

Geotube (PicoTube™GT)

(1) Product Definition

Core Structure & Engineering

A high-strength woven geotextile containment system designed for dewatering, sediment management, and hydraulic engineering. It is hydraulically filled with slurry, sand, or dredged materials to form a stable, engineered structure with superior tensile strength.

Environmental & Economic Value

Provides an eco-friendly alternative to traditional methods, effectively controlling erosion and protecting shorelines. It is a cost-effective solution that optimizes material usage, reduces installation time, and ensures long-term stability for coastal and hydraulic infrastructure.

PicoTube™GT — Engineered for Unmatched Stability, Environmental Compliance, and Cost Efficiency

02 How It Works

1 Hydraulic Filling

Utilizes controlled pressure to inject a specialized grout mixture into targeted subsurface voids, displacing water and air to ensure complete saturation and structural filling of soil formations.

2 Filtration and Dewatering

Integrates advanced filtration media to separate solids from liquids during grouting, efficiently removing excess water to accelerate soil consolidation and minimize environmental runoff.

3 Material Consolidation

Chemical and physical reactions bind grout with soil particles, creating a denser, load-bearing mass with reduced permeability and enhanced structural stability.

4 Long-Term Containment

Forms a durable, impermeable barrier that encapsulates contaminants, prevents groundwater infiltration, and safeguards the treated area for decades.

03 Key Benefits

01 Efficient Dewatering

Rapidly lowers groundwater and soil moisture, accelerating construction timelines and eliminating costly well systems in most cases.

02 High-Strength Barrier

Creates a rigid, monolithic structure that withstands extreme hydraulic pressures and external subsurface loads reliably.

03 Superior Hydraulics

Ultra-low permeability stops water seepage, preventing cross-contamination between soil layers and groundwater sources.

04 Cost Optimization

Consolidates filling, dewatering, and stabilization into one step, reducing labor, equipment, and material waste.

05 Eco-Friendly

Non-toxic grouts meet strict environmental standards, protecting soil and groundwater quality.

06 50+ Year Life

Cured matrix maintains integrity for decades with minimal maintenance or monitoring required.

07 Fully Adaptable

Customizable for any soil type, site geometry, or project scale—residential to industrial.

(4) Applications



Sludge Dewatering
Efficiently separates solids from liquid sludge, reducing waste volume and disposal costs.



Flood Emergency
Rapid deployment barriers for temporary levees, providing immediate stabilization.



Dredging Projects
Contains sediment during dredging, protecting water quality and simplifying material handling.



Land Reclamation
Encapsulates fill materials to create stable landmasses, preventing contamination.



Coastal Protection
Reinforces shorelines against erosion, stabilizes sediments for ecological restoration.



Mining & Industrial
Contains tailings and industrial waste, ensuring structural safety and compliance.



Env. Remediation
Isolates contaminated soils/water, enabling safe cleanup of polluted sites.

CORE ADVANTAGES:High tensile strength • UV/chemical resistant
• Custom dimensions • Eco-friendly

(5) Technical Specifications

Parameter	GT300 ST	GT400 HS	GT400 SP
Fabric Weight (g/m²)	300 ± 10%	400 ± 10%	400 ± 10%
Standard Width (m)	1.0 - 3.2	1.0 - 3.2	1.0 - 3.2
Long. Tensile (kN/m)	≥ 12	≥ 18	≥ 22
Trans. Tensile (kN/m)	≥ 10	≥ 16	≥ 20
Long. Elongation (%)	15 - 20	12 - 18	10 - 15
Trans. Elongation (%)	18 - 22	15 - 20	12 - 18
CBR Burst (kN)	≥ 3.5	≥ 5.0	≥ 5.5
O90 Index (kN/m)	≥ 0.8	≥ 1.2	≥ 1.5
Bag Size (m³)	1 - 50	1 - 80	1 - 100
Seam Type	Double Sewn	Sewn / Welded	Ultrasonic Weld