Product Code: PST

TECHNICAL DATA SHEET

Industrial Metal
Epoxy Repair Paste

Description
Industrial Metal is a metal-filled, two-part epoxy paste. It is used to protect and strengthen industrial metalwork, rebuild large sections of damage, fill holes and large cracks, and repair areas of pitting. Industrial Metal is reinforced with corrosion resistant platelets which provide excellent protection against corrosion and chemical attack for surfaces in aggressive environments. These platelets also give a smoother finish than regular epoxy pastes when machined.

As well as metalwork, Industrial Metal can be used on wood and most plastics. It cures underwater and has been independently tested to BS 6920 standard. This means when used in conjunction with a **SylWrap Pipe Repair Bandage** during pipe repair applications, it is certified to British standard as safe for us with potable water.

Industrial Metal has a 60 minute work time, allowing large quantities to be mixed and carefully applied without the threat of premature curing. A full cure is achieved in 24 hours. Its light consistency makes it easier to mix than stiff, heavy traditional epoxy pastes. It is thixotropic, meaning it will not sag. Industrial Metal is virtually odourless, with no unpleasant smell compared to other epoxy pastes.

Applications
- Strengthening degraded and weakened pipes by rebuilding exterior wall thickness back towards original specification
- Filling in large cracks and holes in metalwork; repairing pitting
- Relining worn areas in pumps, valves and associated equipment
- Rebuilding worn and damaged parts
- Protecting pipes, tanks, machinery and surfaces from corrosion and chemical attack

Advantages
- Cures underwater and on wet surfaces; moisture tolerant
- Easy to mix and apply with a long working time for complex applications
- Does not shrink and can be machined
- Tested to BS 920 standard

Technical Data

Minimum shelf life (months @ 24°C)	24
Mix ratio (weight)	2:1
Mix ratio (volume)	2:1
Working time (minutes)	60
Full cure (hours)	24
Coverage (cm²/kg @ 5mm thickness)	1212
Shore D hardness (full cure, 24 hrs.)	85
Lap shear tensile strength (Mpa)	
On Steel	18
Tensile strength (MPa)	28
Compressive strength (MPa)	82
Flexural strength (MPa)	38
Density (gm/cm^3)	1.6
Shrinkage (%)	<1
Non-volatile content (%)	100
Heat distortion	
Cured at room temperature (°C)	56
Post cured (°C)	100
Maximum service temperature (°C)	130

(values are typical and should not be used for specification purposes)

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Directions for Use

Surface Preparation

- Surfaces must be prepared prior to application.
- All surfaces must be dry and free of grease. Clean and roughen the surface for optimum adhesion.
- Remove all paint, rust and grime from the surface by abrasive blasting or with sandpaper.
- If applying to aluminium, remove oxidation from surface for optimal adhesion.
- Roughen the surface first, ideally by grit blasting (8-40 mesh grit) or through grinding with a coarse wheel or abrasive disc pad. An abrasive disc may be used provided white metal is revealed. Do not 'feather edge' - Industrial Metal must be 'locked in' by defined edges and a good 3-5mm profile.
- Metal which has been in contact with seawater or other salt solutions should be grit blasted, high pressure water blasted and then left overnight to allow salts in the metal to 'sweat' to the surface. Repeat this process if necessary to 'sweat out' all of the soluble salts.
  - Test for chloride contamination before application.
  - The maximum soluble salts left on the substrate should be no more than 40 ppm.
- Use a solvent cleaner to remove all trances of sandblasting, grit, oil, grease, dust or other foreign substances.
- In cold working conditions, it is recommended the repair area is heated to 37ºC-43ºC prior to application. This will dry off any moisture, contamination or solvents for maximum adhesion.
- Apply Industrial Metal as soon as possible after preparation to avoid oxidation or rusting.

Mixing Industrial Metal

- Measure 2 parts resin to 1 part hardener by volume or weight. For convenience when mixing an entire kit, Industrial Metal is supplied with Part A and Part B in the correct 2:1 mix ratio.
- Mix together with a trowel, other hand tool or stirrer until the epoxy is streak free and a uniform colour.

Application Method

- Industrial Metal should be applied at room temperature between 13ºC and 52ºC.
- Spread Industrial Metal over prepared surface with a putty knife. Press firmly to ensure maximum surface contact and avoid trapping air.
- To bridge large gaps or holes, use fibreglass, sheet metal or wire mesh.
- Industrial Metal work time is 60 minutes. A full cure is achieved in 24 hours. Exact cure time is dependent upon the thickness of the application and temperature at the time of the repair.

Post Curing

- Heat resistance can be as high as 130°C. To achieve max temperature resistance, Industrial Metal should be post-cured:
- Cure at room temperature for 24 hours.
- Heat at 80°C for 2 hours.
- Heat at 130°C for 3 hours.
- Allow to cool.

Packaging

Product Code	Pack Size
PST-500g	500g
PST-4x500g	4 x 500g
PST-2kg	2kg
PST-5kg	5kg
PST-25kg	25kg

Storage

Industrial Metal should be stored out of direct sunlight in dry, frost free conditions at temperatures between 15°C and 20°C. Under such conditions, shelf life will be two years from the date of manufacture.

Health & Safety

Industrial Metal consists of epoxy resins and hardener systems. Please consult the individual Material Safety Data Sheet for hazard information. Wear eye protection and rubber or plastic coated gloves. Wash hands with soap and water immediately after use.