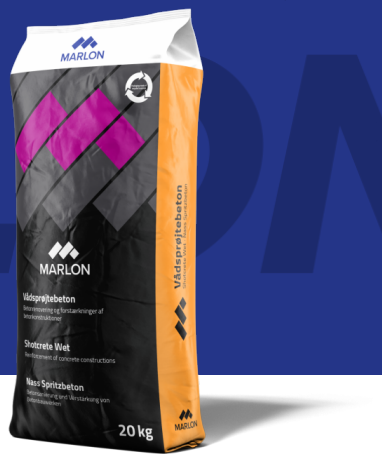
# Shotcrete Wet

Reinforcement of concrete constructions




**Product description**
Marlon Shotcrete Wet is a pumpable, cement-based pre-mixed dry mortar product that is used with the "wet method". The product consists of Portland cement, pozzolan, plasticising and adhesion-improving additives, as well as oven-dried silica sand, where sand and stone materials satisfy the requirements for environmental class E (see DS/EN 206 DK NA:2020).

The product contains no corrosive components and, in its cured state, is water and frost-resistant. Marlon Shotcrete Wet is available in the types 0-2 mm and 0-4 mm, with and without fibre.

**Benefits**
- Used as filler material in bearing constructions
- Well-suited for shotcreting of up to 60 mm in one work process
- Pumpable
- Contains additives to improve adhesion
- Requires only the addition of water

**Applications**
Marlon Shotcrete Wet is used for the repair of horizontal and vertical surfaces that are typically concrete constructions on bridges, beams, slabs and columns and for the repair and renovation of balconies, facades and other places with a concrete surface. Marlon Shotcrete Wet can be used for places that are difficult to access and for constructions where traditional casting work is not practical.

**Preparation**
The surface must be well-suited and washed clean of any oil, grease, cement dust and other loose particles through chipping, sandblasting or the like. Reinforced iron, if any, must be cleaned of rust and chlorides. Reinforced iron must be fixed and unable to vibrate. The surface must be watered down and rendered slightly absorbent or coated in a suitable, approved material that will ensure the best possible adhesion. Marlon recommends having the surface approved by a consultant or inspector before spraying begins.

**Mixing**
Marlon Shotcrete Wet is mixed with approx. 3.2-3.5 l of cold water per 25 kg of dry product. Marlon Wet Shotcrete requires effective mixing in a suitable mixer for min. 5 minutes before being pumped. Alternatively, an automatic mortar pump can be used. It is important to use the right amount of water, so the mixture has the right consistency. It must not be too thin or too dry on spraying, as this can lead to poor compression, which will reduce the strength and result in poorer adhesion. There is also a risk of poor envelopment of reinforced iron, "nests" and large recessions that need getting rid of.

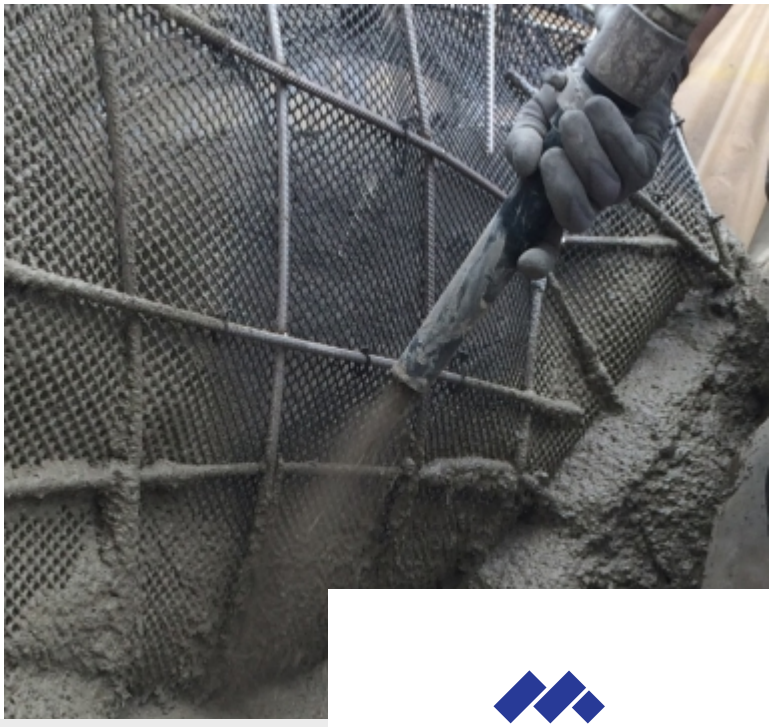
**Application**
The spraying normally takes place from bottom to top, while the nozzle is moved perpendicular on the surface. With reinforcement, however, the nozzle is slanted to ensure that the armouring is encased optimally. For building in greater layer thicknesses, other spraying is needed before the first layer is entirely set, but not before the first layer has set sufficiently to bear the next layer. Wet shotcrete repairs must be performed correctly and therefore require specially trained staff who are familiar with the technique. Machinery and equipment must also be in good operating condition.

