

PRODUCT DATA SHEET

Sika® Stabilizer-4001 TBM US

MULTIPURPOSE API 13A BENTONITE POWDER FOR TBM APPLICATIONS

PRODUCT DESCRIPTION

Sika® Stabilizer-4001 TBM US is a premium grade powder sodium bentonite designed to meet API 13A, Section 9 specifications for applications in TBM operations.

USES

Sika® Stabilizer-4001 TBM US is used for the following applications, but not limited to:

- Backfill grouts applications during TBM operations,
- Ensure balance and control between the pressure in the excavation chamber and the backfill grout injection pressure in the TBM tail shield, particularly recommended in Slurry TBM applications.

CHARACTERISTICS / ADVANTAGES

Sika® Stabilizer-4001 TBM US provides the following advantages and characteristics for **Backfill Grouts** applications:

- Improves bleeding, flowability, and segregation,
- Stabilize grout for long-distance pumping,
- Enhances homogeneity and impermeability during and after setting.

Sika® Stabilizer-4001 TBM US provides the following advantages and characteristics for **TBM Slurry** applications:

- Stabilizes the TBM excavation and groundwater control,
- Lubricates and cools TBM cutting tools,
- Quicker mixes to maximum viscosity,
- Higher yields compared to the same viscosity as an equal weight of API oilfield grades of bentonite.

PRODUCT INFORMATION

Packaging	Bulk Supply
Appearance / Color	Light Grey/Tan Powder
Shelf Life	12 months from date of production
Storage Conditions	Store in a dry, covered area, protected from the elements. Protect from moisture. If damp, discard material.
Solubility	Non-Soluble
	Swelling: +2.0 L/kg Absorption: 70 mL/2g
Specific gravity	Approx. 2.650

APPLICATION INFORMATION

Recommended Dosage

Backfill Grouts

The product is mixed in fresh water with a typical dosage of 20 - 50 lb per 100 gal of water (24 - 60 kg per m³ of water), depending on project technical requirements and mixing procedures. Laboratory trials are required to determine accurate dosages.

TBM Slurry

The product is mixed in fresh water with a typical 3% - 8% dosage by weight, depending on water quality, application, and mixing procedures. Laboratory trials are required to determine the optimal dosage for the type of application.

Contact your local Sika Technical Representative for more information.

SYSTEM INFORMATION

Compatibility

Backfill Grouts

Compatible with all cement types in the industry; compatible with fresh water with low to medium hardness; compatible with all Sika Admixtures like retarders/stabilizers and accelerators.

TBM Slurry

Compatible with Sika Viscosity Modifier Admixtures of the Slurry TBM Portfolio (bentonite extenders and thinners). Compatible with fresh water with low to medium hardness; compatible with saline water with low to medium saltwater contamination.

Contact your local Sika Technical Representative for additional information.

BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

APPLICATION INSTRUCTIONS

Instructions vary depending on application.

MIXING

Backfill Grouts

Mix the product with fresh water in the colloidal mixer, then add cement and retarder/stabilizer for pumping into the TBM.

TBM Slurry

Mix the product with fresh water to form a low-solids drilling fluid for general drilling applications. In saltwater slurry, it should be pre-hydrated in freshwater to achieve the maximum yield prior to circulating the substances to the mud system.

OTHER RESTRICTIONS

See Legal Disclaimer.

LEGAL DISCLAIMER

- KEEP CONTAINER TIGHTLY CLOSED
- KEEP OUT OF REACH OF CHILDREN
- NOT FOR INTERNAL CONSUMPTION
- FOR INDUSTRIAL USE ONLY
- FOR PROFESSIONAL USE ONLY

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at usa.sika.com or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

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Sika Corporation
201 Polito Avenue
Lyndhurst, NJ 07071
Phone: +1-800-933-7452
Fax: +1-201-933-6225
usa.sika.com



Product Data Sheet
Sika® Stabilizer-4001 TBM US
August 2026, Version 01.01
021404071000000177

SikaStabilizer-4001TBMUS-en-US-(08-2026)-1-1.1.pdf

