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PRODUCT DESCRIPTION:

Water based two-part thermal insulating epoxy, with acrylic epoxy resin and nanotechnology based material for high performance use in industrial and commercial environments.

OVERVIEW:

EPX4, part of Industrial Nanotech's patented Heat Shield product line, is used for insulation of surfaces and equipment up to 400F/204C. The product combines multiple attributes: thermal insulation, chemical resistance, corrosion resistance, moisture resistance, and long-term durability. The product is used over a primer base of 4-coats of EPX NanoPrime™.

Finish: Semi-Gloss, pebbled/textured finish

Color: White, which can be tinted with standard paint pigments

Application: Can be applied with a texture sprayer or brush

Minimum Application: Two coats of 8 mils (200 microns) each coat. **Primer Required:** Yes, primer is required at four coats of 4 mils (100 microns) each coat.

Allowed Primers: EPX NanoPrime, High Heat, Translucent PT, or Translucent GP-NSF can be used as the primer.

VOC: <150 g/L; 1.25 lb/gal, mixed

Mix Ratio: 2 components, premeasured 4:1

(The product must be mixed as packaged, all of pre-packaged Part A and all of pre-packaged Part B, otherwise warranty is voided.)

Pot Life: At 55-80F/13-27C - 24 hours
At 120F/49C - 16 hours

ADVANTAGES:

THERMAL PERFORMANCE: Excellent thermal insulation performance to maximize control of heat loss for both reduction of energy costs and improved worker safety. Internal thermal testing over metal surfaces at uncoated temperatures between 242F to 339F showed an average temperature reduction of 67.32F at the recommended 2-coats EPX4 over 4-coats primer application (or 33.7F per EPX4 coat). Actual results will vary according to application thickness and environmental temperatures.

CORROSION & CHEMICAL RESISTANCE: Excellent splash resistance to chemicals. Both EPX NanoPrime & EPX4 are corrosion resistant.

ENVIRONMENTALLY FRIENDLY: Low odor, non-toxic and non-flammable. Waterborne coating is low VOC and environmentally friendly.

USES:

- ✓ Steam Pipes or Chilled Pipes
- ✓ Tanks
- ✓ Heat Exchangers
- ✓ Boilers
- ✓ Industrial Ovens
- ✓ Pipelines
- ✓ Dyeing Machines
- ✓ Safe Touch Application on Hot Equipment
- ✓ Other High Temperature Surfaces

BENEFITS:

- ✓ Energy savings
- ✓ Reduces carbon emissions
- ✓ Can be applied while in service
- ✓ Cost effective, with long-term savings and short payback period
- ✓ Non-toxic, water-based, low VOC
- ✓ Excellent chemical & corrosion resistance
- ✓ Low odor/non-flammable
- ✓ Easily applied by texture sprayer or brush
- ✓ Flexibility for expansion and contraction of equipment due to hot/cold cycling
- ✓ Heavy duty, rugged surface
- ✓ Can be tinted to desired color
- ✓ Impact and abrasion resistant
- ✓ Easy cleanup with soap and water

Gold Standard Application Program

With your order, we provide you with personalized support to ensure the success of your INI Heat Shield application. Contact us to learn more!

www.qes-usa.com

PRODUCT DATA:

Theoretical coverage rate: 200-250 S.F. per gallon (4.9-6.1 m²/L) at 1-coat coverage of 8.0 mils/200 microns
 Recommended application: 2-coats.
 Recommended spreading rate per coat: Maximum
 Wet mils (microns): 8.0 (200)
 Dry mils (microns): 3.0 (75)

Recommended total dry film thickness for 2-coats: 6.0 (150)

Thickness required for primer (EPX NanoPrime™): 4 coats, each coat applied at 4 mils (100 microns) wet film thickness.

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|--|-------------------|--------------------|--------------------|
| Drying Schedule at 8.0 mils wet (200 microns): | <u>at 55F/13C</u> | <u>at 80F/27C</u> | <u>at 120F/49C</u> |
| To Touch: | 2 hours 4 | 1 hour | 20 minutes |
| To Tack Free: | hours 28 | 2 hours | 30 minutes |
| Minimum recoat: | hours 20 | 18-24 hours | 4 hours |
| To Cure: | days | 14 days | 7 days |
| Induction Time: | 60 minutes | 30 minutes | 30 minutes |

(Time you must wait after Part A and B are mixed, BEFORE applying)

Shelf life: Part A: 36 months, unopened / Part B: 24 months, unopened
 Storage: Store indoors at 40F/4.5C to 100F/38C
 VOC content of mixed system: < 150 g/L (1.25 lb/gal)
 Viscosity of mixed coating: 12,000 to 15,000 (cps)
 Abrasion Resistance: ASTM D4060, CS17 wheel, 1000 cycles, 1kg load = 126 mg loss
 Adhesion: ASTM D4541 = 350 psi
 Direct Impact Resistance: ASTM D2794 = 15 in. lb.
 Exterior Durability: 1 year at 45 deg. South - Excellent, chalks unless primer is used as top coat ASTM D522, 180 deg. bend, 1/4" mandrel = passes
 Flexibility: ASTM D3363 = H (Hard)
 Pencil Hardness: ASTM D2486 = 4,800 cycles
 Scrub Resistance: ASTM D4585, 100F (38C), 3000 hours = Excellent
 Moisture/Condensation Resistance: ASTM B117, 750 hours = Excellent
 Salt Fog Resistance: -40F to 400F (-40C to 204C)
 Service Temperature: 55F/13C minimum, at least 5F/2.8C above dew point, 85% max. humidity
 Range: Application
 Temperature:

LIMITATIONS:

Must use EPX NanoPrime™, or other recommended product, as primer when applying to metal and non-porous surfaces
 Do not install where long-term submersion in liquid or continuous exposure to moisture is a possibility.
 Do not install over poor surfaces, such as those with flaking paint, grease or other contaminates.
 Do not allow application to be subject to rain or condensation for at least 72 hours.
 Do not allow application to be subject to freezing temperatures during first 15-45 days.
 Epoxies are not UV resistant; If application is outdoors or subject to UV light, use EPX NanoPrime™ at 1-coat as a top coat.
 Do not rely on visual measurement for coating thickness. Always use a wet film thickness (WFT) gauge in several areas to ensure proper application thickness. **See EPX Application and Mixing Instructions for further details.**

NOTE ABOUT CURE TIME:

The product reaches full insulating ability after a cure time of approximately 10-30 days, which is dependent upon thickness and environmental variables. Test of thermal performance should be performed after full cure. Thermal benefits will typically begin to be seen approximately two days after application, and will continue to improve as the cure time completes.

All statements, technical information and recommendations contained in this document are based upon tests or experience that Industrial Nanotech believes are reliable. However, many factors beyond Industrial Nanotech's control can affect the use and performance of an Industrial Nanotech product in a particular application, including the conditions under which the product is used and the time and environmental conditions in which the product is expected to perform. Since these factors are uniquely within the user's knowledge and control, it is essential that the user evaluate the Industrial Nanotech product to determine whether it is fit for a particular purpose and suitable for the user's method of application. No warranty, expressed or implied is given regarding the accuracy of this information. Except where prohibited by law, Industrial Nanotech will not be liable for any loss or damage arising from the Industrial Nanotech product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability. For questions, contact Industrial Nanotech, Inc. at 800-767-3998 or +1 239-254-0346. Industrial Nanotech, Inc. products are Made in the USA.