**DESCRIPTION**
Polypatch FR is a fast setting, deep patching compound fortified with mini-fibers that exhibit high early compressive strengths as well as excellent abrasion and freeze/thaw resistance. Polypatch FR is a blend of portland cement, high performance polymers, selected aggregates and proprietary admixtures. Polypatch FR offers superior resistance to deicing salts, petroleum products and other chemicals prevalent on concrete roadways. In addition, Polypatch FR will not rust or corrode reinforcing steel under moist, humid conditions.

**USES**
Polypatch FR is ideal for a wide variety of concrete repairs:
- Highways
- Bridge decks
- Pavements
- Airport runways
- Warehouse floors
- Industrial plants

**BENEFITS**
- Resistant: Withstands freeze/thaw cycles and corrosive elements
- Rapid Set: High early strength, open to traffic in as little as 1 hour
- Performance: Excellent compressive strengths
- Consistent: Strict Quality Control testing and standards

**STANDARDS**
Polypatch FR meets and exceeds the requirements of ASTM C928 R3.

**SURFACE PREPARATION**
All surfaces in contact with Polypatch FR shall be free of dirt, oil, grease, laitance and other contaminants that may act as bondbreakers. All unsound concrete should be removed to ensure a good bond. Saw cut the perimeter of the area being patched into a square with a minimum depth of 1/2”. Smooth, dense surfaces need to be mechanically abraded to provide necessary bonding requirements. Mechanically prepare the substrate to a minimum CSP 5 following ICRI Guideline 310.2R to allow proper bonding. ACI recommends the area to be patched should be saturated for 24 hours before placement. Remove any standing water. Surface should be saturated surface dry (SSD). For best results, scrub some of the mixed components into the prepared surface. Do not allow scrub coat to fully dry before placement. Always apply a test patch. Maintain contact areas between 40°F (4°C) and 90°F (32°C) prior to repair and during initial curing period.

**YIELD**
50 lbs (22.7 kg) will fill approximately 0.43 ft³ (0.012 m³) when 3.5 quarts mixing water is used.

**LIMITATIONS**
In addition to limitations already mentioned, please note the following. Do not apply when the surface or ambient temperature is below 40°F (4°C) or expected to fall below 40°F (4°C) within 48 hours. Do not apply over surfaces that are frozen or contain frost. Do not apply over any active faults or cracks in the substrate without addressing any movement that may occur. Allow concrete to fully cure for 28 days before use of this product. Setting time will speed up in hot weather and slow in cold weather. For hot and cold weather applications, contact your US SPEC manufacturer’s representative.

**MIXING (continued)**
Drill and mixing paddle #6 per ICRI Technical Guideline 320.5. Pre-wet mixer and empty excess water. Place 3.5 quarts of cool, clean potable water per 50 lb (22.7 kg) bag in mixer, then add dry material. Mix on low RPM for a total of 3 to 5 minutes until a homogeneous mixture is achieved. Mix only enough material that can be placed within working time. For placements greater than 3” depth, Polypatch FR must be extended 30% by weight of powder, with clean, washed and dried 3/8” (1 cm) pea gravel. Do not blend excess water as this will cause bleeding and segregation. Do not use any other admixtures or additives.

**PLACING**
Polypatch FR should be placed upon completion of mixing. Place material consistently, avoiding any air entrapment. Pour material into prepared sawcut area, ensuring that all pores and voids are filled. Force material against edge of repair, working away from center. Screed or float to the level of the surrounding concrete, then trowel, brush or broom to the desired finish.

**FINISHING AND CURING**
Follow standard ACI curing practices. Exposed surfaces should be cured with a membrane forming compound such as US SPEC Maxcure Resin Clear, US SPEC Hydrasheen or US SPEC Hydrasheen 30%.

**STORAGE**
Normal cement storage and handling practices should be observed. Store material in an interior, cool, dry place. Shelf life is one year in original, unopened container.

