

Technical Data Sheet



PES POWER METAL 302 Epoxy Repair Cement

PES Power Metal 302 Epoxy Repair Cement is a high performance, two pack, solvent-free epoxy repair system for use on metallic surfaces. Polymeric Engineered Solutions 302 Epoxy Repair Cement is ideal for applications where only minimal surface preparation can be carried out and is usually used in conjunction with Polymeric Engineered Solutions 301 Epoxy Repair Resin and Hardener.

Typical Applications

Suitable for rebuilding corrosion pitting on metallic structures and in particular as a fairing compound on pipework prior to wrapping with the PES 301 Epoxy Repair Resin and Hardener pipe repair system.

Surface Preparation

All oil and grease must be removed from the surface of the repair using an appropriate cleaner such as MEK.

For optimum performance, the surface should be abrasive blasted to Nace #2, SSPC-SP-10, or, Swedish Standard SA2.5 and a minimum blast profile of 3 mils (75 microns) using an angular abrasive. Once blast cleaned, the surface must be degreased and cleaned using MEK or similar type material. All surfaces must be repaired before gingering or oxidation occurs.

PLEASE NOTE: For salt contaminated surfaces the area must be abrasive blast cleaned as mentioned above and left for 24 hours to allow any ingrained salts to come to the surface. After this 24 hour period the surface must be washed with MEK prior to brush blasting to remove the surface salts. This process must be repeated until all ingrained contaminants have been sweated out of the surface.

Where abrasive blast cleaning is not possible (excluding salt contaminated surfaces) the surface should be roughened by MBX, needle gun or grinding.

In areas where the product should not adhere a thin layer of a suitable release agent should be applied taking care not to contaminate other areas.

Mixing and Application

Warm the Base to 59°F-77°F (15-25°C) before mixing and do not apply when the ambient or substrate temperature is below 41°F (5°C) or the relative humidity is above 90%.

Mixing of the product can be on full units or by part-mixing. If mixing the whole unit please ensure as much of the base and activator is dispensed from the plastic container onto a clean plastic mixing surface and mix using a spatula until a uniform material free of any streakiness is achieved while ensuring no unmixed material is left on the spatula or the mixing surface. From the commencement of mixing the whole of the material should be used within 25 minutes at 68°F (20°C).



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For part mixing, using a spatula place equal measures of the Base and Activator onto a clean plastic mixing surface, cleaning the spatula thoroughly between the taking of each measure. Mix as above.

Using a spatula or applicator tool, apply the material to the prepared surface, ensuring the product is pressed into any pitting or other defects and profile the repair to a smooth finish.

Where the material is to be over-coated, this can be done as soon as it is touch dry and at any time up to 24 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.

Cure Times

At 68°F (20°C) 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	2 hours
Light loading	6 hours
Full loading	2 days
Immersion	3 days

For Optimum Performance

After an initial curing period of at least 4 hours at 68°F (20°C), raising the cure temperature progressively to 140°F-212°F (60 - 100°C) for up to 8 hours will result in improved mechanical, thermal and chemical resistance properties

Storage Life

5 years if unopened and store in normal dry conditions 59°F-86°F (15-30°C)

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Volume Capacity	38 cu.in./kg 625cc/Kg
Compressive Strength ASTM D695	10,450psi (735kg/cm ²)
Tensile Shear Adhesion ASTM D1002	2650psi (1865kg/cm ²) - blasted 1834psi (129kg/cm ²) – manually prepared
Flexural Strength ASTM D790	4250psi (298kg/cm ²)
Hardness Rockwell R ASTM D785	100
Corrosion Resistance (ASTM B117)	5000 hours

Health and Safety

Please ensure good practice is observed at all times during the mixing and application of this product. Protective gloves must be worn during the mixing and application of this product. Before mixing and applying the material please ensure you have read the fully detailed Material 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 responsibility of the customer to determine the products suitability for use. Polymeric Engineered Solutions accepts no liability arising out of the use of this information or the product described herein.