

QED UltraPatch™

Low shrinkage high build concrete repair mortar

Product Description

QED UltraPatch is a cementitious single component polymer modified concrete repair mortar for use in vertical and overhead applications.

Composition

QED UltraPatch consists of blended cements, acrylic polymers and graded sands.

Advantages

- Tropical grade
- Low shrinkage
- High strength
- Low permeability

Uses

- Patch repairs to reinforced concrete structures
- Restoration of cover
- Repair of honeycombed concrete

Laboratory Test Data

Property	Typical Results
Compressive strength (BS 6319)	40MPa at 28 days
Tensile strength (BS 6319)	2MPa at 28 days
Flexural strength (BS 6319)	4MPa at 28 days
Shrinkage (ASTM C531)	0.035% at 7 days
I.S.A.T. (BS 1881)	Nil after 30 mins.

The above data was obtained under laboratory conditions using a water/powder ratio of 0.15. Actual results in the field will vary as a result of different factors such as temperature, actual water content, curing and compaction.

Application Properties

Properties	Typical Results
Application temperature	5 to 40C
Min. application thickness	10mm
Max. application thickness	125mm
Max. temp. of mixed mortar	30C
Application time (in shade)	60 minutes at 35C

Coverage

One bag yields approximately 16 liters.

Packaging

25kg bags.

Shelf Life

12 months when stored below 35C under shade in a dry environment.

Installation Guidelines

X-Calibur provides detailed method statements on all its products for use in various applications. These must be referred to prior to starting work. The information below is a summary intended for guidance only.

Surface Preparation

Concrete substrate must be structurally sound. Loose or unsound concrete should be removed. Surfaces must be entirely free of oil, grease, paint, corrosion deposits, dust, laitance or other surface deposits. Saw cut around the edge of the repair to a minimum depth of 10mm. Reinforcing steel should be fully exposed with enough room behind the steel to place the repair mortar.

Protection of Reinforcement Steel

Remove all corrosion from the exposed steel in accordance with ICRI Technical Guideline No. 03730. For additional protection against corrosion and to protect the adjacent edges of the repair, coat the steel with QED GalZinc. The steel may also be protected using QED EpoxyBond or QED Latex mixed with cement. Prior to using either of these products, please consult with an X-Calibur Authorized Technical Specialist.

Substrate Priming

After surface preparation has been completed, the substrate should be soaked with water and not allowed to dry out. This is normally the only priming required.

Priming with QED BondCure

QED BondCure is an acrylic bonding agent that is used undiluted straight from the pack. It is particularly useful in conditions where the bonding agent may dry out. Brush QED BondCure into the saturated surface dry substrate, taking care to avoid ponding or excessive application.

Priming with QED Latex

QED Latex is a styrene butadiene rubber bonding agent that is mixed with cement 1:1.5 by volume to produce a latex/cement slurry. Brush the latex/cement slurry into the saturated surface dry substrate, taking care to avoid ponding or excessive application. The latex/cement slurry **must not** be allowed to dry out, otherwise debonding will occur.

Priming with QED EpoxyBond

In immersed conditions; where the maximum possible bond strength is required, or where a saturated surface dry substrate is not possible, QED EpoxyBond should be used. Mix the entire contents of Part A with the entire contents of Part B until a uniform color is achieved. Brush the mixed material into the surface of the substrate, taking care to avoid ponding or excessive application. QED UltraPatch must be applied while QED EpoxyBond is still tacky.

Mixing

Add QED UltraPatch to water and mix for at least five minutes using an QED approved forced action mechanical mixer. Adjust water content within the range to achieve desired workability, i.e. 3.7 to 4 liters per bag.

Application

The mixed material should be applied immediately after mixing is completed. The material should be applied by a gloved hand to ensure thorough compaction around the reinforcement and against the edges of the reinstatement area. The repair is then finished by trowel. The application thickness will depend on the repair configuration. However, as a general rule, a thickness of 40mm may be achieved in overhead situations and 75mm in large vertical repairs. Repairs incorporating supporting formwork may be applied up to 125mm thick. Applications in excess of the thickness quoted above may be achieved by "keying" the compacted layer and then applying QED BondCure. Once this layer has reached sufficient strength, apply a primer coat of QED BondCure and proceed as before.

Curing

Cure immediately after finishing using QED BondCure or cure continuously in accordance with good concrete practise for seven days.

Limitations

Do not mix by hand.
Do not part mix; use only full bags.
Do not apply in rain or wet conditions or at temperatures below 5C.
Do not expose to running water until the product is cured fully.

Health and Safety

This product is for industrial use only by trained operatives. It is potentially hazardous if not used correctly. Please refer to the Material Safety Data Sheet (MSDS) prior to the purchase and use of this product. The MSDS can be obtained via our website www.xqglobal.com.

Authorized Technical Specialist

Please note that only X-Calibur Authorized Technical Specialists ('ATSS') are permitted to change any of the information in this data sheet or to provide written recommendations concerning the use of this product. Visit www.xqglobal.com for a full list of X-Calibur ATSS.

Datasheet Validity

QED Chemicals Limited makes modifications to its product datasheets on a continuous basis. Please check the datasheet update section on www.xqglobal.com to ensure you have the latest version.

Warranties

QED Chemicals Limited supplies products that comply with the properties shown on the current datasheets. In the unlikely event that products supplied are proved not to comply with these properties, then we will replace the non-compliant product or refund the purchase price. QED Chemicals Limited does not warrant or guarantee the installation of the products as it does not have control over the installation or end use of the products. Any suspected defects must be reported to QED Chemicals Limited in writing within five working days of being detected. QED Chemicals Limited **makes no warranty as to merchantability or fitness for a particular purpose and this warranty is in lieu of all other warranties express or implied.** QED Chemicals Limited shall not be liable for damages of any sort including remote or consequential damages, down time, or delay.

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QED Chemicals Limited

Broad Quay House
5th Floor
Prince Street
Bristol, UK
BS1 4DJ

T: +44 (0) 117 9758 604
F: +44 (0) 117 9058 800
E: uk@xqglobal.com