**PACKAGING**
50 lb (22.7 kg) bag, 63 bags per pallet
PHYSICAL PROPERTIES
All Physical Property testing performed in laboratory conditions of 73.5 ± 3.5°F (23 ± 2°C) and a relative humidity no less than 50% unless otherwise determined by the test method or specification. All results represent Polypatch FR with 3.5 quarts water unless listed otherwise. Tests are conducted under standardized conditions for comparative purposes, and results may not be representative of performance under field conditions.

<table>
<thead>
<tr>
<th>Property and Test Method</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compressive Strength</td>
<td></td>
</tr>
<tr>
<td>ASTM C109</td>
<td></td>
</tr>
<tr>
<td>3 Hours</td>
<td>3,500 psi (24.13 MPa)</td>
</tr>
<tr>
<td>1 Day</td>
<td>5,000 psi (34.47 MPa)</td>
</tr>
<tr>
<td>7 Days</td>
<td>6,000 psi (41.36 MPa)</td>
</tr>
<tr>
<td>28 Days</td>
<td>7,000 psi (48.26 MPa)</td>
</tr>
<tr>
<td>Rate of Set</td>
<td></td>
</tr>
<tr>
<td>ASTM C266</td>
<td></td>
</tr>
<tr>
<td>Working Time</td>
<td>.20</td>
</tr>
<tr>
<td>Initial</td>
<td>.30</td>
</tr>
<tr>
<td>Final</td>
<td>1.05</td>
</tr>
</tbody>
</table>

Density
ASTM C138                129 lb/ft³ (2,066 kg/m³)

Length Change
ASTM C157                28 Days Air (-)0.02% 28 Days Water (+)0.02%

Modulus of Elasticity
ASTM C469                3.64 x 10⁶ @ 28 days (25.07 GPa)

Scaling Resistance
ASTM C672                25 Cycles .02 kg/m²

Bond Strength
ASTM C862                1 Day 2,000 psi (13.79 MPa) 28 Days 2,500 psi (17.24 MPa)

Flow
ASTM C1437               5 Minutes 5% 124%

Coefficient of Thermal Expansion
CRD C39                  5.0 x 10⁻⁶ in/in°F (9.0 x 10⁻⁶ cm/cm°C)

Corrosion Resistivity
Polypatch FR tested compatible with Vector™ Corrosion Technologies Galvashield® embedded galvanic anodes.

DANGER
This product contains Crystalline Silica (CAS# 14808-60-7) and Portland Cement (CAS# 65997-15-1). Harmful if swallowed. Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction. May cause cancer. May cause respiratory irritation. Causes damage to organs through prolonged or repeated exposure. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Use only outdoors or in a well-ventilated area. Do not breathe dust. Keep away from children. Store locked up. Store in a well-ventilated place. Keep container tightly closed. Dispose of contents/container in accordance with local/regional/national/international regulations.

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

FIRST AID
If swallowed: Immediately call a poison center/doctor. Rinse mouth. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.

MANUFACTURER/TECHNICAL SERVICE
Contact your US SPEC manufacturer’s representative for the most current product information. Always read and follow the warnings and instructions on the most current technical data sheets and safety data sheets (SDS), available online at www.usspec.com.

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Denver, CO 80223
Tel: 303.778.7227 Fax: 303.722.8426
Web Site: www.usspec.com

NOTICE OF LIMITED WARRANTY
US MIX Co. (manufacturer) warrants to buyer that this product at the time and place of shipment is of good quality and conforms to the manufacturer’s specifications in force on the date of manufacture when used in accordance with the instructions hereon. Manufacturer cannot warrant or guarantee any particular method of use, application or performance of the product under any particular condition. This limited warranty cannot be extended or amended by manufacturer’s sales people, distributors or representatives or by any sales information, specifications of anyone other than the manufacturer. Liability under this warranty is expressly limited to refund of the purchase price. See product packaging for complete limitation of warranties and liability.

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