



# SPI COATINGS

PROVEN PERFORMANCE • REAL WORLD SOLUTIONS

**INSULATION  
AND  
CORROSION  
SPECIALISTS**

## OMEGA FIRE

### Technical Data Sheet (08/28/19)

#### DESCRIPTION

OMEGA FIRE is a single-component coating having a blend of seven different ceramics combined in a water-based, acrylic/hybrid modified silicone formula to create a barrier against extreme flame impingement and heat migration. The coating can withstand direct flame up to 2200°F (1204C) by hardening on the surface at first contact, while continuing to provide the necessary insulation value. The resin blend binds the compounds together and forms a char causing a matrix with the ceramics across the face of the coating, facing the flame. OMEGA FIRE is designed to stay intact with constant adhesion at extreme temperatures, while remaining flexible. In this way, it can move with the surface, during expansion and contraction, without cracking and falling off as the substrate moves.

#### TYPICAL USES

- As fire protection for:
- strategic locations on warfare ships
- engine rooms and galleys on commercial ships
- corner beams, elevator shafts, and stairwells
- walls, ceilings, and boiler rooms
- To control and contain fires in high-rise buildings; prevent the spread and collapse of support structures.
- NYC approval for two hours on support beams
- Additional tests continuing (I beam)
- Over high-rise cladding to prevent fire spread

#### TESTS AND CERTIFICATIONS

- 1) USDA Approved
- 2) Marine Approvals for Salt Water/Maritime Use (renewals pending):
  - ABS (American Bureau of Shipping)
  - IMO (International Marine Organization)
- 3) Fire Endurance Testing (UL1709/ASTM E119)- pending UL.
- 4) Flame Spread/Smoke (ASTM E84) Class A Fire Rated.

#### APPLICATION METHODS

OMEGA FIRE can be applied to metal, concrete, masonry, and composite surfaces. The application can be by spray or by trowel.

For specific instructions on surface preparation, mixing and application, please refer to the SPI Application Instruction sheet.

NOTE: A prescribed thickness is required for specific temperature and duration of protection.

#### MINIMUM SPREAD RATES (mil thickness)

- 21.0 sq. ft/gal = 50 mils dry film thickness
- 10.6 sq. ft/gal = 100 mils dry film thickness
- 5.3 sq. ft/gal = 200 mils dry film thickness
- 4.2 sq. ft/gal = 250 mils dry film thickness
- 2.1 sq. ft/gal = 500 mils dry film thickness

#### PHYSICAL DATA

- ♦ Solids: By weight: 69.0% By volume: 66.0%
- ♦ Dry Time: 4-6 hours to tack free. Overcoat and cure window is according to humidity and temperature.
- ♦ Lead and Chromate Free
- ♦ Cures by evaporation (water-based) and affected by temperature and humidity
- ♦ Weight: 6.19 lbs per gallon
- ♦ Vehicle Type: Water-based resin system of acrylic and silicone
- ♦ Shelf Life: Up to 6 years unopened under appropriate storage conditions (See MSDS)
- ♦ VOC Level: 76 grams/liter
- ♦ Viscosity: 90,000 centipoise
- ♦ UV resistant
- ♦ Mold and mildew resistant

NOTE: If OMEGA FIRE is applied on the exterior, it must be top-coated with ENAMO GRIP or SUPER THERM® for UV protection, weathering and durability.

#### 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. For more specific safety procedures, please refer to the OMEGA FIRE 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 or 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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### Application Instructions (12/3/16)

OMEGA FIRE is a single-component coating having a blend of seven different ceramics combined in a water-based formula to create a barrier against extreme flame impingement and heat migration. The coating can withstand direct flame up to 2200°F (1204C) by hardening on the surface at first contact, while continuing to provide the necessary insulation value. The resin blend binds the compounds together and forms a char causing a matrix with the ceramics across the face of the coating, facing the flame.

OMEGA FIRE is designed to stay intact with constant adhesion at extreme temperatures. It is applied over HPC® Coating to create a system to use over structural steel.

#### **SURFACE PREPARATION**

**New construction (metal, concrete, masonry and composite):**

- 1) Power wash surface (3,500 psi) to remove dirt, oil tar, grease and film.
- 2) Surface must be completely dry.
- 3) Apply coating directly over substrate.

