

**PRODUCT DATA SHEET**

**Heat Shield™ EPX-H2O  
Thermal Insulation  
Coating**

**USES:**

- ✓ Steam Pipes or Chilled Pipes
- ✓ Tanks
- ✓ Heat Exchangers
- ✓ Boilers
- ✓ Industrial Ovens
- ✓ Heat Stacks
- ✓ Dyeing Machines
- ✓ Safe Touch Application on Hot Equipment
- ✓ Other High Temperature Surfaces (up to 400F/204C)

**BENEFITS:**

- ✓ Lowers energy consumption
- ✓ Improves worker safety
- ✓ Can be applied while in service
- ✓ Cost effective, with short payback period and long-term savings
- ✓ Non-toxic, water-based, low VOC
- ✓ Excellent chemical resistance
- ✓ Low odor/non-flammable
- ✓ Easily applied by texture sprayer
- ✓ 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

**Award Winning Energy Saving and Asset Protection Coatings**



**OVERVIEW:**

**Heat Shield™ EPX-H2O**, part of our patented Heat Shield™ product line, is a 2-part water based reactive prepolymer 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, it's direct-to-metal (DTM).

Finish: Semi-Gloss, pebbled/textured finish

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

Application: Can be applied with a texture sprayer (recommended) or brush (with instruction)

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

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

Mix Ratio: 2 components, pre-measured 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 or gain 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 140-145F (to 195F) at 6-coats EPX-H2O. Actual results will vary according to application thickness and environmental temperatures.

**CORROSION & CHEMICAL RESISTANCE:** Excellent splash resistance to chemicals. EPX-H2O 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. The coating performs well in extreme environments and can be used outdoors if over-coated with Heat Shield™ High Heat or PT for UV resistance.

**CONTACT/ORDERING:**

Phone: 800-858-3176 or [www.syneffex.com](http://www.syneffex.com)



Sustainability Simplified.™  
very Simple.



**PRODUCT DATA SHEET**

**Award Winning Energy Saving and Asset Protection Coatings**

**PRODUCT DATA:**

Theoretical coverage rate:	188 S.F. (17.5 m <sup>2</sup> ) per gallon (at 1-coat coverage of 10.0 mils/254 microns)		
Recommended application:	3 to 8 coats (dependent upon application temperatures)		
Recommended spreading rate per coat::	10.0 mils (254 microns) wet film thickness (measured at coating, not top of pebbled area)		
Drying Schedule at 10.0 mils wet (254 microns):	<u>at 55F/13C</u>	<u>at 80F/27C</u>	<u>at 120F/49C</u>
To Touch:	2 hours	1 hour	20 minutes
To Tack Free/recoat:	4 hours	2 hours	30 minutes
To Cure:	11 days	7-10 days	2-4 days
Induction Time:	60 minutes	30 minutes	30 minutes
(Time you <u>must wait after</u> Part A and B are <u>mixed, BEFORE applying</u> )			

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 liquids 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 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. Testing 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 Syneffex™ believes are reliable. However, many factors beyond Syneffex's control can affect the use and performance of a Syneffex™ 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 Syneffex™ 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, Syneffex™ will not be liable for any loss or damage arising from the Syneffex™ product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability. For questions, contact Syneffex™ at 800-858-3176 or syneffex.com. Products are Made in the USA.