



TELEROD GLASS FIBRE REINFORCED PLASTIC ROD (GFRP) is explicitly designed to meet the Optical Fibre cable performance.

Description

The Glass Fiber Reinforced Plastic Rod or the Central Strength Member (CSM) provides tensile strength to the cable protecting it during installation and its rigidity prevents cable buckling during the life of the cable.

TECHNICAL DATA

Physical Property

		Test method
Glass Content	83 ± 2 %	(DIN EN ISO 1172)
Density	2.15 g/cm ³ (0.08 lb/in ³)	(DIN 53479)
Diameter Stability	± 0.05 mm (± 0.002 in)	
Ovality	< 0.05 mm (< 0.002 in)	
Splices	None	

Mechanical Property

Ultimate Tensile Strength	1.50GPa (2.18x10 ⁵ psi)	ASTM D3916 (DIN EN ISO 527- 4)
Tensile Modulus	>50 GPa (>7.25x10 ⁶ psi)	ASTM D3916 (DIN EN ISO 527- 4)
Elongation @ break	>2.5 % >2.5 %	ASTM D3916 (DIN EN ISO 527- 4)
Min bend radius	25 x D at 22 °C 25 x D at 72 °F	
Co-efficient of thermal expansion	5.2x10 ⁻⁶ / °C 2.9 x 10 ⁻⁶ / °F	ASTM D696 (DIN ISO 7991)
Flexural modulus	>50 GPa 7.25x10 ⁶ psi	ASTM D790
Heat Stress tolerance (bend radius) 8 Days	50 x D at 100 °C 50 x D at °F	212

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TYPICAL PROPERTIES

Diameter of GFRP		Load (N) @ Elongation			Weight	
mm	Inch	0.50%	1.00%	Break	kg/km	lb/kft
0.40	0.016	30	65	190	0.27	0.18
0.50	0.020	50	100	295	0.43	0.29
0.60	0.024	70	140	425	0.62	0.41
0.70	0.028	95	190	575	0.84	0.56
0.80	0.031	125	250	755	1.09	0.73
0.90	0.035	160	320	955	1.39	0.93
1.00	0.039	195	395	1180	1.71	1.15
1.10	0.043	240	475	1425	2.07	1.39
1.20	0.047	285	565	1695	2.46	1.65
1.30	0.051	330	665	1990	2.89	1.94
1.40	0.055	385	770	2310	3.35	2.25
1.50	0.059	440	885	2650	3.85	2.58
1.60	0.063	505	1005	3015	4.38	2.94
1.70	0.067	565	1135	3405	4.94	3.31
1.80	0.071	635	1270	3815	5.54	3.72
1.90	0.075	710	1420	4255	6.17	4.14
2.00	0.079	785	1570	4710	6.84	4.59
2.10	0.083	865	1730	5195	7.54	5.06
2.20	0.087	950	1900	5700	8.28	5.55
2.30	0.091	1040	2075	6230	9.05	6.07
2.40	0.094	1130	2260	6785	9.85	6.61
2.50	0.098	1225	2455	7365	10.69	7.17
2.60	0.102	1325	2655	7965	11.56	7.75
2.70	0.106	1430	2865	8590	12.47	8.36
2.80	0.110	1540	3080	9235	13.41	8.99
2.90	0.114	1560	3305	9910	14.38	9.65
3.00	0.118	1765	3535	10605	15.39	10.32
3.10	0.122	1885	3775	11320	16.43	11.02
3.20	0.126	2010	4020	12065	17.51	11.74
3.30	0.130	2140	4275	12830	18.62	12.49
3.40	0.134	2270	4540	13620	19.77	13.26
3.50	0.138	2405	4810	14430	20.95	14.05
3.60	0.142	2545	5090	15270	22.16	14.86
3.70	0.146	2690	5375	16130	23.41	15.70
3.80	0.150	2835	5670	17010	24.69	16.56
3.90	0.154	2965	5975	17920	26.01	17.45
4.00	0.157	3140	6285	18850	27.36	18.35
4.10	0.161	3300	6600	19805	28.75	19.28
4.20	0.165	3465	6925	20780	30.16	20.23
4.30	0.169	3630	7260	21785	31.62	21.21
4.40	0.173	3800	7605	22810	33.11	22.20
4.50	0.177	3975	7950	23855	34.63	23.23
4.60	0.181	4155	8310	24930	36.18	24.27

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