Element Concrete PP35 Winter

Pumpable self-consolidating concrete

Product description
Marlon Element Concrete PP35 Winter is a factory-made dry concrete that is ready for use after thorough mixing with water. The product is made of Portland cement, additives and oven-dried and sorted silica sand with a controlled grain curve. In its mixed form, Marlon Element Concrete PP35 Winter is a self-consolidating plastic concrete that can be used for different casting projects at low temperatures. The product satisfies the material requirements for extra aggressive environments according to DS/EN 206 DK NA:200.

Benefits
- Pumpable Expanding
- Self-Consolidating
- Layer thicknesses of up to 150 mm
- Use in temperatures down to -5°C
- Just add wate

Area of use
Marlon Element Concrete PP35 Winter is designed for casting projects in below-freezing temperatures. Marlon Element Concrete PP35 Winter is used for a large variety of casting and repair work, such as pump casting between floor slabs in element construction, in connection with grouting of corrugated pipe or in places where traditional concreting can be difficult to access. Marlon Element Concrete PP35 Winter requires only the addition of water and, when mixed, is a plastic, self-consolidating concrete.

Preparation
The surface must be cleaned of any ice and snow, cement sludge, oil, grease and other loose impurities through, e.g. chipping, sand blasting or high-pressure cleaning. Reinforcement iron must be cleaned of rust and chlorides. Metal surfaces must be cleaned of any grease, rust etc.

Mixing
Mix Marlon Element Concrete PP35 Winter with cold/lukewarm water in a suitable compulsory mixer. Mix well for at least 5 min., until the mixture has a lump-free plastic consistency. Manual mixing can be done in a tub/bucket using a drill with a two-bladed propeller agitator. When mixing with a drill, first pour the water into the bucket, and then add the powder while mixing. Alternatively, an automatic mortar pump can be used.

Concreting in general
Marlon Element Concrete PP35 Winter is used for various tasks and can generally be used in thicknesses from 10–150 mm. From experience, Marlon Element Concrete PP35 Winter can be used for concreting of up to 350 mm. Consideration must be given to contraction and expansion joints according to the same guidelines as for ordinary concrete pouring. Adding more water than described will reduce the strength and increase the likelihood of contraction cracks. For optimal use of the expansion, do not blend more mortar than can be used within approx. 30 min. at +5°C. Higher temperatures will shorten and lower temperatures will extend both the opening and hardening times.

Pouring of floor slabs
Pump the mixed concrete and fill directly into the hollowed joint in thicknesses corresponding to the element thickness and to approx. 150 mm wide.

Level off the surface and, optionally, brush to achieve a rough surface with improved adhesion.

Aftercare
Protect Marlon Element Concrete PP35 Winter from strong night frost, winds, etc.

Limitations
Marlon Element Concrete PP35 Winter should not be used at temperatures below -5 or over +10°C. Marlon Element Concrete PP35 Winter does not tolerate temperatures below -5°C in the initial curing period. Do not mix with additives.

Cleaning
Clean tools with water immediately after use. Hardened Element Concrete PP35 Winter can only be removed mechanically.

MARLON Tørmørtel

A solid solution

Product information

Producer
Marlon Tørmørtel A/S
Virkelyst 20
8740 Brædstrup

Material type
Cement-based dry concrete.

Filler material
Oven-dried and sorted silica sand cl. E. (D_{max}) 4 mm.

Additives
Antifreeze, plasticizer and stabilisingadditives.

Added water
Approx. 12% of the dry powder weight (2.8–3.2 L per 25 kg).

Mixing time
Min. 5 min.

Pouring temperature
-5°C to approx. +10°C. Beginning setting 60–80 min. at +10°C.

Yield
Approx. 13 L per 25 kg.

Layer thickness
Approx. 10–150 mm Recommended. From experience, up to 350 mm

Cement type
Portland cement, CEM I 52.5 N (LA).

Storage time
Min. 12 months in dry and suitable conditions in unopened original packaging.

Packaging
25 kg plastic sacks and big bags.

Technical data	Value	Method
Typical internal values as per EN 196-1 / EN 1015-11 (40x40/160 mm prisms)		
Compressive strength, 28 days	> 45 MPa	DS/EN 12190
Bending tensile strength, 28 days	> 6 MPa	DS/EN 12190
Density	Approx. 2100 Kg/m^3	DS/EN 1015-6
Adhesive strength	> 2 MPa	DS/EN 1542
Expansions	0,3-0,5%	
E-module	E_{sec} 20 GPa	DS/EN 13412
Resistivity	< 6,9 k0hm cm	APM 219
Chromate content	< 2 mg/kg cement	
Chloride content	< 0,003 weight %	DS/EN 1015-17

Information

Items no.	1000735
Pr no.	4298028
DB-no.	1941450
Version	07.14 repl. -

Compressive strengths as per Bulletin no. 5

Performance in relation to DS/EN 206 DK NA:2020 Measured on 150 x 300 mm cylinders:

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Compressive strength 28 days	f_{ck} > 38MPa
Correction building site uncertainty	f_{ck} > 33MPa 03.2017

CE

Marlon Tørmørtel A/S
Virkelyst 20
8740 Brædstrup
Year 12
DoP 1000740

EN 1504-3
1073-CPR-171-01
Concrete repair product for construction repairs. CC mortar, based on hydraulic cement.

Compressive strength	> 45 MPa Class R4
Adhesion	≥ 2,0 MPa
Chloride content	≤ 0,05 weight %
Fire resistance	Class A1
Carbonatisation	Passed
Elasticity module	≥ 20 GPa
Thermal compatibility	Part 1 ≥ 2,0 MPa
Capillary absorption	≤ 0,5 kg x m^{-2} x h^{-5}
Hazardous substances	In accordance with Section 5.4