

PetraShield™ Thermal Barrier Coating TRC-1

Room Temperature Cure, Medium Temperature, High Reflectivity Coating

PetraShield coatings are Zero VOC, ceramic-like coatings that combine the formulation and process versatility of a polymer coating with the physical properties of an advanced ceramic. PetraShield coatings can be applied by wet spraying and rolling processes. The coating adheres to various substrates such as steel and glass.

Features and Benefits

- Room temperature and humidity cure formula
- High reflectivity (Providing up to 30% heat loss reduction with furnace temperature of 1000 °C)
- Low thermal conductivity (<1.0 W/mK)
- Corrosion resistant and high chemical stability

Downloads

- [PetraShield Thermal Barrier Coating TRC-1.pdf](#)



Applications

Thermal barrier coatings, heat shield protection for energy conservation, heat sensitive components, solar cells, etc.

Technical Specifications

Property	Measured Value	Testing Method
Coating Method	Spraying	
Specific Gravity (g/ml)	1.18 ± 0.05	
Thickness (um)	20 ± 5	Coating Thickness Gauge PCE-CT27
Cohesion - Scratch Hardness (MPa)	5±2	ASTM C1624-05, un-failed load
Hardness (Mohs)	2.5±0.5	Mohs Hardness (1-10)
Adhesion - Bend Test (deg.)	>40	ASTM D522M
Total Reflectivity at RT-550°C	70%	Calculation from Blackbody FTIR (ASTM E408-13)
Max Operating Temp (outside skin temp)*	550°C (1022°F)	Tested in Furnace
Corrosion Inhibition (h, stopped with no sign of corrosion)	400 (estimated)	ASTM B117 equivalent on carbon steel

* The coating is intended to be applied to the cold side of the bricks in furnaces allowing for furnace interior temperatures >1100°C.