



# SPI COATINGS

PROVEN PERFORMANCE • REAL WORLD SOLUTIONS

## MOIST METAL GRIP

**INSULATION  
AND  
CORROSION  
SPECIALISTS**

### Technical Data Sheet (05/28/19)

#### **DESCRIPTION**

MOIST METAL GRIP is a two-part epoxy coating system that has been specifically designed with specific additives to promote adhesion when used on metal. MOIST METAL GRIP was developed to be applied to metal surfaces that cannot be dry enough to use RUST GRIP®. It can be used directly to wet or damp metal surfaces and maintain excellent adhesion to prevent further surface corrosion. It is a water repelling epoxy for use under water or in areas where constant splashing or condensation is a problem. It is resistant to chemicals and solvents, and is designed to be applied directly to concrete, masonry and wood.

#### **TYPICAL USES**

- As a one-coating system for metal that is moist or in high humidity.
- As a one-coating system to encapsulate existing rusted surfaces.
- As a one-coating system to protect metal with condensation issues.
- As a one-coating system to line tanks.
- Very good acid and good alkali resistance
- As a primer before ENAMO GRIP or LINING KOTE is applied.

#### **APPLICATION METHODS**

MOIST METAL GRIP can be applied to metal, as well as concrete or masonry substrates. The coating can be applied by spray, brush or roller. For specific instructions on surface preparation, mixing and application, please refer to the SPI's application instructions for MOIST METAL GRIP.

**NOTE:** This product must not be applied on or within 2 inches of chlorinated rubber.

**NOTE:** Never use mineral spirits to prep surfaces or for thinning.

**NOTE:** As MOIST METAL GRIP can be applied on a 100% WET SURFACE, there is no need to watch for the Delta-T of 5°F (3°C) safe margin above the dew point and the surface temperature. However, the cooler the surface and ambient temperatures, the longer the dry and cure time. This must be considered before applying, so consult with the manufacturer.

#### **TEST AND CERTIFICATIONS**

1. USDA approved
2. ASTM B117 – Salt spray corrosion test
3. ASTM D1654 – 450 hour evaluation over black steel
4. Marine Approvals for salt water/maritime use
5. US Coast Guard
6. ABS (American Bureau of Shipping)
7. IMO (International Marine Organization)
8. Adhesion: ASTM class 5B – no film pull off
9. UV and Salt Spray Resistance (ASTM 5894): 5,000 hours
10. Potable water and foodstuff (European)

#### **FIELD TEST HAVE PROVEN:**

1. The coating has outstanding adhesion
2. The coating is resistant to solvents and chemical splashes
3. The coating is flexible, yet resistant to impact

#### **MINIMUM SPREAD RATES (mil thickness)**

**All Surfaces** – Apply 2-3 applications of MOIST METAL GRIP @ 200 sq ft/gallon; (18 sq mtr/gallon); 8 mils wet/4 mils dry (200 microns wet / 100 dry) each coat. This will leave a total thickness of 8-12 dry mils (200-300 microns dry)

**NOTE:** Surface and ambient temperatures will determine cure-time. Introduction of heat beneath or over surface will enhance the cure time.

Induction Period: 30 minutes at 70°F (21°C).

**SPECIAL NOTE:** Induction time can span from 5 minutes to one hour according to whether it is applied to a horizontal or vertical surface, and according to ambient temperatures (see Application Instructions).

#### **PHYSICAL DATA**

- ◆ Reacted Solids: By weight 67% / By volume 51%
- ◆ 30-60 MINUTES TO TACK FREE AT 70°F (21°C)
- ◆ Overcoat window is three hours or less at 70°F (21°C)
- ◆ Lead and chromate free
- ◆ Cures by chemical reaction; 3 days to touch, 10 full days to cure in 70°F (21°C)
- ◆ Reacted Weight: 11.15 lbs. per gallon
- ◆ Amine-epoxy
- ◆ Shelf Life: Up to 3 years (unopened) under appropriate storage condition (see MSDS)
- ◆ Mix Ratio; 4 part base to 1 part curing agent by volume
- ◆ Reactive VOC - White: 1.32 lbs/gal; 158 grams per liter
- ◆ Tinting: Can be tinted any color with a minimum of 250 gallons
- ◆ Resistant to mild concentrations of solvents, chemicals and acids
- ◆ Maximum Surface Temp when applying; 150°F (65°C)
- ◆ Minimum Surface Temp when applying; 48°F (9°C)
- ◆ Maximum Surface Temp after curing; 325°F (163°C)
- ◆ Failure will occur at a constant temperature equal to or greater than 300°F (149°C); consult SPI for intermittent temperatures greater than 325°F (163°C)
- ◆ Viscosity: 90 seconds, #4 ford cup @ 74°F
- ◆ Non-sparking coating film

