

# HEAT-FLEX® 7000 THERMAL INSULATION COATING

Revised: June 10, 2024

## **PRODUCT DESCRIPTION**

**HEAT-FLEX 7000** is a novel, high build, single component, waterborne acrylic liquid insulation product containing a proprietary blend of aerogel and ceramic microspheres to optimize thermal insulative properties. Primarily for use as a Personal Protection (PPE) Coating or to protect against solar radiant heat gain.

### INTENDED USES

- Personal Protection (PPE) Coating for improved plant safety through burn prevention in a single coat of 50 mils (1250 microns)
- Thermal insulation for hot or cold process energy conservation
   Prevent condensation on cold surfaces
- · Minimize radiant solar heat of tanks, containers and personnel enclosures
- For application to properly prepared and primed carbon steel and nonferrous metal surfaces including:
- Tanks Piping Vessels Furnaces Stacks Off shore assets / Marine Containers

Not recommended for:

• Immersion service • Surfaces operating constantly above 350°F (177°C)

#### **PRODUCT DATA Average Drying Times:** Finish: Flat @ 77°F/25°C @ 120°F/49°C Colors: White and Gray To touch: 30 minutes 1 hour Handle (blocking): 8 hours 6 hours Volume Solids: 75% ± 2% (calculated) To recoat: VOC (EPA Method 24): <50 g/L; 0.4 lbs/gal minimum: 9 hours 8 hours maximum\*: 3 months 3 months VOC (EC SED): <50 gms/kilo content by weight Pot Life: n/a n/a VOC (GB 23985): <50 g/L \*Any contamination of the surface due to weathering exposure must be removed with low pressure water washing prior to topcoating **Typical Thickness:** It is recommended that the product is kept above 50°F (10°C) for **Recommended Spreading Rate per coat:** application and mixing. Minimum Maximum Wet mils (microns) **53** (1.325) 133 (3.325) **Performance Characteristics:** Dry mils (microns) 40 (1,000) 100 (2,500) **Test Method Test Name** Results ~Coverage sq ft/gal (m<sup>2</sup>/L) 30 (0.7) 12 (0.3) Theoretical coverage sq ft/gal Abrasion ASTM D4060 50.8 mg 1203 (29.5) (m<sup>2</sup>/L) @ 1 mil / 25 microns dft Resistance NOTE: Trowel, mitt application may require multiple coats to achieve maximum film thickness and uniformity of appearance. ISO 22007-2 0.129 mm<sup>2</sup>/s Diffusivity Emissivity ASTM E408 0.911 Shelf Life: 18 months, unopened. Pass - 50 mils (1,250 microns) dft @ ≤350°F (177°C) Store indoors at 40°F (4.5°C) to 110°F (43°C). Safe Touch ASTM C1057 Flash Point: None Solar Reflectance ASTM E903 0.81 **Reduction:** Water if required Thermal **Clean Up:** Water to flush. R6K25 (Butoxvethanol) for 0.065 W/m\*K ASTM C518 Conductivity equipment storage, to soak tips and clean dried material from equipment. Weight: 5.44 lbs/gal; 0.65 Kg/L

## SURFACE PREPARATION

Primed surface must be clean, dry, and in sound condition. Remove all oil, dust, grease, dirt, loose rust, and other foreign material to ensure adequate adhesion. Refer to specific primer data page for recommended surface preparation for ferrous and nonferrous substrates.

### Minimum recommended surface preparation:

Stainless Steel / Non-Ferrous: Under non-corrosive environments, prepare substrate to SSPC-SP1. Do not use chlorinated solvents for cleaning. For use in corrosive environments, abrasive blast clean to SSPC-SP16 to achieve a profile of 1-2 mils (25-50 microns) using a chloride free non-metallic abrasive. An optional primer can be used if required.



