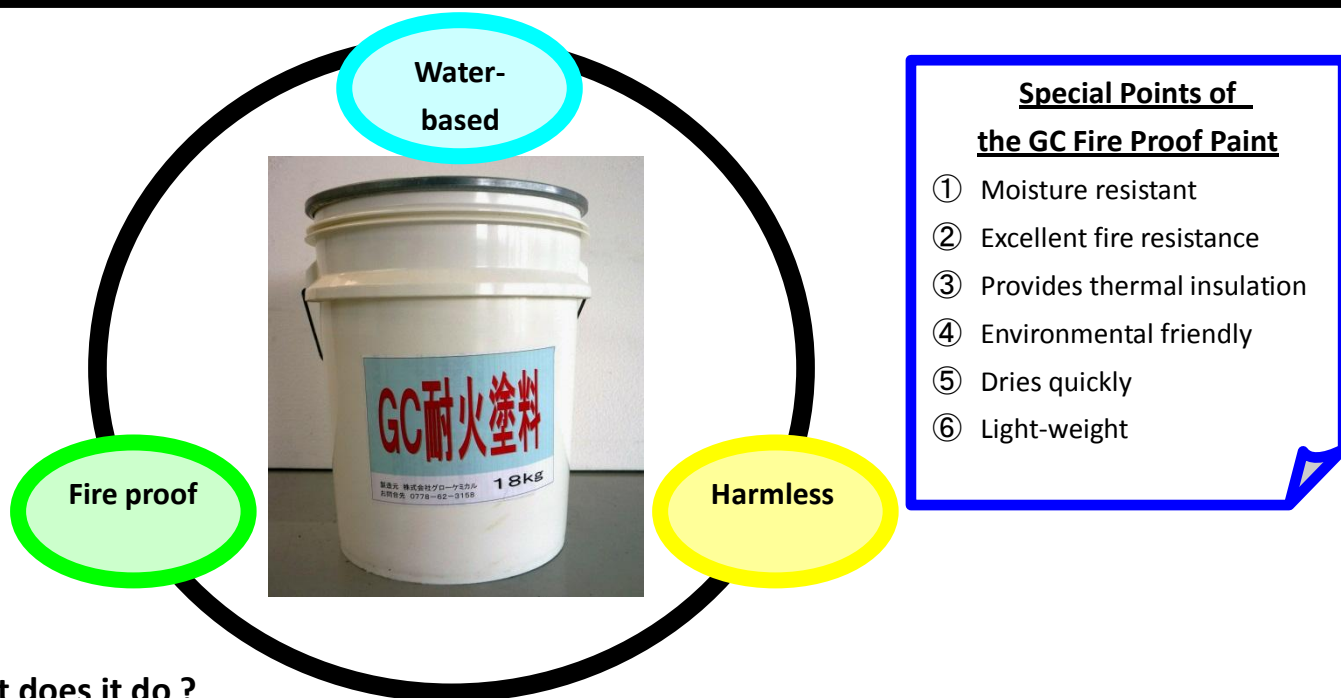


GC Fire Proof Paint

Environmental friendly, water-based, fire-resistant paint

Works to protect people's lives and property from the dangers of fire



What does it do ?

By applying to structural steel, wood, or any other base material, the paint plays a role in preventing the spread of fire. If a fire occurs, the paint forms a carbide layer without catching fire, cutting off the heat.

How does it work ?

At temperatures between 200~300 degrees, foam starts to rise from the paint. This foam forms a heat-insulating layer of thickness 10 to 20 times of the original layer of dried paint.



① Heating the coated surface of paint



② At 250 degrees, the foam begins to rise



③ A carbide layer begins to form as the foaming continues



④ Results in a carbide layer of foam 40 times in size with excellent thermal insulation

Grow Chemical Co. Ltd

28-4 Shimonoda, Sabae City, Fukui Prefecture, Japan 916-0073

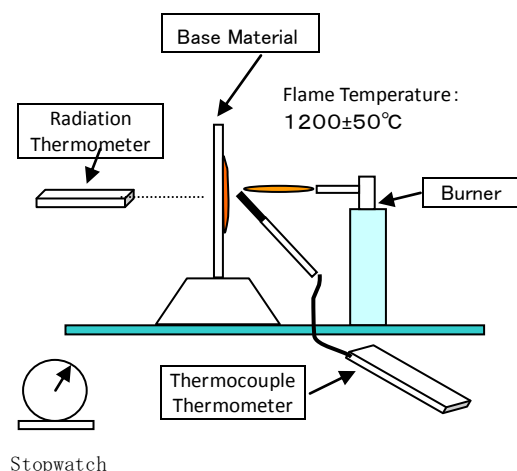
Tel: 0778-62-3158 Fax: 0778-62-3160

E-mail: info@growchemical.com

○ Fireproof Performance

[Test Method]

