SUPERIOR PRODUCTS EUROPE

HOT PIPE COATING-HT®

APPLICATION INSTRUCTIONS

DESCRIPTION

HPC®-HT is a two-part hybrid silicone/solvent resin, (Part A is flammable) and water-based resin (Part B) coating using specific ceramic compound loads for application directly over surfaces minimum temps of 250°C (482°F) and up to 600°C (1112°F). It was designed to block and hold the interior temperature on the surface and reduce heat transfer loss to ambient.
After Part A and Part B are blended together, HPC®-HT offers a 'green', nonflammable, non- toxic formula for high-heat surface applications. HPC®-HT is easily applied, and can be applied direct to metal, concrete and other high-temperature surfaces

SURFACE PREPARATION

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

- If heavy rust needs to be removed prior to application, unit should be shut off and power washed at ambient temperature. Clean by removing pack rust, loose dirt and rust using a wire brush or mechanical tool. Remove mil-scale by grit blast, power tool or hammer gun.
- 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/cm², Sulphates: 5-10 mcg/cm², Chlorides: 3-5 mcg/cm²
- 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 (240 bar) and allow to dry.

NOTE: The temperature of a pipe, valve, or tank cannot be determined using an IR-gun 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. Make sure that all valves, parts and release valves are rated for the actual interior temperature that will increase once it is coated.

MIXING

NOTE: While mixing and applying HPC®-HT, you MUST wear a paint respirator at all times!

- HPC®-HT is made up of two parts: Part A is a white 100% solids resin blend with solvent added to keep the resins loose, making it flammable; Part B is a dense, brownish fully water-based component. When you open Part A you will see a collection of solid material—do not worry. Using a 6" diameter dispersion blade, simply shove your blade through the top crust of ceramics and blend well at a low to medium speed (it takes about 30 seconds). Be sure to blend A and B together away from open flame due to the flammability of Part A. Once combined, there is no hazard.

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- When you add Part B into Part A, it is heavy and will fall to the bottom of the pail of Part A. While stirring, lift and drop the blade in the solution with a swift up-and-down until you feel the mixture loosen and blend together the white mixture with the brown. Blend for 3-5 minutes until you achieve a smooth texture, and the colour becomes a uniform shade of tan with fibres. Then move blade in a circle from bottom to top to finish.
- For start & stop (lunch), clean equipment with soap and water/Heptane mixture 50/50 any time a stop of 1 hour or more will take place. Drop gun into pail of water/Heptane solution to keep the tip from clogging.
- If pail sits for more than 30 minutes, you must stir again to maintain liquid and ceramic load in balance.

APPLICATION

For best adhesion between HPC-HT PRIMER and first coat of HPC®-HT, apply the HPC-HT PRIMER first (can use a small airless but remove gun filters, or hopper with small tip), and while it is steaming (5-10 minutes), apply the first coat of HPC®-HT. This will allow both resin systems to interlock. After first coat of HPC®-HT, additional coats can be sprayed any time, even the next day without a problem.

SPRAYING BLENDED PRODUCT NOTE:

Apply HPC®-HT ONLY by spray while in operation so that surface is hot.

SET-UP AND START: Throw down drop cloths under the pipe and to block other areas from overspray. The resin system mist can put a thin layer of slick residue on floor and on other equipment next to spray area, so drape. A tremendous amount of steam will come off because this is water-based. First coat will seem liquid and can only be applied very thinly and may have some drips. After it dries, the second and following coats are easier and able to be applied heavier or thicker without sag or drips. As you apply remaining coats, do not apply more than 5 mm (200 mils) and make sure that the coat is dry before applying the next coat. If you see the coat or layer move, then stop applying and allow it to dry.

The calculated thickness of HPC®-HT should be applied in multi coats. Several 3 mm coats may be required to reach the total thickness. These coats are applied very quickly, back to back, as the applicator moves along the substrate being coated. Stop-and-start action is not required between coats, unless application area is very small. Use a hopper gun for small applications.

Use a Graco GTX 2000 EX or Graco RTX 1500 with the flex head gun or a hopper gun using a nozzle between 6 to 8 mm depending on the thickness of the layer to be applied and the pump volume installed.

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For operating temperature below 250°C (482°F), use standard HPC® Coating. For operating temperatures above 250°C (482°F) use HPC-HT Primer first.

If operating temperature is less than 300°C, the dry time between coats could extend to 20-40 minutes because of the silicone resins.

Applied HPC®-HT Coating should never be over coated with any coating until moisture content is 5% or less.

HOT SURFACE APPLICATIONS NOTE:

- First, apply HPC®-HT Primer, then apply a thin priming coat of HPC®-HT Coating at 30 mils wet (0.75mm). Coating will appear to 'bounce off' but this can be counteracted by increasing distance from surface and using high air pressure and quick movement until coating 'bites' onto the surface. Allow coating to cure down and moisture to steam off (approx. 5 minutes). Once steaming has stopped, apply second coat of HPC®-HT Coating at 3mm wet per coat. Subsequent coats can be built with normal procedures as the 'bounce off' action will not occur. Allow coating to completely steam off between coats before applying additional product. With each coat of HPC®-HT the thickness of each coat can increase until proper thickness is achieved. Allow HPC®-HT to fully dry and cure before top coating.
- If bubbles appear, you are applying too thick to allow the steam to escape. Bubbles can be punctured to release trapped air and pressed down to allow bubble to adhere after initial coats; avoid causing bubbles. If bubbles appear after one pass, wait until the surface dries to touch and pat the bubbles down flat before next pass.
- If not spraying for more than 15-30 minutes, check pail to see if white film forms on top; if so, stir for one minute. do a hand-stir to get any liquids separated on bottom back into mix. If not, the initial spray will seem very wet before the HPC®-HT is in motion.

POT LIFE: After Part A & B are mixed together, you have 6 hours to use before it thickens too much to spray.

NOTE: The steam release from the water-blended resins has a slight odor and is initially irritating to the eyes. Set up a fan or exhaust to drive any fumes or steam out of the area. Wear a full-face (PPE) Respirator with carbon filter and must be used by anyone in the area when spraying.

CAUTION: Do not expose Part A to open flame as solvent is used to allow silicones to blend faster. After Part A & B are blended together, product is non-flammable for use in spraying direct hot surfaces reaching 650°C.

STORAGE OF PRODUCT*:* Store separate components of HPC®-HT Coating between 40°F (5°C) and 120°F (49°C) according to the related safety hazardous indicated on the SDS for each part (A&B).

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NOTE: After proper thickness is achieved, allow 24 hours to fully dry and cure before top-coating. Top-coat cured *HPC®-HT* with SUPER THERM or ENDUROOF to toughen and weatherize the surface. RUST GRIP or ENAMO GRIP can be used to strengthen surface or add colour when specified.

NOTE: For application over hot, flat steel surfaces, contact SPE for instructions.

NOTE*:* In situations where there is continuous cycles causing movement, and/or risk of contraction and/or expansion, or regular handling of the pipe is unavoidable, please contact SPE for further instructions to support the application.

CLEAN-UP EQUIPMENT

During breaks, spray systems should be flushed with heptane/water followed with soap and water, and waste product disposed of properly.

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