



HEAT-FLEX® 7000

THERMAL INSULATION COATING

Revised: October 20, 2023

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

Finish:	Flat
Colors:	White and Gray
Volume Solids:	75% ± 2% (calculated)
VOC (EPA Method 24):	<50 g/L ; 0.4 lbs/gal
VOC (EC SED):	<50 gms/kilo content by weight
VOC (GB 23985):	<50 g/L

Typical Thickness:

Recommended Spreading Rate per coat:

	Minimum	Maximum
Wet mils (microns)	53 (1,325)	133 (3,325)
Dry mils (microns)	40 (1,000)	100 (2,500)
~Coverage sq ft/gal (m²/L)	12 (0.3)	30 (0.7)
Theoretical coverage sq ft/gal (m²/L) @ 1 mil / 25 microns dft	1203 (29.5)	

NOTE: Trowel, mitt application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Shelf Life:	18 months, unopened. Store indoors at 40°F (4.5°C) to 110°F (43°C).
Flash Point:	None
Reduction:	Water if required
Clean Up:	Water to flush, R6K25 (Butoxyethanol) for equipment storage, to soak tips and clean dried material from equipment.
Weight:	5.44 lbs/gal ; 0.65 Kg/L

Average Drying Times:

	@ 77°F/25°C	@ 120°F/49°C
To touch:	1 hour	30 minutes
Handle (blocking):	8 hours	6 hours
To recoat:		
minimum:	9 hours	8 hours
maximum*:	3 months	3 months
Pot Life:	n/a	n/a

*Any contamination of the surface due to weathering exposure must be removed with low pressure water washing prior to topcoating.

It is recommended that the product is kept above 50°F (10°C) for application and mixing.

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.