In the figure below, we examined the change in temperature of the backside of several testing materials. When the base material is untreated, the gas burner penetrates within 10 seconds to a few minutes depending on the material. When treated, a non-sticky softening occurs, but no penetration of the material even after 20 minutes. Also when a thick coat is applied, there is little rise in temperature on the backside.



- ① Fireproofed material is set up on a base.
- ② Flames from a gas burner are applied to the surface of the base material.
- ③ Combustion time is measured with a stopwatch.
- ④ Temperature of the flame is measured with a thermocouple thermometer
- ⑤ Backside of the base material is measured with a radiation thermometer

● Type of base material used for testing

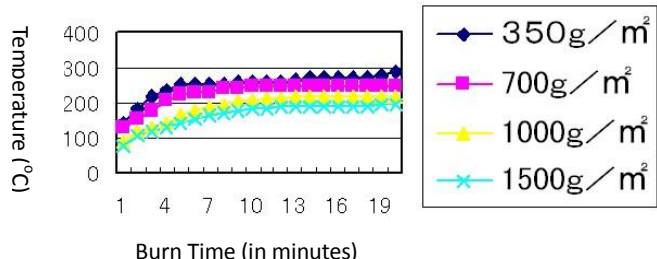
- 1) Plywood (4.0 millimeter thickness)
- 2) Aluminum plate (0.4 millimeter thickness)
- 3) Acrylic plate (5 millimeter thickness)

● Equipment used

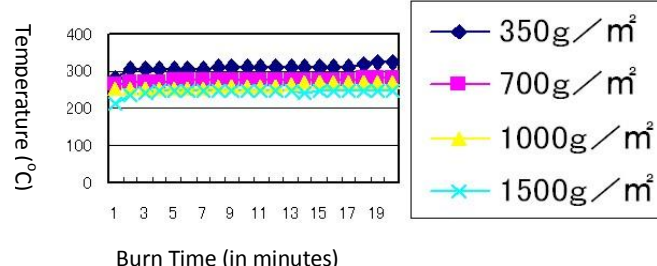
- 1) Thermocouple Thermometer: Shinko Co. (DFT-600 type)
- 2) Radiation Thermometer : Optics Co (PT-3LF type)
- 3) Gas Burner: Fujiwara Sangyo type SK-11 (LPG)
- 4) Gas fuel : Propane gas (LPG)

Burn Test Results

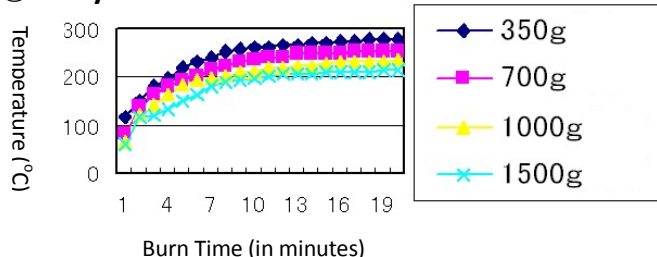
① Plywood



② Aluminum Plate



③ Acrylic Plate



Fireproof Performance

「Construction Rule 3 of Article 4 of the Fire Defense Law」

Performance Standards Criteria Test

Base : Plywood (4mm thickness) Paint coat : 0.4 kg/m²

[Test Results]

- Remaining flame time : 0 seconds (Less than 10 sec)
- Afterglow time: 0.1 seconds (Less than 30 sec)
- Carbonized area: 16.8 cm² (50 cm²)

*Information in parenthesis are the testing standards.

Chemical Fire Performance (Fire Protection and Safety Center)

「Flame Resistant Treatment On Interior Materials」 Standards Test

Base: Plywood (4mm thickness) Paint coating 1.5 kg/m²

[Test Results]

- Repeated wetting & drying test : PASSED
- Humidity test : PASSED (no abnormalities in paint coating)
- Fire retardant test: PASSED Level 3 Testing
(Level 2 or 3 is required to pass)