



# HPC COATING

## Application Instructions (6/5/15)

HPC® Coating is designed to control heat transfer for temperatures up to 932°F (500°C). It is lightweight and smooth in appearance after mixing. HPC® Coating is a water-borne system using a special acrylic/urethane blend with specific ceramic compounds to provide a non-conductive block against heat transfer. HPC® Coating offers a non-flammable/non-toxic formula for hot surface applications over standard steam pipe or oven wall construction, but can be used for insulation of vessels well below freezing, after cured. The coating was designed to create a monolithic insulation system that can be sprayed over most surfaces and higher temperatures. It can be applied over metal, concrete, wood, gypsum, and most other substrates.

### SURFACE PREPARATION

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

- 1) Clean ambient surfaces using TSP (tri-sodium-phosphate) or a citrus cleaner to release dirt and degreaser residue and pressure-wash if possible @ 3500 psi. and allow to dry
- 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>
- 3) Clean hot surfaces by removing pack rust, loose dirt and rust using a metal brush or mechanical tool. Remove mil-scale by grit blast, power tool or needle gun.
- 4) Prime the surface with Rust Grip® if specified.

**NOTE:** The temperature of a pipe, valve, or tank cannot be determined by taking the exterior surface temperature where heat is released into the atmosphere. Surface temperatures will rise to match the temperature of the fluid or gas contained once the surface is coated and the heat is held back.

### MIXING

- 1) Mix with commercial drill and a 6" diameter dispersion blade at low or medium speed for 2 minutes, or until like creamy consistency to loosen product. Coating will initially look dry and have a "cake-like" appearance.
- 2) Mechanically stir using blade until water and resins are mixed and coating appears as a thick whipped cream with no lumps. Use an up and down pumping motion while stirring. If it still appears to be dry, slowly add water while continuing to mix.

**NOTE:** For start & stop (lunch), drop gun into pail of water and cover unused pail or hopper with plastic to prevent evaporation of water.

### APPLICATION

HPC® Coating must be applied by spray.

- 1) Use a hopper gun for small applications.
- 2) Use a Graco GTX 2000EX or hopper gun using a 6-8 mm nozzle.
- 3) See the SPI Application Equipment sheet to reference suggested machines. For specialty applications, contact SPI.
- 4) For operating temperature below 150°C (302°F), use either HSC or HPC applied between 40°F (5°C) and 120°F (49°C) ambient. Applied HPC® Coating should never be put into use or exposed to below 40°F (5°C) until it is totally cured and moisture has

evaporated from coating. Use a moisture meter to determine moisture content. (5% or less)

**Hot Surface Applications (above 150°C (302°F):** Apply a thin priming coat of HPC® Coating at 50 mils wet (1.25mm) and allow coating to cure down and moisture to steam off. (Approx. 5 minutes) Once steaming has stopped, apply additional coats of HPC® Coating at 100-200 mils wet per coat (depending on surface temp) to build to specified thickness. Allow coating to completely steam off between coats before applying additional product. After proper thickness is achieved, allow 24 hours to fully dry and cure before top-coating. Top-coat cured HPC® Coating with SUPER THERM® to toughen and weatherize the surface. RUST GRIP® or ENAMO GRIP can be used over SUPER THERM® to strengthen surface or add color when specified. The hotter the surface, the faster the dry and reapply time.

**NOTE:** For application over hot, flat steel surfaces, see manufacturer for instructions.

**NOTE:** If initial coat or additional coats are applied too thick, bubbles will appear and begin to rise. Bubbles can be punctured to release trapped air and pressed down to allow bubble to adhere.

**Hot Pipe Application:** HPC Multi-Mesh Membrane System is used on hot pipes when continuous cycles cause movement, and where continuous impact caused by workers handling the hot pipe is unavoidable. Apply Multi-Mesh Membrane between layers of RUST GRIP, ENAMO GRIP or MOIST METAL GRIP for exterior toughness (first coat 8 mils wet/203 microns then top-coat Mesh with 8 mils wet/203 microns or until Mesh is completely covered). Multi-Mesh Membrane combined with RUST GRIP or MOIST METAL GRIP forms a hard cast for exterior strength and moisture barrier to protect the HPC system. A final top-coat of SP LIQUID MEMBRANE should be added for impact resistance and to prevent stress cracks due to movement from elongation during heat cycle (two coats of 20 mils wet/508 microns).

**Cold Surface Applications with operating temperature under 150°C:** Apply a thin priming coat at 50 mils wet (1.25 mm) and allow to dry down by evaporation. Build desired thickness to the specified amount using several applications giving each coat time to mostly dry. (Approximately 4 hours at 70° (21°C). Curing can be enhanced by introduction of dehumidification and heat into the surrounding environment.

**Manufacturing or OEM Applications:** Please contact SPI office.

**High-Heat System:** a) HPC applied over hot surface at thickness according to temperature level, b) RUST GRIP applied @ 150sf (13.9sm) for toughness, then c) SP LIQUID MEMBRANE for water/air seal plus rubber flex for movement. HPC® Coating must be completely dry before applying top coat.

### CLEAN-UP EQUIPMENT

During breaks, spray systems should be flushed with water. After completion, spray systems should be flushed and cleaned with soap and water.

**Storage of Product:** Store HPC® Coating between 40°F (5°C) and 120°F (49°C)