



Protective & Marine Coatings

HEAT-FLEX™ 3500 THERMAL INSULATIVE COATING

Revised 02/2016 - Issue 1

PRODUCT INFORMATION

PRODUCT DESCRIPTION

A multi purpose, single component waterbased acrylic spray applied insulated coating. It contains an engineered composite of ceramic and silica microspheres to optimise thermal insulative properties.

- Single component
- Designed to be applied to hot substrates up to 177°C (350°F)
- Suitable to insulate substrates operating from -62°C to 177°C (-80°F to 350°F)
- Airless spray application
- Fast drying with minimal overspray
- Low odour, low VOC
- Easy to repair
- Flexible to perform under cyclic thermal shock conditions
- Eliminates hidden CUI commonly found under conventional insulation and cladding.

PRODUCT CHARACTERISTICS

Generic Type:	Acrylic
Color:	White
Volume Solids:	83% ± 2% (calculated)
Finish:	Low Sheen
VOC (EPA Method 24):	<11 g/l (0.09lb.gal)

Recommended Spreading Rate per coat:

	Minimum	Maximum
W.f.t microns (mils)	457 (18.2)	610 (24.4)
D.f.t microns (mils)	381 (15.2)	508 (20.3)
~Coverage m²/L (sqft/gal)	1.8 (74)	1.35 (55)

NOTE: Brush or roll application may require multiple coats to achieve maximum film thickness and uniformity of appearance.

Drying Schedule @ 200 microns w.f.t. @ 25°C (77°F), 50% RH

To touch:	15 minutes
To handle:	12 hours
To recoat:	2 hours

*Higher film build effects cure speed and increases ship time at lower temperatures.

Drying time is temperature, humidity, and film thickness dependent.

Shelf Life:	12 months, unopened at 25°C (77°F) Store indoors at 10°C (50°F) to 38°C (100°F)
Reducer:	Not normally recommended*
Clean Up:	Water

RECOMMENDED USES

- Personal protective coating (PPC) for improved plant safety through burn prevention.
- Thermal insulation for hot or cold process energy conservation
- Prevent condensation on cold surfaces
- Minimise radiant solar heat of containers and personal enclosures
- For application to properly prepared and primed carbon steel and non ferrous metal surfaces, including:
 - Tanks
 - Piping
 - Vessels
 - Furnaces
 - Stacks
 - Containers
 - Power Plants
 - Oil & Gas facilities
 - Chemical Plants
 - Offshore/Marine
 - Pulp & Paper
 - Offshore/Marine
 - Personal enclosure

Not recommended for immersion service and surfaces operating above 177°C (350°F)

PERFORMANCE CHARACTERISTICS

Test Name	Test Method	Results
Adhesion	ASTM D3359 ASTM D4541	5A, 360psi
Corrosion weathering	ASTM D5894 9 cycles 3024 hours	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 Heatflex 3500 only	ASTM E84	Class A
Flexibility 1 coat Heatflex 3500 only	ASTM D522 Method B 3/8" mandrel	Pass
Personal protection	ASTM C1055 / C1057 ISO 13732 Substrate temperature of 149°C	Pass, OSHA requirements with thermesthesiometer simulated skin temperatures below 60°C @ 5 second exposure
Thermal cycling	ASTM D6994-09 10 cycles 240 hours each cycle includes water immersion - 12°C Freezer and 49°C ambient temperature exposures	Rating 10 per ASTM D714 for blisters Rating 9 per ASTM D610 for rusting No loss of adhesion to primer
Thermal conductivity four coats Heatflex 3500 only	ASTM C-335	0.056 BTU/hr.ft ² /°F (0.97 w/mk)



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SURFACE PREPARATION

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.

APPLICATION EQUIPMENT

Airless Spray

Nozzle Size 23 - 35 thou depending on application requirements

Operating Pressure 175 kg/cm² (2500 psi)

Petrol Unit:

Nozzle Size 23 - 35 thou depending on application requirements

Operating Pressure 175 kg/cm² (2500 psi)

The airless spray details given above are intended as a guide only. Details such as fluid hose length and diameter, paint temperature and job shape and size all have an effect on the spray tip and operating pressure chosen. However, the operating pressure should be the lowest possible consistent with satisfactory atomisation. As conditions will vary from job to job, it is the applicator's responsibility to ensure that the equipment in use has been set up to give the best results. If in doubt Sherwin-Williams should be consulted.

Use 3/8" ID fluid line where lengths in excess of 10 feet are required. In-line gun or pump filters should not normally be used.

Brush

The material is suitable for brush application but due to the nature of the material a ribbed appearance will result. Application of more than one coat may be necessary to give equivalent dry film thickness to a single applied coat.

RECOMMENDED SYSTEMS

Dry Film Thickness / ct.
Microns (Mils)

Atmospheric (Steel) up to 177°C (350°F)

1 ct.	Heat-Flex Hi-Temp 1200	125-150	(5.0-6.0)
2-10 cts.	Heat-Flex 3500*	375-500	(15-20)
1 ct.	FIRETEX M71V2 or Sher-Cryl HPA	50-100	(2-4)

Atmospheric up to 177°C (350°F)

1 ct.	Zinc Clad II	50-100	(2-4)
2-10 cts.	Heat-Flex 3500*	375-500	(15-20)
1 ct.	FIRETEX M71V2 or Sher-Cryl HPA	50-100	(2-4)

Atmospheric (Stainless Steel) up to 177°C (350°F)

1 ct.	Heat-Flex Hi-Temp 1200	125-150	(5.0-6.0)
2-10 cts.	Heat-Flex 3500*	375-500	(15-20)
1 ct.	FIRETEX M71V2 or Sher-Cryl HPA	50-100	(2-4)

* As required to achieve desired insulative properties

APPLICATION CONDITIONS

Temperature:
surface 10°C (50°F) minimum, 177°C (350°F) maximum
air and material 10°C (50°F) minimum, 49°C (120°F) maximum

Relative humidity: 85% maximum

PACKAGE

Pack Size: 18.9L (5 gallon)

Weight: 0.72 Kg/l, 6lb/gal

SAFETY PRECAUTIONS

Refer to the MSDS sheet before use.

Published technical data and instructions are subject to change without notice. Contact your Sherwin-Williams representative for additional technical data and instructions.

DISCLAIMER

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 Information and Application Bulletin.

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