



## Combo Wear FC

<b>Description:</b>	High-tech, epoxy compound for quickly repairing processing equipment and returning to service in as
<b>Intended Use:</b>	Repair large cracks in large coal fuel lines; protect pipe elbows, exhauster fans and housings; repair c
<b>Features:</b>	Bonds to wet surfaces, Excellent adhesion to metal, ceramic, and concrete, Reinforced with two bead
<b>Limitations:</b>	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 specific

Cured 7 Days @ 75°F (24°C)	Typical Values	Standard Test
Adhesive Lap Shear (GBS)	1,450 psi (10.0 MPa)	Adhesive Tensile
Tensile Strength	4,300 psi (29.7 MPa)	
Compressive Strength	11,000 psi (76 MPa)	Compressive Strength
Dielectric Strength	41 volts/mil (1.6 kV/mm)	Dielectric Strength
Flexural Strength	7,140 psi (49.2 MPa)	Flexural Strength
Service Temperature	Wet, 140°F (60°C) Dry, 300°F(149°C)	
Shore Hardness	82 Shore D	Cured Hardness
Coef. of Thermal Expansion (x10-6)	34 in/in°F (61.2 mm/mm°C)	Coef. of Thermal Expansion
Cured Shrinkage	0.0008 in/in (cm/cm)	Cure Shrinkage

Uncured Properties @ 72°F (23°C)	
Color	Grey
Working Time	7 minute
Functional Cure	1.5-3 hrs.
Full Cure	8 hours
Recoat Time	1-2 hrs.
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 (2.03 g/cm3)
Specific Volume	13.6 in3/lb (0.491 cm3/g)
Coverage (1/4" / 6.35mm)	50 in2/lb (711 cm2/Kg)

<b>Surface Preparation:</b>	<ol style="list-style-type: none"><li>1. Thoroughly clean the surface with Devcon® Cleaner Blend 300 to remove all oil, grease and dirt.</li><li>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 Desired profile is 3-5mil, including defined edges (do not "feather-edge" epoxy).</li></ol>
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Note: For metals exposed to sea water or other salt solution, grit-blast and high-pressure-water-blast for overnight to allow any salts in the metal to "sweat" to the surface. Repeat blasting to "sweat out" all soluble 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 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, heat area to 100-110°F (38-43°C) prior to applying epoxy and maintain at this temperature during product cure to avoid 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 a

**Application Instructions:**

LARGE SIZES: (25 lb., 30 lb., 50 lb. buckets): Use a T-shaped mixing paddle or a propeller-type Jiffy 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 Ceramils (0.28-0.46 mm) to prime the metal surface. Allow to cure for approximately 2 hours, or until a fine film is formed on the primed surface. Immediately apply Combo Wear FC to the surface. DO NOT let the "prime coat" dry 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 16 hours, at which time it can be machined, 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. Conveying at higher temperatures shortens cure time and pot life.

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 are beyond our control, we can accept no liability for the results obtained.

**Order**

**Information:**

**Item No.      Package Size**

14277      50ml Cartg.

**Contacts:**

[www.itwpp.com](http://www.itwpp.com)

ITW Performance Polymers (EMEA)  
Bay 150, Shannon Industrial Estate  
Shannon, County Clare, Ireland V14 DF82  
TEL: +353 61 771 500  
FAX: +353 61 471 285  
Email: customerservice.shannon@itwpp.com

ITW Performance Polymers (US)  
30 Endicott Street  
Danvers, MA 01923 USA  
TEL: 855 489 7262  
FAX: 978 774 0516  
Email: info@itwpp.com

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**Exclusion of Warranties:** As to the herein described materials and test results, there are no warranties that extend beyond the description on the face hereof. ITW PP makes no other warranties, express or implied, including, but not limited to, any implied warranty of merchantability or fitness for a particular purpose. The use of the herein described involves many variables in methods of application, design, handling and/or storage, and the user, in accepting and using these materials, assumes all responsibility for the end result. ITW PP shall not be liable for loss of damages, whether direct, indirect, special, incidental, or consequential, under the legal theory asserted, including negligence, warranty, or strict liability.

Technical Data Sheet

Version 3. 04/2023

little as 1.5 hours

hoppers, bins, and hoppers

sizes and silicon carbide

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Strength ASTM D 695  
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