NEOSEAL FLEX CR

Surface applied, capillary waterproofing coating for concrete and mortar

The **NEOSEAL FLEX CR** is a waterproofing coating that ensures the total and permanent solution to water leakage, ingress or seepage in concrete structures or any cementitious substrate. The formation and development of insoluble crystals into water bearing capillaries effectively blocks the further passage of water and ensures permanent water tightness for the life of the structure.

NEOSEAL FLEX CR supplied as a powder and mixed to a slurry consistency with water. **NEOSEAL FLEX CR** is applied directly to concrete, block work or cement renders in areas where general waterproofing is required. In powder form, the product may be used as a dry shake on horizontal construction joints.

PROPERTIES

- Compressive Strength after 28 days (ASTM C579) > 20 N/mm
- Bonding Strength to concrete after 28 days (EN 1542) > 1.0 N/mm2
- Chloride Ion Content ≤ 0.03%
- Water Pressure: Can resist up to 5 bar of water pressure
- Resistance to fire (BS 476-7): Class 1

AREAS OF APPLICATION

- Water tanks/ towers
- Reservoirs
- Swimming pools
- Water treatment works
- Dams
- Canals
- Harbors
- Concrete pipes

STANDARD

BS 1881 Part 124: 1988

METHOD OF APPLICATION

Moisture and free lime present in the substrate react with the active chemicals in NEOSEAL FLEX CR to create a continuous barrier of insoluble crystals. The crystal formation will penetrate deep into the capillary structure of the concrete, blocking capillaries from the passage of water, whilst permitting the transmission of air and water vapour, enabling the structure to breathe.

Rate and penetration of crystalline development varies with the density and surface absorption of the concrete; but the crystals will penetrate to the depth to which water is present. Surface penetration sufficient to provide full waterproofing properties can be achieved after 5-7 days.



NEOSEAL FLEX CR is effective against both negative and positive water and osmotic pressure and can be applied to the internal or external surface. Wherever possible, however, **NEOSEAL FLEX CR** should be applied to the surface with which the water is in direct contact.

This will result in an accelerated rate of penetration and crystallization into the concrete structure. After the crystallization process has successfully waterproofed the structure, the **NEOSEAL FLEX CR** active chemicals remain dormant in the concrete. Any later contact with water will reactivate the sealing process.

DIRECTIONS FOR USE NEW CONSTRUCTION:

The vast majority of leaking water-retaining (or excluding) structures constructed of sound dense concrete, leak only at construction or day work joints. Costly remedial work can be avoided by the use of **NEOSEAL FLEX CR** as a dry shake onto the horizontal surfaces of joints or as a slurry application on vertical surfaces.

In conditions of high water table, **NEOSEAL FLEX CR** may be applied as a slurry or dry shake over blinding concrete immediately prior to casting the slab. This will prevent ingress of ground water preventing deterioration and dampness or flooding. Foundations should be treated on the external face wherever possible, as should the face of construction joints.

NEOSEAL FLEX CR can be applied immediately after the formwork has been removed, as the water curing process required for **NEOSEAL FLEX CR** will also ensure full hydration of the concrete.

If the treatment is to be exposed and an aesthetically pleasing finish is required, the **NEOSEAL FLEX CR** should receive a sand/cement render on which to apply the desired finish.

EXISTING STRUCTURES:

Structures subject to water leakage or ingress must be carefully inspected to determine the cause. Any water present should be cleared away so that a thorough survey can be conducted.

Static cracks over 1mm must be chased out, dampened down and repaired with a suitable cementitious repair mortar such as **NEOCRETE FBR** on a **NEOSEAL FLEX CR** slurry coat. Dynamic cracks must be formed into a watertight elastomeric movement joint.

SURFACE PREPARATION:

As with all coating systems, surface preparation is of prime importance, the quality of substrate preparation directly affects the performance of the coatings. Surfaces to be treated must be free from dust, oil, grease, paint residual curing compound, mould oil or any previous surface treatment that will impair adhesion of the **NEOSEAL FLEX CR** treatment, or inhibit penetration of the chemicals or water into the surface. These include polymer modified renders and those substrates treated with silicon or silane water repellents. Remove any laitance and provide an open-pored, slightly rough surface sufficient to act as a mechanical key, essential for adequate adhesion of the **NEOSEAL FLEX CR** treatment.