#### **SAFETY PRECAUTIONS**

Do not use this product without first taking all appropriate safety measures to prevent property damage and injuries. These measures may include, without limitation: proper ventilation, use of proper lamps, wearing of protective clothing and masks, tenting, and proper separation of application areas.

This coating is flammable. Keep away from fire, or other sources of ignition. For more specific safety procedures, please refer to the MOIST METAL GRIP Safety Data Sheet. **KEEP OUT OF REACH OF CHILDREN.**

LIMITATION OF LIABILITY: The information contained in this data sheet is based upon tests that we believe to be accurate and is intended for guidance only. All recommendations or suggestions relating to the use of the products made by SPI, whether in technical documentation, or in response to a specific enquiry, or otherwise, are based on data which to the best of our knowledge is reliable. The products and information are designed for users having the requisite knowledge and industrial skills, and the end-user has the responsibility to determine the suitability of the product for its intended use.

SPI has no control over either the quality of condition of the substrate, or the many factors affecting the use and application of the product. Therefore, SPI does not accept any liability arising from loss, injury, or damage resulting from such use or the contents of this data sheet (unless there are written agreements stating otherwise).

The information contained in this data sheet is subject to modification as a result of practical experience and continuous product development. This data sheet replaces and annuls all previous issues and the user has the responsibility to ensure that this sheet is current prior to using the product.



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## MOIST METAL GRIP

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### Application Instructions (10/12/16)

MOIST METAL GRIP is a two-part epoxy coating system that has been specifically designed with specific additives to promote adhesion when used on metal. MOIST METAL GRIP was developed to be applied to metal surfaces that cannot be dry enough to use RUST GRIP®. It can be used directly to wet or damp metal surfaces and maintain excellent adhesion to prevent further surface corrosion. It is a water repelling epoxy for use under water or in areas where constant splashing or condensation is a problem. It is resistant to chemicals and solvents, and is designed to can be applied directly to concrete, masonry and wood.

#### **SURFACE PREPARATION**

Surface must be clean from oil, tar, rust, grease, salts, and films.

- 1) Follow SP6 or SP7 guidelines.
- 2) Clean surface using TSP (tri-sodium-phosphate) or a citrus cleaner to release dirt and degreaser residue.
- 3) Pressure-wash if possible @ 3500 psi.
- 4) Salt contamination on a surface can come as a result of salt water, fertilizers, and car exhaust. Use Chlor\*Rid or equivalent to decontaminate surface, if salts are present. Acceptable levels: Nitrates: 5-10 mcg/cm<sup>2</sup>, Sulfates: 5-10 mcg/cm<sup>2</sup>, Chlorides: 3-5 mcg/cm<sup>2</sup>.

#### **Surface may be damp.**

- 1) MOIST METAL GRIP must be applied during proper temperatures (below), and at the prescribed overcoat window of the coating over which it will be applied.
- 2) If applied over an existing coating having a glossed or shiny finish, it must be sanded and roughed to remove gloss before application--to improve the profile.
- 3) Additional coats of MOIST METAL GRIP can only be applied when the 1<sup>st</sup> coat becomes tacky to the touch and has little-to-no transfer of coating. If the first coat is allowed to cure more than 3 days to where it is no longer tacky, the surface must be lightly sanded to make it rough before the second coat is applied.

#### **MIXING**

- 1) Open pail, mix base with curing agent (4 parts base : 1 part curing agent); ratio by volume, not by weight
- 2) Mix by hand for two minutes, or use a drill and mixing blade for a minimum of 30 seconds with NO vortex.

