

TECHNICAL DATA

March 2023

DESCRIPTION	SYMBOL	CHARACTERISTIC 28 DAYS	DESIGN RESISTANCE	SAFETY	CHARACTERISTICS
COMPRESSIVE STRENGTH	f_c	60 MPa	20 MPa	$\gamma_m=3$	MATERIAL Spray-up glass fibre reinforced concrete, Grade 18P according to GRCA CEMENT White cement, EN 197-1 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. GLASS FIBRE Alkali-resistant glass fibre roving WATER Water of drinking water quality from public water supply, EN 1008 ADDITIVES Superplasticizers based on polycarboxylate. Curing improvement admixture based on acrylic polymers (type Forton) 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. 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): - Op 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
TENSILE STRENGTH	$UTS f_t$	11 MPa	3.7 MPa	$\gamma_m=3$	
TENSILE DEFORMATION		1.2 %			
BENDING STRENGTH t ≥ 8 mm t < 8 mm	$LOP f_{tb}$ $LOP f_{tb}$ MOR	7 MPa 7 MPa 18 MPa	6 MPa 3 MPa 6 MPa	$\gamma_m=3$	
SHEAR STRENGTH	FT	3.5 MPa	2 MPa	$\gamma_m=1.7$	
IN-PLANE SHEAR STRENGTH	FTB	9 MPa	4.5 MPa	$\gamma_m=2$	
EXTRACTING CHOPPER (Ø4/6 mm and bighead M6/M8)	Ø 4 mm Ø 6 mm BH-M6 BH-M8	3.2 kN 3.9 kN 2.8 kN 3.7 kN	1.8 kN 2.2 kN 1.6 kN 2.0 kN	$\gamma_m=1.8$ $\gamma_m=1.8$ $\gamma_m=1.8$ $\gamma_m=1.8$	
IMPACT RESISTANCE		40-50 kJ/m ²			
E-MODULUS AND DEFORMATION 28 days, Average (DK*/UK*) *Depends on raw materials U short U long	E_{DK} E_{UK} U_s U_l	11.1 x 10 ³ MPa 14.2 x 10 ³ MPa L/200 L/350			
ISOLATION ABILITY		0.5-1.0 W/m ² °C			
TEMPERATURE EXPANSION KOEFEICIENT		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 EN 13501-1:2018		Class A1			

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.



External structural designs are performed by: KLAUS NIELSEN Rådgivende ingeniørfirma FRI AS
Gammel Strandvej 18, DK-2990 Nivå | Phone +45 49 14 60 00 | knas@knas.dk