REPAIR AND PROTECTION TECHNOLOGY

TECHNICAL DATA SHEET

METAL-TECH F.G.

Two Component Epoxy Fluid Engineering Repair Compound

Thortex Metal-Tech F.G. is a high performance synthetic metal compound specifically developed for resurfacing and reforming damaged metal machinery and equipment.

Thortex Metal-Tech F.G. is based on a complex blend 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 F.G. can be applied to any damaged component and provides an excellent slip resistant surface in combination with **Thortex Grips** and is ideal for drive rollers and brake test rollers where grip is essential.

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** must be coated with **Thortex Release Agent**.

MIXING

Thortex Metal-Tech F.G. is a two pack product comprising a base and activator component which must be mixed together prior to use.

Two volumes of base component and one volume activator component should be transferred to a clean container. The two components should then be thoroughly mixed to produce a completely streak free material.

The mixed material should be used within 40 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 applied by stiff brush or squeegee to the prepared area as soon as possible after surface preparation, and certainly the same day to prevent flash rusting. If flash rusting does occur, the surface should be re-prepared.

On deeply pitted surfaces, the mixed **Thortex Metal-Tech F.G.** must be worked into the surface to ensure complete 'wetting out' and prevention of air entrapment. When a two coat application of **Thortex Metal-Tech F.G.** is specified, the second coat can be applied a minimum of 4 hours after the first application. The maximum overcoating time is 2 days at 20°C (68°F) if this time is exceeded, the surface of the **Thortex Metal-Tech F.G.** should be lightly abraded prior to application of the second coat.

Where a slip resisting system is required, **Thortex H.D. Grip** should be scattered into freshly applied Thortex **Metal-Tech F.G**.

On applications using formers treated with release agent, these formers can be removed as soon as the **Thortex Metal-Tech F.G.** has initially set.

All equipment must be cleaned IMMEDIATELY after use, with **Thortex Universal Cleaner**.

Theoretical Coverage Rate
1.88 m^2/per kilo at 250 microns dft
(20 ft^2 per kilo at 10 mils)

Recommended Film Thickness

Wet	250 microns (10 mils)
Dry	250 microns (10 mils)

Note: Normally applied as a two coat system to achieve a nominal film thickness of 500 microns.

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

PHYSICAL CONSTANTS

Mixing Ratio	Base	Activator	
	2	1	By Volume
	5	1	By Weight

Appearance	Base	Colored Paste
	Activator	Amber Liquid

Drying & Cure Times

At 20°C (68°F)	Usable Life	40 minutes
	Initial Set	4 hours
	Minimum Overcoating	4 hours
	Maximum Overcoating	48 hours
	Machining	8 hours
	Full Mechanical	5 days

Volume Solids 100%

V.O.C. Nil

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

Food Contact Meets U.S.D.A. requirements for incidental food contact.
Meets FDA Requirements CFR 21.175.300 for food contact

FOR FURTHER INFORMATION PLEASE CONTACT

PHYSICAL PROPERTIES

Compressive Strength	635kg/cm^2 (9000 psi)
ASTM D695	
Flexural Strength	490kg/cm^2 (7000 psi)
ASTM D790	
Tensile Shear Adhesion	195kg/cm^2 (2800 psi)
ASTM D1002	(applied to blast cleaned steel)
Heat Distortion	60°C (140°F)
ASTM D648	
Corrosion Resistance	5000 hrs
ASTM B117	
Hardness (Shore D)	85
ASTM D2246	

HEALTH AND SAFETY

As long as normal good practice is observed **Thortex Metal-Tech F.G.** can be safely used.

The use of protective gloves is advisable during use.

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

PACKAGING

Supplied in 1kg and 3kg packs

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