

## Conpatch® 635

### ONE PART POLYMER MODIFIED MEDIUM WEIGHT CONCRETE REPAIR MORTAR

#### DESCRIPTION

Ready to use one part concrete repair mortar which requires the addition of water to produce a medium weight repair mortar. **Conpatch 635** is based on cement, especially graded aggregate, light weight aggregates and additives which produce an easy to use mortar. Meets the requirements of R3 of EN 1054-3

#### USES & ADVANTAGES

**Conpatch 635** is used to repair large areas of reinforced concrete where low permeability high quality repairs are required. It may be used in columns, and beams but due to its low density may also be used overhead and can also be used in small localised patch repairs. It can be applied in sections up to 40 mm. thick in vertical locations and 30 mm. overhead. Thick sections may be built in layers. Deeper pockets can be filled in single applications depending on the incline. Build can be increased significantly by wet spraying i.e. 75-100 mm. vertically and 65-85 mm. overhead depending on the reinforcement locations.

Use for remedial works to principle 3 method 3.1 & 3.3 EN 1504-9, principle 4 method 4.4 of EN 1504-9 and principle 7, method 7.1 & 7.2 of EN 1504-9

Where strength below 30 N/mm<sup>2</sup> or higher builds are required use **Conpatch 675**.

#### Advantages include:-

- Low chloride permeability.
- Excellent adhesion.
- High build are application.
- Can be spray applied.
- Suitable for contact with potable water. Conforms to AS/NZS 4020:2005.
- Meets requirements of EN standards R3 of EN 1504-3.
- Very low shrinkage.

#### PROPERTIES AND COMPLIANCE

The following results were obtained at a water : powder ratio of 0.19 and temperature of 25°C.

<b>Appearance:</b>	Grey powder
<b>Fresh Wet Density:</b>	Approx. 1,580 kg/m <sup>3</sup> depending on actual consistency used.
<b>Setting Time:</b>	Initial 2.30 hours ASTM C191-01a / ASTM C807 Final 4.00 hours
<b>Compressive Strength:</b>	Approx. 28 - 35 N/mm <sup>2</sup> ASTM C109 at 28 days
<b>Flexural Strength:</b>	>6.6 N/mm <sup>2</sup> at 28 days ASTM C348
<b>Tensile Strength:</b>	3.0 N/mm <sup>2</sup> at 28 days Tested to BS6319 Part 7

#### Carbon Dioxide Barrier 10 mm. of Conpatch 635:

Equivalent to 600 mm of concrete

#### Chemical Resistance:

Reduces dramatically chemical attack due to low permeability. Impermeable to acid, gases, water borne chlorides, ions and oxygen. Chloride diffusion is very low.

<b>Drying Shrinkage:</b>	< 300 micro strain at 7 days
ASTM C490	< 500 micro strain at 28 days
<b>Fire Rating:</b>	Non combustible
<b>Coefficient of Thermal Expansion:</b>	11 x 10 <sup>-6</sup> / °C
<b>Water Absorption:</b>	10 minutes 0.007 ml/m <sup>2</sup> /sec.
ISAT	2 hours 0.002 ml/m <sup>2</sup> /sec.
<b>Chloride Diffusion:</b>	< 5 x 10 <sup>-13</sup> m <sup>2</sup> s <sup>-1</sup> .

#### EN Requirements

Requirements as per EN 1504-3 Class R3  
(Tested at Water : Powder ratio = 15.5%)

	Test Method	Result	Requirements (R3)
<b>Compressive Strength</b>	EN 12190	≥ 25 N/mm <sup>2</sup> (Mpa)	≥ 25 N/mm <sup>2</sup> (Mpa)
<b>Chloride Ion Content</b>	EN 1015-17	< 0.05 %	< 0.05 %
<b>Capillary Absorption</b>	EN 13057	≤ 0.5 kg.m <sup>-2</sup> .h <sup>-0.5</sup>	≤ 0.5 kg.m <sup>-2</sup> .h <sup>-0.5</sup>
<b>Carbonation Resistance</b>	EN 13295	Pass	Lower than control
<b>Adhesive Bond</b>	EN 1542	≥ 1.5 N/mm <sup>2</sup> (Mpa)	≥ 1.5 N/mm <sup>2</sup> (Mpa)

#### SUBSTRATE PREPARATION

Cut back edges at right angles avoiding feather edges to a depth of at least 10 mm.

The substrate should be clean & sound. Remove dirt, dust, oil, grease, laitance, sealers, release agents, curing compounds & paints.

Exposed rebar should be cleaned & protected with **Congard Zinc** or **Congard ST**.

The concrete should be presaturated for preferably 6 hours with water before application.

#### PRIMING

Apply **Cormix Latex** / cement bonding slurry to prepared surface and whilst still tacky apply **Conpatch 635**.

#### MIXING

Note that powder must always be added to water.

**Conpatch 635** is simply mixed with water to yield a stiff easily workable compound with shrinkage compensating properties.

The quantity of water depends on the desired consistency but as a guide we recommend 15-16% by weight of product.

Mix with a paddle mixer or trowel for at least 3 minutes to ensure a homogenous lump free material is achieved.