#### **TEMPERATURE**

- 1) Apply between 40°F (4°C) and 150°F (65°C).
- 2) Maximum temperature for continuous use when cured is 300°F (149°C).
- 3) Store unmixed product between 40°F (4°C) and 100°F (38°C) according to hazmat standards on MSDS.
- 4) Mix base and curing agent and use immediately if ambient temperature is above 70°F (21°C). If below 70°F (21°C), allow mixed product to stand for 30 minutes before using.
- 5) Vertical surfaces: allow extra conduction time (base added to cure), up to one hour before use to allow the coating to thicken for better hang without sag.

#### **POT LIFE**

4-6 hours at 70°F (21°C) on horizontal surfaces. Shorter pot life may occur as temperature increases according to climate/ambient conditions.

#### **APPLICATION**

MOIST METAL GRIP can be applied by brush, roller or spray; however, the preferred method is by air or airless sprayer.

- 1) If application is by brush, use a soft bristle brush.
- 2) If application is by roller, use a 1/4 inch (6m-8m) nap roller.
- 3) If application is by spray, use a standard airless sprayer (2 gallons/minute at 3,300 psi) with a .017-.021 tip.

- **NOTE:** The number of applications and the thickness of each should be in accordance with the job specifications.

#### **MINIMUM SPREAD RATES (mil thickness)**

**All Surfaces** – Apply 1<sup>st</sup> application at 200 sq ft/gallon (18 sq mtr/gallon; use a roller to force coating into pores); 8 mils wet/4 mils dry (to penetrate into pores.) Allow 4 hours to dry and ventilate well, then apply 2<sup>nd</sup> application of 100% MOIST METAL GRIP at 200 sq ft/gallon; 8 mils wet, 4 mils dry. Wait 24 hours, and apply the last coat of MOIST METAL GRIP at 200 sq ft/gallon.

#### **CURE TIME**

**Note:** Surface and ambient temperatures will determine cure time which is normally 14 full days. Introduction of heat over surface will enhance the cure time. Potable water must allow full cure before filling tanks.

**Induction Period:** 30 minutes at 70°F (21°C); No induction time is necessary over 90°F (32°C). **EXCEPTION:** See Temperature #5 for vertical surface application.

**Note:** It is critical that each coat of MOIST METAL GRIP be firmly adhered to the substrate before the next coat is applied. Depending on ambient and surface temperatures, it may take longer than a 24-hour recoat application window.

#### **CLEAN-UP EQUIPMENT**

- 1) After completion, spray systems should be flushed and cleaned with MEK or other comparable solvents.
- 2) After completion, brushes and rollers can be cleaned with MEK or comparable solvents, stored and reused.

**SECTION I - IDENTIFICATION OF PRODUCT AND COMPANY:**

PRODUCT IDENTIFIER: MOIST METAL GRIP Base

GHS PRODUCT IDENTIFIED: Global Harmonized System #3208.90.0000

CHEMICAL TYPE: Bisphenol-A Type Epoxy

MANUFACTURER: SUPERIOR PRODUCTS INT'L II, INC.

ADDRESS: 10835 W. 78th St., Shawnee, KS 66214

PRODUCT USE: Cover and protect all metal surfaces above &amp; below waterline

EMERGENCY TELEPHONE NUMBER: **800/424-9300; 202/483-7616****SECTION II - HAZARD IDENTIFICATION:**

The product is a flammable, solvent-based epoxy and should be treated according to all known safety precautions. Refer to Section VII for Storage and Handling recommendations, Section VIII for Personal Protection, Section XIV for transport.

