DESIGNVISUAL
ARCHITECTURAL FINISHES & INSTALLATIONS

Product data sheet – Glassfibre Reinforced Gypsum (GRG) fabrications

This data sheet is representative of the following types of products manufactured in GRG for seamless assembly:

Column and beam casings | Pre-cast ceiling features | Sculptural walls and panels

1. Description:
GRG is a composite of high density "Alpha" Gypsum cement and glass fibres that can be moulded in to virtually any shape or size. The glass fibres are in a matrix 'mat' form, and the Gypsum may be either sprayed on or laid up by hand. DVC generally uses continuous filament glassfibre mat and lays up all casts by hand. This facilitates a consistent thickness and quality, and allows the embedment of lightweight galvanised steel components for reinforcement, stiffening and support of the casts. GRG casts are then cured for 12 hours at a controlled temperature of 30°C. GRG is intended for interior use only. It is non-combustible; Spread of flame to BS 476 Part 6&7: Class 'O'.

2. Uses:
GRG derives its strength from its form and is therefore ideal for use in shaped applications such as column and beam casings, sculptural wall panels, feature ceiling areas, curved upstands and bulkheads. It allows Architects and Designers an opportunity to be particularly creative with feature areas such as Receptions, Conference rooms, Atria, and Auditoriums. It is not recommended for large, flat areas, as traditional drywall would be more suited to these applications for economic reasons.

3. Appearance:
Smooth monolithic white surface with joints between casts to be site finished using either traditional fibre-stopping methods or taped and jointed where possible.

4. Weight:
Varies depending upon cast design, but generally not exceeding 10 Kg/m2.

5. Thickness:
Typical cast thickness is 5-6mm with edges built out to 12mm for reinforcement.

6. Squareness:
Where the finished product is rectangular, it will be tested for squareness by measuring the diagonals. The difference between the two measurements shall not exceed 0.5% of the length of the diagonal.

7. Flatness:
The deviation from the horizontal plane shall not exceed +2mm in 1 metre length.

8. Dimensional tolerance:
The dimensional accuracy of any component shall be within +2mm in 1 metre length.

9. Fire propagation:
Gypsum based products conform to BS 476 Parts 5 & 6, 1968 as amended by AMD 549, July 1970.
GRG tested in accordance with the above standards shall be designated "P" (to achieve class O) and have a final fire propagation index of 0.9, with intermediate indices: i1 0.69, i2 0.06, i3 0.12.
They also conform to Class "1" surface spread of flame when tested in accordance with BS476 Part 7, 1971.
Non-combustibility – The material shall be tested in accordance with BS 476 Part 4, 1970, and shall be classified Non-combustible. GRG is therefore suitable for interior use.

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10. Thermal Insulation:
GRG has a thermal conductivity (k) value of not greater than 0.375 W/m deg. C.

11. Expansion:
GRG has a thermal coefficient of expansion not exceeding 14.94 x 10-6/deg. C.

12. Structural Characteristics:
GRG has an ultimate tensile strength of not less than 8.27 N/mm2.
Its bending strength is LOP 11.4 N/mm2, MOR 29.8 N/mm2, and Young's modulus 1.61 x 105.
Impact strength measured by IZOD method is 19.09 Kg.cm/cm2.

13. Ultra-Violet:
GRG is unaffected by ultra-violet light.

14. Mould resistance:
GRG does not sustain mould growth under normal humidity conditions.

15. Transportation and storage:
Transportation and storage of GRG products must be undertaken by suitably qualified and experienced operatives. Large panels or fabrications should be reinforced to maintain their shape in transit. Always store GRG products in dry conditions, placed and supported and not stacked.

16. Installation:
GRG casts can be installed by Drylining operatives using the same standard components and techniques to form a secondary support framework, to which the GRG cast are mechanically fixed using standard drywall fixings. Depending on the complexity of the GRG cast design, the joints between casts can either be taped, jointed and sanded using standard Drylining techniques or "stopped in" using traditional fibre-stopping methods. Established criteria for movement control and building expansion joints for drywall can also be applied to GRG.

17. Finishing:
GRG is site finished using an Alkali resistant primer and sealer. It can then be painted in the same manner as standard Drywall. High gloss paint finishes are not recommended as GRG is extremely hard and jointing compounds are considerably softer. This can result in light being reflected differently by each surface and the joints may show through.

18. Maintenance:
GRG surfaces can be maintained in exactly the same way as Drywall or Plastered surfaces. Repairs to chips or cracks may be carried out using any domestic or commercial plaster-based filling compound.

Samples available:
GRG material samples can be requested by email. We are also able to manufacture GRG in different textures and patterns; some may be available pre-finished. Please contact us with details of your project concept or specification.