

THERM500 COATING

THERM500 Coating (T500) is a ceramic based, water-borne insulating coating, designed to insulate in extreme heat situations, and can be used both as a base coat or primer and build layers to achieve the desired thickness. T500 offers safer surfaces and overcomes all the downfalls of conventional insulation.



DESCRIPTION

T500 Coating is designed to control heat transfer on surface temperatures up to 700°F (371°C). It is water-borne and extremely light weight. T500 Coating uses a special acrylic resin blend with specific ceramic compounds added to provide a non-conductive block against heat transfer. T500 Coating offers a Green, non-flammable, non-toxic formula for high heat surface applications over standard steam pipes or oven walls construction. T500 Coating is easily applied using a texture sprayer, and can be applied over metal, concrete, wood, and other substrates.

BENEFITS

- Applies directly to hot surfaces to immediately reduce the surface temperature.
- Adds build coats as needed to reduce the temperature to the desired level.
- Easy to apply. Overcomes downfalls of conventional pipe wrapping.
- Direct-to-metal coating on properly prepared steel.
- Non-flammable and non-toxic.
- Does not absorb moisture or lose insulation value, as it happens for fibreglass.
- Long-term cost effectiveness.

USES

- Reduction of external temperature of hot surfaces as an aid to workers's safety. (Canadian code for hot surfaces = 70°C).
- Reduction of heat losses and resulting energy savings.
- Reduction of condensation in situations with large temperature differences.

Thickness of coating (mm)	Surface Temperature °C							
	90	120	150	180	200	300	400	500
	Surface Temperature in C° with Therm500 Coating							
1	79	105	130	156	173	257	342	427
1,5	76	100	124	148	164	244	324	404
2	73	96	118	141	156	232	307	383
5	60	77	94	111	122	179	236	292
10	48	60	72	84	92	132	171	211
15	41	50	60	69	75	105	136	166
20	37	45	52	59	64	89	113	138
25	34	41	47	53	57	77	98	118

- Thickness calculation related to temperature



APPLICATION

Therm500 Coating should only be used for applications less than 700°F (550° C)
The application is applied using a texture sprayer. Refer to application instruction.

PHYSICAL DATA

- Solids: By Weight: 54.43% / By Volume: 80.31%
- Dry Time: If over 200-300°F.; 10-30 minutes per coat, or until steaming action has finished.
- Lead and chromate free
- Water-borne
- Cures by evaporation: 15 minutes over hot surface
- Weight / Density: 4.4 lbs. per gallon/ 0,61 kg/l
- Vehicle Type: Urethane / Acrylic Blend
- Thermal Conductivity: ASTM C 177 - 0.063 W / mK
- Shelf Life: Up to 1 year if unopened under appropriate storage conditions (See MSDS)
- VOC Level: 14 grams/liter
- pH: 8.5-9.0
- Coverage: 0,03 - 0,26 m²/l (depending on the insulation level)
- Dry Thickness: 3-25 mm (depending on the insulation level)
- Maximum Surface Temperature when applying: 932°F (500°C)
- Minimum Surface Temperature when applying: 40°F (5°C)
- Maximum Surface Temperature after curing: 932°F (500°C)

TESTS AND CERTIFICATIONS

1. ASTM C 177
2. ASTM E 84 - Class A
3. ISO 8302 - Thermal Conductivity
4. IMO - MSC.61(67) Smoke and Toxicity Test
5. Marine Approvals :
 - American Bureau of Shipping
 - US Coast Guard
 - IMO
 - DNV
6. USDA Approved
7. Flexibility (ASTM E1737): 180 degree bend - passed
8. Adhesion (ASTM B3359): Rated a 5B
9. Perm Rating (ASTM E96): 8.8 average
10. Abrasion Resistance (ASTM D4060): 3,000 cycles
11. Resistance to Salt Spray: 2,000 hours
12. Resistance to Wind Driven Rain (ASTM E514)