**Aftercare**
The newly sprayed concrete surface must not be exposed to loads and must be protected as quickly as possible after spraying against rapid drying from draughts, high room temperatures, sun rays, etc.

**Limitations**
Marlon Shotcrete Wet should not be used at temperatures under +5°C. Sprayed surfaces do not tolerate frost during the curing and cementation period.

**Cleaning**
Clean tools with water immediately after use. Hardened Shotcrete Wet can only be removed mechanically.

**Inspection**
Marlon Shotcrete Wet is subject to internal inspection according to Marlon's quality assurance system. Subsequent measuring and mixing at the site of application is not included in quality control.





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# Product information



**Manufacturer**
Marlon Tørmørtel A/S
Virkelyst 20
DK-8740 Brædstrup

**Material type**
Product type CC. Cement-based dry concrete/mortar for wet application.

**Environmental class**
Extra aggressive. Cement type Portland cement, CEM I 52,5 N (LA).

**Filler material**
Oven-dried and sorted silica sand, cl. E.

**Additives**
Plasticiser and dust-bonding additives. Optionally, 6 mm polypropylene fibre (approx. 1.3 kg per $m^3$).

**Added water**
Approx. 3.2-3.5 l per 25 kg sack. v/c < 0.40

**Layer thickness**
*0-2:* 5-20 mm. Guideline.
*0-4:* 10-60 mm. Guideline.

**Yield**
1,000 kg dry mortar corresponds to approx. 500 l wet mortar.

**Particular properties**
Contains no additives that diminish electrical resistance in connection with cathodic protection.

**Packaging type**
25 kg plastic sacks and big bags.

**Storage**
12 months in dry and suited conditions in unopened packaging.

| Technical data | Values | Method |
|---|---|---|
| Compressive strength, 28 days | > 45 MPa | DS/EN 12190 |
| Bending tensile strength, 28 days | > 6 MPa | DS/EN 12190 |
| Adhesive strength | > 2.0 MPa | DS/EN 1542 |
| Resistivity | < 8.9 k0hm cm APM 219 | |
| Chromate content | < 2 mg/kg cement | DS/EN 1015-17 |
| Density | Approx. 2050 kg/$m^3$ | DS/EN 1015-7 |
| Free contraction | <1 ‰ | DS/EN 12617-4 |
| Air content | Approx. 6 % | DS/EN 1015-7 |

**Information**

| | |
|---|---|
| Item no. 0-2 | 1000340 |
| Item no. 0-4 | 1000345 |
| Item no. 0-4 w/fibre | 1000347 |
| Pr no. | 2257214 |
| Version | 05.21 replaces 05.16 |

CE

Marlon Tørmørtel A/S
Virkelyst 20
8740 Brædstrup
Year 14
DoP 1000345

**DS/EN 1504-3**
1073
Concrete repair product for construction repairs. CC mortar based on hydraulic cement.

| | |
|---|---|
| Compressive strength | > 45 MPa class R4 |
| Chloride content | ≤ 0.05 % |
| Adhesion | ≥ 2.0 MPa |
| Carbonatization | Passed |
| Elastic modulus | ≥ 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 |
| Fire-resistance | Class A1 |



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