

MINING / CONSTRUCTION

GEOFLEX

DUAL COMPONENT ELASTICIZED NON-EXPANDING SILICATE RESIN

DESCRIPTION

GeoFlex is a non-expanding, elasticized dual-component resin having good adhesion even on moist surfaces. GeoFlex is flexible and under the stress of strata movement is capable of dissipating deformation energy. This product achieves its ultimate strength much faster than other resins, even when applied in thin layers.

GeoFlex exceeds a bond strength of 145 psi, and is classified as “immediate load bearing”.

The component mixture creates a tough, elastic, solid silicate resin (organic-mineral resin). Once the components have been thoroughly mixed, the viscous emulsion that results is immiscible with water and does not absorb any water (e.g from the surrounding soil or rock strata). Cured GeoFlex is resistant against acids, alkali, brines and many solvents.

USES

GeoFlex is used for grouting coal and adjacent strata, stabilizing coal faces, sealing of injection anchors, tunnel construction, maintenance of mine roads, consolidating railroad ballast, and other applications. GeoFlex is excellent for void filling in cracks of more than 0.25 mm in width.

ADVANTAGES

- Rapid reaction and strength development
- Flexible for greater toughness
- Final strength after 15 minutes



APPLICATION METHOD

We recommend storing the products prior to processing for at least 12 hours at temperatures of 60 °F (15°C), to 86°F (30°C) to achieve a recommended processing temperature of a minimum 60°F (15°C). When the material is warmed up, local overheating, e.g. at the container wall must be avoided by any means.

The two components are pumped by a dual component pump at the volumetric ratio of 1:1 and injected into a previously created hole with an integrated static mixer. The viscosity of the liquid mixture increases continuously until it will no longer flow (solidification point). At this point the resin sets, without any foam expansion.

TECHNICAL DATA

The data below is laboratory data. It may vary in practice due to thermal exchange between resin and strata, surface properties of the rock, humidity, pressure, and other factors.

MATERIAL DATA

| Parameter | Unit | Component A | Component B | Standard |
|-------------------|-------------------|-----------------|-------------|-------------|
| Density at 25°C | Kg/m ³ | 1480 ± 30 | 1140 ± 30 | DIN 12791-1 |
| Color | - | brownish-turbid | brown | |
| Flash point | °F | - | >338 | DIN 53213 |
| Viscosity at 25°C | cps | 260 ± 40 | 150 ± 30 | ISO 3219 |

REACTION DATA

| Initial Temperature | 77°F (25°C) | 104°F (40°C) | Standard |
|------------------------------|-------------------|-------------------|---------------|
| Flow time | 2 min 00 s ± 30 s | 1 min 03 s ± 20 s | MCT PV 10-304 |
| Setting Time | 3 min 45 s ± 35 s | 2 min 35 s ± 30 s | MCT PV 10-304 |
| Foam expansion factor | 1 | 1 | MCT PV 10-304 |
| Maximum reaction temperature | 208°F (98°C) | | |
| Shore hardness | D60 | | ISO 7619-1 |

MECHANICAL DATA

| Parameter | after 15 min | after 1 day | after 7 days | after 28 days |
|-------------------------------|-------------------------------------|-------------------------------------|---------------------------------------|-------------------------------------|
| Bond strength (3 mm crack) | 624 psi (4.3 N/mm ²) | 537 psi (3.7 N/mm ²) | 653 psi (4.5 N/mm ²) | 682 psi (4.7 N/mm ²) |
| Deformation work (3 mm crack) | 0.413 lb ft (560 Nmm) | 0.200 lb ft (270 Nmm) | 0.221 lb ft (300 Nmm) | 0.258 lb ft (350 Nmm) |
| Modulus of elasticity | - | - | 36250 psi (250 N/mm ²) | |

SAFETY INSTRUCTIONS AND LIMITATIONS

Due to the density of GeoFlex, the product tends to sink in water.

When the material is warmed up, local overheating at the container wall must be avoided by all means.

PACKAGING AND TRANSPORTATION

| CONTAINER TYPE | GEOFLEX COMPONENT A | GEOFLEX COMPONENT B |
|----------------|-----------------------|-----------------------|
| PC (Jug) | 77 lbs (35 kg) | 66 lbs (30 kg) |
| Steel Drum | 620 lbs (281 kg) | 477 lbs (216 kg) |
| IBC (Tote) | 3100 lbs (1406 kg) | 2387 lbs (1083 kg) |

Other packing units available on request.

STORAGE AND SHELF LIFE

At least six months from date of delivery or twelve months from date of production when stored in a dry place between 23 °F (-5° C) and 86 °F (30° C). If this time is exceeded, we recommend having the material checked by Minova USA, Inc. for compliance with specification.

DISPOSAL

If this product as supplied becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Dispose of material in accordance with all applicable federal, state/provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

APPROVALS AND CERTIFICATES



an ISO 9001:2015
Quality Management System Certified Company.

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ADDITIONAL DOCUMENTATION

Started more than 135 years ago, Minova is a global manufacturer and supplier of chemical and mechanical earth control products and support equipment. With manufacturing plants on five continents and operations in more than 25 countries, Minova is an industry-leading provider of ground support solutions for the underground mining, construction and energy industries.

If further information is required consult Minova Americas website: www.minovaglobal.com.

- GeoFlex Component A Safety Data Sheet (SDS)
- GeoFlex Component B Safety Data Sheet (SDS)
- Strata Injection and Cavity Fill Chemicals – Minova Master Product Catalogue
- Injection Accessories – Minova Master Product Catalogue
- Minova – Pumps for Civil Engineering, Tunneling and Restoration
- Minova Handling Injection Resins Technical Handbook
- Minova GeoFlex Product Specification

MANUFACTURER

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