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# GLASSFIBRE REINFORCED CONCRETE (GRC) TECHNICAL SPECIFICATION



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**GLASS-FIBRE REINFORCE CONCRETE (GRC)**

**PART 1 INTRODUCTION**

GRC to be fabricated using cement and fine aggregate (sand) reinforced with alkaline resistance fibreglass strand

**PART 2 PERFORMANCE**

**2.1 SHAPE**

The panels are to be formed in GRC to achieve the design intent as indicated in the Architect's drawings and/or the approved proposed design as submitted by the contractor.

**2.2 WATER PENETRATION**

Panels shall be resistant to water penetration and no dampness shall be visible on the inner face of the panel.

**PART 3 GRC PROPERTIES**

The GRC shall be the following properties on completion of cure, The dry density of the GRC should not be less than 1700 kg/m<sup>3</sup>

- |   |                                      |
|---|--------------------------------------|
| <b>3.1 Compressive Strength</b>             | tested to ASTM : C 109/C 109M : 2002 |
| A) Maximum Load :-                          | 53269.7 N                            |
| B) Compressive Strength :-                  | 21.31 N/mm <sup>2</sup>              |
| <b>3.2 Flexural Strength</b>                | tested to ASTM : C 580 – 98          |
| A) Flexural Strength :-                     | 33.8 N/mm <sup>2</sup>               |
| B) Modulus of Elasticity :-                 | 6172.8 MPa                           |
| <b>3.3 Charpy Impact Strength</b> :-        | 12.0 KJ/m <sup>2</sup>               |
| (tested to ASTM D6110 : 1997)               |                                      |
| <b>3.4 Coefficient of Thermal Expansion</b> | 10.5 μm/m°C                          |
| (tested to ASTM E831 : 2000)                |                                      |
| <b>3.5 Thermal Conductivity</b>             | 0.12258 w/m°C                        |
| (tested to ASTM C518 : 1991)                |                                      |



**PART 4 MATERIAL**

**4.1 CEMENT**

The cement shall be Ordinary Portland Cement (OPC).

**4.2 GLASSFIBRE**

The glassfibre use shall be high-quality Alkaline-Resistant glassfibre which is designed to reinforce cementitious and other alkaline matrius.

**4.3 AGGREGATE**

Sand shall be washed and free from soluble salts.  
Maximum particle size shall be 1mm.

**PART 5 PROTECTION**

Protect GRC material (mouldings) and Frame work (if any) from damage and deterioration during remainder of construction period

**END OF SECTION**



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