

Glass-Fibre Reinforced Concrete Technical Document

Typical GRC Mix Formulation

	Spray	Premix
Cement	40 kg	40 kg
Sand	40 kg	40 kg
Metakaolin	3 kg	-
Glass fibre	5 - 6 %	2 - 3 %
Water	13.5 litres	14.5 kg litres
Superplasticizer	150 millilitres	160 millilitres
Polymer	3 litres	3 litres

Typical Physical GRC Properties

	Spray	Premix
Modulus of Rupture (MOR)	21 - 30 MPa	8 - 14 MPa
Limit of Proportionality (LOP)	7 - 11 MPa	5 - 8 MPa
Ultimate stress for bending	8-12 MPa	4-6 MPa
Interlaminar sheer strength	3-5 MPa	NA
In-plane shear strength	7-12 MPa	4-6 MPa
Impact strength	15-20 KJ/m ²	8-15 KJ/m ²
Compressive strength	50-80 MPa	40-60 MPa
Modulus of elasticity	10-20 GPa	10-20 GPa
Strain to failure	0.6 - 1.2 %	0.1 - 0.2 %
Dry density	1900-2100 kg/m ³	1800-2000 kg/m ³
Coefficient of thermal expansion	10-18 °C	10-18 °C