KingProof ® C20

Elastomeric acrylic cement modified waterproof coating.

DESCRIPTION

KingProof C20 is a two component; elastomeric polymer modified cementitious waterproof coating suitable for internal and external applications.

KingProof C20 provides a hardwearing, seamless, waterproof membrane for potable water retaining structures, tanks, basements, foundations and culverts. KingProof C20 shows excellent crack accommodation and is suitable for use on concrete.

APPLICATIONS

- Waterproofing of water retaining structures and reservoirs.
- Waterproofing of basements, roof, and foundations.
- Waterproofing of bathrooms and wet areas.
- Protection of concrete substrates and masonry against carbon dioxide, chloride ions, water and de-icing salts.

ADVANTAGES

- Non-toxic, approved for use in contact with potable water.
- Elastomeric, can accommodate static and dynamic cracks.
- Fungus and mould resistant.
- Able to withstand high positive and negative water pressures.
- Excellent bond to porous and non-porous surfaces.
- Breathable.
- Durable, excellent protection against carbon dioxide, chloride ions and water.
- Cost effective, quick and easy brush or spray application.
- Suitable for internal and external applications.

STANDARDS

- KingProof C20 complies with BS 6920 for using in contact with potable water.
- KingProof C20 complies with the requirements of EN 1504- 2 Surface Protection System Principle 1.3, 2.2 and 8.2.

TECHNICAL PROPERTIES @ 25^{0}C:

Mixed density:	1.85 g/cm³
Working time:	45 min
Colour:	Grey or white
Resistance to water pressure (2 mm coating): DIN 1048	> 70 m positive (7 bars) > 50 m negative (5 bars)
Static crack accommodation:	> 0.8 mm
Mixing ratio:	5.1 kg liquid polymer with 17.9 kg powder
VOC:	< 10 g/ltr (powder) < 20 g/ltr (liquid)
Minimum application temperature:	5°C
Bond strength on normal concrete: ASTM D4541	≥ 2.0 MPa @ 28 days
Bond strength on gypsum boards: ASTM D4541	Gypsum failure
Tensile strength: BS 6319, Part 7 (mortar consistency)	≥ 2 MPa @ 28 days (dry cure)
Flexural strength: (mortar consistency) ASTM C348	> 8 MPa (dry cure)
Compressive strength: ASTM C109 (mortar consistency)	≥ 30 MPa (dry cure)
Elongation at break: ASTM D412(without reinforcement @ thicknesses > 2 mm)	≥ 15% @ low speed rate ≥ 5% @ high speed rate

Note: These results were achieved using 2mm thickness.

METHOD OF USE

Substrate Preparation

The surfaces to be coated should be clean, sound, and free from contamination. Remove any traces of curing compound, laitance, organic growth or any other loose materials.

This is best obtained by using high pressure water or light grit blasting. Substrate containing honey combing, damaged or deteriorated concrete should be repaired using suitable repair mortars from KINGKRETE repair systems before coating.

Priming

No special primer is required, but substrate should be pre- soaked with clean water prior to application of KingProof C20.

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MIXING

To ensure proper mixing, a mechanically powered mixer or drill fitted with suitable paddle should be used. Add the liquid component of KingProof C20 to a clean container.

The powder component is then added slowly to the liquid while mixing continuously with low speed mixer/drill (400 - 600 rpm). Mixing time should be continued for 3 minutes until a uniform consistency is obtained.

Application

KingProof C20 can be applied by brush, trowel, or spray machines. The mixed material should be brushed well into the surface. Strike off with brush in one direction.

Care must be taken not to spread the materials too thin. The first coat should be applied at a wet film thickness of 1 mm. When the material begins to drag, do not add any water, but dampen the surface again.

A minimum of 3 - 5 hours, depending on the prevailing ambient temperature, should be given for the first coat to cure before applying the second coat. If the first coat is fully dried, pre-soaking is needed before applying the second coat.

For brush applications, the second coat should be applied in a perpendicular direction to the previous layer to ensure good bond and coverage.

To achieve a smooth finish, it is recommended to finish the surface with a trowel immediately after brushing the second coat. The total dry film thickness for both coats should be 2 mm.

CLEANING

All tools should be cleaned immediately after finishing using clean water. Hardened materials should be cleaned mechanically.

Performance Characteristics	En 1504-2 Requirements	Measured Value
Permeability to CO_2: EN 1062-6	S_D > 50 m	S_D > 115 m
Water vapour permeability: ISO 7783-2	Class I: S_D < 5m Class II: 5 ≤ S_D ≤ 50 m Class III: S_D > 50 m	S_D ≤ 0.5 m (Permeable to water vapour)
Capillary water absorption: EN 1062-3	< 0.1 kg/m^2.$h^{0.5}$	≤ 0.025 kg/ m^2.$h^{0.5}$
Adhesion strength: EN 1542	Without trafficking ≥ 0.8 MPa With trafficking ≥ 1.5 MPa	≥ 1.5 MPa (Flexible systems with trafficking)

REMARKS

- KingProof C20 should not be applied to frozen substrates or if ambient temperature is below 5°C or expected to fall below 5°C.
- The area must not be exposed to moving water during application.
- KingProof C20 can be submerged with water after 5 – 7 days of application depending on ambient temperatures and relative humidity.
- Where cementitious plaster is to be applied over KingProof C20, a mix of sand, cement and KingBond SBR should be sprayed over KingProof C20 as key. Addition rate of KingBond SBR should be 10 litre/bag of cement.

PACKAGING

KingProof C20 is available as 23 kg packs.

COVERAGE

Approximately 12-13 m^2 per 23 kg for one coat @ 1 mm thickness, depending on the condition of the surface and method of application.

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STORAGE

Shelf life is 1 year when stored under cover, out of direct sunlight and protected from extremes of temperature. Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging. For specific storage advice consult KingKrete's Technical Services Department.

HEALTH AND SAFETY

As with all chemical products, care should be taken during use and storage to avoid contact with eyes, mouth, skin and foodstuffs. Treat splashes to eyes and skin immediately. If accidentally ingested, seek medical attention. Reseal containers after use. Use in well ventilated areas and avoid inhalation.

NOTE

Field service, where provided, does not constitute supervisory responsibility. For additional information contact your local KingKrete representative. KingKrete Inc. reserves the right to have the true cause of any difficulty determined by accepted test methods.

QUALITY AND CARE

All products originating from KingKrete's manufacturing facilities are manufactured under a management system independently certified to conform to the requirements of the quality standard ISO 9001.

* Properties listed are based on laboratory-controlled tests.

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The technical information and application advice given in this KingKrete Inc. publication are based on the present state of our best scientific and practical knowledge. As the information herein is of a general nature, no assumption can be made as to a product's suitability for a particular use or application and no warranty as to its accuracy, reliability or completeness either expressed or implied is given other than those required by law. The user is responsible for checking the suitability of products for their intended use.

NOTE

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