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VERTICAL-JOINT CONCRETE WINTER TPSB K45



Product description

Fescon Vertical-joint concrete is a CE-marked, industrially produced ready-to-use dry concrete that meets quality and strength requirements. Meets the requirements of the concrete standard SFS EN 206-1 with strength class C 35/45 and a maximum grain size of 4 mm. The product is used for structural vertical and horizontal jointing of concrete elements in winter conditions (temperature range -15°C...+5°C).
Thanks to its optimised composition, vertical seams are well compacted and do not need to be vibrated separately. Thanks to its good adhesion properties, the product is non-draining and allows the processing of internal concrete joints to the desired quality level.
Vertical Joint Concrete has been developed to provide a tighter joint structure than traditional cast-in-place vertical joint.
Summer quality vertical joint concrete is used in the temperature range +5°C...+25°C.

- Product manufactured in Finland and certified with the FI mark under the supervision of Kiwa Inspecta
- Strength class C 35/45
- Complies with SFS EN 206-1 requirements
- For seam widths up to 150 mm
- Ready-to-apply compound approx 500 l/1000 kg

Applications

- Vertical and horizontal joint casting of concrete elements
- As a substrate for concrete elements
- For filling holes and grooves and for other post-jointing work
- For seam widths over 15 mm

The product is listed in the portal for building products that can be used in Nordic Swan Ecolabelled buildings.

Instructions

Base

- The temperature of the base is -15°C..+5°C.
- The substrate must be clean, solid, dust-free and absorbent.
- There must be no loose water, snow or ice in the concrete elements to be jointed.
- Strong temperature fluctuations may cause water to condense on the surface of the concrete element. Excessive moisture condensation can be prevented by heating the surrounding structure. This must be taken into account especially in cold and humid conditions.
- If necessary, the low-strength cement adhesive layer must be removed. Coarse surface produces best adhesion.

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- The joint width must be sufficient (at least 15 mm) so that the sealing compound fills the joint completely.

Priming

- If necessary, the concrete substrate is moistened to a matte finish before installing the product. There must be no loose or frozen water.
- Liquid adhesion primers are not used with the product.

Mixing and application of the product

- Masonry work should not be carried out in direct sunlight, in the rain or during strong winds.
- During work, the temperature should be -15°C...+5°C. The combined effect of wind and frost must be taken into account.
- 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. The amount of water in the product is correct when the vertical joint concrete does not flow in the joint.
- 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.
- After mixing, the compound is carefully pumped into the joint so that the joint cavity is completely filled and the compound settles tightly into the structure and around the reinforcement. The surface of the compound is levelled to the specified level using a steel trowel. Precast element joints must not be vibrated.
- A joint that is open on both sides is cast by moulding the other side of the joint with a so-called stopper board. The board is removed when the vertical joint concrete has hardened slightly. Finally, the joint surface on the board side is levelled with a steel trowel.

After treatment

- Element joints are kept moist for 2 to 3 days after casting.

Coating

- The element joints are coated in a manner suitable for the purpose of use. The product can also be left uncoated.
- The risk of cracking due to shrinkage of concrete elements can be reduced by using Fescon waterproofing systems at internal joints adjacent to dry interior spaces. Treat the interior concrete element joints with waterproofing primer. Apply the waterproofing over the joint and install the waterproofing tape over the wet waterproofing. Apply a second layer of waterproofing over the tape when the previous layer has dried. After this you can do the levelling work in the normal way.

Other points to note

- Winter products available from 15 September to 1 March, otherwise on request.
- Joint widths greater than 150 mm are assessed on a site-by-site basis with the vertical seam contractor.
- When the temperature drops to < -15°C, the concrete element joint must be protected for seven days so that it does not freeze.

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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	3.2 - 3.5 l/25 kg
Finished compound	Approx. 500 l / 1000 kg
Type	Powder
Binder	Special cement
Colour	Grey
Maximum grain size	4 mm
Package size	1000 kg
Storage	Storage time in a dry location approx. 8 months
Density	Approx. 2100 kg / m^3
Layer thickness	Minimum joint width 15 mm
Fibre	Not fiber reinforced
Additives	Additives to improve weather resistance, pumpability, workability
Usage temperature	-15°C...+5°C
Workability time	Approx. 1 h
Strength class	C 35/45
Reaction to fire	A1
Exposure class	XC4, XS1, XD2, XA1, XF4 (50 yr), XC4, XS1, XD2, XA1, XF2 (100 yr)
Chloride content	< 0,05 %
Air content	5 – 9 %
Waterproofness	Water-resistant
GWP A1 raw material	0,236
GWP A2 transport	0,00918
GWP A3 manufacturing	0,0262
GWP A1-A3	0,271
GWP A4 transport	0,0158
GWP A5 assembly	0,00191
GWP unit	kg CO2e/kg
Method for calculating the GWP value	EPD

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.