**SECTION III - HAZARDOUS INGREDIENTS:**

<u>HAZARDOUS INGREDIENTS</u>	<u>%</u>	<u>CAS/PIN</u>	<u>TLV</u>	<u>PEL</u>
Methyl N-Amyl Ketone	9.7	110-43-0	50.00	50.00
Methyl Isobutyl Ketone	9.7	108-10-1	50.00	50.00
Xylene	8.9	1330-20-7	100.00	100.00

**SECTION IV - FIRST AID MEASURES:****INHALATION:** Remove to fresh air. Give oxygen if required. Seek medical help.**EYES:** Flush w/clear lukewarm water for 15-20 minutes, occasionally lifting eyelids. See physician.**SKIN:** Remove contaminated clothing. Wash affected areas & clothing w/mild soap & water.**INGESTION:** Do not induce vomiting. Keep at rest. Get prompt medical attention.**SECTION V - FIREFIGHTING MEASURES:****CONDITIONS OF FLAMMABILITY:** Spraying or other activities to create finely divided droplets around open flame/sparks**HAZARDOUS COMBUSTION PRODUCTS:** Carbon monoxide, aldehydes, fumes**AUTOIGNITION TEMP.:** >499C. degrees **FLASH POINT & METHOD:** 60F. TCC**FLAMMABLE LIMITS: (Lower)** 1.4% **(Upper)** NAV**SENSITIVITY TO STATIC DISCHARGE?** NAV**SENSITIVITY TO MECHANICAL IMPACT?** NAV**SPECIAL PROCEDURES:** Firefighters should wear full-body protection & SCBA**MEANS OF EXTINCTION:** Foam, water spray (fog), dry chemical, carbon dioxide & vaporizing liquid type extinguishing agents**SECTION VI - ACCIDENTAL RELEASE MEASURES:**

Ventilate the area, control spill by covering w/sawdust or similar agent. Pour decontamination solution over spill (non-ionic surfactant Union Carbide's Tergitol TMN-10 (20%) + water (80%); avoid breathing vapors

**SECTION VII - HANDLING AND STORAGE:**

**Storage Requirements:** Maintain temperature between 32-122F. degrees; average shelf life is 3 years @ 77F. degrees. Empty containers may contain residual liquid or vapors, and should not be pressurized, cut, welded or exposed to ignition sources.

**Handling Procedures/Equipment:** Ground all containers; use non-sparking tools. Keep away from ignition sources as liquid contains volatiles that give off invisible vapors.

**SECTION VIII - EXPOSURE CONTROLS AND PERSONAL PROTECTION:**

**Personal Protective Equipment:** Half-face respirator w/organic vapor filter, safety glasses w/shields, PVA or nitrile chemical-resistant gloves, skin protection  
**Engineering Controls:** Mechanical exhaust fans; use explosion proof equipment

**SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES:**

**APPEARANCE AND ODOR:** White Liquid, Ketone-dominant solvent odor  
**SOLUBILITY IN WATER:** Insoluble                   **VOLATILES:** 48.5%  
**FREEZING POINT:** NAP **BOILING POINT:** >241F. deg. **pH:** NAP  
**SPECIFIC GRAVITY:** 1.43                   **ODOR THRESHOLD:** NAV  
**COEFF. WATER/OIL:** NAV                   **EVAPORATION RATE:** 1.2%  
**VAPOUR DENSITY (Air = 1):** 1.0           **VAPOUR PRESSURE:** NAV

**SECTION X - STABILITY AND REACTIVITY DATA:**

**CONDITIONS OF REACTIVITY:** By high heat or fire  
**CHEMICAL INCOMPATIBILITY:** Oxidizing materials, aminos, alcohols  
**CONDITIONS OF INSTABILITY:** Stable, under normal conditions  
**HAZARDOUS DECOMPOSITION PRODUCTS:** By high heat/fire--Carbon dioxide, carbon monoxide, fumes, smoke, aldehydes  
**CORROSIVE BEHAVIOR?** NO

**SECTION XI - TOXICOLOGICAL PROPERTIES:**

**ROUTES OF ENTRY:**SKIN CONTACT X EYE CONTACT X INHALATION X  
**SYNERGISTIC PRODUCTS** NAV           **EXPOSURE LIMITS:** NAV  
**EFFECTS OF ACUTE EXPOSURE:** Burning sensation on mucous membranes & respiratory tract. Flu-like symptoms (fever and chills); skin irritation  
**EFFECTS OF CHRONIC EXPOSURE:** Chemical asthma - chest tightness, wheezing, coughing, shortness of breath. Can cause lung damage.  
**MUTAGENICITY:** NAV                   **CARCINOGENICITY:** NAV  
**IRRITANCY:** Burning sensation                   **TERATOGENICITY:** NAV  
**REPRODUCTIVE TOXICITY:** NAV  
**SENSITIZATION:** Can cause future reaction to lesser amounts

