FX-826

Polymer Mortar

SIMPSON Strong-Tie®

CSI Specification: 03 01 00 Maintenance of Concrete

DESCRIPTION

FX-826 Polymer Mortar is a two-component, flowable, rapid-hardening, chemical-resistant, methyl methacrylate (MMA) resin mortar designed for concrete repairs that require high early strength.

ASSESSMENT

WHERE TO USE

- Partial-depth concrete repairs
- On-grade or below-grade repairs
- Horizontal and formed vertical/ overhead applications
- Concrete paving repair, roads, bridges, parking structures, runways, overlays, and bridge joint nosing
- In-service refrigeration and freezer floors
- Post-tension closure pours and keyway grouting

FEATURES

- Convenient pre-measured system
- Resistant to freeze/thaw cycles
- Excellent resistance to sulfates, de-icing chemicals and acids
- Rapid-curing
- Extendable up to 100% by weight for deep patches/overlays

PRODUCT DATA

Generic Description
Methyl methacrylate repair mortar

Packaging
1 US gallon (3.8 L) kit (FX826KT1-1) contains:

- 1 US gallon (3.8 L) can of Component "A" (FX826-1A)
- (1) 60 lb. (27.2 kg) bag of Component "B" (FX826-B)

5 US gallon (18.9 L) kit (FX826KT5-5) contains:

- (1) 5 US gallon (18.9 L) pail of Component "A" (FX826-5A)
- (5) 60 lb. (27.2 kg) bags of Component "B" (FX826-B)

Color
Dark tan

Product Yield
0.5 ft.^{3} (0.014 m^3) per kit

Storage
Store dry between 45–80°F (7–27°C)

Shelf Life
3 months in unopened packaging

VOC
45 g/L (mixed)

TECHNICAL INFORMATION

The data herein is based on laboratory testing under controlled conditions. Variations may result from mixing methods and jobsite conditions

All Testing Performed at 73°F (23°C), 50% R.H., unless noted otherwise.

Pot Life

90°F (32°C)	15-20 minutes
73°F (23°C)	25-30 minutes
32°F (0°C)	45-50 minutes
20°F (-7°C)	60-65 minutes

Working Time
ASTM C308
20 minutes

Compressive Strength
ASTM C579, method B

2 hours	6,000 psi	41.4 MPa
1 day	7,200 psi	49.6 MPa
7 days	8,000 psi	55.2 MPa

Tensile Strength
ASTM C307

1 hour	600 psi	4.1 MPa
1 day	900 psi	6.2 MPa
7 days	960 psi	6.6 MPa

Flexural Strength
ASTM C580

1 hour	1,900 psi	13.1 MPa
8 hours	2,200 psi	15.2 MPa

PLANNING

LIMITATIONS

- For optimal performance, apply to surfaces between 20°F (-7°C) and 90°F (32°C)
- Minimum ¼ in. (0.6 cm) application thickness; maximum 2 in. (5.1 cm) neat
- Installations over 2 in. (5.1 cm) thick must be extended between 50–100% with coarse, oven-dried aggregate
- Maximum 6 in. (15.2 cm) thickness per lift
- Apply only in well-ventilated areas
- Surfaces must be primed with FX-826 Primer
- Do not apply to damp or wet surfaces
- Material is a vapor barrier after cure. Concrete surface must not exhibit an active moisture vapor drive.

PREPARATION

SURFACE PREPARATION

Concrete and reinforcing steel to receive repair mortar must be sound, clean and free of all contaminants that could impair product adhesion, bond or performance. Concrete should be a minimum of 28 days old or substantially cured to the equivalent design strength prior to FX-826 installation. Prepare concrete and reinforcing steel in accordance with ICRI Guideline 310.1R. Saw cut the perimeter of the repair area taking care to avoid cutting any reinforcing steel. Remove all loose or deteriorated concrete by chipping hammer or other mechanical means to reach sound concrete and achieve an open pore structure and surface profile per ICRI Guideline 310.2R CSP 5-9, taking care to avoid micro-cracking. Remove all corrosion, rust and surface contaminants from reinforcing steel by sandblasting or other mechanical means. Remove all cleaning media and debris by vacuum or blowing with high-pressure, oil-free air. For added corrosion protection, prime exposed reinforcing steel with either FX 406 Zinc-Rich Primer or FX 408 Zinc-Rich Epoxy Primer. Prime the repair area with FX-826P Polymer Mortar Primer at a rate of 50–150 $ft.^2$/US gal. (1.2–3.7 m^2/L) and apply FX-826 Polymer Mortar while the FX-826P is still tacky (before the dry to touch time).

