REPAIR AND PROTECTION TECHNOLOGY

TECHNICAL DATA SHEET

METAL-TECH E.G.

Two Component Epoxy Engineering Repair Compound

Thortex Metal-Tech E.G. is a high performance multi purpose synthetic metal repair compound specifically developed for metal repairs requiring good mechanical strength combined with easy machining properties.

Thortex Metal-Tech E.G. is formulated on a complex range of epoxy resins combined with a polyamino curing system reinforced with a phosphor steel alloy to enhance the corrosion and chemical resistance of the whole system.

Thortex Metal-Tech E.G. 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.

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 **Thortex 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 cross-scored to improve adhesion. Care must be taken, when angle grinding, to avoid polishing rather than roughening metal surfaces.

Where possible, abrasive blasting is the preferred surface preparation, especially in fluid flow repairs.

Surfaces should finally be carefully degreased using **Thortex Universal Cleaner.** Cloths should be frequently changed to avoid spreading contamination. On deeply pitted surfaces or porous castings, **Thortex Universal 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 **Thortex Metal-Tech E.G.** must be coated with **Thortex Release Agent** prior to application of the **Thortex Metal-Tech E.G.**

MIXING

Thortex Metal-Tech E.G. is a two component solvent free material comprising base and activator components which must be mixed together prior to use.

Measure 3 volumes of base component and 1 volume activator component 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 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 **Thortex Metal-Tech E.G.** 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 **Thortex Metal-Tech E.G.** begins to cure.

When **Thortex Reinforcing Tape** is being used to strengthen the repairs the tape should either be impregnated with **Thortex Metal-Tech E.G.,** or the tape should be layed over the **Metal-Tech E.G.** surface and stippled into the material before it cures, then additional **Thortex Metal-Tech E.G.** applied over the surface.

Once the **Thortex Metal-Tech E.G.** has reached 'initial set' the material can be separated from the surfaces treated with **Thortex Release Agent.**

Once **Thortex Metal-Tech E.G.** has cured for a minimum of 2 hours at 68°F, sanding, grinding and machining etc. can be carried out using standard engineering practice.

When machining **Thortex Metal-Tech E.G.** 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 **Thortex Universal Cleaner.**

Volume Capacity
25cu ins per kilo

Detailed working recommendations are available from the Technical Center on request.

PHYSICAL CONSTANTS

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

Appearance	Base	Black Paste
	Activator	Light Grey Paste

Drying & Cure Times

at 68°F	Usable Life	25 minutes
	Initial Set	60 minutes
	Machining	2 hours
	Full Mechanical	3 days

Volume Solids 100%

V.O.C. Nil

Shelf Life Use within 5 years of purchase. Store in original sealed containers at temperatures between 40°F and 86°F.

FOR FURTHER INFORMATION PLEASE CONTACT

Food Contact Meets USDA requirements for incidental food contact. Meets FDA requirements CFR 21.175.300 for food contact.

PHYSICAL PROPERTIES

Compressive Strength ASTM D 695	15500 psi
Corrosion Resistance ASTM B117	5000 hours
Flexural Strength ASTM D 790	10000 psi
Hardness (Rockwell R) ASTM D785	100
Heat Distortion ASTM D648 (Post Cured 24 hrs at 212°F)	195°F
Nuclear Decontamination BS4247 Part 1	Excellent
Tensile Shear Adhesion ASTM D1002 (Grit Blasted Steel)	2500 psi

HEALTH AND SAFETY

As long as normal good practice is observed **Thortex Metal-Tech E.G.** 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.

PACKAGING

Supplied in 0.500kg, 1kg, 2kg and 5kg packs

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