



# Delta T Marine Insulating Coating

*A coating specifically designed for thermal insulation and anti-condensation applications.*



*The coating applies like paint yet provides dramatic temperature differentials for its thickness.*



For the past ten years, Delta T Marine's multiple-purpose coating has been solving painting and insulating problems for marine vessels. During this time, Delta T Marine has provided thermal insulation and anti-condensation protection on vessels in waters ranging from arctic to subtropical. Typically applied to 40 mils (1.0mm), this coating provides similar insulating capabilities to 2" (50mm) of a thermal blanket with

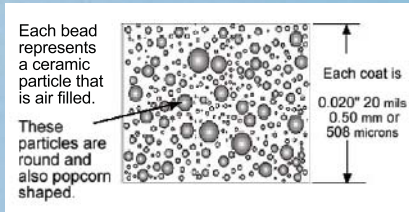
an R11 value\*. Applied by airless sprayer, brush, or roll method, Delta T Marine can be a very cost-effective way to insulate the shell, stiffeners, and overheads for thermal and anti-condensation control. The coating can be sprayed in a fraction of the normal pin and blanket insulation installation time, thereby expediting the vessel's construction time frame.

Applied like a paint, Delta T Marine provides dramatic temperature differentials for its thickness. The coating is comprised of a microscopic match-formulated matrix of air-encapsulated ceramic particles held in suspension by a high-grade acrylic binder. The product is VOC-friendly, non-toxic, non-combustible, and water-based.

Delta T has been a well-proven means of insulation and protection in variety of unforgiving atmospheres. The product has been tested to ASTM standards and exceeds most criteria for weather-ability, adhesion, flexibility, and UV resistance. Its bead-structure composition will perform for the life of the vessel.

**Where to use, specifics, and advantages:** Most often, Delta T Marine is used instead of or as an enhancement to conventional pin and blanket insulation in both new and refurbished vessels. In addition to working on sidewalls, overheads, and stiffeners, it works on tanks or anything else that needs insulation combined with anti-corrosion and anti-sweat protection. The coating is normally applied from 20 to 60 mils (0.50 to 1.50 mm) depending on vessel usage. Peak temperature swings are radically reduced, which keeps environments more pleasant. As a byproduct, Delta T Marine also contributes to decreased sound levels inside the vessel and provides an excellent vapor barrier, increasing the intensity of substrate protection and eliminating, or at the very least strongly reducing, sweating caused by condensation.

**Radiant heat and retention protection:** Delta T Marine has been used on areas that need either radiant heat protection or thermal protection for energy efficiency and protection of personnel. The coating can be built up with repetitive applications, providing increased insulation. Barges and storage devices now have an effective way to insulate without the worry of environmental elements that may destroy conventional insulating systems. This means that cargo holds and void areas are protected and insulated for years to come.



*Photo courtesy of Edison Chouest Offshore*

## BENEFITS OF DELTA T

- **An anti-sweat or anti-condensation coating.**
- **Stops radiant transfer into ships' interior environments.**
- **Saves total installation time compared to most pin and blanket insulators.**
- **Non-combustible.**
- **Designed for thermal insulation, and corrosion protection.**
- **Lightweight.**
- **Deadens sound, dramatically reducing airborne structural noise.**
- **Reduces construction time frame with rapid application.**
- **Approved by all major marine certification bodies.**
- **Meets IMO/SOLAS guidelines under new FTP Code.**
- **Can be easily repaired if needed.**



