcohol	Sodium Hydroxide*
Aromatic & Aliphatic Solvents	Mineral Acids	(Most) Sulfides
Black Liquor	Nitric Acid up to 10%	Sulfuric Acid up to 80%
Butyl Acetate	(Mild) Organic Acids	1,1,1-Trichloroethane
Butyl Carbitol	(Most) Phosphates	Urea Solutions
(Most) Chlorides	Phosphoric Acid	White Liquor

*\*Ambient temperature only.*

### SERVICE TEMPERATURE

<u>EXPOSURE</u>	<u>MAXIMUM RECOMMENDED TEMPERATURE</u>
Dry Service	450° F (232° C)
Spills, Splashes & Fumes	350° F (177° C)
Immersion Service*	300° F (149° C)

*\*For immersion with solvents, mineral acids or alkaline solutions over 150° F, please consult factory.*

# APPLICATION PROCEDURES

## SURFACE PREPARATION

**Note:** For optimal coating performance take considerable care with surface preparation.

**Metal:** Remove all oil, grease or scale from the surface, and then blast with sharp sand or grit to finish. Use a non-spherical blast medium to give a 2 - 3 mil (50 - 75 micron) profile and to achieve the following surface preparation standards or their equivalents:

Non-chemical Service	SSPC-SP 6 Commercial Blast (NACE 3)
Intermittent Splash or Wear	SSPC-SP 10 Near White Metal Blast (NACE 2)
Immersion or Abrasive Service	SSPC-SP 5 White Metal Blast (NACE 1)

**Concrete:** Concrete should be aged at least 28 days before coating, and the surface should be clean, dry and free of form-release agents, silicone water proofers and/or curing agents. Sand blasting or scarification is recommended. Wash down old concrete to remove all residues and neutralize the pH before blasting or scarifying. For severe service, a second wash is recommended.

Superior products are normally self-priming. However, under certain conditions such as old porous or poorly finished concrete, the sealer/primer MS-1100 is recommended.

## MIXING PROCEDURES

**Note:** Do not mix partial kits.

1. Empty the entire amount of hardener into the resin container.
2. Mix thoroughly—until uniform in consistency—then continue to mix for an additional 2 - 3 minutes. Pay special attention to the bottom and sides of the container to insure complete mixing. Due to the high viscosity of this product, a mechanical mixer is preferred. Use at low speed and keep the mixing blade down in the product to avoid entrapping air. If mixing by hand, use a square-cornered, flat implement, such as a standard paint stirring stick.

## POT LIFE

Ambient Temperature	Time
40° F (4° C)	1 hour 20 minutes
55° F (13° C)	50 minutes
70° F (21° C)	30 minutes

## CAUTIONS

1. If the ambient temperature is 85° F (29° C) or higher, pot life may be as short as 15 minutes. Have the working surfaces ready, and mix no more than one gallon of the coating at a time. To increase the pot life under these conditions, put the tray or pan on ice or in ice water. **Do not get water or ice in the tray with the coating.**
2. The substrate temperature must be at least 5° F (3° C) above dew point—the temperature at which moisture will condense on the surface of the substrate—during all blasting and coating procedures. To calculate the dew point, consult the chart on page 3.

**Example:** If the ambient air temperature is 70° F—top row—and the relative humidity is 65%—left column—the dew point is 57° F. Under these conditions, the substrate temperature would need to be at least 62° F before proceeding with blasting and coating procedures.

%RH	Ambient Air Temperature, °F (°C)						
	50 (10)	60 (16)	70 (21)	80 (27)	90 (32)	100 (38)	110 (43)
90	47 (9)	57 (14)	67 (19)	77 (25)	87 (31)	97 (36)	107 (42)
85	45 (7)	55 (13)	65 (18)	75 (24)	84 (29)	95 (35)	104 (40)
80	44 (7)	54 (12)	63 (17)	73 (23)	82 (28)	93 (34)	102 (39)
75	42 (6)	52 (11)	62 (17)	71 (22)	80 (27)	91 (33)	100 (38)
70	40 (4)	50 (10)	60 (16)	69 (21)	78 (26)	88 (31)	98 (37)
65	38 (3)	48 (9)	57 (14)	67 (19)	76 (24)	86 (30)	95 (35)
60	36 (2)	46 (8)	55 (13)	65 (18)	74 (23)	83 (28)	92 (33)
55	34 (1)	43 (6)	53 (12)	62 (17)	71 (22)	80 (27)	90 (32)
50	31 (-.5)	41 (5)	50 (10)	59 (15)	69 (21)	78 (26)	87 (31)

## APPLICATIONS

Apply **MS-150** with a trowel, putty knife or other appropriate tool. When working with MS-150 dip the trowel or other tools in ethanol or a mixture of ethanol and water to reduce sticking.

## TOPCOATING & JOINING ADJACENT SECTIONS

If the compound is to be coated, apply the coating within the re-coat window (see table below). If this is not possible, allow the compound to cure, then brush-blast, wire-brush or sand to create a mechanical profile on the surface before coating.

When it is necessary to join multiple sections of the compound to create a continuous protective layer over a large area do not attempt to feather and overlap adjoining sections. If adjoining sections cannot be applied within the re-coat window (see table below), continue the full thickness of the compound up to the joint between sections. Allow the first section to cure, and then create a mechanical profile, using one of the means listed above, on the edge that will be joined to the next section to ensure a satisfactory bond.

## CURE TIME @ 70° F (21° C)

Re-coat Window	1/2 - 2 hours
Light Loading	12 hours
Immersion (Aqueous) Service	48 hours
Full or Chemical Service	120 hours

## SPEED CURING

The cure time can be reduced and product performance enhanced by applying heat during the curing process of the final coat: 150° F (66° C) for 2 hours is recommended before placing the coating into full service.

## CLEAN-UP

Use a mixture of MIBK and Butyl acetate (50/50) or MEK for clean up. Read the Material Safety Data Sheets for any of these products (flammable liquids) before using them. Skin can be cleaned with denatured alcohol, preferably ethanol.