

PRODUCT DATA SHEET

Sika® Stabilizer-4501 TBM US

HIGH PERFORMANCE THINNER FOR BENTONITE-BASED SLURRIES IN MECHANIZED TUNNELING
(Tunnel Boring Machine)

PRODUCT DESCRIPTION

Sika® Stabilizer-4501 TBM US is a water-soluble polymer designed as a strong thinner agent for high performance excavating using Tunnel Boring Machine (TBM). It is adsorbed onto the surface of the clay platelets, to prevent the gelation of bentonite and heavy clays which often face clogging and adhesion issues.

USES

- Decreasing the stickiness of water-based muds in slurry TBMs
- Allowing easy and convenient transport by reducing viscosity with high electrolyte tolerance
- Reconditioning gelled muds
- Making bentonite slurries pumpable again with low static shear strength and low viscosity in high solids muds
- Eliminating the risk of TBM blockage under conditions of high pressure and high temperatures, both at the cutterhead and the pumping lines

CHARACTERISTICS / ADVANTAGES

- Ensures deflocculation of slurry suspensions continually from the loaded solid particles in the slurry circuit
- Reduces bulk viscosity of high-solid slurries
- Keeps the fine particles in the slurry suspension from thickening, ensuring high TBM performance and maintained stability of finely divided particles
- Eliminates clogging and adhesion effects of the slurry on the cutting wheel and metal parts of the TBM, allowing not to use the Reverse-Flushing Mode of the TBM
- Creates low viscosity pumpable mud with low static shear strength, easy to pump and transport
- Reduces the torque of the cutterhead
- Reduces the wear in pipelines and improves efficiency
- Ability to recondition gelled muds
- Avoids re-agglomeration of clay chips to blocks
- Lowers inner friction and abrasiveness of the slurry
- Ready for use: no mixing required
- Compatible with API 13A and API 13B bentonite

PRODUCT INFORMATION

Chemical Base	Polymer Sulfonated
Packaging	275 US gal tote (1040 L) Custom packaging is available to suit specific project requirements
Shelf Life	12 months from date of production
Storage Conditions	Store in original, unopened and undamaged packaging in dry conditions at temperatures between 50°F - 104°F (10 °C - 40 °C) Always refer to packaging and Safety Data Sheet (SDS)

Do not allow product to freeze

Appearance / Color	Dark Brown Liquid
Density	Approx. 1.116
Viscosity	Base oil viscosity at 68 °F (20 °C) < 65 centipoise
pH-Value	Approx. 6.0 - 8.0

SYSTEM INFORMATION

Compatibility	Compatible with Sika® admixtures and other Sika® products. Contact your local Sika STM Technical Representative for additional information.
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APPLICATION INFORMATION

Recommended Dosage	<p>The dosage of the Product depends on the following variables:</p> <ul style="list-style-type: none"> ▪ Slurry mix design ▪ Type of bentonite ▪ Plasticity Index (PI) and stickiness of the clay ▪ Groundwater pressure ▪ TBM operation mode <p><u>Preliminary laboratory trials</u> are always recommended to determine the optimum consumption and injection parameters. Contact your Sika STM Technical Representative for additional information.</p>
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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

Direct injection into the TBM excavation chamber is recommended for best performance.

Sika® Stabilizer-4501 TBM US can be injected also at the STP and then pumped into the TBM through the slurry feeder lines. Contractor may consider additional injection points in the slurry return lines, if necessary.

Do not overdose Sika® Stabilizer-4501 TBM US.

Contact your Sika STM Technical Representative for additional information.

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.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within the product's shelf life. User determines suitability of product for intended use and assumes all risks. User's and/or buyer's sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

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Product Data Sheet

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