



METALTEC® TC
 INSULATES BY MASTERING
 THERMAL DYNAMIC HEAT
 TRANSFER (TDHT) WHICH IS
 MAINLY IMPACTED BY
 FOLLOWING PARAMETERS:

CONDUCTION

is the transfer of heat, from molecule to molecule, throughout a solid material. The molecules inside the material, which are nearest to a heat source, gain kinetic energy. They vibrate vigorously, and their movement affects the molecules immediately next to them.

REFLECTION

occurs when light rays hit a surface and bounce off changing direction. Mirrors are usually used to demonstrate the reflection of light because their shiny surfaces reflect light more than dull rough surfaces.

RADIATION

this process begins when the internal energy of a system is converted into radiant energy at a source such as a heater. This energy is transmitted by waves through space, just as the sun radiates heat outwards through the solar system. Finally the radiant energy strikes a body where it is absorbed and converted to internal energy. It then appears as heat.



General purpose Silicon & Ceramic liquid insulation

Impressive Results using MetalTec®

Metaltec® TC is a general-purpose liquid insulation, consisting of a mixture of different silicon and ceramic beads blended into a high quality acrylic polymer.

Thermal & Acoustic Insulation

It is designed to provide both thermal and acoustical insulation to a wide variety of industrial applications, providing and performing, low cost alternative to the traditional, more expensive insulation systems

Thanks to its excellent emissivity and reflexivity characteristics, MetaltecTC excels in the insulation of structures and equipment against increases in radiant energy. 99% of this energy is reflected or re-emitted, which means that only 1% is absorbed

Metaltec TC guarantees perfect protection against burns caused by hot or cold structures and surfaces.

Safe for Personnel

It is recommended for the safety of personnel. It significantly reduces corrosion and rust formation. Standard colors are white and black. Latest generation liquid thermal insulation concept, possessing the same characteristics as rock-wool or PU foam, but with additional features designed to

avoid corrosion problems under insulation and infiltration of humidity.

Acrylic Polymer

MetalTec TC is a mono component acrylic polymer, filled with micro glass and ceramic beads, encapsulating air. Developed in space research, it combines performance, lightness, flexibility and compactness.

It is a stable and durable coating, entirely waterproof and very thin: from 1 to 5 mm. It also guarantees a considerable acoustic insulation: between 11 to 14 dB!

Anticorrosion coating

The anticorrosion coating offers excellent protection against rust, and eliminates the corrosion under insulation.

In sensitive to humidity, its characteristics are

not altered in humid environments.

It provides insulation capacity against extreme temperatures ranging from: -40°C to 260°C with a maximum application temperature of 200°C.

Fire retardant certified

MetalTec TC guarantees complete protection against burns (tested through ASTM C 1055-99). With a thickness of 4 to 5 mm, the temperature descends from 180°C to 50-60°C -Safety temperature-



METALTEC® TC

EMISSIVITY

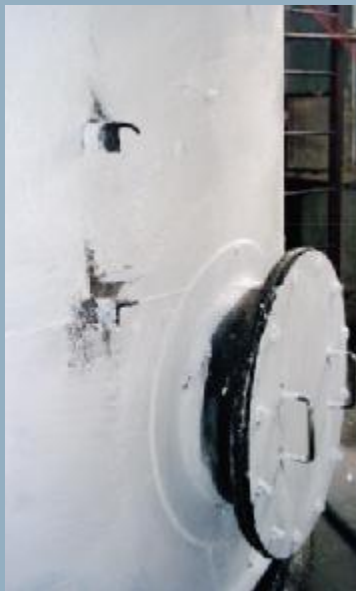
is the ratio of its power radiated per unit surface area to the power radiated per unit surface area of a black body at the same temperature.

ABSORPTIVITY

is defined as the fraction of the total incident radiation absorbed by the surface. Therefore, if the temperature of the surface is constant and energy is conserved, the emissivity is equal to the absorptivity.

TRANSMITTANCE

is the amount of energy that is transferred to a substrate. A low transmittance is desired for thermal insulators. This prevents heat transfer through the insulator by radiation.



Eliminate corrosion under insulation, humidity and inspection problems

MetalTec

It is certified "Fire retardant in Class A", does not propagate flame and its vapor is non-toxic.

Thermos Bottle

All of our coatings employ a highly reflective particle composition structure (hollow ceramic glass insulating particle) to reflect light wave energy (heat) away from the substrate and back to the atmosphere in which it originated. This means that the coating deals with the heat prior to absorption to the substrate. Imagine a Thermos bottle. The coating is very similar in this respect. The coating actually reflects upwards of 85% of the heat generated back to the respective substrate or atmosphere. Now substrates remain cooler to the touch because they do not gain the heat like before.

Stop Heat Transfer

Our coatings use the best in materials to help retard or stop the total heat transfer. This brings up an interesting

conclusion on adding these heat-blocking principles together to represent the total heat transfer. In the past it has been safe to describe the way in which an insulator worked mathematically as:

$$\text{Total Heat transfer (THDT)} = \text{conductivity of a material}$$

Now it must be re-written as:

$$\text{Total heat transfer (THDT)} = \text{Radiation} + \text{Conduction} + \text{Emissivity} + \text{Transmittance} + \text{Absorbance}$$

This way of thinking applies to any type of insulator or insulating method.



Advantages

- Excellent radiant reflectivity and emissivity properties: significantly reduces radiant energy gain
- Low thermal conductivity: good conductive insulation properties
- Very good burn safety characteristics: excellent for personnel protection
- Light weight: less weight than other insulations
- Good adhesion: bonds well to a variety of substrates
- Moisture resistant: helps to prevent corrosion and rust formation
- Easy application: installs in much less time than other insulations
- Eliminates CUI
- Reduces or eliminates condensation

Typical Applications

- Pipe and Valve Insulation
- Tank Insulation
- Corrosion protection
- Roof Coating
- Interior and Exterior Wall Insulation
- Interior and Exterior Ducting
- Interior and Exterior Building Acoustic insulation

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