**SECTION XII - ENVIRONMENTAL INFORMATION:**

Air: 1.32 lbs./gallon V.O.C. (Reactive 158g/l) \*  
Water: Insoluble in water  
Soil: Lead- and chromate-free/not hazardous under RCRA 40CFR

**SECTION XIII - WASTE DISPOSAL:**

Incineration preferred. Dispose of in accordance with federal, state and local government regulations.

**SECTION XIV - TRANSPORT INFORMATION:**

Classified a hazardous material (Class 3//UN1263//P.G. II), and should be marked and handled according to specific regulations. Tariff code: 3208.90.0000

**SECTION XV - REGULATORY INFORMATION:**

Materials listed under Superfund Amendments & Reauthorization Act of 1988 (SARA) Title III 302, 304, 311, 312, 313: Methyl Isobutyl Ketone (CAS 108-10-1)

**SECTION XVI - OTHER INFORMATION:**

\*Product is compliant with many national and local VOC content regulations. However, because manufacturer is not familiar with all local VOC requirements, the user is responsible for understanding the local VOC rules and for verifying that the product selections meet the most current VOC requirements of the area in which the products are to be used.

**SECTION I - IDENTIFICATION OF PRODUCT AND COMPANY:**

PRODUCT IDENTIFIER: MOIST METAL GRIP curing agent

GHS PRODUCT IDENTIFIED: Global Harmonized System #3208.90.0000

CHEMICAL TYPE: Modified Polyamide

MANUFACTURER: SUPERIOR PRODUCTS INT'L II, INC.

ADDRESS: 10835 W. 78th St., Shawnee, KS 66214

PRODUCT USE: Cover and protect all metal surfaces above &amp; below waterline

EMERGENCY TELEPHONE NUMBER: **800/424-9300; 202/483-7616****SECTION II - HAZARD IDENTIFICATION:**

The product is a flammable, solvent-based polyurethane and should be treated according to all known safety precautions. Refer to Section VII for Storage and Handling recommendations, Section VIII for Personal Protection, Section XIV for transport.

**SECTION III - HAZARDOUS INGREDIENTS:**

<u>HAZARDOUS INGREDIENTS</u>	<u>%</u>	<u>CAS/PIN</u>	<u>TLV</u>	<u>PEL</u>
Xylene	45.9	1330-20-7	100.00	100.00

**SECTION IV - FIRST AID MEASURES:****INHALATION:** Remove to fresh air. Give oxygen if required. Seek medical help.**EYES:** Flush w/clear lukewarm water for 15-20 minutes, occasionally lifting eyelids. See physician.**SKIN:** Remove contaminated clothing. Wash affected areas & clothing w/mild soap & water.**INGESTION:** Do not induce vomiting. Keep at rest. Get prompt medical attention.**SECTION V - FIREFIGHTING MEASURES:****CONDITIONS OF FLAMMABILITY:** Spraying or other activities to create finely divided droplets around open flame/sparks**HAZARDOUS COMBUSTION PRODUCTS:** Carbon monoxide, aldehydes, fumes**AUTOIGNITION TEMP.:** >488C. degrees **FLASH POINT & METHOD:** 80F. TCC**FLAMMABLE LIMITS: (Lower)** 1.4% **(Upper)** NAV**SENSITIVITY TO STATIC DISCHARGE?** NAV**SENSITIVITY TO MECHANICAL IMPACT?** NAV**SPECIAL PROCEDURES:** Firefighters should wear full-body protection & SCBA**MEANS OF EXTINCTION:** Dry Chemical--monoammonium phosphate, potassium chloride, carbon dioxide, high expansion (protenic) ehcmical foam, water spray for large fires**SECTION VI - ACCIDENTAL RELEASE MEASURES:**

Ventilate the area, control spill by covering w/sawdust or similar agent. Pour decontamination solution over spill (non-ionic surfactant Union Carbide's Tergitol TMN-10 (20%) + water (80%); avoid breathing vapors.

