

# Economical Fast Concrete Repair (EFCR)

## (3 Component Polymer Hybrid Quick Drying Repairing Mortar)

### Description of the Product

EFCR is an advanced pre-packaged, solvent-free, self-levelling, and self-curing mortar designed for high-performance concrete repair. Enhanced with a high-solid, unique particle pourable polymer hybrid, EFCR delivers exceptional results in demanding environments. EFCR is an ideal solution for quick and durable floor repairs, minimizing downtime while maintaining high-quality standards. It is a rapid curing product which achieves a driveable surface within just 3 hours of application. It has excellent adhesion with concrete surface ensuring long-lasting performance. Temperature Stability is wide which allows it to perform reliably across a wide range of temperatures. Good abrasion resistance offers superior durability, standing up to heavy wear and tear.

### Application

Concrete roads patch repairs, Industrial flooring patch repairs, Hole and void filling, High strength grouting and fixing of anchor bolts, Mechanical joints in road, bridges, deck, Machine bases, base plates for light and heavy machinery including heavy-impact and vibratory machinery, reciprocating engines, compressors, pumps and presses, Spalled concrete structures, Car park decks

### Key Features

1. Rapid curing time trafficking starts @ 3 hrs.
2. Exhibits stability across a wide temperature range, -80°C to +300°C
3. Excellent Abrasion Resistant
4. Excellent Adhesion with concrete
5. Self Levelling
6. Self-Curing
7. High strength and resistant to physical, chemical & thermal shocks
8. Easy to mix and pour

### Packing Details

|                     |                                                                                                                                                                                                                                                                                                                 |                        |
|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Chemical Base:      | Polymer Hybrid                                                                                                                                                                                                                                                                                                  |                        |
| Prebatched Packing: | Total 3 Components (A + B + C)                                                                                                                                                                                                                                                                                  | = 10 kg                |
|                     | Component A                                                                                                                                                                                                                                                                                                     | = 1 kg Pouch/Container |
|                     | Component B                                                                                                                                                                                                                                                                                                     | = 1 kg Pouch/Container |
|                     | Component C                                                                                                                                                                                                                                                                                                     | = 8 kg Bag             |
| Colour:             | Cement Grey/Dark Grey                                                                                                                                                                                                                                                                                           |                        |
| Density:            | 1.7 + 0.05 Kg/Litre                                                                                                                                                                                                                                                                                             |                        |
| Pot Life:           | 30 Minutes @ 30°C                                                                                                                                                                                                                                                                                               |                        |
|                     | After all components A, B & C has been combined, pot life starts. At high temperatures, it is shorter, and at low temperatures, it is longer. The pot life decreases as the amount blended increases. Smaller amounts of the blended adhesive may be used to achieve extended workability at high temperatures. |                        |
| Shelf Life:         | 24 Months from production date                                                                                                                                                                                                                                                                                  |                        |
| Storage Conditions: | To ensure optimal performance, store EFCR in its original, undamaged, sealed packaging in a dry environment with temperatures maintained between +10°C and +35°C. Avoid exposure to direct sunlight.                                                                                                            |                        |

## Technical Details

|                        |                             |                                     |                    |
|------------------------|-----------------------------|-------------------------------------|--------------------|
| Compressive strength:  | <b>Curing Time (@ 30°C)</b> | <b>Compressive Strength (N/mm2)</b> | <b>(ASTM C579)</b> |
|                        | 3 Hours 1 Day 3 Day         | ≥ 15 N/mm2                          |                    |
|                        | > 10 N/mm2 > 10             | ≥ 30 N/mm2                          |                    |
|                        |                             | > 40 N/mm2                          |                    |
| Tensile Strength:      | N/mm2 – 80 °C to +          |                                     |                    |
| Adhesion Strength:     | 300 °C                      |                                     |                    |
| Temperature Stability: |                             |                                     |                    |

## Application Details

|                        |                                                           |
|------------------------|-----------------------------------------------------------|
| Mixing Ratio:          | Comp A: Comp B: Comp C = 1: 1: 8 (By Weight)              |
| Consumption:           | 1 Box covers 550 Cubic Inch volume (for 1 Inch Thickness) |
| Thickness:             | Minimum 25 mm<br>Maximum 75 mm per layer                  |
| Ambient Temperature:   | Minimum – 80 °C<br>Maximum + 300 °C                       |
| Substrate Temperature: | Minimum + 10 °C<br>Maximum + 40 °C                        |

## Safety and Health

Before utilizing any items, users must read the most recent Material Safety Data Sheets (MSDS). The MSDS includes physical, ecological, toxicological, and other safety-related data, as well as guidance on how to handle, store, and dispose of chemical goods safely.

