

Non-sagging mortar especially designed for vertical and horizontal joints of concrete elements according to EN 1504-4 in winter conditions (max. -15 °C), applied using a pump. Strength class C30/37-4 according to SFS-EN 206-1. Maximum grain size 4 mm. This product is also available in higher strength class (C40/50-4) on order.

- The strength development continues even at a temperature of -15 °C without the need for additional heating
- Both vertical and horizontal surfaces
- Freeze thaw resistant 100 cycles
- Plastic fibre-reinforced
- KIWA Inspecta controlled FI-certified domestic product



## Applications

Principally designed for the vertical and horizontal joints of concrete elements in winter conditions. In addition, it is suitable for casting the top and bottom joints of wall elements, for example, and for filling cracks and other holes and grooves without a need to use moulds. The product is certified as special mortar according to guidelines given by The Concrete Association of Finland (BY).

Exposure class (50 and 100 years designed lifetime) XF1, XC4, XS1, XD2 and XA1, SFS-EN 206-1.

Product fulfills the requirements according to SFS-EN 1504-4 (part 4: Structural bonding), product intended for structural bonding as cementitious mortar for jointing of concrete elements both vertically and horizontally according principle 4.4.

## Substrate

The joint must be clean, absorbent and preferably roughened; in winter conditions, the joint must also be free of frost. The width of the joint must be at least 15 mm. Use a stopper board if necessary.

## Mixing

The mortar can be mixed with a screw mixer, for example. The Frost mortar for concrete element joints is shovelled from the large sack into the mixer. Instead of the large sack, small sacks can also be used. During the mixing, max. 11–12.5% of water is added to the mortar.

## Work instructions

After mixing, the mortar is pumped into the joint and levelled with a steel trowel. Do not vibrate the Frost mortar for concrete element joints. If the water content is correct, the mortar will not sag out of the joint. If the joint is open on both sides, place a stopper board on one side of the joint. Remove the stopper board once a sufficient amount of time has elapsed (depending on the temperature, relative humidity and other factors affecting the setting time), and use a trowel to finish the joint. Pump the mortar into the joint carefully to ensure a compact and structurally functional joint.

## Curing

When Frost mortar for concrete element joints is used on bearing structures, strength development at worksite conditions must be ensured before structure is loaded with, for example, concrete elements. The strength development slows down remarkably at temperatures below 0 °C. The additives that ensure strength development at low temperatures only ensure the development of so called freezing strength with Frost mortar for concrete element joints not to be damaged.

## Disclaimer

Restrictions on the use of the product: cf. Weber's design and work instructions and terms of delivery.

## PRODUCT DESCRIPTION

Recommended water content	11-12.5 l/100 kg of dry mix (11-12.5%)
Mixed volume	Approx. 470 l/1000 kg
Pot life (Operating time)	Approx. 30 minutes
Binder	CEM II A 42,5 R, Fast-setting Portland cement
Aggregate	Natural sand, grain size 0-4 mm
Additive	Additives that improve workability and weather resistance, and compensate for shrinkage. Additives that improve strength development in sub-zero temperatures.
Winter additive	Yes
Adhesion strength 28 days	> 4.0 MPa (Flexural bond strength, EN 12636) > 15 MPa (Slant shear strength, EN 12615)
Compressive strength class	C30/37-4 when pumped.
Compressive strength 1 day	Approx. 3 MPa (-5 °C, EN 12190) Approx. 1 MPa (-15 °C, EN 12190)
Compressive strength 7 days	Approx. 25 MPa (-5 °C, EN 12190) Approx. 15 MPa (-15 °C, EN 12190)
Compressive strength 28 days	Approx. 40 MPa (-5 °C, EN 12190) Approx. 30 MPa (-15 °C, EN 12190) > 40 MPa (Compressive strength to cube, EN 12390-3)
Unrestrained shrinkage 28 days	0.6 mm/m (EN 12617-4)
Fire class	A1 (EN 13501-1)
Frost resistance	XF1 (100-cycle freeze/thaw test SFS 5447)
Modulus of elasticity	> 20 GPa (EN 13412)
Air content	6-10%
Chloride content	< 0.05% (SFS-EN 1015-17)
Density	Approx. 2100 kg/m³
Water cement ratio	0.4 (with maximum water volume)
Equipment recommendations	Weber Pump Set. Stator Ü356-0,75. Steel reinforced minimum of 1.5" hose, for vertical use maximum of 40 m and horizontal casts maximum of 60 m.
Shelf life	12 months from the date of production (unopened package, in dry conditions)
Package	25 kg sack. 1000 kg large sack.
Product certifications	CE FI