**Previously coated (metal, concrete, masonry and composite):**

- 1) Power wash surface (3,500 psi) to remove loose or flaking paint, rust and salts, and to clean the surface of dirt, oil, tar grease and film. Remove 'pack rust' (see below).
- 2) Surface must be completely dry.
- 3) Apply coating directly over substrate. If existing coating surface is glossed, it must be sanded and roughed before application, no gloss.

**NOTE 1:** If pack rust, scale or bright glossy surfaces exist, they must be removed by grit blast, power tool or needle gun. Once removed, begin with Step 1 (power wash).

**NOTE 2:** 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>.

**NOTE 3:** OMEGA FIRE can be applied to existing coatings as long as that coating is solidly bonded to the substrate. If any surface shows gloss, it must first be sanded to a dull finish, for best adhesion.

#### **MIXING**

- 1) Stir mechanically for seven minutes to loosen up the coating.
- 2) Apply as needed. Replace lid if not all content is used.

#### **APPLICATION**

OMEGA FIRE can be applied by sprayer or trowel.

- 1) For application by airless, use a Graco TexSpray 2000, with the large tip that comes with the machine.
- 2) Apply multiple coats and build up for optimal results.
- 3) Never apply this coating when there is a threat of rain on the day of application.
- 4) Hopper Gun is good for small jobs.

**NOTE 1:** If OMEGA FIRE is applied on the exterior, it must be top-coated with ENAMO GRIP or SUPER THERM® for UV protection, weathering, and durability.

**NOTE 2:** REMOVE ALL FILTERS, IF ANY, FROM GUN AND MACHINE to avoid trapping ceramics.

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

2-hour protection = 670 mils wet/500 mils dry  
Apply in three (3) coats.

#### **CURE TIME**

- 1) Four hours to touch.
- 2) Recoat window is twelve hours at 70°F. or longer.
- 3) Fully cures in twenty-one days.

#### **TEMPERATURE**

- 1) Apply between 50°F. and 150°F.
- 2) Store between 40°F. and 100°F.

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

- 1) After completion, spray system should be cleaned with soap and water.
- 2) After completion, trowels can be cleaned with soap and water, stored and reused.

# SAFETY DATA SHEET (E/WB/10/02)

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

PRODUCT NAME: OMEGA FIRE  
GHS PRODUCT IDENTIFIER: Global Harmonized System #3209.10.000  
RECOMMENDED USE: Fire Barrier Coating  
MANUFACTURER: Superior Products International II, Inc.  
ADDRESS: 10835 W. 78th St., Shawnee, KS 66214 USA  
EMERGENCY TELEPHONE NUMBER: **800/424-9300; 202/483-7616**

## **SECTION II - HAZARD IDENTIFICATION:**

This product is water-based and not classified as dangerous for supply or conveyance. The ingredients are water-reduceable and fall well within the acceptable safety limits. This product has been analyzed for use in and around food manufacturing and found to be safe for use on non-contact surfaces. No toxics or toxic off-gassing is present.

## **SECTION III - COMPOSITION & INFORMATION ON INGREDIENTS:**

<i>Haz. ingredients</i>	<i>%</i>	<i>CAS/PIN</i>	<i>LD-50 (species/route)</i>	<i>LC50 (species)</i>
texanol	0.5- 1.5	25265-77-4	3200mg/kg (oral, rat)	NAV
mica	3	12001-26-2	NAV	NAV
acrylic polymers	5	9003-01-4	NAV	NAV
melamine	11	15541-60-3	NAV	NAV
xylene	2	1330-20-7	NAV	NAV

## **SECTION IV - FIRST AID MEASURES:**

**EYES:** Flush with water for at least 15 minutes; consult physician if irritation continues.

**INGESTION:** Do not induce vomiting. Drink 1-2 glasses milk/water. Seek medical attention according to amount of product ingested.