## Application Guidelines

|                                   |                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Surface Preparation Requirements: | <ol style="list-style-type: none"><li>Concrete Age: Must be at least 28 days old.</li><li>Condition: The concrete surface should be sound, clean, dry or matt damp, free from standing water.</li><li>Contaminant-Free: Substrates must be free of contaminants such as ice, dirt, oil, grease, coatings, laitance, efflorescence, surface treatments, and loose or friable material.</li></ol> |
|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Application Process:

### Substrate Quality:

The minimum age of the concrete substrate is 28 days. Verify that the substrate's surface is clean, dry, and free of contaminants such as oil, grease, dirt, and surface treatments. If any are present, please remove them. There should be no ice, standing water, or excessive moisture on the substrate, which can be either dry or damp.

**Surface Preparation:** To ensure the repaired pothole has a solid foundation and enhances the longevity of the repair, following procedure should be recommended:

**1.Edge Cutting:** Begin by properly grooving the edges of the pothole using a concrete cutter. The depth of the cut should be determined based on the severity and depth of the damage. This ensures a clean and well-defined repair area.

**2.Removal of Loose Material:** After cutting, use a concrete breaker to break away any loose or damaged material within the pothole. Ensure all unstable sections are thoroughly removed. Clear out the loose debris manually or using appropriate tools to ensure no remnants are left inside the repair area.

**3. Dust Extraction:** Use a vacuum pump to remove all fine dust particles from the prepared surface. This ensures a clean substrate for effective adhesion and a durable repair.

### **Mixing Process:**

Following these steps will ensure optimal performance and quality of the material.

#### **1. Prepare the Components:**

- a. Take Component A and Component B.
- b. Shake both components well before opening to ensure proper consistency.

#### **2. Initial Mixing:**

- a. Pour both components into a 10-liter capacity bucket.
- b. Using a putty stirrer or a low-speed drill (250–550 rpm), mix Components A and B for approximately 30–60 seconds.
- c. Continue mixing until the materials are uniformly blended in color and viscosity.

#### **3. Add Component C:**

- a. Gradually add Component C to the mixed A and B components.
- b. Mix for approximately 1.5 minutes until the mixture is uniform and homogeneous.

#### **4. Full Mixing Requirement:**

- a. Ensure all three components are mixed thoroughly.
- b. Part mixing is not recommended as it may compromise the quality of the product.

#### **5. Ready to Use:**

- a. The mixture is now ready for use.
- b. Keep in mind that the pot life of the mixed material is 30 minutes. Use the mixture within this time frame to avoid workability issues.

### **Application Process:**

1. Pouring the Product: Pour the mixed EFCR directly into the prepared pothole.
2. No Vibration Needed: As the product is self-levelling, there is no need for vibration or applying pressure to settle it.
3. Surface Smoothing: Use a *Palti Patra* or trowel to smoothen the surface for a clean finish.
4. No Curing Required: The product is self-curing, so there's no need to apply any curing compound.
5. Recommended Depth: The suggested pouring depth is 1.5 inches.
6. For depths exceeding 1.5 inches, use a packing material like aggregates.
7. Fill the pothole with aggregates, leaving the top 1.5 inches vacant for EFCR application.
8. Then pour the EFCR to complete the repair.

### **Legal Note:**

The details provided, particularly recommendations regarding the application and use of Zara Globe Solutions Pvt. Ltd. products, are shared with the best intentions based on the current knowledge and expertise of the company. These recommendations assume proper storage, handling, and application under standard conditions in line with the provided guidelines.

However, due to variations in materials, substrates, and on-site conditions, no guarantees of merchantability or fitness for a specific purpose are implied, nor does any legal liability arise from this information, written recommendations, or other advice. It is the user's responsibility to assess the product's suitability for the intended application and purpose.

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### Product Data Basis

Laboratory testing serve as the basis for the technical information presented in this product data sheet. Actual measured data may differ as a result of events beyond of our control.

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