

TECHNICAL DATA

| DESCRIPTION | SYMBOL | CHARACTERISTICS 28 DAYS | DESIGN RESISTANCE | SAFETY | CHARACTERISTICS |
|--|----------------------------------|---|---|--|--|
| COMPRESSIVE STRENGTH | F_c | 60 MPa | 20 MPa | $\gamma=3$ | MATERIAL Spray-up glass fibre reinforced concrete, Grade 18P according to GRCA |
| TENSILE STRENGTH | $UTS f_t$ | 9,75 MPa | 4,8 MPa | $\gamma=2$ | CEMENT White cement, EN 197-1 |
| TENSILE DEFORMATION | | 1,2 % | | | SAND Silica based sand, crushed white dolomite or crushed calcium with crystallized structure sorted to well-defined grading. All types are free of asbestos and asbestos like material. |
| BENDING STRENGTH, EN 1170-4/5 t ≥ 8 mm t < 8 mm | $LOP f_m$ $LOP f_m$ MOR | 7 MPa 7 MPa 18 MPa | 6 MPa 3 MPa 6 MPa | $\gamma_m=3$ | GLASS FIBRE Alkali-resistant roving (Cem FIL AR glass fibre) |
| SHEAR STRENGTH | FT | 3,5 MPa | 2 MPa | $\gamma=1,7$ | WATER Water of drinking water quality from public water supply, EN 1008 |
| IN-PLANE SHEAR STRENGTH | FTB | 9 MPa | 4,5 MPa | $\Gamma=2$ | ADDITIVES Superplasticizers based on melamin. Curing improvement admixture based on acrylic polymers (type Forton) |
| EXTRACTING CHOPPER (Ø4 mm) | Ø 4 mm Ø 6 mm BH-M6 | 2 kN 3,9 kN 2,2 kN | 1,1 kN 2,1 kN 1,2 kN | $\gamma=1,8$ $\gamma=1,8$ $\gamma=1,8$ | QUALITY Production of BB fiberbeton elements is carried out and controlled in accordance with BB fiberbeton A/S's quality manual. BB fiberbeton A/S's documentation for applying to quality manual is available on request. All elements from BB fiberbeton A/S are clearly marked with cast date, element number and serial number. |
| IMPACT RESISTANCE | | 40-50 kJ/m ² | | | TOLERANCES Thickness plane elements: +/- 2 mm Thickness 3D-elements: +/- 3 mm Height and width of units: - Up to 4 m = +/- 3 mm - 4 to 9 m = +/- 5 mm Straightness (local smoothness) or bow (deviation from intended line): - Up to 3 m = 5 mm - 3 to 6 m = 8 mm Squareness: Difference in length of 2 diagonals = 3 mm per 2 m, up to maximum of 6 mm Twist (any corner from the plane containing the other 3 corners): - Up to 3 m = 5 mm - 3 to 6 m = 8 mm |
| E-MODUS Short term Long term U short U long | E_s E_l U_k U_l | 20 X 10 ³ MPa 8.5 X 10 ³ MPa L/200 L/350 | 14 X 10 ³ MPa 4.7 X 10 ³ MPa | $\gamma_G=1,4$ $\gamma_G=1,8$ | |
| ISOLATION ABILITY | | 0.5-1.0 W/m ² °C | | | |
| TEMPERATURE EXPANSION KOEFECIENT | | 1.0 X 10 ⁻⁵ / °C | | | |
| MOISTURE EXPANSION | | 0.1-1.5 ‰ | | | |
| DEAD WEIGHT | | 20 kN/m ³ | | | |
| SPECIFIC HEAT | | ≈ 2.4 MJ/m ³ °C | | | |
| SOUND REDUCTION 1 = 10 mm | | 30-32 dBA | | | |
| FIRE RESISTANCE CLASSIFICATION | | Class A2-s1, d0 material, EN 13501 | | | |

The above listed material data can be used dimensioning of spray-up GFRC from BB fiberbeton A/S.

Characteristic strength parameters are based on 5% fractal and indicates uniaxial stress states. In the above design strengths, partial coefficient $\gamma = 1.8$ is used.

This means that the design material parameters are specified for normal safety class and normal control class.



Statiske beregninger udføres af: KLAUS NIELSEN Rådgivende ingeniørfirma FRI AS
Gammel Strandvej 18, DK-2990 Nivå | Telefon 49 14 60 00 | knas@knas.dk