**SECTION VII - HANDLING AND STORAGE:**

**Storage Requirements:** Maintain temperature between 32-122F. degrees; average shelf life is 3 years @ 77F. degrees. Empty containers may contain residual liquid or vapors, and should not be pressurized, cut, welded or exposed to ignition sources.

**Handling Procedures/Equipment:** Ground all containers; use non-sparking tools. Keep away from ignition sources as liquid contains volatiles that give off invisible vapors.

NAP = Not Applicable

NAV = Not Available

**SECTION VIII - EXPOSURE CONTROLS AND PERSONAL PROTECTION:**

**Personal Protective Equipment:** Half-face respirator w/organic vapor filter, safety glasses w/shields, PVA or nitrile chemical-resistant gloves, skin protection

**Engineering Controls:** Mechanical exhaust fans; use explosion proof equipment

**SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES:**

**APPEARANCE AND ODOR:** Amber-clear liquid, aromatic solvent odor

**SOLUBILITY IN WATER:** Slightly soluble

**FREEZING POINT:** NAP      **BOILING POINT:** >241F. deg.      **VOLATILES:** 50%

**SPECIFIC GRAVITY:** .94      **ODOR THRESHOLD:** NAV

**COEFF. WATER/OIL:** NAV      **EVAPORATION RATE:** .85%

**VAPOUR DENSITY (Air = 1):** 1.0      **VAPOUR PRESSURE:** NAV      **pH:** NAP

**SECTION X - STABILITY AND REACTIVITY DATA:**

**CONDITIONS OF REACTIVITY:** By high heat or fire

**CHEMICAL INCOMPATIBILITY:** Oxidizing materials, aminos, alcohols

**CONDITIONS OF INSTABILITY:** Stable, under normal conditions

**HAZARDOUS DECOMPOSITION PRODUCTS:** By high heat/fire--Carbon dioxide, carbon monoxide, fumes, smoke, aldehydes      **CORROSIVE BEHAVIOR?** No

**SECTION XI - HEALTH HAZARD DATA:**

Health effects to over exposure to CONCENTRATE: Corrosive to mucuse membranes, eyes and skin. The seriousness of the lesions and the prognosis of intoxication depend directly upon the concentration and duration of exposure.

Skin: May cause TEMPORARY skin discloration and irritation

Eyes: May cause severe eye damage

If swallowed: HARMFUL OR FATAL - Causes chemical burns of mouth and stomach; Corrosive to gastrointestinal tract; Paleness and cyanosis of the face; Excessive fluid in the mouth and nose; Bloating of stomach and belching; Nausea and vomiting; Risk of chemical pneumonitis and pulmonary edema

If inhaled: Vapors or mist can cause irritation. People with asthma or lung problems may be more affected.

**SECTION XII - ENVIRONMENTAL INFORMATION:**

Air: 1.32 lbs./gallon V.O.C. (Reactive 158g/l) \*

Water: Insoluble in water

Soil: Lead- and chromate-free/not hazardous under RCRA 40CFR

**SECTION XIII - WASTE DISPOSAL:**

Incineration preferred. Dispose of in accordance with federal, state and local government regulations.

**SECTION XIV - TRANSPORT INFORMATION:**

Classified a hazardous material (Class 3//UN1263//P.G. III), and should be marked and handled according to specific regulations. Tariff code: 3208.90.0000

**SECTION XV - REGULATORY INFORMATION:**

Materials listed under Superfund Amendments & Reauthorization Act of 1988 (SARA) Title III 302, 304, 311, 312, 313: Methyl Isobutyl Ketone (CAS 108-10-1), Toluol (CAS 108883)

**SECTION XVI - OTHER INFORMATION:**

\*Product is compliant with many national and local VOC content regulations. However, because manufacturer is not familiar with all local VOC requirements, the user is responsible for understanding the local VOC rules and for verifying that the product selections meet the most current VOC requirements of the area in which the products are to be used.