

Product Specification



PES 202 CERAMIC REPAIR FLUID

PES 202 Ceramic Repair Fluid is an erosion/corrosion-resistant lining for heavy abrasion environments. The product contains hardened ceramic fillers and is ideal for protecting metallic surfaces in aggressive fluid flow environments.

Typical applications

worn impellers, damaged valves, separator housings, damaged pump casings, eroded pipe work, propeller, bow thrusters, rudders, corroded water boxes end plates, and tube sheets.

Characteristics

Appearance

Base: Dark Grey, Light Grey, Red, or Blue paste
Activator: Amber liquid
Mixed: Dark Grey, Light Grey, Red, or Blue

Mixing Ratio

By weight: 8:1
By volume: 3:1

Density

Base: 2.65
Activator: 1.00
Mixed: 2.24

Volume Capacity

28.4in³ (446cc/Kg)

Solids content

100%

Sag Resistance

Nil at 16mils.

Coverage

1kg (2.2lb) of fully mixed product will give the following coverage rates –
19ft² at 10mil
16ft² at 12mil
14ft² at 14mil

Please note that the coverage rates quoted are theoretical and do not consider the profile or condition of the surface being repaired.

Cure Times

The applied material should be allowed to harden for the times indicated below before being subjected to the conditions noted:

Usable life

50°F 50 minutes
68°F 25 minutes
86°F 12.5 minutes
104°F 6 minutes

Minimum overcoating time

50°F 4 hours
68°F 2 hours
86°F 1 hour
104°F 30 mins

Maximum overcoating time

50°F 12 hours
68°F 6 hours
86°F 3 hours
104°F 90 mins

Full Cure

50°F 4 days
68°F 2 days
86°F 1 day
104°F 12 hours

Storage Life

5 years if unopened and stored in normal dry conditions (59-68°F)

Mechanical Properties

Abrasion Resistance

Taber CS17 Wheels/1 Kg load
20mm³ loss/1000 cycles

Adhesion

Tensile Shear to ASTM D1002 on abrasive blasted mild steel with 3mil profile
2875psi (202kg/cm²)

Pull off Adhesion to ASTM D4541 on abrasive-blasted mild steel with a 3-mil profile.
3480 psi (244 kg/cm²)

Compressive strength

Tested to ASTM D695
13650psi (960kg/cm²)

Corrosion Resistance

Tested to ASTM B117
Minimum 5000 hours

Flexural Strength

Tested to ASTM D790
9000psi (635kg/cm²)

Hardness

Rockwell R to ASTM D785
100

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Heat Distortion

Tested to ASTM D648 at 264psi fiber stress.
68°F Cure 118°F
212°F Cure 203°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.

Food Contact

USDA compliant for incidental food contact.

Approvals

Approved by BUREAU VERITAS for Surface Protection and Cold Repair Products applied to Marine Vessels.
Certificate No: 55258/AO BV
Expiry: 24th March 2024

Chemical Resistance

The product resists attack by various inorganic acids, alkalis, salts, and organic media.
For more detailed information, refer to the PES Technical Centre for advice.

Quality

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

Warranty

PES warrants that the product's performance will conform to the typical descriptions quoted within this specification, provided the material is stored correctly and used according to the procedures detailed in the Technical Data Sheet.

Health and Safety

Please ensure good practice is always observed 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 customer's responsibility to determine the product's suitability for use. PES accepts no liability arising from the use of this information or the product described herein.