



Heat-Flex[®] 3500

Thermal Insulative Coating

Heat-Flex 3500 is a multi-purpose insulative acrylic coating engineered to optimize thermal properties, offering personnel burn protection and process insulation. This single component coating can be applied to ambient or hot surfaces up to 350°F (177°C) and is suitable for substrates operating between -80°F (-63°C) and 350°F (177°C). Heat-Flex 3500 is flexible to perform under cyclic thermal shock conditions.

With the introduction of Heat Flex 3500, Sherwin-Williams now offers asset owners a single source for insulative coating systems including primers and topcoats, assuring consistent availability and optimal performance.

Benefits:

- Single component waterborne acrylic formulation provides simple application with standard airless spray equipment.
- Very fast dry times reduce application cost and minimize overspray risk.
- Provides improved plant safety by insulating dangerously hot surfaces from personnel.
- Eliminates “hidden” corrosion under insulation (cutting concerns associated with conventional insulation and cladding).
- Low thermal conductivity insulation to improve energy efficiency of hot or cold processes.
- Prevents condensation on cold surfaces by maintaining surface temperature above the dew point.
- Prevents radiant solar heating of material storage containers and personnel enclosures.

Recommended Uses:

- Piping & Valves
- Tanks & Vessels
- Heaters & Boilers
- Stacks & Ductwork
- Compressors & Pumps
- Containers
- Other Hot & Cold Surfaces

Markets:

- Oil & Gas Refineries
- Chemical Plants
- Pulp & Paper Mills
- Power Plants
- Water & Wastewater Plants
- Marine & Offshore Structures
- Food & Beverage Plants
- General Industrial



Product Characteristics

Generic type:	Acrylic
Color:	White
Finish:	Low Sheen
Volume Solids:	83% ± 2%
VOC:	<11 g/L; 0.09 lb/gal

Recommended Spreading Rate per coat:		
	Minimum	Maximum
Wet mils (microns)	18.0 (457)	24.4 (610)
Dry mils (microns)	15.2 (381)	20.3 (508)
~Coverage sq ft/gal (m²/L)	74 (1.8)	55 (1.35)
Theoretical coverage sq ft/gal (m²L) @ 1 mil/25 microns dft	1,327 (32.6)	

Drying Schedule @ 77°F/25°C and 50% RH:	
To touch:	15 minutes
To recoat:	2 hours*
To handle:	12 hours
*Estimate @ 20 mils (500 microns) DFT. Actual recoat times vary due to several variables including film thickness, relative humidity and air movement.	
Refer to application information for further details.	

Shelf Life:	12 months, unopened Store indoors at 50°F (10°C) to 100°F (38°C). Protect from freezing!
Flash Point:	None
Reducer:	Not recommended
Clean Up:	Water

Thickness to meet personnel protection requirements (defined as no skin injury with 5 second contact)		
*Substrate Temp	Coats	Total DFT mils (microns)
Up to 200°F (93°C)	2	30-40 (750-1000)
Up to 250°F (121°C)	2-3	40-60 (1000-1500)
Up to 300°F (149°C)	3-4	50-80 (1250-2000)
Up to 350°F (177°C)	4-5	80-100 (2000-2500)

*The above guidelines were derived through thermesthesiometer (simulated skin temperature probe) testing of lab coated carbon steel panels in accordance with ASTM C-1055/C-1057 and ISO 13732. Onsite evaluation of the applied system is recommended to insure the desired level of burn protection is being provided.

Performance Testing

System tested, unless otherwise noted: 1 ct Heat-Flex 1200, 4 cts Heat-Flex 3500, 1 ct Shercryl HPA		
Test Name	Test Method	Results
Adhesion	ASTM D 3359 ASTM D 4541	5A 360 psi
Corrosion Weathering	ASTM D 5894 9 cycles, 3024 hrs.	Rating 10 per ASTM D714 for blisters Rating 9 per ASTM D610 for rusting Rating 10 per ASTM D1654 for scribe creepage
Flame Spread / Smoke Development*	ASTM E-84 *Heat-Flex 3500 only tested	Class A
Flexibility*	ASTM D 522 Method B 3/8" mandrel	Pass
Personnel Protection	ASTM C1055/ C1057 ISO 13732 substrate temperature of 300°F (149°C)	Pass, OSHA requirements with thermesthesiometer simulated skin temperatures below 140°F (60°C) @ 5 second exposure
Thermal Cycling	ASTM D6994-09 10 cycles, 240 hrs. 1 cycle includes water immersion, 10°F (-12°C) freezer, 120°F (49°C) ambient temperatures	Rating 10 per ASTM D714 for blisters Rating 9 per ASTM D610 for rusting No loss of adhesion to primer
Thermal Conductivity*	ASTM C-335 *4 cts Heat-Flex 3500 only tested	.056 BTU / hr./ft. ² /°F (.097 W/mK)



To learn more, visit us at

www.sherwin-williams.com/protective
or call 1-800-524-5979
to have a representative contact you.