Product Data Sheet





A Guide for the Installation, Maintenance & Repair of Standard Glass Reinforced Gypsum Components

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GENERAL PRODUCT INFORMATION

Glass Fibre Reinforced Gypsum

Manufacturer:	**Products:**
Gillespie Abbey House 282 Farnborough Road Farnborough GU14 7NA United Kingdom **Contact:** Sales Department **(01276)** 405000	Glass Reinforced Gypsum (GRG) Blind boxes Light troughs Razor Edges Access Hatches Wall corner profiles

1. **Uses**: GRG Component's GRG products are used to convert any raw surface such a structural steelwork or block work to a finished surface with a design feature as required. GRGis suitable for all internal applications.

2. **Typical Composition**: Calcium sulphate dehydrate with a continuous glass fibre mat present behind the face. Natural constituents include clay, limestone and small amounts of anhydrite and quartz. Accelerator, retarders and non-hazardous modifiers may also be present.

3. **Physical Properties**: GRG Component's GRG is a light, non-combustible material with a high quality surface finish which is usually painted. It is strong and rigid and can be produced in virtually any shape, size or texture. GRG has a compressive strength of 22 – 30 N/mm^2.

a) **Reaction to Fire**: Rated as Euroclass A1.

b) **Density:** The material shall have a density not exceeding 1700 kg / cubic metre.

c) **Thermal Insulation**: The material shall have a thermal conductivity value of not greater than 0.375 W/M degrees centigrade.

4. **Expected Lifespan**: GRG is constructed from completely stable and inert materials not affected by severe changes in temperature. Provided they are used in a secure weatherproof environment their lifespan should be infinite (provided the enclosed instructions are followed).

5. **Unloading and Storage**: If panels are off-loaded manually, they should be carried on their edge. When off-loading mechanically, the carrying platform should provide full support.

It is important that GRG is stored in dry conditions. Although generally unaffected by natural humidity, for exterior installations, products must be protected from regular contact with water, for example, external colonnade soffits or the underside of an external canopy. It must be placed and supported to keep the shape in which it has been formed.

6. **Dismantling, Transportation and Installation**: Dismantling, transportation and storage of GUK products must be undertaken by suitably qualified / experienced operatives. Large panels should be reinforced with ribs or struts to maintain their shape in transit. All products should be appropriately protected to ensure adequate protection from elements, temperature changes and damage from movement.

7. **Disposal**: At a tip designated for building products or an authorised land-fill site.

Keep out of reach of children.

8. **Health Hazards, Precautions and First Aid**: GRG will not support body weight between rafters, joists or framing members. Fixers must work from an independent support system.

Dust is generated when cutting or sanding glass fibre reinforced gypsum. Observe the following advice whenever dust is being produced.

a) **Eye Contact**: Health hazard - May cause irritation.

Precautions - Ensure adequate ventilation when cutting or sanding. If dust levels cannot be controlled by ventilation, use dust extraction equipment or wear suitable goggles.

First aid - In the event of eye contact wash the eye immediately with plenty of clean water. Seek medical attention if discomfort persists.

b) **Skin Contact** Health hazard - May cause irritation or lacerations.

Precautions - Ensure adequate ventilation when cutting or sanding. If dust levels cannot be controlled by ventilation, use dust extraction equipment. The wearing of gloves is recommended. Individuals sensitive to man-made fibres should take particular care. Wear goggles together with gloves and loose fitting protective clothing.

Lacerations may occur when sanding and cutting surfaces and edges with hand or power tools. Wear gloves and suitable clothing.

First aid - In the event of skin irritation rinse the affected area thoroughly under running water before washing with soap. If skin problems persist, seek medical advice.

c) **Inhalation** Health hazard - May cause irritation.

Precautions - Ensure adequate ventilation when cutting or sanding. If dust levels cannot be controlled by ventilation, use dust extraction equipment. Alternatively, wear a suitable dust mask.
First aid - If irritation occurs, move to fresh air.

d) **Ingestion** Health hazard - No biological hazard (in small quantities).

Precautions - Avoid ingestion by taking normal hygiene precautions.

First aid - Wash out mouth and give patient plenty of water to drink. Seek medical advice from a trained operative.

e) **Exposure Limits**Occupational Exposure Standards (OES) for gypsum and plaster dust.

- Total Inhalable Dust = 10mg / Cubic Metre
  8 Hour Time Weighted Average
  - Respirable Dust = 5 mg / Cubic Metre
    8 Hour Time Weighted Average

The Health and Safety Executive Guidance Note EH40 identifies Occupational Exposure Limits for other constituents. This note is revised and reprinted annually.

Note: GRG contains glass fibre which has a Maximum Exposure Limit of 5 mg / cubic metre (8 hour Time Weighted Average) listed in the current Health and Safety Executive Guidance Note EH40.

f) **Fire and Explosion Hazards** None.

6. **Sealing**: The surface of GRG should be sealed with Gyproc Drywall Sealer to ensure a consistent porosity across the moulded surface and filled joints.