PROJECTS



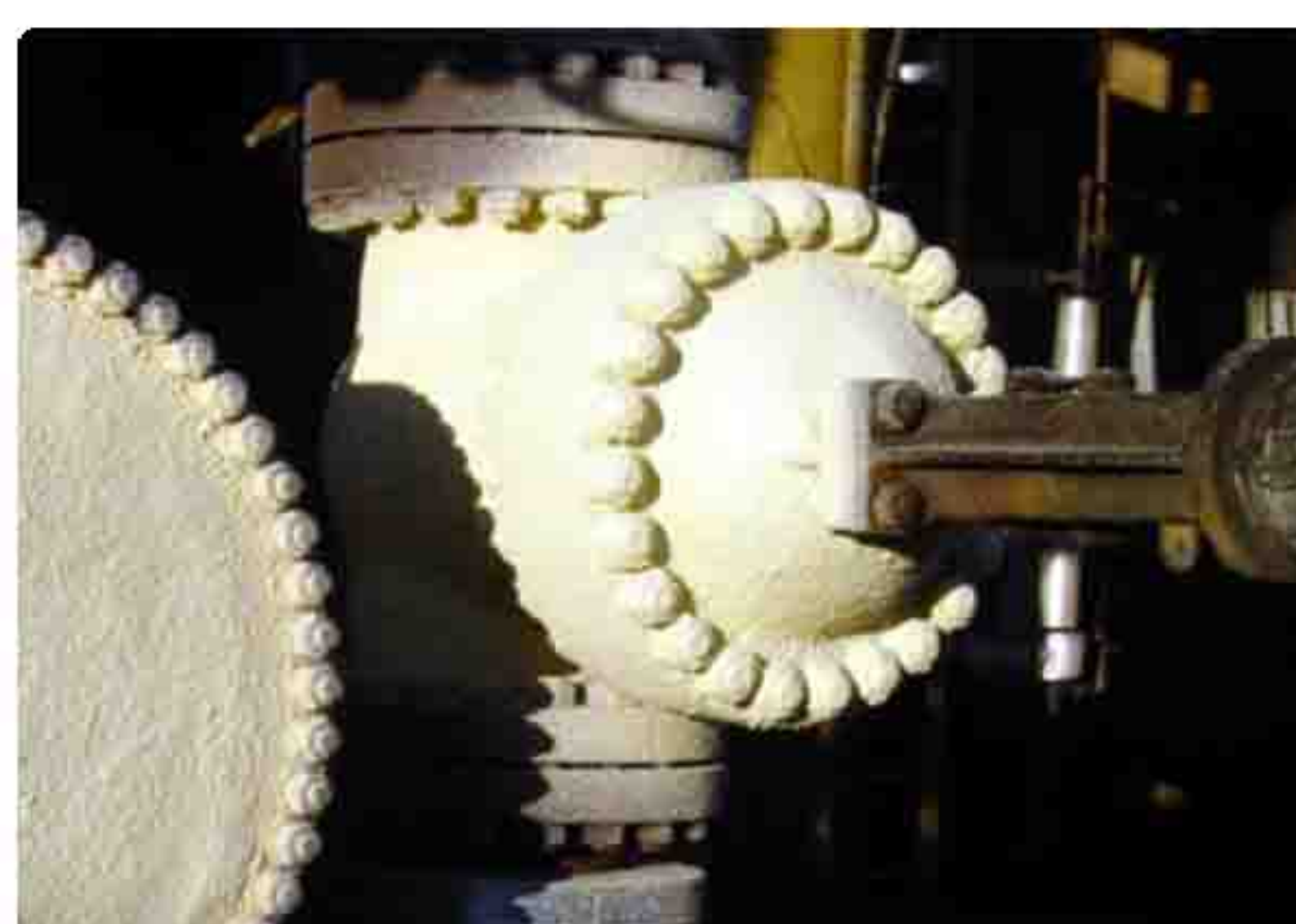
Off-shore application - before



Off-shore application - after



Steam Pipes - [before]



Steam Pipes - [after]