



PRODUCT DATA SHEET

Heat Shield™ EPX4 Thermal Insulation Coating

Award Winning Energy Saving and Asset Protection Coatings



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

OVERVIEW:

EPX4, part of Industrial Nanotech's patented Heat Shield™ product line, is used for insulation of surfaces and equipment between -40F (-40C) up to 400F/204C. The product combines multiple attributes: thermal insulation, chemical resistance, corrosion resistance, moisture resistance, and long-term durability. No primer required.

Finish: Semi-Gloss, pebbled/textured finish

Colors: White, Charcoal Grey, or custom color upon request

Application: Can be applied with a texture sprayer or brush

Minimum Application: Two coats of 10 mils (254 microns) each coat.

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 INSULATION: Excellent thermal insulation performance to maximize control of heat loss for both reduction of energy costs and improved worker safety. In house thermal testing over metal surfaces at uncoated temperatures between 335-340F showed an average temperature reduction of 90-100F at the recommended 2-coats EPX4. Actual results will vary according to application thickness and environmental temperatures.

CORROSION & CHEMICAL RESISTANCE: Excellent splash resistance to chemicals. EPX4 is splash resistant to: 98% sulphuric acid, ammonia, bleach, and other acids, bases and fuels (PH tolerance range of 1-13). Excellent corrosion resistance per ASTM B117.

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

WEATHERING: Resistant to moisture and UV. The coating can be used in outdoor environments and performs well in extreme environments.

CONTACT/ORDERING:

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PRODUCT DATA:

Theoretical coverage rate:	188 S.F. per gallon (17.5m ² /L) at 1-coat coverage of 10.0 mils/254 microns		
Recommended application:	2-coats.		
Recommended spreading rate per coat:	Maximum		
Wet mils (microns):	10.0 mils (254 microns)		
Drying Schedule at 10.0 mils wet (254 microns):	at 55F/13C	at 80F/27C	at 120F/49C
To Touch:	2 hours	1 hour	20 minutes
To Tack Free:	4 hours	2 hours	30 minutes
Minimum recoat:	28 hours	18-24 hours	4 hours
To Cure:	20 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		
Flexibility:	ASTM D522, 180 deg. bend, 1/4" mandrel = passes		
Pencil Hardness:	ASTM D3363 = H (Hard)		
Scrub Resistance:	ASTM D2486 = 4,800 cycles		
Moisture/Condensation Resistance:	ASTM D4585, 100F (38C), 3000 hours = Excellent		
Salt Fog Resistance:	ASTM B117, 750 hours = Excellent		
Chemical Resistance:	Splash resistant to acids, bases, and fuels (PH tolerance range of 1-13)		
Service Temperature Range:	-40F to 400F (-40C to 204C)		
Application Temperature:	55F/13C minimum, at least 5F/2.8C above dew point, 85% max. humidity		

LIMITATIONS:

- 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 contaminants.
- 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 days.
- 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 is dry to touch within a few minutes to a few hours and in most cases can be applied while equipment is in operation. The coating reaches full insulating ability AFTER a cure time of approximately 1-2 days, which is dependent upon environmental variables, humidity, and number of coats used. Test of thermal performance should be performed after full cure. Final cure is complete when thermal performance has reached a steady state. Cure time won't interfere with normal operations, you can continue to use your equipment as usual while the product cures.

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. Nansulate® products are Made in the USA.