

Technical Data Sheet



PES 203 Super Flow Ceramic Repair Fluid – solvent-free flow efficiency epoxy fluid with hardened ceramic fillers

PES 203 Super Flow Ceramic Repair Fluid is an erosion-corrosion-resistant coating used principally in fluid-flow situations to improve flow efficiency. The material can be applied directly to abrasive blasted steel or surfaces previously rebuilt with PES 101 Power Metal Repair Paste or 201 Ceramic Repair Paste.

- Apply to abrasive blast-cleaned surfaces
- Apply to surfaces repaired using PES 101 Power Metal Repair Paste or 201 Ceramic Repair Paste

Typical Applications

Improves fluid flow through process equipment

impellers & pump
casings water boxes
propellers
bow thrusters

valves
separator
housings kort
nozzles
ship hulls/ bow

heat exchanger end
plates pipes
rudders
separators

Surface Preparation

Metallic Substrates – Abrasive blast cleaning

1. All oil and grease must be removed from the surface using an appropriate cleaner such as MEK.
2. All surfaces must be abrasive blasted to **ISO 8501/4 Standard SA2.5 (SSPC SP10/ NACE 2)** minimum blast profile of 3mils using an angular abrasive.
3. Once blast cleaned, the surface must be degreased and cleaned using MEK or a similar type of material.
4. All surfaces must be coated before gingering or oxidation occurs.

PLEASE NOTE: The substrate must be pressure washed with clean water for salt-contaminated surfaces and checked for salt contamination. Please refer to the surface preparation and pre-application guide for further information.

Mixing and Application

Before mixing, please ensure the following:

1. The base component is at a temperature between 60-77F°.
2. The ambient & surface temperature is above 50F°.

Once these 2 checks have been met, please proceed with mixing the

product. Mix the unit in full (1kg/3kg); please follow the instructions below:

1. Pour the contents of the Activator unit into the Base container.
2. Ensure as much material as possible is drained from the Activator container into the base container.
3. Mix the two components using the spatula provided.
4. Ensure the product is streak free and a consistent color before applying it to the repair surface.

From the commencement of mixing, the material should be used within 20 minutes at 68F°.

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Application

1. Use a short bristle brush to apply the mixed material, with an approximate bristle length of 2cm.
2. Force the coating into the blast profile.
3. Apply the coating at a wet film thickness range of 8-12mils.
4. Ensure the product is pressed into any holes, scars, or cracks.
5. Once the repair has been completed, smooth off any imperfections using a gloved hand.

Coverage Rates

1kg (2.2lb) of fully mixed product will give the following coverage rates –
34.77ft² at 8mil
23.52ft² at 12mil

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

Cure Times

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

Usable Life	20mins
Minimum overcoating time	2 hours
Maximum overcoating time	6 hours
Full cure	two days

For Optimum Performance

After an initial curing period of at least 4 hours at 68°F, raising the cure temperature progressively to 140-212°F for up to 8 hours will result in improved mechanical, thermal, and chemical resistance properties.

Pack Sizes

This product is available in the following pack sizes –
1kg (2.2lb), 3kg (6.6lb)

Colour

Mixed material - Light grey, Red, Blue
Base component – Light grey, Red, Blue
Activator component –Straw-colored liquid

Over-coating times

Minimum - the applied material can be over-coated as soon as it is touch dry, approximately 2 hours at 68°F.

Maximum - the over-coating time should be at most 6 hours.

Where the maximum over-coating time is exceeded, the material should be allowed to harden before being abraded, or flash blasted to remove surface contamination.



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Storage Life

Five years if unopened and stored in normal dry conditions (60-86°F)

Other Technical Documents

Quick Application Guide	-	Hand application
Safety Data Sheets	-	Base & Activator components
Product Specification Sheet	-	Technical Performance Information

Health and Safety

Please ensure that good practice is observed at all times. Protective gloves, goggles & a disposable coverall must be worn during the mixing and application of this product. Before mixing and applying the material, ensure you have read the detailed Safety Data Sheet.

Legal Notice:

The data contained within this Technical Data Sheet 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 if the product is suitable for use. PES accepts no liability arising from the use of this information or the product described herein.