Do not try to remix the product after losing workability by the addition of more water. Can be applied with a trowel or by spray.

## Conpatch® 635

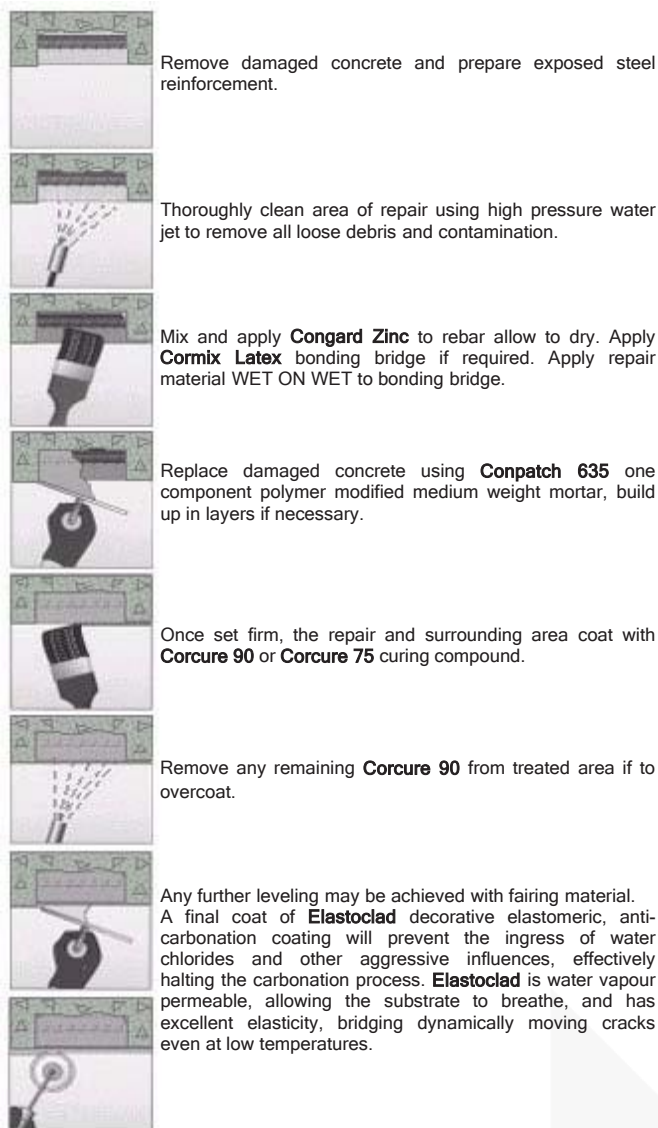
ONE PART POLYMER MODIFIED MEDIUM WEIGHT CONCRETE REPAIR MORTAR

### METHOD OF USE

Ensure exposed steel is firmly secured. Apply **Conpatch 635** by hand or trowel and firmly compact to primed surface. Build up in layers where greater depths than 30-40 mm. are required. Thicker repairs may be achieved by spraying.

If sagging occurs remove material and primer and start again in reduced thicknesses. The repair may be finished with a steel, wooden or plastic float, sponges may be used to achieve the required texture. Do not over work the surface.

### Typical Procedure for Concrete Repair Using Conpatch Repair Mortars



Remove damaged concrete and prepare exposed steel reinforcement.

Thoroughly clean area of repair using high pressure water jet to remove all loose debris and contamination.

Mix and apply **Congard Zinc** to rebar allow to dry. Apply **Cormix Latex** bonding bridge if required. Apply repair material WET ON WET to bonding bridge.

Replace damaged concrete using **Conpatch 635** one component polymer modified medium weight mortar, build up in layers if necessary.

Once set firm, the repair and surrounding area coat with **Corcure 90** or **Corcure 75** curing compound.

Remove any remaining **Corcure 90** from treated area if to overcoat.

Any further leveling may be achieved with fairing material. A final coat of **Elastoclad** decorative elastomeric, anti-carbonation coating will prevent the ingress of water chlorides and other aggressive influences, effectively halting the carbonation process. **Elastoclad** is water vapour permeable, allowing the substrate to breathe, and has excellent elasticity, bridging dynamically moving cracks even at low temperatures.

### CURING

Cure with **Corcure 90**. Large areas should be cured as work progresses.

### PACKAGING

18 kg. 4 ply plastic lined bags.

### STORAGE & SHELF LIFE

**Conpatch 635** has a shelf-life of up to 12 months in unopened packs kept in a dry store. If high humidity is apparent the life may be reduced to 6-8 months.

### HEALTH & SAFETY

**Conpatch 635** is non-toxic but is alkaline in its nature. Avoid inhalation of dust and contact with skin and eyes. Wear suitable protective clothing, gloves and eye protection and dust mask. In case of contact with eyes rinse immediately with plenty of water and seek medical advice. When in contact with skin rinse with clean water and cleanse with soap and water. **Conpatch 635** is nonflammable.

### TECHNICAL SERVICE

The Cormix International Technical Service Department is available to assist you in the correct use of our products and its resources are at your disposal entirely without obligation.

### QUALITY ASSURANCE

ISO 9001: 2008 verified by TUV Nord.

### CONTACT DETAILS

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