

FRP MATERIAL PROPERTIES

Properties	ASTM Test	Take direct loading as self support			Stable within temperature
Flexural stress, Lengthwise	D790	200 N/mm ²			0°C to 45°C, under direct sunlight
Flexural stress, Crosswise	D790	60 N/mm ²			
Flexural modulus, Lengthwise	D790	11000 N/mm ²			
Flexural modulus, Crosswise	D790	5000 N/mm ²			
Tensile stress, Lengthwise	D638	200 N/mm ²			
Tensile stress, Crosswise	D638	40 N/mm ²			
Compressive stress, Lengthwise	D695	200 N/mm ²			
Compressive stress, Crosswise	D695	100 N/mm ²			
Bearing stress, Lengthwise	D953	200 N/mm ²			
Shear modulus		2900 N/mm ²			
Punching shear	D732	60 N/mm ²			
Barcol hardness	D2583	45 MIN			
24 hours water absorption	D570	0.6%			
Loads ⌘	Span				
	Less than 1.5M	1.5m to 3.0m	3.0m to 4.5m	4.5m to 6.0m	
Unfactored live load	2.0 kPa	2.0 kPa	1.6 kPa	1.3 kPa	
Unfactored suction load	2.0 kPa	2.0 kPa	1.6 kPa	1.3 kPa	
Allowable deflection	1/180 of span	1/180 span	1/120 span	1/60 span	
⌘The FRP cover designed to take direct loading as self support shall be designed to withstand the above requirement under serviceability limit state.					