HEAT-FLEX® 7000

THERMAL INSULATION COATING

APPLICATION	RECOMMENDED SYSTEMS (CONT'D)																																																
<p>Mixing Instructions: Mix with 1/2" 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.</p> <p>Air Assisted Airless Texture Spray (drums): Pump.....5:1 monarch with HD mixer, SS lid and a drum elevator Hose.....50' 1" with water couplers reduced to a 10' 3/4" whip Gun.....Graco STX Air Asst Texture Pressure.....200-300 psi, do not exceed 300 psi Tip.....Wide tex Tip Kit Reduction.....If required, 2.5% maximum by volume</p> <p>Air Assisted Airless Texture Spray (fives): Pump.....Graco TexSpray GTX 2000ex Hose.....1" up to 50' Gun.....Graco STX Air Asst Texture Pressure.....200-300 psi, do not exceed 300 psi Tip.....Wide tex Tip Kit Reduction.....If required, 2.5% maximum by volume</p> <p>Hand Application* 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.</p> <p><i>*Application of more than one coat may be necessary to give equivalent dry film thickness to a single spray applied coat.</i></p> <p>If specific application equipment is not listed above, equivalent equipment may be substituted.</p>	<p>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:</p> <p>Sher-Cryl 1300 Sher-Cryl HPA WB Acrolon 100</p> <p>Other products may be appropriate. Consult your Sherwin-Williams representative for additional options.</p>																																																
	APPLICATION CONDITIONS																																																
	<p>Temperature: Air & Material: 50°F (10°C) minimum, 122°F (50°C) maximum Substrate: 50°F (10°C) minimum, 350°F (177°C) maximum At least 5°F (2.8°C) above dew point</p> <p>Relative humidity: 35% minimum, 85% maximum</p> <p>NOTE: Sufficient air movement over the newly insulated surface improves curing and speeds drying.</p>																																																
	APPROVALS																																																
	<ul style="list-style-type: none"> ISO 12944 systems from C3-CX on appropriate anticorrosive schemes 																																																
	ADDITIONAL NOTES																																																
	<p>Do not tint.</p> <p>Application above 300 psi can affect the thermal conductivity of the coating and negatively impact performance. Fail-safe devices such as pop-off valves can be used to ensure the correct application parameters.</p> <p>Prepare surface and apply primer per product data sheet. Excessive mixing and/or atomization may negatively affect performance properties. Coating is considered acceptable for recoat when a firm thumb rotation does not damage film.</p>																																																
RECOMMENDED SYSTEMS	HEALTH AND SAFETY																																																
<p>Atmospheric, up to 350°F (177°C), Continuous; 400°F (204°C), Intermittent</p> <table border="1"> <thead> <tr> <th>Dry Film Thickness / ct.</th> <th>Mils</th> <th>(Microns)</th> </tr> </thead> <tbody> <tr> <td colspan="3">Steel, Primer/Insulation Topcoat, Atmospheric <248°F (120°C)</td> </tr> <tr> <td>1 Ct. Macropoxy 646</td> <td>3.0-4.0</td> <td>(75-100)</td> </tr> <tr> <td>1 Ct. Heat-Flex 7000</td> <td>40-100</td> <td>(1000-2500)</td> </tr> <tr> <td colspan="3">Steel, Primer/Insulation Topcoat, Atmospheric ≤302°F (150°C)</td> </tr> <tr> <td>1 Ct. Zinc Clad IV (85)</td> <td>2.0-3.0</td> <td>(50-75)</td> </tr> <tr> <td>1 Ct. Heat-Flex 7000</td> <td>40-100</td> <td>(1000-2500)</td> </tr> <tr> <td colspan="3">Steel, Primer/Insulation Topcoat, Atmospheric ≤350°F (177°C)</td> </tr> <tr> <td>1 Ct. Zinc Clad II (85)</td> <td>2.0-3.0</td> <td>(50-75)</td> </tr> <tr> <td>1 Ct. Heat-Flex 7000</td> <td>40-100</td> <td>(1000-2500)</td> </tr> <tr> <td colspan="3">Steel, Primer/Insulation Topcoat, Atmospheric ≤350°F (177°C)</td> </tr> <tr> <td>1 Ct. Heat-Flex 750</td> <td>5.0-7.0</td> <td>(125-175)</td> </tr> <tr> <td>1 Ct. Heat-Flex 7000</td> <td>40-100</td> <td>(1000-2500)</td> </tr> <tr> <td colspan="3">Steel, Primer/Insulation Topcoat, Atmospheric ≤350°F (177°C)</td> </tr> <tr> <td>1 Ct. Heat-Flex 1200 Plus</td> <td>4.0-5.0</td> <td>(100-125)</td> </tr> <tr> <td>1 Ct. Heat-Flex 7000</td> <td>40-100</td> <td>(1000-2500)</td> </tr> </tbody> </table> <p>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 may be required. Consult your Sherwin-Williams representative for assistance.</p>	Dry Film Thickness / ct.	Mils	(Microns)	Steel, Primer/Insulation Topcoat, Atmospheric <248°F (120°C)			1 Ct. Macropoxy 646	3.0-4.0	(75-100)	1 Ct. Heat-Flex 7000	40-100	(1000-2500)	Steel, Primer/Insulation Topcoat, Atmospheric ≤302°F (150°C)			1 Ct. Zinc Clad IV (85)	2.0-3.0	(50-75)	1 Ct. Heat-Flex 7000	40-100	(1000-2500)	Steel, Primer/Insulation Topcoat, Atmospheric ≤350°F (177°C)			1 Ct. Zinc Clad II (85)	2.0-3.0	(50-75)	1 Ct. Heat-Flex 7000	40-100	(1000-2500)	Steel, Primer/Insulation Topcoat, Atmospheric ≤350°F (177°C)			1 Ct. Heat-Flex 750	5.0-7.0	(125-175)	1 Ct. Heat-Flex 7000	40-100	(1000-2500)	Steel, Primer/Insulation Topcoat, Atmospheric ≤350°F (177°C)			1 Ct. Heat-Flex 1200 Plus	4.0-5.0	(100-125)	1 Ct. Heat-Flex 7000	40-100	(1000-2500)	<p>Refer to the SDS sheet before use</p> <p>Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.</p>
Dry Film Thickness / ct.	Mils	(Microns)																																															
Steel, Primer/Insulation Topcoat, Atmospheric <248°F (120°C)																																																	
1 Ct. Macropoxy 646	3.0-4.0	(75-100)																																															
1 Ct. Heat-Flex 7000	40-100	(1000-2500)																																															
Steel, Primer/Insulation Topcoat, Atmospheric ≤302°F (150°C)																																																	
1 Ct. Zinc Clad IV (85)	2.0-3.0	(50-75)																																															
1 Ct. Heat-Flex 7000	40-100	(1000-2500)																																															
Steel, Primer/Insulation Topcoat, Atmospheric ≤350°F (177°C)																																																	
1 Ct. Zinc Clad II (85)	2.0-3.0	(50-75)																																															
1 Ct. Heat-Flex 7000	40-100	(1000-2500)																																															
Steel, Primer/Insulation Topcoat, Atmospheric ≤350°F (177°C)																																																	
1 Ct. Heat-Flex 750	5.0-7.0	(125-175)																																															
1 Ct. Heat-Flex 7000	40-100	(1000-2500)																																															
Steel, Primer/Insulation Topcoat, Atmospheric ≤350°F (177°C)																																																	
1 Ct. Heat-Flex 1200 Plus	4.0-5.0	(100-125)																																															
1 Ct. Heat-Flex 7000	40-100	(1000-2500)																																															
	DISCLAIMER																																																
	<p>The information and recommendations set forth in this Product Data Sheet are based upon tests conducted by or on behalf of The Sherwin-Williams Company. Such information and recommendations set forth herein are subject to change and pertain to the product offered at the time of publication. Consult your Sherwin-Williams representative to obtain the most recent Product Data Sheet.</p>																																																
	WARRANTY																																																
	<p>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.</p>																																																