



Combo Wear FC

Description:	High-tech, epoxy compound for quickly repairing processing equipment and returning to service in as little as 1.5 hours
Intended Use:	Repair large cracks in large coal fuel lines; protect pipe elbows, exhausters fans and housings; repair chippers, bins, and hoppers
Features:	Bonds to wet surfaces, Excellent adhesion to metal, ceramic, and concrete, Reinforced with two bead sizes and silicon carbide
Limitations:	Suitability of product is determined by the end user for their application and process.

Typical Physical Properties: Technical data should be considered representative or typical only and should not be used for specification purposes.

Cured 7 Days @ 75°F (24°C)	Typical Values	Standard Tests
Adhesive Lap Shear (GBS)	1,450 psi (10.0 MPa)	Adhesive Tensile Shear ASTM D 1002
Tensile Strength	4,300 psi (29.7 MPa)	
Compressive Strength	11,000 psi (76 MPa)	Compressive Strength ASTM D 695
Dielectric Strength	41 volts/mil (1.6 kV/mm)	Dielectric Strength ASTM D 149
Flexural Strength	7,140 psi (49.2 MPa)	Flexural Strength ASTM D 790
Service Temperature	Wet, 140°F (60°C) Dry, 300°F(149°C)	
Shore Hardness	87 Shore D	Cured Hardness Shore D ASTM D 2240
Coeff. of Thermal Expansion (x10 ⁻⁶)	34 in/in°F (61.2 mm/mm°C)	Coef. of Thermal Expansion ASTM D 696
Cured Shrinkage	0.0008 in/in (cm/cm)	Cure Shrinkage ASTM D 2566
Uncured Properties @ 72°F (23°C)		
Color	Grey	
Working Time	7 minute	
Functional Cure	1.5-3 hours	
Full Cure	8 hours	
Recoat Time	1-2 hours	
Mix Ratio by Volume	2:1	
Mix Ratio by Weight	2:1	
Mixed Viscosity	Non-sag putty	
Solids by Vol.	100%	
Specific Gravity	17 lb/Gal (2.04 g/cm ³)	
Specific Volume	13.6 in ³ /lb (0.491 cm ³ /g)	
Coverage (1/4" / 6.35mm)	54 in ² /lb (773 cm ² /Kg)	

Surface Preparation:

1. Thoroughly clean the surface with Devcon® Cleaner Blend 300 to remove all oil, grease and dirt.
2. Grit blast surface area with 8-40 mesh grit, or grind with a coarse wheel or abrasive disc pad, to create increased surface area for better adhesion (Caution: An abrasive disc pad can only be used provided white Desired profile is 3-5mil, including defined edges (do not "feather-edge" epoxy).

Note: For metals exposed to sea water or other salt solution, grit-blast and high-pressure-water-blast the area, then leave overnight to allow any salts in the metal to "sweat" to the surface. Repeat blasting to "sweat out" all soluble salts. Perform chloride contamination test to determine soluble salt content (should be no more than 40ppm).

3. Clean surface again with Devcon® Cleaner Blend 300 to remove all traces of oil, grease, dust or other foreign substances from the grit blasting.
4. Repair surface as soon as possible to eliminate any changes or surface contaminants.

WORKING CONDITIONS: Ideal application temperature is 55 to 90°F (12-32°C). In cold working conditions, directly heat repair area to 100-110°F (38-43°C) prior to applying epoxy and maintain at this temperature during product cure to dry off any moisture contamination or solvents, as well as to achieve maximum performance properties.

Mixing Instructions:

It is strongly recommended that full units be mixed, as ratios are pre-measured.

1. Add hardener to resin.
2. Mix thoroughly with screwdriver or similar tool (continuously scrape material away from sides and bottom of container), until a uniform, streak-free consistency is obtained.

INTERMEDIATE SIZES (1,2,3 lb. units): Place resin and hardener on a flat, disposable surface such as cardboard, plywood or plastic sheet. Use a trowel or wide-blade tool to mix the material as in Step 2 above.

**Application
Instructions:**

LARGE SIZES: (25 lb., 30 lb., 50 lb. buckets): Use a T-shaped mixing paddle or a propeller-type Jiffy Mixer Model ES on an electric drill. Thoroughly fold putty by vigorously moving paddle/propeller up and down until a homogenous mix of resin and hardener is attained.

ADDITIONAL SURFACE PREPARATION INFORMATION:

If grit blasting is not possible, and expandable metal cannot be used, apply Devcon Brushable Ceramic at 11-18 mils (0.28-0.46 mm) to prime the metal surface. Allow to cure for approximately 2 hours, or until a fingernail can almost depress the primed surface. Immediately apply Combo Wear FC to the surface. DO NOT let the "prime coat" fully cure before applying Combo Wear FC.

Spread mixed material on repair area at a minimum thickness of 1/4". Work firmly into substrate to ensure maximum surface contact. Combo Wear FC fully cures in 8 hours, at which time it can be machined, drilled, or painted.

FOR BRIDGING LARGE GAPS OR HOLES

Place fiberglass sheet, expanded metal, or mechanical fasteners between repair area and Combo Wear FC prior to application.

FOR VERTICAL SURFACE APPLICATIONS

Combo Wear FC can be troweled up to 3/4" (19mm) thick without sagging.

FOR MAXIMUM PHYSICAL PROPERTIES

Cure at room temperature for 2.5 hours, then heat cure for 4 hours @ 200°F (93°C)

FOR ± 70°F (21°C) APPLICATIONS

Applying epoxy at temperatures below 70°F (21°C) lengthens functional cure and pot lifetimes. Conversely, applying at higher temperatures shortens cure time and potlife.

Store at room temperature, 70 °F (21°C).

Storage:

Compliances:

None

**Chemical
Resistance:**

Chemical resistance is calculated with a 7 day, room temp. cure (30 days immersion) @ 75°F (24°C)

1,1,1-Trichloroethane	Very good
Acetic (Dilute) 10%	Poor
Benzene	Very good
Gasoline (Unleaded)	Fair
Hydrochloric 10%	Very good
Methanol	Poor
Methyl Ethyl Keton	Very good
Methylene Chloride	Poor

Nitric Acid 10%	Fair
Phosphoric 10%	Fair
Potassium Hydroxide 40%	Excellent
Sodium Hydroxide 50%	Excellent
Sodium Hypochlorite	Very good
Sulfuric 10%	Very good
Toluene	Excellent
Trisodium Phosphate	Very good

Precautions:

FOR INDUSTRIAL USE ONLY: Please refer to the appropriate Safety Data Sheet prior to using this product.

Warranty:

ITW Performance Polymers will replace any material found to be defective. Because the storage, handling and application of this material is beyond our control, we can accept no liability for the results obtained.

**Order
Information:**

Item No. **Package Size**
11450 9 lb.

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