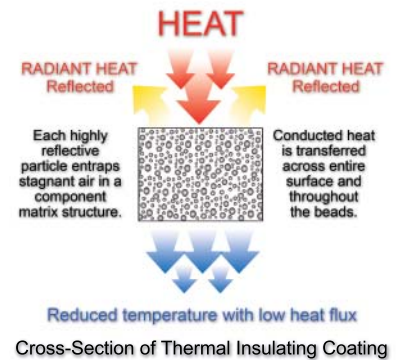
# Delta T Marine<sup>2</sup>

## Thermal Insulating Coating Technical Data

All data is to ASTM standards when applicable

Container size:	5 gallon (20 liters)
Components:	One part (inclusive)
Coat thickness:	20 mils (0.5 mm) dry
Coverage:	50–60 ft <sup>2</sup> /gal at 20 mils (1.4 m <sup>2</sup> /liter at 0.5 mm)
Weight:	5.2 lbs/gal (0.615 kg/liter)
Volume solids:	85%
Color:	White
Sheen:	Flat
Base:	High-grade acrylic Water-based
Solvents:	Water
Chlorides:	None
VOC content:	0.0 lbs/gal
Elongation:	100%
Permeability:	4.98 perms
Accelerated aging:	Excellent (2,100+ hrs)
Abrasion resistance:	Mod-High
Cross-hatch adhesion:	100%, 5A (excellent)
Pull-off strength:	240–260 PSI
Sound loss:	1–3 dB @ 45dB depends on frequency
RvE:	9–13, reflective (R20)
Conductivity:	0.097 W/m/K ASTM C177 0.0131 W/m/K RvE
Testing	
Emissivity:	0.15
Reflectivity:	85%
Transmittance:	0.0
Absorptance:	0.15
UV reflection:	99.9%
Flame spread:	5
Smoke developed:	5
Fire rating:	Class A
Application temperatures:	50–300+° F (10–205°C)
Operation temperatures:	Subzero F to peak 450°F (Subzero to 260°C)
Over coating:	Please call
Tinting:	Standard acrylic tints
App. method:	Airless sprayer
Tip size (spraying):	Reversible 317–521
Product acceptance:	All approvals have been certified under new FTP Codes as set by IMO/ SOLAS

**How does the coating work?** Delta T Marine applies the common physics principles of reflectivity, conduction and emissivity, and absorptance. Its microscopic particle structure (which resembles popcorn-like particles) reflects upwards of 85% of the radiant heat gain back into the environment in which it originated. Each ceramic particle encapsulates air, thereby offering a slow path of thermal transfer. This high content of entrapped and stagnant air very efficiently blocks thermal transfer. In addition, the coating's low emissivity allows for low heat flux. The combination of these factors allows for total thermal dissipation across the surface. The unique composition of the coating makes it extremely efficient for its thickness and prevents substrates from gaining heat, making surfaces cooler to the touch.



**Surface Preparation:** The minimum requirement for carbon steel substrates is a solvent wipe in accordance with SSPC SP 1 followed by power tool cleaning in accordance with SSPC SP 3. Abrasive blasting in accordance with SSPC SP 6 is preferred for longer service life. Surface must be free of all contaminants, both visible and non-visible, prior to coating.

**Primers:** Primers are recommended for carbon steel substrates. Consult Mascoat for the appropriate type of primer for a given environment. Delta T is self priming over non-ferrous materials such as stainless steel and aluminum.

**Airless Sprayer:** An airless sprayer is the best applicator. Sprayer should have capacity of at least 1 gallon per minute with 3,000 PSI. We highly recommend a tip size of 0.017 (for tight spots) and .019–.023 (for normal use) along with a reversible nozzle. Remove all strainers and filters from gun and sprayer. Failure to do so will result in filtering of insulation particles. Please consult website or detailed instruction sheet for list of sprayers and application instructions prior to application of Delta T Marine.

**Small Spray Applications:** An SA gun (sold by Mascoat) can also be used for areas under 100 ft<sup>2</sup> (call Mascoat for details). It can be used with a conventional air compressor with at least 60–80 psi @ 4 CFM. All sprayer requirements can also be accessed at our website along with detailed instructions.

**Brushing:** Brushing is recommended for small areas or for touchups. Apply first coat thinly. Successive coats will cover surface and build more rapidly.

**Rolling:** Delta T Marine can be rolled with conventional low-matt roller. Material finish will have slightly textured appearance.

**Mixing:** Only mud mixing paddles should be used. Use 1/2" drill motor to stir. Make sure drill is on reverse setting to insure that the paddle will not mar the bucket's inner wall.

**Cleaning:** Equipment may be cleaned with soap and water.

**Warranty:** Five-year specific limited warranty.

\*All tests were performed to ASTM procedures when applicable. RVE testing performed at independent lab and based on R value equivalency comparison — not ASTM certified. Findings may be different due to application techniques and environmental conditions. Thermal conductivity is based on equivalency testing. All information contained herein is ©Mascoat Products 2006.