**SKIN:** Wash with mild soap and water.

**INHALATION:** Remove to fresh air.

## **SECTION V - FIREFIGHTING MEASURES:**

**CONDITIONS OF FLAMMABILITY:** Not flammable, water-based product

**HAZARDOUS COMBUSTION PRODUCTS:** Carbon monoxide, methacrylate and other noxious gases

**AUTOIGNITION TEMP.:** NAP **MINIMUM IGNITION ENERGY:** NAV

**FLAMMABLE LIMITS:** (Lower) NAP% (Upper) NAP% **FIRE POINT:** NAV

**FLASH POINT & METHOD:** NAP **SENSITIVITY TO MECHANICAL IMPACT?** No

**SENSITIVITY TO STATIC DISCHARGE?** No

**SPECIAL PROCEDURES:** Firefighters should wear full-body protection & SCBA

**MEANS OF EXTINCTION:** Water, water fog, dry chemical, foam or CO2

## **SECTION VI - ACCIDENTAL RELEASE MEASURES:**

Use kitty litter, sand or other absorbant to control spread and absorb liquid.

## **SECTION VII - HANDLING AND STORAGE:**

**STORAGE REQUIREMENTS:** Keep from freezing. Store below 50C. degrees.

Keep container closed tightly to prevent drying out.

**HANDLING PROCEDURES/EQUIPMENT:**

Treat as paint product. Use ventilation and protective equipment to suit conditions of use. Use soap and water for clean-up.

NAP = Not Applicable

NAV = Not Available

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

**PERSONAL PROTECTIVE EQUIPMENT:** Avoid inhalation of liquid when applying. Use particulate respirator.

**ENGINEERING CONTROLS:** Use mechanical ventilation to control aerosol or mist if product is sprayed.

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

**PHYSICAL STATE:** Liquid                      **SOLUBILITY IN WATER:** soluble/miscible

**APPEARANCE AND ODOR:** White color, mild acrylic odor

**FREEZING POINT:** 30F. degrees              **BOILING POINT:** 192C degrees              pH: 8

**SPECIFIC GRAVITY:** 1.14                      **ODOR THRESHOLD:** 0.08 - 25ppm

**COEFF. WATER/OIL:** NAV                      **EVAPORATION RATE:** slow

**VAPOUR DENSITY (Air = 1):** 2.1              **VAPOUR PRESSURE:** 17mmHg @ 20C. deg.

**SECTION X - STABILITY AND REACTIVITY:**

**CONDITIONS OF REACTIVITY:** stable              **CONDITIONS OF INSTABILITY:** stable

**CHEMICAL INCOMPATIBILITY:** strong acids or bases

**HAZARDOUS DECOMPOSITION PRODUCTS:** None known, no hazardous polymerization              **CORROSIVE BEHAVIOR?** No

**SECTION XI - TOXICOLOGICAL INFORMATION:**

**ROUTES OF ENTRY:** EYE CONTACT   X   INGESTION   X  

**EXPOSURE LIMITS:** mica-3mg/m3 (ACGIH)

**EFFECTS OF ACUTE EXPOSURE:** Liquid splash could result in eye or nose irritation and/or headache.

**EFFECTS OF CHRONIC EXPOSURE:** Excessive exposure to liquid product may result in minor irritations.

**MUTAGENICITY:** NAV                      **TERATOGENICITY:** NAV

**REPRODUCTIVE TOXICITY:** NAV                      **SENSITIZATION:** Not expected

**CARCINOGENICITY:** Ingredients not listed

**IRRITANCY:** Possible skin or eye irritation if not washed off.

**SECTION XII - ECOLOGICAL INFORMATION:**

Air -this product is environmentally-friendly and poses no threat to the air.

Water-the resins will be diluted and dissipate when flushed with water.

Soil -the resin contents are biodegradeable in ground acids over a period of time.

No ecological hazards are known to exist.

**SECTION XIII - WASTE DISPOSAL:**

Product spill should be contained by previously described absorption methods, and dried product disposed of as normal industrial waste according to all federal, state or governmental regulations.

**SECTION XIV - TRANSPORT INFORMATION:**

The only restriction to carriage is for protection against freezing as contents are water-based. Tariff code: 3209.10.000

**SECTION XV - REGULATORY INFORMATION:**

Regulatory agencies and restrictions are minimal regarding conveyance or use of water-based products other than what has been specifically addressed.

**SECTION XVI - OTHER INFORMATION:**

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**PREPARED BY:** J. Pritchett, Superior Products Int'l II, Inc.              **DATE:** 7/22/15