



UPS 105 EG Metal Repair Paste is a high performance multi purpose synthetic metal repair compound specially developed for metal repairs requiring excellent mechanical strength combined with easy machining properties.

Product Features

- Designed for application by trowel or spatula at thicknesses up to 12mm.
- Provides outstanding cold weld capabilities.
- Excellent adhesion to correctly prepared metal surfaces.

Product Applications

UPS 105 EG can be applied to any damaged component in one easy application and is ideal for repairing worn shafts, oversized bearing housings, cracked cases and blocks, damaged flanges, sloppy keyways and scored rams, etc.

Before proceeding, please read the following information carefully to ensure that the correct application procedure is fully understood.

Surface Preparation

Heavy contamination due to oil or grease must first be removed using *UPS TAC 883 Universal Cleaner*. All loose material, rust and surface contaminants, including existing coatings, must be removed and the surface roughened by using an angle grinder, needle gun or abrasive blasting.

Where grinding or needle gunning is used, the surface should be crossed-scored to improve adhesion. Care must be taken, when angle grinding, to avoid polishing rather than roughening metal surface. Where possible, abrasive blasting is the preferred surface preparation, especially in fluid flow repairs.

Surfaces should finally be carefully degreased with *UPS TAC 883*. Cloths should be frequently changed to avoid spreading contamination. On deeply pitted surfaces or porous castings, the cleaner should be worked into the surface by brush and washed off using excess cleaner.

Parts (for example, threads or bearing surfaces) which must remain in position during application but must not adhere to *UPS 105 EG* must be coated with *UPS TAC*

872 Release Agent prior to application of the *UPS 105 EG*.

When treating existing equipment, which may have become salt impregnated due to service conditions, surfaces should first be wet blasted then dry blasted and tested for presence of salts. This process should be repeated until all salts are removed.

Mixing

UPS 105 EG is a two component solvent free material comprising base and activator, which must be mixed together prior to use.

Measure 3 volumes of base and 1 volume activator onto a clean mixing board or other suitable surface. The two components should then be thoroughly mixed until completely streak free.

The mixed material should be used within 25 minutes of mixing at 20°C (68°F). This time will be reduced at higher temperatures and extended at lower temperatures.

Application

The mixed material should be pressed firmly onto the prepared area, working the material into any cracks and surface defects.

When *UPS 105 EG* is being used to bond two surfaces together, both surfaces should be coated with the material. The two pieces should then be pressed firmly together and clamped in position until the product has set, any excess material squeezed out should be scraped away before the *UPS 105 EG* begins to cure.

When a reinforcing tape (*UPS TBRT 4*) is being used to strengthen the repairs the tape should either be impregnated with *UPS 105 EG*, or the tape should be laid over the *UPS 105 EG* surfaces and stippled into the material before it cures, then additional *UPS 105 EG* applied over the surface.

In areas where a second layer of *UPS 105 EG* is required this application must be carried out within the initial set time for the first layer, if this is not possible surfaces will require thorough abrasion or abrasive blasting prior to any subsequent material being applied.

Once the *UPS 105 EG* has reached 'initial set' the material can be separated from the surfaces treated with *UPS TAC 872* Release Agent.

Once *UPS 105 EG* has cured for a minimum of 2 hours at 20°C (68°F), sanding, grinding and machining etc. can be carried out using standard engineering practice.

When machining *UPS 105 EG* a typical Lathe set up would be;

Surface Cutting Speed	200 ft/minute	
Feed Rate	(Roughing)	50 thou/rev
	(Finishing)	10 thou/rev

All equipment must be cleaned immediately after use, with *UPS TAC 883* or MEK.

Physical Constraints

Volume Capacity	410cc (25cu ins / kg)
------------------------	-----------------------

Mixing Ratio	Base	Activator
By Weight	5	1
By Volume	3	1

Colour	Grey
---------------	------

Drying & Cure Times at 20°C (68°F)	
Useable Life	25 minutes
Initial Set	60 minutes
Hard Dry For Machining	2 hours
Full Mechanical Cure	3 days

Volume Solids	100%
----------------------	------

Film Thickness	Up to 12mm
-----------------------	------------

Shelf Life	
Use within 5 years of manufacture date. Store in original sealed containers at temperatures between 5°C (40°F) and 30°C (86°F).	

Maximum Operating Temperatures	
Dry Heat	120°C (248°F)
Wet Heat	70°C (158°F)

Physical Properties

Compressive Strength ASTM D 695	109 Mpa (15500 psi)
--	---------------------

Flexural Strength ASTM D 790	70 Mpa (10000 psi)
---	--------------------

Hardness (Barcol) ASTM D 2583	51
--	----

Heat Distortion ASTM D 648	90°C (195°F) (Post Cure 24hrs at 100°C (212°F))
---------------------------------------	--

Tensile Shear Adhesion ASTM D 1002	17.24 Mpa (2500 psi) (Abrasive Blasted Steel)
---	--

Izol Impact Strength ASTM D 256 Method A	18 J/m
---	--------

Packaging

UPS 105 EG is supplied in the following;

- 4 X 1kg
- 4 X 2kg
- 4 X 3kg
- 4 X 5kg
- 1 X 30kg

Health And Safety

As long as normal good practice is observed *UPS 105 EG* can be safely used. Protective gloves should be worn during use.

A fully detailed Material Safety Data Sheet is either included with the material or is available on request.

The information provided in this Technical Data Sheet is intended as a general guide only and should not be used for specification purposes. The information is given in good faith but we assume no responsibility for the use made of the product or this information because this is outside the control of Unique Polymer Systems LTD. Users should determine the suitability of the product for their own particular purposes by their own tests.

Unique Polymer Systems LTD
Unit 1 Bankside Industrial Estate
Little Marcle Road
Ledbury
Herefordshire
HR8 2DR
United Kingdom