

Product Specification



PES 205 Ceramic HT Fluid

PES 205 Ceramic HT Fluid

is designed to upgrade the performance of conventional materials of construction and in particular to protect equipment operating in contact with water, pressurized steam and aqueous hydrocarbon mixtures against erosion/corrosion at elevated temperatures. The coating once fully cured is capable of withstanding temperatures up to 266 °f in continuous immersion in water, salt water and crude oil. The material can be applied directly to abrasive blasted steel or to surfaces previously rebuilt with PES 101 Power Metal Paste or 201 Ceramic Repair Paste.

Typical applications

Suitable for the coating of oil and gas processing equipment, condensate extraction pumps, condensate return tanks, calorifiers, distillation units, evaporators, heat exchangers and scrubber units.

The material can also be used as a gap filling adhesive in elevated temperature situations.

Characteristics

Appearance

Base: Dark Grey
Paste
Activator: Amber liquid
Mixed: Thixotropic liquid

Mixing Ratio

By weight: 18:1
By volume: 7:1

Density

Base: 2.55
Activator: 0.97
Mixed: 2.35

Volume Capacity

26 cu in / kg

Solids content

100%

Sag Resistance

Nil at 40 mils

Useable Life

50°F 50-60 minutes
68°F 30-40 minutes
86°F 15-20 minutes

Coverage

Where possible, the application should be carried out in two coats.

The first coat of material should be applied at a target thickness of 24 mils using a practical coverage rate of 6.5 sq ft/kg.

The second coat of material should be applied at a target thickness of 300 microns using

a practical coverage rate of 1.2 sq meters/kg

If a two coat application is not practical, the product can be applied as in a single coat at 650-850 microns using a practical coverage rate of 0.45 sq meters /Kg.

Cure Times

At 68°F, the applied materials should be allowed to harden for at least 6 hours before movement. PES 205 Ceramic HT Fluid is designed for elevated temperature service and **in all situations** requires post cure. After an initial cure period of at least 24 hours at 68°F it should be post cured at between 140°(for 24 hours) and 212°F (for 2 hours) . As an alternative, and where the service temperature will rise gradually, the material can be post cured in service after an initial cure period of at least 24 hours at 68°F. The initial cure period should be at least 48 hours at 50°F and 16 hours at 86°F.

Storage life

5 years if unopened and stored in normal dry conditions (59-86°F)

Product Specification



Mechanical Properties

Abrasion Resistance

Taber H10 Wheels/1 Kg load, wet

85mg loss/1000 cycles
0.036cc loss/1000cycles

Adhesion

Tensile Shear to ASTM D1002 on abrasive blasted mild steel with 3 mil profile

3125psi 220kg/cm²

Compressive strength

Tested to ASTM D 695

13,960psi 983kg/cm²

Corrosion Resistance

Tested to ASTM B117

Minimum 5000 hours

Flexural Strength

Tested to ASTM D790

8710psi 614kg/cm²

Hardness

Shore D to ASTM D2240

86°F	89
212°F	87
302°F	86
392°F	82
464°F	78

Heat Distortion

Tested to ASTM D648 at 264psi fiber stress.

68°F Cure	117 °F
212°F Cure	259 °F
302°F Cure	342 °F

Heat Resistance

Suitable for use in immersed conditions at temperatures up to 266°F and in dry service up to 464°F.

Chemical Resistance

The product resists attack by a wide variety of aqueous non-acidic solutions and hydrocarbon oils at elevated temperature and other media at lower temperatures.

Quality

All PES Products are supplied under the scope of the company's fully documented quality system.

Warranty

PES warrants that the performance of the product

supplied will conform to the typical descriptions quoted within this specification provided material is stored correctly and used according to the procedures detailed in the Technical Data Sheet for the material.

Health and safety

Please ensure good practice is observed at all times during the mixing and application of this product. Protective gloves and other recommended personal protective equipment must be worn during the mixing and application of this product. Before mixing and applying the material please ensure you have read and fully understood the detailed Material Safety Data Sheet

Legal Notice: The data contained within this Product Specification is furnished for information only and is believed to be reliable at the time of issue. We cannot assume responsibility for results obtained by others over whose methods we have no control. It is the responsibility of the customer to determine the products suitability for use. PES accepts no liability arising out of the use of this information or the product described herein.