# RETROGUARD® RG Product Data Sheet

Replacement fireproofing

VIEW SUSTAINABILITY CERTIFICATIONS: RG

## Product Description

RETROGUARD® RG replacement fireproofing is a single component, mill-mixed gypsum plaster based product that requires only the addition of water on the job site to form a consistent, pumpable slurry. RG can be used on structural steel columns, beams, joists, trusses, flat plate cellular and fluted decking.

## Features & Benefits

RETROGUARD® RG Cementitious Fireproofing has been specifically developed by GCP Construction Products to meet the needs of the fireproofing respray contractor.

RETROGUARD® RG offers the following advantages:

- Quick set - in seven to 10 minutes with the use of Monokote Accelerator and Injection System
- Low water ratio - reduced drying time
- Less overspray - work close to steel, less cleanup
- No noxious fumes or irritating particulates released during or after application
- Hard durable surface
- Extra-strength bags for handling and storage ease
- Fully UL fire tested and classified for use with the most postremoval lock downs in the industry
- Dries to a light blue color - easily identified and differentiated

## Materials

- Material shall be RETROGUARD® RG replacement fireproofing as manufactured by GCP Construction Products.
- Mixing water shall be clean, fresh and suitable for domestic consumption, and free from such amounts of mineral or organic substances as would affect the set of the fireproofing material.
- Lock down agents shall be UL Classified for use with RETROGUARD® RG. Refer to the ULI Fire Resistance Directory current edition for products listed with RETROGUARD® RG under Classification Category CBUI.

## Delivery & Storage

- All material to be used for fireproofing shall be delivered in original unopened packages bearing the name of the manufacturer, the brand and the proper Underwriters Laboratories Inc. identification.

## Mixing

- RETROGUARD® RG shall be mixed by machine in a conventional plaster type mixer or a continuous mixer specifically modified for cementitious fireproofing. The mixer shall be kept clean and free of all previously mixed material. The mixer speed in a conventional mixer shall be adjusted to the lowest speed which gives adequate blending of the material and a mixer density of 40–45 pcf (640–720 kg/m$^3$) of material.
- Using a suitable metering device and a conventional mixer, all water shall be first added to the mixer as the blades turn. Where possible, the mixer blades shall then be stopped and all the RETROGUARD® RG fireproofing added. The mixer blades shall then be restarted. If the mixer blades are left running, RETROGUARD® RG should be added to the mixer as quickly as possible. Mixing shall continue only until all material is thoroughly wet and no lumps remain. Target density of 43 ± 1 pcf (688 ± 16 kg/m$^3$) is most desirable. Overmixing RETROGUARD® RG will reduce pumping rate and will adversely affect final in-place density and hangability. Undermixing RETROGUARD® RG will negatively affect in-place density and yield.

## Performance Characteristics

| PHYSICAL PROPERTIES | RECOMMENDED SPECIFICATION | LABORATORY TESTED* VALUES | TEST METHOD |
|---|---|---|---|
| Dry density, minimum average | 15 pcf (240 kg/m$^3$)<br>18 pcf (288 kg/m$^3$) | 15 pcf (240 kg/m$^3$)<br>18 pcf (288 kg/m$^3$) | ASTM E605 |
| Bond strength | 430 psf (20.6 KPa) at 15 pcf<br>1,000 psf (47.9 KPa) at 18 pcf | 339 psf (16.2 KPa)<br>1,527 psf (73.1 KPa) at 18 pcf | ASTM E736 |
| Compression, 10% deformation | 31.0 psi (215 KPa)<br>50 psi (344 KPa) | 35.7 psi (246.1 KPa)<br>56 psi (385.0 KPa) | ASTM E761 |
| Air erosion | Max 0.000 g/ft$^2$ (0.00 g/m$^2$) | 0.000 g/ft$^2$ (0.00 g/m$^2$) | ASTM E859 |
| High velocity air erosion | No continued erosion after 4 hours | No continued erosion after 4 hours | ASTM E859 |
| Corrosion | Does not contribute to corrosion | Does not contribute to corrosion | ASTM E937 |
| Bond impact | No cracking, spalling or delamination | No cracking, spalling or delamination | ASTM E760 |
| Deflection | No cracking, spalling or delamination | No cracking, spalling or delamination | ASTM E759 |
| Resistance to mold growth | No growth after 28 days | No growth after 28 days | ASTM G21 |
| Surface burning characteristics | Flame spread = 0 Smoke developed = 0 | Flame spread = 0 | ASTM E84 |
| Combustibility | Less than 5 MJ/m$^2$ total, 20 kw/m$^2$ peak heat release | Less than 5 MJ/m$^2$ total, 20 kw/m$^2$ peak heat release | ASTM E1354 |