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APPLICATION				RECOMMENDED SYSTEMS (CONT'D)	
Mixing Instructions: Mix with ½" reversible drill and steel drywall mud paddle. Operate drill in reverse position and slowly mix until homogeneous. Do not allow mix blade to contact bottom or sides of container. DO NOT MECHANICALLY SHAKE PAILS! Pump, hose, and gun should be thoroughly flushed and primed with clean water prior to loading product.				The systems listed above are representative of the product's use, other systems including DTM may be appropriate. For improved weathering performance and/or additional color options, an approved topcoat can be applied. The topcoats listed below have been tested and found compatible:	
Air Assisted Airless Texture Spray (drums): Pump5:1 monarch with HD mixer, SS lid and a drum elevator Hose50' 1" with water couplers reduced to a 10' 3/4" whip				Sher-Cryl 1300 Sher-Cryl HPA WB Acrolon 100 Other products may be appropriate. Consult your Sherwin-Williams representative for additional options.	
Pressure.	Pressure			APPLICATION CONDITIONS	
ReductionIf required, 2.5% maximum by volume				Temperature:	
Air Assisted Airless Texture Spray (fives): PumpGraco TexSpray GTX 2000ex Hose1" up to 50' GunGraco STX Air Asst Texture Pressure200-300 psi, do not exceed 300 psi TipWide tex Tip Kit ReductionIf required, 2.5% maximum by volume			2000ex xture	Air & Material: Substrate:	50°F (10°C) minimum, 122°F (50°C) maximum 50°F (10°C) minimum, 350°F (177°C) maximum
			num by volume	At least 5°F (2.8°C) abo	ove dew point
Hand Application*				Relative humidity:	35% minimum, 85% maximum
Apply with painter's mitt, trowel, soft squeegee, or paint brush. Tool marks can be smoothed with a damp sponge roller, mohair roller or paint brush.				NOTE: Sufficient air movement over the newly insulated surface improves curing and speeds drying.	
*Application of more than one coat may be necessary to give				APPROVALS	
equivalent dry film thickness to a single spray applied coat. If specific application equipment is not listed above, equivalent				<ul> <li>ISO 12944 systems from C3-CX on appropriate anticorrosive schemes</li> </ul>	
				ADDITIONAL NOTES	
Atmospheric up to 350°E (177°C) Continuous 400°E (204°C)				Do not tint.	
Intermittent				Application above 300 psi can affect the thermal conductivity of	
Dry Film Thickness / ct. <u>Mi</u>		<u>Mils</u>	(Microns)	the coating and negatively impact performance. Fail-safe devices such as pop-off valves can be used to ensure the correct application parameters	
1 Ct. Ma 1 Ct. Hea	er/Insulation Topcoat, Ati cropoxy 646 at-Flex 7000	3.0-4.0 40-100	(75-100) (1000-2500)	Prepare surface and apply primer per product data sheet.	
Steel, Prime 1 Ct. Zin	er/Insulation Topcoat, Atr c Clad IV (85)	mospheric ≤ 2.0-3.0	<b>302°F (150°C)</b>	performance properties. Coating is considered acceptable for recoat when a firm thumb rotation does not damage film.	
TCt. He	at-Fiex 7000	40-100	(1000-2500)	HEAL	TH AND SAFETY
<b>Steel, Primer/Insulation Topcoat, Atmospheric ≤350°F (177°C)</b> 1 Ct. Zinc Clad II (85) 2.0-3.0 (50-75)			≤350°F (177°C) (50-75)	Refer to the SDS sheet before us	e
1 Ct. Hea	at-Flex 7000′	40-100	(1000-2500)	Published technical data and instru your Sherwin-Williams representa	uctions are subject to change without notice. Contact ative for additional technical data and instructions.
Steel, Prime 1 Ct. Hea	er/Insulation Topcoat, At at-Flex 750	tmospheric 5.0-7.0	≤ <b>350°F (177°C)</b> (125-175)	D	ISCLAIMER
1 Ct. Hea Steel, Prime	at-Flex 7000 er/Insulation Topcoat, At	40-100 Atmospheric ≤ 4.0-5.0 40-100	(1000-2500) ≤ <b>350°F (177°C)</b> (100-125) (1000-2500)	The information and recommenda upon tests conducted by or on beha tion and recommendations set for	tions set forth in this Product Data Sheet are based alf of The Sherwin-Williams Company. Such informa- th herein are subject to change and pertain to the
1 Ct. Heat 1 Ct. Heat	Heat-Flex 1200 Plus Heat-Flex 7000			product offered at the time of public to obtain the most recent Product	ation. Consult your Snerwin-Williams representative Data Sheet.
-			()	V	VARRANTY
Heat-Flex 7000 should be applied at a DFT of 40-75 mils (1000-1875 microns) for all safe touch temperatures. For solar radiant heat gain multiple coats maybe required. Consult your Sherwin-Williams representative for assistance.				The Sherwin-Williams Company warrants our products to be free of manufacturing defects in accord with applicable Sherwin-Williams quality control procedures. Liability for products proven defective, if any, is limited to replacement of the defective product or the refund of the purchase price paid for the defective product as determined by Sherwin-Williams. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY SHERWIN-WILLIAMS, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.	