Corrosion Chemistry

Technical Data Sheet

XQ60030607

QED CrystalCoat™

Cementitious crystalline waterproof coating for concrete

Product Description
QED CrystalCoat is a one component, crystalline cementitious material that penetrates new and old concrete to resist hydrostatic pressure.

Composition
QED CrystalCoat consist of active, non soluble, non toxic, waterproof chemicals contained in a cementitious carrier that crystallizes in the presence of water and free lime in the concrete.

Advantages
- Penetrates concrete, seals capillaries and hairline cracks
- Withstands positive and negative hydrostatic pressure
- Suitable for use with potable water
- Easy to apply
- Can be used on damp concrete
- Non toxic
- Crystals continue to grow until cracks are sealed
- Chloride free
- Allows concrete to breath
- No odor

Uses
- Concrete and block substrates
- Above or below ground structures
- Potable water tanks
- Wastewater structures
- Basements
- Elevator pits
- Tunnels
- Interior and exterior waterproofing

Specification Compliance
BS 6920
NSF/ANSI 61 (USA supplied products only)

Laboratory Test Data

Property	Typical Results
Permeability CRD-C48-92	No leakage up to 460 feet (140m) head
Initial surface absorption (BS 1881)	Nil at 30 min
Permeability (BS EN 12390)	Nil at 50m head

Application Properties

Pot life:	30 minutes at 75^{0}F (24^{0}C)
Setting time:	45 minutes at 75^{0}F (24^{0}C)

Color
Cement grey and white.

Coverage
1.4lbs/yd^2 (0.75kg per m^2) per coat.

Packaging
55lb (25kg bags).

Shelf Life
24 months when stored between 40 and 95^{o}F (4 to 35^{o}C) under shade in a dry environment.

Installation Guidelines
QED Chemicals Limited 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
The substrate must be structurally sound. Loose or unsound concrete should be removed and made good. Surfaces must be entirely free of oil, grease, paint, corrosion deposits, dust, laitance or other surface deposits. The surface should be prepared by light grit blasting, high pressure water blasting or acid etching (15% muriatic acid) to produce a lightly exposed aggregate surface. If acid etching must be used, follow recommendations and procedures in ASTM D4260 and ASTM D4262. Surfaces must be damp prior to the application of QED CrystalCoat.

Rout out construction joints, cold joint edges and non leaking cracks greater than 1/64" (0.4mm) wide to a minimum 1" by 1" (25 by 25mm) in sound concrete. Routing should create a "U" shape. Saturate routed area with water and make good with a repair mortar such as QED CrystalPatch, QED StrongPatch or QED UltraPatch. Rout leaking cracks to 1" (25mm) wide by $1^1/_2$ to 2" (37 to 50mm) deep in sound concrete. Saturate routed area with water and stop water by using QED WaterPlug. Then make good with QED CrystalPatch, QED StrongPatch or QED UltraPatch.

Mixing
Mixing ratio is 3 parts powder to 1 part water by volume or 55lb (25kg) powder to between 1.8 and 2.1 gallons (6.8 to 7.9 liters) of water.

Mix only as much material as can be used in 30 minutes. QED CrystalCoat should be mechanically mixed with clean cool water to a consistency of thick oil paint completely free of lumps. Separate containers (equal volume) should be used for measuring the powder and water. If "false setting" occurs after mixing do not add water, just stir again to restore workability.

Application
Slurry Coat
QED CrystalCoat may be app lied as a slurry coat using a brush (synthetic bristle), broom or plaster spray at a rate of 1.4lbs/yd^2 (0.75kg/m^2). Work slurry well into openings, rough surfaces, joints and routed out areas. Apply second coat (when required) after first coat has reached initial set, usually within 1 hour. If the first coat has dried out, moisten surface before applying second coat.

Dry Shake
QED CrystalCoat can be applied as a dry shake direct from the bag on freshly poured concrete. Wearing rubber gloves, distribute the powder evenly by hand over freshly poured concrete at 2.25 to 2.8lb/yd^2 (1.2 to 1.5kg/m^2) before the final floating operation. Two applications are recommended to obtain stated physical properties. Distribute the powder at one-half at a right angle to the first application. Spread as close to the surface as possible to prevent material from blowing away. For large areas, a rotary type spreader may be used. Float slab and trowel to final finish.

Curing
QED CrystalCoat must remain moist to allow the crystals to form. All QED CrystalCoat applications must be kept moist for a minimum of 48 hours. After initial setting, moist cure QED CrystalCoat using water spray. Fog spray the treated surface 3 to 4 times daily for the minimum 48 hours period. In warmer climates, more frequent spraying may be required. Protect freshly applied QED CrystalCoat from extreme weather conditions, such as rain, strong winds, high temperatures and freezing for a period of not less than 48 hours after application. For certain applications, QED CrystalCoat can be wet cured for 24 hours, followed by application of an ASTM C 309 compliant water based curing agent. Contact QED Chemicals Limited technical service when using this curing method.

Clean Up
Before setting, QED CrystalCoat may be cleaned from tools and other surfaces with water. Cured material must be removed mechanically.

Limitations
Add only clean potable water to QED CrystalCoat. Topcoats cannot be applied over QED CrystalCoat. Do not apply at temperatures below 40°F (4°C). Full activation and effectiveness may take 2 to 3 weeks after application. Protect surfaces from foot traffic for 48 hours or heavy traffic for 7 days.

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 QED 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 QED ATSs.

Datasheet Validity
QED Chemicals Limited makes modifications to its product datasheets on a continuous basis. 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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