## Steel Surfaces

- Prior to the application of RETROGUARD® RG an inspection shall be made to determine that all steel surfaces are acceptable to receive fireproofing. The steel to be fireproofed shall be free of oil, grease, excess rolling compounds or lubricants, loose mill scale, rust or any other substance that will impair proper adhesion. Where necessary, the cleaning of steel surfaces to receive fire proofing shall be the responsibility of the abatement contractor, or general contractor.
- The project architect shall determine if the painted/ primed steel or lock down agent on the steel to receive fireproofing have been tested in accordance with ASTM E119, to provide the required fire resistance rating.
- Many Fire Resistance Designs allow the use of painted metal floor or roof deck in place of galvanized decking. Painted decking must be UL listed in the specific fire resistance designs and must carry the UL classification marking. Consult your local GCP sales representative for details.
- Prior to application of RETROGUARD® RG, a bonding agent, approved by the fireproofing manufacturer, shall be applied to all concrete substrates to receive RETROGUARD® RG.
- In advance of the application of the fireproofing, a bond test shall be conducted on all painted/primed steel surfaces or steel that has been covered with a lock down agent to determine if the paint or lock down agent will impair the ambient bond of the fireproofing.
- Where cellular steel decking is present, both cellular and fluted decking requires the application of SPATTERKOTE® SK-3 before application of RETROGUARD® RG. The thickness of SK-3 is incorporated into the total fireproofing thickness.
- Fireproofing to the underside of steel roof deck assemblies shall be done only after roofing application is complete and roof traffic has ceased.

## Application

- Application of RETROGUARD® RG Fireproofing can be made in the following sequence:
  - For thicknesses of approximately 1⁄2 in. (13 mm) or less, apply in one pass.
  - For thicknesses of 5⁄8 in. (16 mm) or greater, apply second passes after the first coat has set. The use of the MONOKOTE® Accelerator Injection System is required to obtain optimal job site application performance. The use of the MONOKOTE® Accelerator Injection System will provide quick set material (usually seven to ten minutes after application), greater in-place yield, and the ability to spray an area in essentially one continuous operation. Second coat can be applied as soon as first material applied has set.
- Prior to application of RETROGUARD® RG, a bonding agent, approved by the fireproofing manufacturer, shall be applied to all concrete substrates to receive RETROGUARD® RG.
- SPATTERKOTE® SK-3 shall be applied to all deck areas when flat plate cellular steel decking is present, and as specified in some roof deck designs. Consult current UL Directory for specific use. SPATTERKOTE® shall be applied in accordance with manufacturer's application instructions.
- RETROGUARD® RG Fireproofing material shall not be used if it contains partially set, frozen or caked material.
- RETROGUARD® RG shall have a minimum average dry in-place density of 15 lbs/ft$^3$ (240 kg/m$^3$).
- RETROGUARD® RG shall be mixed with water at the job site.
- Monokote Accelerator when used shall be mixed and used according to the manufacturer's recommendations.
- RETROGUARD® RG is applied directly to the steel, at various rates of application which will be job dependent, using standard plastering type equipment or continuous mixer/pump units. A spray gun, with a properly sized orifice and spray shield and air pressure at the nozzle of approximately 20 psi (38 KPa), will provide the correct hangability, density and appearance. NOTE: If freshly sprayed RETROGUARD® RG does not adhere properly, it is probably due to a too wet mix, poor thickness control, or an improperly cleaned substrate.

## Temperature & Ventilation

- An air and substrate temperature of 40 °F (4.5 °C) minimum shall be maintained for 24 hours prior to application, during application and for a minimum or 24 hours after application of RETROGUARD® RG.
- Provisions shall be made for ventilation to properly dry the fireproofing after application. In enclosed areas lacking natural ventilation, air circulation and ventilation must be provided to achieve a minimum total fresh air exchange rate of 4 times per hour until the material is dry.

## Field Tests

- The architect will select an independent testing laboratory (for which the owner will pay) to sample and verify the thickness and density of the fireproofing in accordance with the pro visions of ASTM E605-93, Standard Test Method for Thickness and Density of Sprayed Fire-Resistive Material Applied to Structural Members or Uniform Building Code Standard No. 7-6, Thickness and Density Determination for Spray Applied Fireproofing.
- The architect will select an independent testing laboratory (for which the owner will pay) to randomly sample and verify the bond strength of the fireproofing in accordance with the provisions of ASTM E736.
- Results of the above tests will be made available to all parties at the completion of pre-designated areas which shall have been determined at a pre-job conference.

## Safety

- RETROGUARD® RG is SLIPPERY WHEN WET. The General Contractor and Applicator shall be responsible for posting appropriate cautionary "SLIPPERY WHEN WET" signs.
- SDS (Safety Data Sheet) for RETROGUARD® RG are available on our web site at www.gcpat.com or call toll free at 866-333-3SBM.



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