

MPCI Product Data Sheet
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Thermablock™ 2.3T

Thermal Barrier Coating

PRODUCT DESCRIPTION

Thermablock™ 2.3T Coating is a two part silsesquioxane/titanate material developed as a high temperature coating. The original development of this coating was for tactical aircraft used by the US Air Force. This coating strongly adheres to various substrates including titanium, steel aluminum and thermoset polymer composites. The material is resistant to acids, bases and provides good thermal resistance. The maximum continuous use temperature is 2000° F.

SUBSTRATES AND SURFACE PREPARATION

General

Surfaces must be clean and as dry as conditions permit. Employ adequate methods to remove dirt, dust, oil, and all other contaminants that could interfere with adhesion of the coating. Pitted and corroded substrate may require decontamination with a salt remover solution in water to prevent post application corrosion at the interface.

Carbon Steel

Immersion: SSPC-SP5

Insulated (recommended): SSPC-SP10

Insulated (minimum): SSPC-SP6

Surface Profile: 2.5 – 3.0 mils

Limited Access: SSPC-SP11 is a suitable preparation method for small and hard to access areas or when sandblasting is prohibited.

Stainless Steel

Same as Carbon Steel.

Galvanized Steel

General: surface preparation should not remove the protective galvanize plating. Clean surface per SSPC-SP1.

Aluminum

Same as Galvanized Steel.

Concrete

Prepare in accordance with SSPC SP-13.

Previously Painted Surfaces

Lightly sand or abrade to roughen and degloss the surface. Existing paint must attain a minimum 5B rating in accordance with ASTM D3359 “X-Scribe” adhesion test.

APPLICATION

Apply coating onto prepared surface using a trowel, putty knife or similar device. Thin mix with isopropyl alcohol (IPA) as needed for proper consistency. On vertical surfaces a thick coat may sag and fall off. In these cases use a thinner coating and apply in several layers. Allow a minimum of 16 hours between coats.

Mixing

Power mix part A separately. Part A will settle. Strong agitation is required to separately re-disperse the mix. Then combine with Part B and power mix.

DO NOT MIX PARTIAL KITS.

CLEANUP AND SAFETY

Cleanup

Use isopropyl alcohol, MEK, or acetone. In case of spillage, absorb and dispose per local regulations.

Safety

Follow all caution statements on this product data sheet and on the MSDS for this product. Employ normal workplace safety precautions. Wear appropriate Personal Protective Equipment.

Caution

Flammable materials – keep away from sparks and open flames. All electrical equipment and installations should be made and grounded in accordance with the National Electric Code. In areas where explosion hazards exist, workmen should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

PACKAGING, HANDLING & STORAGE

Shipping: 1 Gallon Kit
5 Gallon Kit

Storage Temperature & Humidity: Store indoors at 32°F to 100°F, at ambient Relative Humidity

APPLICATION CONDITIONS				
Condition	Material	Surface	Ambient	Humidity
Normal	60-85°F	60°F	60-90°F	20-95%
Minimum	50°F	50°F	50°F	20%
Maximum	100°F	90°F	110°F	95%

CURING SCHEDULE			
Surface Temp.	Dry to Recoat	Dry to Topcoat	Final Cure
50°F-100°F	1 hr to 24 hrs	3 hrs	3 days

Technical Data	
Characteristics	Thermablock™ 2.3T
Generic Type	POSS/Silicate/Silicone
Mix Ratio by Volume	(A:B) 130:1
Application Temperature	50°F -110°F
Operating Temperature	-40° - 2000°F
Maximum Sustained Temperature	2000°F
Percent (%) Solids by Volume	55%
VOC	1.20 lbs/gallon (135.00 g/liter)
Shelf Life	6 months @ 75°F
Pot Life	4 hrs @ 72°F, 8 hrs if sealed
Thinner	Isopropyl alcohol

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