MIXING

For optimal product performance, condition individual components to 70°F (21°C) and stir liquid component thoroughly prior to use. Do not prepare more material than can be used in the pot life of the product. Mix with a mortar mixer or a low-speed (300–600 rpm) drill and mixing paddle. Pour entire contents of liquid Component “A” into clean mortar mixer or pail. Slowly add entire contents of Component “B” while mixing to avoid clumping. Mix until uniform consistency is achieved (2–3 minutes maximum), scraping unmixed material from the sides and bottom of mixing container as needed. Place immediately.

FX-826 Polymer Mortar can be extended up to 100% by weight with ⅜ in. (9 mm) oven-dried coarse aggregate. Aggregate used must be clean, well-graded, oven-dried, and have low absorption and high density. Add the coarse aggregate in combination with the filler in the mixing process.

EXECUTION

APPLICATION

FX-826 must be installed on dry surfaces that have been primed with FX-826P. Use only in well-ventilated areas. Avoid applying in direct sunlight. Immediately following mixing, pour FX-826 into repair area to desired application thickness. Vibrate or screed as necessary or strike off with trowel. Allow to fully cure before placing into service.

SAFETY

CAUTION

Component "A": WARNING! FLAMMABLE! May cause eye and/or skin irritation. Prolonged or repeated exposure may cause skin sensitization.

Component "B": WARNING! May cause eye irritation or damage. Do not breathe dust. Danger of serious damage to health by prolonged exposure through inhalation.

Protective Measures: The use of safety glasses and chemically resistant gloves is recommended. Use appropriate clothing to minimize skin contact. The use of a NIOSH-approved respirator is required to protect respiratory tract when ventilation is not adequate to limit exposure below the PEL. Refer to Material Safety Data Sheet (MSDS) available at **www.strongtie.com/msds** for detailed information.

FIRST AID

Eye Contact: Immediately flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. If redness, burning, blurred vision, or swelling persists, **CONSULT A PHYSICIAN**.

Skin Contact: Remove product and wash affected area with soap and water. Do not apply greases or ointments. Remove contaminated clothing. Wash clothing with soap and water before reuse. If redness, burning, or swelling persists, **CONSULT A PHYSICIAN**.

Ingestion: DO NOT INDUCE VOMITING. CONSULT A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY FOR CURRENT INFORMATION. Never administer anything by mouth to an unconscious person. Rinse mouth out with water. Never leave patient unattended. If vomiting occurs spontaneously, lay individual on their side, keeping head below hips to prevent aspiration of material into lungs.

Inhalation: Remove affected person to fresh air. If affected person continues to experience difficulty breathing, **CONSULT A PHYSICIAN**.

CLEAN-UP

SPILLS

Component "A": Construct a dike to prevent spreading. Soak up with absorbent material such as clay, sand or other non-reactive material. Place in leak-proof containers. Keep out of sewers, storm drains, surface waters, and soils.

Component "B": Avoid dry sweeping. Do not use compressed air to clean spilled sand or ground silica. Use water spraying/flushing or ventilated or HEPA-filtered vacuum cleaning system. Dispose of in closed containers.

SURFACE CLEAN

Liquid or mixed material: Wipe up uncured material with cotton cloths. If desired scrub area with abrasive, water-based cleaner and flush with water. If approved, solvents such as FX-Epoxy Cleaner, ketones (MEK, acetone, etc.), or adhesive remover can be used. Cured material can only be removed by mechanical means.

Powder: Remove any residue with hot soapy water.

TOOLS AND EQUIPMENT

Liquid or mixed material: Remove uncured material with FX-Epoxy Cleaner, ketones (MEK, acetone, etc.), or adhesive remover. Cured material can only be removed by mechanical means.

Powder: Clean with hot soapy water immediately after use.

Skin: Use a non-toxic pumice-based soap, citrus-based hand cleaner, or waterless hand cleaner towel. Never use solvents to remove product from skin.

Disposal: Dispose of container and unused contents in accordance with federal, state, and local requirements. Containers may be recycled; consult local regulations for exceptions.

Distributor

IMPORTANT INFORMATION

It is the responsibility of each purchaser and user of each product to determine the suitability of the product for its intended use. Prior to using any product, consult a qualified design professional for advice regarding the suitability and use of the product, including whether the capacity of any structural building element may be impacted by a repair. As jobsite conditions vary greatly, a small-scale test patch is required to verify product suitability prior to full-scale application. The installer must read, understand and follow all written instructions and warnings contained on the Limited Warranty, product label(s), Product Data Sheet(s), Material Safety Data Sheet(s) and the **www.strongtie.com** website prior to use. For industrial use only by qualified applicators. KEEP OUT OF REACH OF CHILDREN!

Proposition 65: Products contained within this document contain materials listed by the state of California as known to cause cancer, birth defects, or reproductive harm.

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