PRODUCT SPECIFICATION

Durglass® anchors and bolts

DURGLASS glass fiber bars impregnated with polylester resin are used to pre-confine and stabilize the tunnel front in order to temporarily control deformations induced by excavation. **DURGLASS** products can be afterwards destroyed without damaging the excavating equipment.

DURGLASS® AND GLASSPREE® SPECIFICATIONS*		
Density	ASTM D792	1.95 g/cm3
Ultimate tensile strength	ASTM D7205	760 – 1000 MPa
Tensile modulus of elasticity	ASTM D7205	40-46 GPa
Shear strength	ASTM D7617	100 – 200 MPa
Fiber content	ASTM D2584	>65%

** Based on ASTM International's testing method.*

DURGLASS® ROUND BARS		
Diameter (mm)	Average Tensile strenght (fu,ave) - MPa	Nominal tensile load kN
20	950	295
22	850	325
25	850	430
28	850	520
32	850	670
36	760	860
40	760	950

DURGLASS® PIPES & HOLLOW BAR		
Internal/external diameter (mm)	Type	Nominal breaking load – kN
14/28	Blind	450
40/60	Blind/sleeved	900

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DURGLASS® SINGLE BAR Structural Elements		
Type	Bars [mm]	Nominal breaking load [kN]
EM 20	Flat 40x5	200
EM 24	Flat 40x6	240
EM 28	Flat 40x7	280
EM 32	Flat 40x8	320
EM 36	Flat 40x9	360
Y 35F	Y 35	350
Y 55F	Y 55	550

EM

Y35F and Y55F

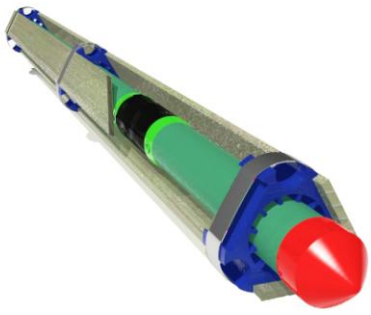
DURGLASS® DOUBLE BAR Structural Elements		
Type	Bars [mm]	Nominal breaking load [kN]
ED 40	2 Flat 40x5	400
ED 48	2 Flat 40x6	480
ED 56	2 Flat 40x7	560
ED 64	2 Flat 40x8	640
ED 72	2 Flat 40x9	720

ED with PE grouting pipe

ED with Durvinil® sleeved pipe

DURGLASS® TRIPLE BAR Structural Elements		
Type	Bars [mm]	Nominal breaking load [kN]
ES 60	3 Flat 40x5	600
ES 72	3 Flat 40x6	720
ES 84	3 Flat 40x7	840
ES 96	3 Flat 40x8	960
ES 100	3 Flat 40x9	1080

ES with PE grouting pipe



ES with Durvinil® sleeved pipe

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