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CORRO CONCRETE SR C35/45



Product description

Fescon Corro Concrete SR C35/45 is a high-strength, salt and frost resistant specialty concrete with sulphate resistant cement as binding agent. Suitable for applications requiring wear-resistant and corrosion-resistant tightly sealed concrete surfaces. Applications include e.g. casting, repairing and reinforcing concrete structures, such as balcony slabs, maritime port facilities, parking garages or industrial construction. The strength class C 35/45 according to concrete standard SFS EN 206-1. The maximum grain size of the product is 4.0mm.

- Compression and adhesion strength R4 in accordance with EN 1504-3
- Strength class C 35/45
- For layer thicknesses 30 to 100mm (partitioning max. 150 mm)
- Can be pumped with a sufficiently efficient mortar pump

Minimum delivery batch is 3 big bags.

Applications

- Casting, repairing and reinforcing concrete structures
- Balcony slabs
- Maritime port structures
- Parking garages
- Industrial construction

Instructions

Base

- The temperature of the base should be +5°C...+25°C.
- The product is cast onto a concrete base or made as a floating structure.
- The base must be clean, solid, dust-free and absorbent.
- Loose layers, cement glue and other impurities have been mechanically removed to ensure adhesion between the product and the base. Coarse surface produces best adhesion.
- In outdoor areas, it is recommended that the base is cleaned with water using a high-pressure washer, thus providing the base with the necessary moisture.
- The reinforcement steels are cleaned of any loose rust.
- A new reinforcement is installed if necessary.
- Concrete casting is carried out as a steel-reinforced structure when casting against the ground or as a floating and steel-reinforced structure when the base is weak concrete (tensile strength of the base < 0.5 MPa) or insulation layer. The floating floor structure should be separated from the surrounding structures, for example by using perimeter tape.

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Priming

- The concrete base is wetted with water to matte moistness. There must be no loose water. Starting the wetting the day before installation is recommended so that the water is absorbed deep enough into the base. In renovation sites with a very dry base that absorbs moisture, it is recommended that the base is wetted several times.
- The concrete base must be sufficiently moist to prevent water in the product from being absorbed into the base too quickly.
- Additional liquid adhesion promoters should not be used.

Mixing and application

- The workspace must be protected from strong wind, sunlight and rain.
- During concrete pouring and product hardening, the temperature should be +5°C...+25°C.
- The product is mixed into a smooth mass with a pipe or paddle mixer. When using a paddle mixer, the mixing time is 1 to 3 minutes. When mixing with a mortar mixer or concrete mixer, the mixing time is approximately 5 minutes.
- The amount of water must be in accordance with the instructions on the product card. Deviating from the recommended amount of water weakens the product's strength values, increases the risk of separation and affects the development of strength and reduces workability.
- The working time is roughly 1 hour from the mixing.
- The product can be applied by pumping or manually onto the base. The product is compacted and straightened with a liner tool. When necessary, the prepared surface should be rubbed to reach the quality level required in the application. For example, use a polyurethane rubbing tool and/or a steel spatula to even up. Surface rubbing can be carried out when the product has slightly solidified.
- On large surfaces, the recommended layer thickness is 30 to 100 mm. Thicker layers are made with several separate layers so that the lower layer is allowed to dry for 24 hours before the next layer is applied. For hole repairs, the depth of individual holes may not exceed 150 mm.
- Wash the tools with water immediately after the work has been completed.

Aftercare

- Sufficient moisture of the installed product must be ensured during the curing phase so that the curing reaction works correctly and the desired strength is achieved. This also prevents possible plastic cracking and surface detachment from the substrate.
- The surface of the installed product must be kept moist for 7 days. Depending on the conditions and work site, moistening can be done either with water spray, plastic film, or with Fescon aftercare material.
- Especially in the spring, aftercare should be started immediately and carried out carefully, since in the spring the relative humidity of the air is often less than 40% RH. Low relative humidity combined with sunlight and wind dries the surface very quickly.

Coating

- The product can be left uncoated.
- The strength values and other technical characteristics of the product are sufficient to work as the base for almost all coating materials. However, it must be ensured that the technical characteristics of the product meet the coating manufacturer's requirements for the base.

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Other considerations

- In floor structures where the product is cast into base concrete with a layer thickness of 30 to 100 mm.
- Can be used on floating, steel-reinforced floors (e.g. # 150/5 mm). In this case, the layer thickness is 50 to 100 mm.
- When areas of over 15m^2, the risk of cracking increases, in which case a sufficient number of shrinkage joints must be planned for the floor structure in accordance with instructions BY45/BLY 7 Betonilattiat (Concrete floors) 2014.
- When casting large surface floors onto the base, the tensile strength of the base concrete must be > 1.5 MPa. In the dimensioning of the surface slab, adhesion to the base is a key factor in preventing the shrinking of the surface slab from detaching from the base.
- Dried product can only be removed mechanically

Waste handling

Storage and handling of waste
See the separate storage and disposal instructions https://www.fescon.fi/en/material-bank

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Technical information

Material usage	Approx 2.0 kg/m^2/mm
Water requirement	2.5 – 3.0 l / 25 kg
Finished compound	Approx. 500 l / 1000 kg
Type	Powder
Binder	Sulphate resistant cement
Colour	Grey
Maximum grain size	4 mm
Package size	1000 kg
Storage	Storage time in a dry location approx. 1 year
Density	Approx. 2100 kg / m^3
Layer thickness	30 to 100 mm (floating and steel-reinforced min. 50 mm, maximum partitioning 150 mm)
Fibre	Not fiber reinforced
Additives	Additives to improve weather resistance, pumpability and workability
Usage temperature	+5°...+25°C
Workability time	Approx. 1 h
Walkable	Approx. 8 h
Strength class	C35/45 (R4, EN 1504-3)
Adhesion strength	> 1,5 MPa (R4, EN 1504-3)
Reaction to fire	A1
Exposure class	XC4, XS3, XD3, XA2, XF4 (50 V), XC4, XS3, XD3, XA2, XF3 (100 V)
Air content	5 – 9 %
Frost resistance	Frost-resistant, for indoor and outdoor use
Waterproofness	Water-resistant
GWP A1-A3	0,26
GWP unit	kg CO2e/kg
Method for calculating the GWP value	Generic

Limitation of liability, product use notes and restrictions: Please familiarize yourself with Fescon Oy's general terms of delivery and the design and work instructions related to the product.