Areas of weak or honeycombed concrete must be repaired. Hollow, de-bonded renders must be removed and made good. Surfaces to be treated, if not already wet, should be saturated for a period of 24 hours before first application. **NEOSEAL FLEX CR** system technology requires the presence of water for the active chemicals to migrate into the concrete. Crystalline development will usually extend to the depth of water penetration.

MIXING

Always add water to **NEOSEAL FLEX CR** – not in reverse order.
Mix 1 part of water to 2.25-2.5 parts **NEOSEAL FLEX CR** powder by volume.

APPLICATION:

NEOSEAL FLEX CR is applied by brush or spray onto the dampened substrate. Apply the material in 2 coats at right angles; apply the second coat whilst the first is firm, but "green" – usually 3-4 hours after first coat (dependent on temperature).

PLUGGING LEAKS:

Leaks and holes drilled to relieve water pressure may be sealed permanently using plugging compound NEOPLUG. To plug leaks under pressure, chase out the area of the leak until water flow is free and insert a length of plastic hose. Seal around the plastic hose with plugging compound as above. Clean the cavity and apply a coat of **NEOSEAL FLEX CR** and when tacky, fill the cavity with a cementitious mortar containing the plugging compound. When surrounding waterproofing is complete, withdraw the hose and plug the hole with plugging compound as above, using a gloved thumb to hold it in place until set (approximately 1 minute). Fill the remainder of the hole with NEOPLUG.

When the mortar has set, complete the waterproofing, lapping slurry coats of **NEOSEAL FLEX CR** onto the concrete surrounding the hole. Holes under low pressure can be similarly sealed, but pipe insertion and removal is omitted.

CURING

The **NEOSEAL FLEX CR** must be prevented from drying out too rapidly and should be kept damp for 5-7 days. Mist spraying with water and covering with polythene is effective when drying out would otherwise take place. Curing compounds are unsuitable for use with **NEOSEAL FLEX CR** system technology. Protect from weathering, sun, frost and wind for a similar minimum period.
Tanks and other water retaining structures may be filled 24 hours after final **NEOSEAL FLEX CR** application as crystal growth is accelerated by water pressure.
N.B.: If a final coating is required over the **NEOSEAL FLEX CR**, consult your ROYAL WAY INDUSTRIES representative.

If the coating is left uncovered, discoloration can occur but this has no effect on the performance of the waterproofing system. If discoloration occurs, grinding can be made to remove the coating. This will not affect the waterproofing properties of the **NEOSEAL FLEX CR**.

EQUIPEMENT CARE

Clean tools and equipment immediately after use with water. Use of plastic or rubber containers is recommended.

SPECIFICATION CLAUSE

NEOSEAL FLEX CR WATERPROOFING SYSTEM
All areas indicated shall be waterproofed by the **NEOSEAL FLEX CR** system as manufactured

COMPOSITION:

Pre-mixed powders consisting of selected Portland cement blended with activating chemicals and high- grade quartz

PACKAGING

NEOSEAL FLEX CR is available in 20 kg Bags

COVERAGE RATE

1kg /m^2/Coat

PRECAUTIONS

NEOSEAL FLEX CR is nontoxic, but as with other materials containing Portland cement it has an alkaline nature and thus can be irritating to skin & eyes.

HEALTH & 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 immediate medical attention.

STORAGE & SHELF LIFE

Store out of direct sunlight, clear of the ground on pallets protected from rainfall. Avoid excessive compaction.
Failure to comply with the recommended storage conditions may result in premature deterioration of the product or packaging.

Up to 12 months if stored according to manufacturer's instructions in unopened containers.

NOTE: The information contained in this DATA SHEET, as well as our advice, both written as oral or provided through testing, are based on our experience, and they do not constitute any product guarantee for the installer, who must take them as simple orientations, provided strictly as information. We recommend to study deeply all information provided before proceeding to the use or application of any of our products, and strongly advise to conduct tests "on-site" in order to determine their convenience for a specific project. Our recommendations do not exempt of the obligation that installers have to deeply know the right application method for these systems before they use them, as well as to conduct as many preliminary tests as possible if there are any doubts about the appropriate system to use. The application, use and processing of our products are beyond our control, and therefore under the exclusive responsibility of the installer. In consequence, the installer will be the only responsible of any damage or prejudice derived from the partial or total in-observation of our indications, and in general, of the inappropriate use or application of these materials.

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