



TGT-1 / Thermaguard Translucent (250°)

TGT-HT-1 / Thermaguard Translucent High Temperature (450°)

Thermal Control Compounds

ThermaGuard Translucent is designed for applications where a thin coating is required and the highest possible insulation, combined with superior corrosion protection is necessary.

Preferred application method is by brush, roller or an airless sprayer at low pressure can be used. Care should be taken during mixing prior to application not to cause particle shear of the nanocomposite. Preferred method of mixing is using a mixing paddle at slow speed for approximately 1-2 minutes.

The minimum recommended application consists of 3 separate coats. One gallon yields approximately 3 coats over 150-175 square feet of surface area (3.79 litres yields approx. 3 coats over 13.94-16.26 square meters of surface area), depending on surface texture. It is recommended that each coat be allowed to dry for a minimum of one hour before applying an additional coat. Full cure time is approximately 30-60 days, depending on climate and humidity.

IMPORTANT: If you are experiencing cracking, peeling or flaking this indicates your coat application is too thick. Each coat should be approximately 3-5 wet mils in thickness. Most paint and hardware stores should have wet mil thickness gauges available.

For application onto surfaces above 125°F (52°C) it is recommended that the first coats be applied as thinly as possible to prevent blistering. Each subsequent coat may be applied more thickly as the first coats will reduce surface temperature.

The temperature extremes for the substrate to which the material can be applied are 40°F to 212°F (4°C to 100°C).

The application should not go below freezing until cure time of at least 30 days is complete, or you may experience cracking and peeling.

Airless Spray Equipment Recommendations: minimum pump-rated capacity of 1GPM, utilizing a 1/2 inch ID hose, Graco Silver Gun (or equal) with a 0.025 tip, 5-19 RAC tip.

The temperature extremes for the substrate on which the material can maintain its integrity after fully cured are:

TGT-1: a low of minus 40°F (minus 40°C) to a high of 257°F (125°C).
TGT-HT-1: a low of minus 40°F (minus 40°C) to a high of 400°F (204°C).

Coverage Rate: One gallon (3.79 litres) will cover approximately 150-175 square feet (13.94-16.26 square meters depending on surface texture) with the recommended 3 individual coats. Average surface temperature change when applied correctly is approximately 60°F for each 3 coats. We say average because the difference in the high/low temperature extremes is a factor in the surface temperature difference you will see.

Manufacturer's limited Warranty: 5 years when applied as instructed and used as a Direct to Metal Coating.

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Product Features:

- Outstanding mold resistance and insulation properties
- Easy application with brush, roller or airless sprayer
- Non-toxic, water based
- Allows for visual inspection of the substrate through the protective coating
- It exhibits outstanding durability with excellent adhesion to fiberglass, PVC, wood, concrete, drywall and many more substrates.
- Cost effective product - Long term savings

Benefits:

- Protects against mold without the use of toxic moldicides
- Excels in providing thermal insulation in a thin layer
- Space saving - each coat is applied at 3-5 wet mils; a full three-coat application will dry to 4.5-7.5 dry mils.
- Can be painted over
- Helps prevent burns
- Ideal pipe insulation and rust inhibitor -increases energy efficiency
- Easily applied by maintenance crews.

Thermal Conductivity Comparison:

Thermal conductivity, k , is the intensive property of a material that indicates its ability to conduct heat. The lower the thermal conductivity number, the better the insulator. The low thermal conductivity of ThermaGuard and the nanomaterial contained in ThermaGuard is what makes it an excellent insulator.

Material	Conductivity	Source
Hydro NM Oxide	0.017 W/mk	CINT *
Polyurethane Foam	0.040 W/mk	DeepSea Engineering
Cenospheres	0.110 W/mk	Microspheres S.A.
Ceramic Microspheres	0.150 - 0.400 W/mk	3M

* Center for Integrated Nanotechnologies

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