

MINING / CONSTRUCTION

TERRACOL[®] SYSTEM

NANOSILICA-BASED CHEMICAL GROUT SYSTEM

DESCRIPTION

Terracol[®] grout is dual component, low-viscosity, chemical grout system used for ground consolidation and stabilization of foundations and footings located on fine to medium sands.

The Terracol[®] System is a complete process consisting of two components; Terracol Component A (colloidal silica suspension in the form of nano-particles), and Terracol[®] Component B (hardener).

Both Components are completely water soluble. The amount of Terracol[®] Component B hardener needed ranges from about 10:1 to 5:1 by weight depending on the desired gel time. As an example, a 6.6:1 ratio results in an approximate 30 minute gel time at 70°F (21.1°C).



USES

Other important uses include control of water inflow into shafts and tunnels during excavation, pre-grouting of TBM/EPBM tunnel headings, formation of impervious grout curtains to contain pollution by hazardous waste, and cut-off walls into alluvial deposits at dam sites.

ADVANTAGES

- Adaptable – gel time adjustable by varying proportions of hardener to allow project-specific formulation; low viscosity enables maximum strata penetration and minimal product waste
- Safety – environmentally friendly material
- Low viscosity – 5 to 10 cps enables maximum permeation into fine sands and fine cracks.

APPLICATION METHOD

Mixing (batch method)

The mixing tank can be steel or plastic and should be fitted with a good agitator. Tank capacity should be related to the pumping rate and selected gel time to ensure the entire batch of Terracol[®] grout is dispensed within the established gel time.

With the mixing blades rotating, Component B hardener is added to Terracol[®] Part A. Mix until the Terracol[®] Component B Hardener is completely dispersed after a few minutes.

Terracol[®] grout is now ready for injection. It may be pumped with progressing cavity pump (e.g. Moyno) or higher-pressure piston pumps

TECHNICAL DATA

The data below are laboratory data only. They may vary in practice due to thermal exchange between grout and strata, surface properties of the rock, humidity, pressure and other factors.

MATERIAL DATA

Parameter	Terracol® Component A	Terracol® Component B
Material	Colloidal silica suspension	Hardener
Viscosity	≈ 10cps	≈ 1cps
Color	Clear liquid	Clear
pH value	9.5 – 10.5	7
Specific gravity	1.2	1.07

PACKAGING AND TRANSPORTATION

CONTAINER TYPE	TERRACOL® COMPONENT A	TERRACOL® COMPONENT B
Pail		5 gal (40 lbs)
Steel Drum	55 gal (550 lbs)	55 gal (475 lbs)

Other packing units available on request.

SAFETY INSTRUCTIONS AND LIMITATIONS

Good housekeeping is needed during storage, transfer and handling in the use of this material to avoid leaks and spills. Never add material to this product unless instructed by Minova USA, Inc.

STORAGE AND SHELF LIFE

Terracol® Component A should be kept at a temperature of 40°F - 95°F (4.5°C - 30°C). Do not allow it to freeze or it will be damaged irreversibly. Both components have a shelf life of one year if stored correctly.

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.

- Terracol® Component A Safety Data Sheet (SDS)
- Terracol® Component B Safety Data Sheet (SDS)
- Minova Technical Handbook for the Safe Use of injection Resins within the Mining Sector
- Minova Field Manual – Handling Injection Resins in Tunneling and Civil Engineering
- Minova – Pumps for Civil Engineering, Tunneling and Restoration
- Minova Terracol® Product Specification

MANUFACTURER

Trading name of Minova USA, Inc.
150 Summer Court
Georgetown, KY 40324
USA

CUSTOMER SERVICE

Customer.salesupport@minovaglobal.com
Phone: +1 (800) 626-2948
Alt Phone: +1 (502) 863-6800
Fax: +1 (502) 863-6805