

Expancote* Rubber-flex

Elastomeric cementitious waterproofing coating

Uses

Expancote* Rubber-flex is a cementitious elastomeric waterproofing and protective coating, with excellent crack-bridging ability, excellent barrier to carbon dioxide, chloride ions and water, durable in all climatic conditions including UV attack, high resistance to the effects of long term weathering. Typical applications include:

- Potable water tanks and reservoirs
- Internal and external basement waterproofing
- Drainage culverts, bridge deck slab
- Internal lining in RCC pipes
- Roofs, Roof gardens, swimming pools
- Protective coating on marine structure

Advantages

Highly flexible with excellent crack accommodation properties, in dry and wet conditions

Long working life

Withstands high positive and negative hydrostatic pressure, easy application by brush, trowel or spray

Non-toxic suitable for drinking water

Good resistant to water, carbon di-oxide, sulphates, chlorides, light acid and alkalis, organic solvents, oil and diesel

Bonds to green or damp concrete, even if the concrete is 24 hours old

Breathable, allow water vapors to escape from structure

Standards compliance

BS 6920: 1990 Effect on Water Quality.

ASTM C307, DIN 1048: Water penetration test

Description

Expancote* Rubber-flex two-component acrylic polymer modified cementitious coating is supplied in pre-packaged form. The product is designed to be easily mixed on site using a slow speed drill fitted with a mixing paddle and then applied to the substrate using brush, trowel or spray. Roller application may also be used, however finishing the surface with a trowel is recommended for best results. **Expancote* Rubber-flex**, cures to form highly elastomeric impermeable membrane, and available in standard grey color, special colors are also available on demand and subjected to quantity.

Design criteria

The coating should be applied in two coats to achieve a total dry film thickness of 1.25 – 2.00 mm. Areas subjected to light foot traffic should receive minimum 2 mm thickness and an additional 1.00 – 2.00 mm coating should be applied to areas of moderate to heavy pedestrian conditions. To achieve the correct protective properties, **Expancote* Rubber-flex** must be applied on to the substrate at the coverage rates recommended.

Specification

The waterproofing coating shall be **Expancote* Rubber-flex**, an elastomeric cementitious waterproofing coating. The cured coating shall be non-toxic and flexible to bridge crack, It shall have the capability to resist a positive and negative water pressure

Properties

Tensile strength (ASTM D412)	: 1.50 – 2.00 N/mm ²
Abrasion resistance (ASTM D4060)	: Wear Index 1
Bond strength (ASTM D4541: 1989)	: 1.50 – 2.00 N/mm ²
Chloride ion resistance 6 months (% Cl detected)	: 0.0002
Elongation at break (ASTM D412: 1991)	: >150%
Shore A hardness (ASTM D2240:1997)	: 55
Low temperature flexibility (ASTM C765: 1993)	: Passed
Water permeability (DIN 1048: Pt. 5 : 1991)	: NIL
Resistance to positive water pressure (DIN 1048:Pt 5) (50 m head of water)	: 5 bar
Resistance to negative water pressure (30 m head of water) (CEN/TC 67-67072)	: 3 bar
Color	: Grey
Mixed density	: 1800 kg/m ³
Service temperature	: - 35 to 90 °C
Minimum application temperature	: 5°C
Pot life @ 20 °C	: 2 hours
Pot life @ 35 °C	: 1 hours
Existing crack bridging	: up-to 0.65 mm
UV test required coating to be exposed to 4 hrs. condensation at 50°C followed by 4 hrs. UV light at 50°C. Total exposure time was 5,000 hours.	

Properties of cured coating (28 days cure at 23°C, followed by 28 days immersion at 23°C).

The values obtained are for **Expancote* Rubber-flex** when applied in two coats each of 1 mm wet film thickness

Instructions for use

Preparation

All surfaces which are to receive the coating must be free from oil, laitance, grease, wax, dirt or any other form of foreign matter which could affect adhesion. Typically, concrete surfaces can be cleaned using high pressure water jet or grit blasting.

Spalled surfaces or those containing large blowholes, cracks and other such defects up to 10 mm depth, should be repaired using Expanmortar FC. For further advice on suitable repair mortars for larger scale repairs, contact the local Expanchem office.

Mixing

Expancote* Rubber-flex liquid should be poured from the plastic container into the metal drum provided. For brush application consistency mix with a slow speed drill (500 r.p.m.) fitted with a mixing paddle.

The powder component should be added gradually to the liquid to avoid lump formation and mixed for 2 to 4 minutes.

Expancote* Rubber-flex should be immediately used after mixing. Do not mix more material than can be used within the pot life. Keep mixing **Expancote* Rubber-flex** during the application.

