

Product Specification



PES 203 Super Flow Ceramic Fluid

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Ceramic Fluid is an erosion-corrosion resistant coating used principally in fluid flow situations for improving flow efficiency. 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 equipment such as pump cases and impellers, valves, pipes, propellers, rudders, jet tubes, kort nozzles, etc.

Characteristics

Appearance

Base: Blue or light grey Paste
Activator: Amber liquid
Mixed: Thixotropic blue or light grey liquid

Mixing Ratio

By weight: 5:1
By volume: 2:1

Density

Base: 1.67
Activator: 1.05
Mixed: 1.52

Volume Capacity

40 cu.in./kg 657cc/Kg

Solids content

100%

Sag Resistance

Nil at 16mils.
400 microns

Useable Life

50°F 50-60 minutes
68°F 30-40 minutes
86°F 20-25 minutes

Coverage

Application should be carried out in two coats. To achieve the correct film thickness of 10mils. per coat a practical coverage rate of 23 sq. ft./kg should be aimed for.

Cure Times

At 68°F the applied materials should be allowed to harden for the times indicated below before being subjected to the conditions indicated. These times will be extended at lower temperatures and reduced at higher temperatures:

Movement without load or immersion 6 hours

Light loading 10 hours

Full loading and cold water

immersion 3 days

Hot water and
Chemical immersion 6 days

Storage life

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

Mechanical Properties

Abrasion Resistance

Taber CS17 Wheels/1 Kg load

122mg loss/1000 cycles
0.08cc loss/1000 cycles

Adhesion

Tensile Shear to ASTM D1002 on abrasive blasted mild steel with 3mil angular profile
2650psi
(187kg/cm²)

Compressive strength

Tested to ASTM D 695
10,450psi
(735kg/cm²)

Corrosion Resistance

Tested to ASTM B117
Minimum 5000 hours

Flexural Strength

Tested to ASTM D790
8100psi
(570kg/cm²)

Hardness

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Rockwell R to ASTM ASTM
D785 85

Heat Distortion

Tested to ASTM D648 at 264psi
fibrestress.

68°F Cure 114.80°F

212°F Cure 179.60°F

Heat Resistance

Suitable for use in immersed
conditions at temperatures up
to 158°F. Resistant to dry heat
up to 392°F dependent on load.

Chemical Resistance

The product resists attack by a
wide variety of inorganic acids,
alkalis, salts and organic media.

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.