7. **Painting**: Once sealed, GRG should be painted with a mist coat and two full coats of matt vinyl emulsion. GRG used externally – under cover – should be painted with exterior grade paint. GRG Component's recommend paints with a volatile organic compound content of 0g / L.

INSTALLATION

All of our GRG products come with fixings for hanging to the wall or ceiling as required. Yet due to the bespoke nature of the GRG and the many different fixing methods we recommend that you contact us for details of our list of recommended installers.

The below sections are a guide for those wishing to know about the fixing & jointing methods used.

Fixing

There are several different methods of fixing GRG depending on the size and profile of the sections.

GRG can be supported from T sections laminated in the back of it and the panels can be bolted together. This method requires access to the back of the panels.

GRG can be fixed to brackets as in the case of light troughs which are cantilevered and projecting under a cove. This can be done by face fixing with a screw through the GRG into the bracket, it can be wired to the bracket and secured with a wad or an angle can link the bracket to the T bar in the back of the panel. The "wire and wad" technique is very common in Europe but may not be familiar in Asia. It is important that this method is adopted when the location of the bracket and the back of the GRG are not able to be precisely matched. The "wire and wad" method allows tolerance and is a very secure method of holding the GRG in the correct location. It can also be used to secure two GRG components together.

GRG can be fixed to a plasterboard surface as an applied moulding. This is done by a glue and screw method. An adhesive plaster is applied to the back of the GRG moulding – it is offered into position and then screwed through an insert in the GRG to the plasterboard and its metal furring channels.

Jointing

There are essentially two methods of making good the joints between GRG components again depending on their size and profile.

The joints can be "taped and jointed" as in a dry wall situation. This method is used when there is little detail in the surface of the GRG panels. A packer is fitted between the GRG panels to leave a 6 to 10 mm gap. There is a shallow rebate in the surface of the GRG panels along the edge of the panels. A self adhesive glass fibre open weave tape is applied to the joints within the shallow rebate. A jointing compound is applied by spatula to the joint so that it pushes through the tape into the gap between the panels. This is a setting plaster which will not shrink as it cures. It expands slightly and forms a secure bond with the GRG panels. Some operatives prefer to apply the tape after the plaster has been applied to the joint. A fine finishing plaster is applied to the joint once this has dried and this can be rubbed down with fine sand paper to leave a smooth surface.

The casting plaster method is used when the GRG components have a complex surface such as enriched and plain mouldings and cornice. In this instance again a gap is required between the panels to fill with plaster that is then cut to the profile with a joint rule (a sharp metal blade) as the plaster sets. The plaster used can either be similar to that which the GRG is made of or it can be an adhesive plaster or Plaster of Paris. The former requires reinforcing with glass fibre or sisal scrim to make it easier to push into the gap between the panels. If access is available to the back of a joint then a wad should be applied to it. This is a glass or sisal reinforced plaster laminate over the back of the joint that will strengthen the bond between the panels.

Jointing Materials

Type 1 Joints

Setting Jointing plasters suitable for Type 1 first fill are:

British Gypsum Gyproc Joint Filler
Knauf Joint Filler
Knauf Multifill
Lafarge Fast Set

Air drying Jointing materials suitable for Type 1 second fill are:

British Gypsum Gyproc Easi-Fill
Knauf Joint Cement Easy Sand
Lafarge Rapid Sand

Type 2 Joints

Materials suitable for Type 2 are:
3G Plaster is suitable for the wadding and first fill.

British Gypsum Fine Casting Plaster is suitable for the jointing.
Jingyun Casting Plaster for the jointing.

The above materials are our recommendations - however we can take no responsibility for the way in which they are used by operatives on site.

MAINTENANCE

The following maintenance may be required to keep GRG in good working order. These instructions are on the basis that surfaces have been suitably treated.

Maintenance Work to be carried out

The maintenance of this finish is similar to most painted plaster work. Dirty marks should be washed off with clean water and a mild detergent if the surfaces are suitably treated. If this is not possible and marks persist, re-painting may be necessary as the only alternative.

Periods of Maintenance

As and when required.

REPAIRS

Minor Surface Damage

If the surface is scratched or chipped it will need to be filled prior to repainting. This can be done with normal plaster repair materials such as Polyfilla or Tetrion, taking care to follow manufacturer's instructions. If the GRG is thru-coloured the powder Polyfilla should be mixed with dilute emulsion paint (the same colour as that which the GRG has been painted) instead of water. When dry, repaired area may be rubbed down with fine abrasive paper and over-painted in the original manner.

Major Damage

If the surface of GRG is punctured it will be necessary to provide packing to fill against. This is done in a similar manner to car body repairs using such materials as wire mesh, expanded metal, plasterboard and bonding plaster or polyurethane foam as backing materials. Repairs are then concluded as detailed above.

In the event that a panel is damaged such that its shape and rigidity are lost it may need to be replaced. In that case, contact the manufacturer.