Application

Application of **Expancote* Rubber-flex** on hot substrates (i.e. over 35 - 40 °C surface temperature) will need the prior application of a primer coat. Mix **Expancote* Rubber-flex** and water in slurry like consistency (Preferably 1:1) and then apply **Expancote* Rubber-flex** over the primer whilst it is still wet.

For best results, surfaces should be damp. In order to obtain the protective properties of **Expancote* Rubber-flex**, it is important that the correct rates of application are observed.

Use a short stiff brush (preferably 100 - 200mm width) and apply in one or two coats as required.

Spray applications should use the correct mixing ratio to obtain satisfactory consistency. In hot climatic conditions, it is likely that spray application will be the best for exterior decorative finishes. Nozzle size should be 3 - 4 mm and pressure of 6 - 8 bars should be used.

It is recommended that for general resurfacing each coat should be 1mm thick. Areas subjected to light foot traffic should receive at least 2 mm thickness of **Expancote* Rubber-flex** and an additional 2 mm should be applied if conditions are moderate to heavy pedestrian traffic.

If in doubt about the condition of the substrate, the local Expanchem office should be consulted.

Cleaning

Expancote* Rubber-flex should be removed from tools and equipment with clean water immediately after use. Hardened material can be removed mechanically.

Limitations

Where subsequent coatings or paints are required, trials should be conducted to ensure compatibility. For further advice, consult the local Expanchem office.

Expancote* Rubber-flex should not be applied if the air or substrate temperature is greater than 45°C. This may result in different colour shades.

Expancote* Rubber-flex should not be applied if the temperature of the substrate is below 5°C.

Expancote* Rubber-flex should not be applied where there is a likelihood of exposure to frost within 48 hours of the application.

Expancote* Rubber-flex should not be applied in windy conditions where early-age dust adhesion may occur, or where rain is likely within 2 hours at 20°C or within 20 hours at 5°C (up to 80% RH).

Technical support

Expanchem offers a comprehensive technical support service to specifiers, end users and contractors. It is also able to offer on-site technical assistance, an AutoCAD facility and dedicated specification assistance in locations all over the world.

Estimating

Supply

Industrial kit : 16 Kg Pack
Bulk packing is also available on request

Coverage - Expancote* Rubber-flex Kg / m² / Coat

Water tanks & reservoirs:	1.25 - 1.75 Kg. 1.25 - 1.75 mm DFT 2 Coats
Basements	: 1.00 - 1.50 Kg. 1.00 - 1.50 mm DFT 2 Coats
Roofs & Roof gardens	: 1.50 - 2.00 Kg. 1.50 - 2.00 mm DFT 2 Coats
Culverts & Pipes lining	: 1.25 - 1.50 Kg. 1.25 - 1.50 mm DFT 2 Coats

Storage

Shelf life

Combined products have a shelf life of 6 months if kept in a dry store in the original, unopened packs.

Storage conditions

Store in cool, dry conditions, away from sources of heat and naked flames, in the original, unopened packs. If stored at high temperatures and/or high humidity conditions the shelf life will be reduced. **Expancote* Rubber-flex** liquid component should be protected from frost.

Precautions

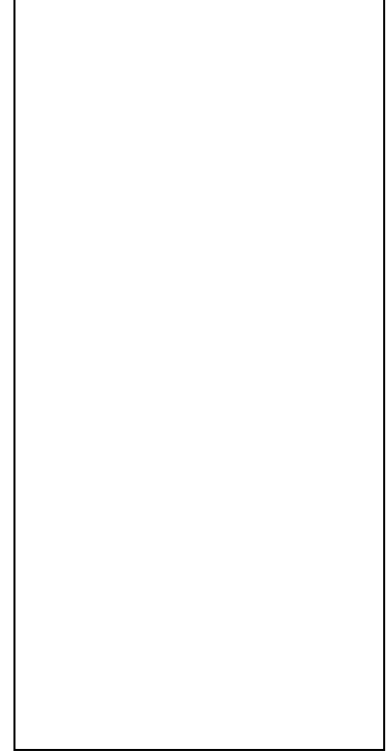
Health and safety

Expancote* Rubber-flex contains cement powders which, when mixed or become damp, release alkalis which can be harmful to the skin. During use, avoid inhalation of dust and contact with skin and eyes. Wear suitable protective clothing, gloves, eye protection and respiratory protective equipment. The uses of barrier creams provide additional skin protection. In case of contact with skin, rinse with plenty of clean water, then cleanse with soap and water. In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice. If swallowed, seek medical attention immediately – **do not** induce vomiting.

Fire

Expancote* Rubber-flex components are non-flammable. For further information, refer to the product Material Safety Data Sheet.

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*Denotes the trademark registered

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