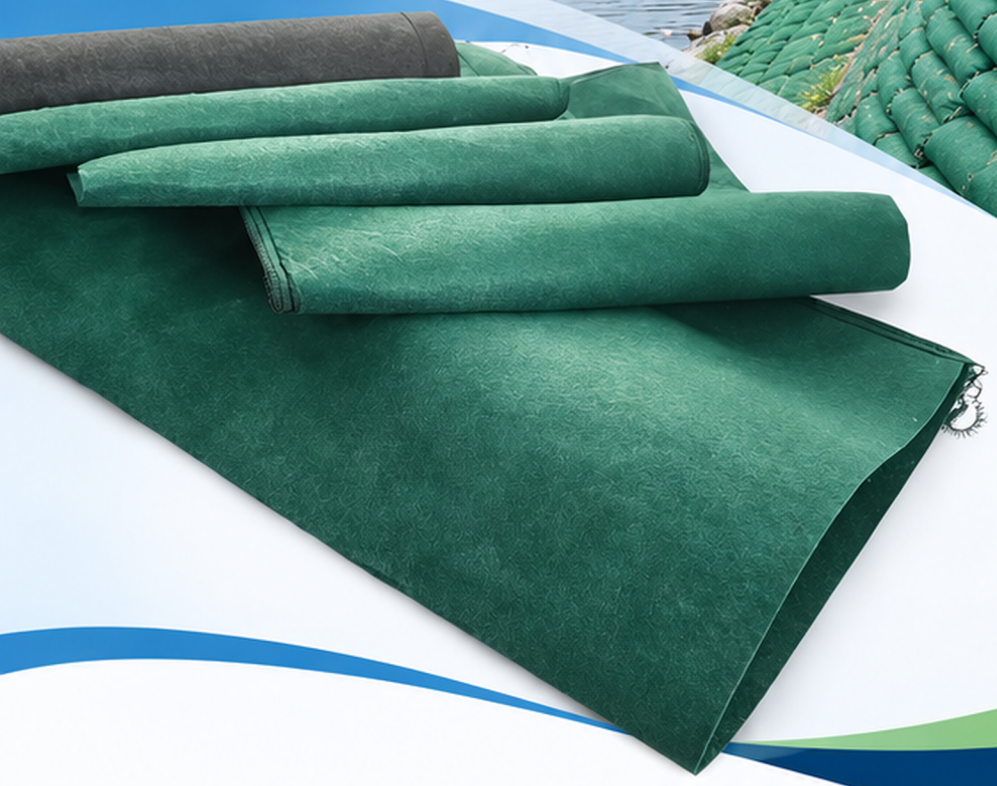
BOSHIDA NONWOVEN TEXTILE CO., LTD.
PRODUCT INTRODUCTION

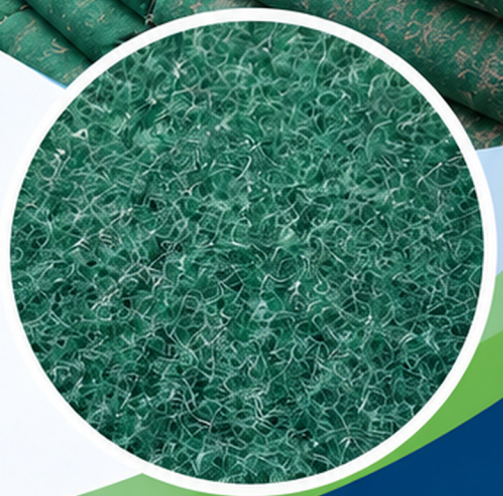
GEOTEXTILE ECOLOGICAL BAGS

Needle-Punched Nonwoven Geotextile Solutions

For Slope Protection, Erosion Control & Ecological Restoration

- SLOPE PROTECTION
- EROSION CONTROL
- ECOLOGICAL RESTORATION





BOSHIDA NONWOVEN TEXTILE CO., LTD.

PROFESSIONAL GEOSYNTHETIC MATERIAL MANUFACTURER

STABLE ENVIRONMENT
GREENER LAND
A MORE SUSTAINABLE FUTURE

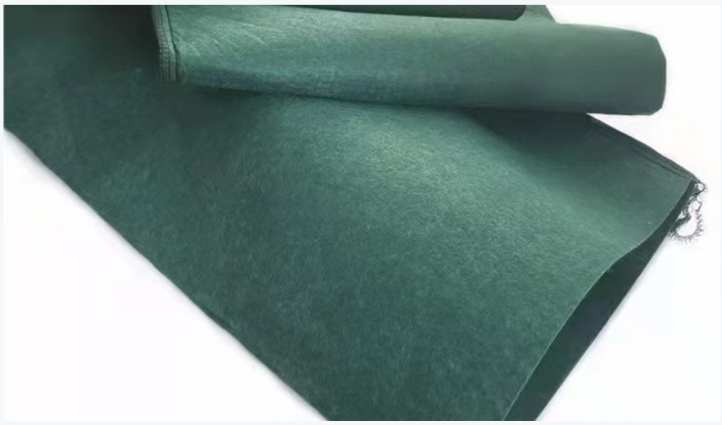
02 PRODUCT OVERVIEW

Product structure and basic use

WHAT IS A GEOTEXTILE ECOLOGICAL BAG?

A geotextile ecological bag is a flexible, bag-shaped product made primarily from needle-punched nonwoven geotextile. The fabric is cut and sewn to form the bag body.

For use, the bag is filled with suitable soil, planting media or other specified fill according to the project design. Filled bags are then placed, stacked and, where required, secured to form a flexible protective system.



Actual needle-punched nonwoven geobag product

NEEDLE-PUNCHED NONWOVEN GEOTEXTILE

BAG BODY MATERIAL

PET / PP

Polyester / Polypropylene

PROJECT-BASED OPTIONS

Dimensions, fabric weight, color and seam construction are confirmed according to product requirements and project conditions.

BASIC PRODUCT COMPONENTS

A complete application unit combines the bag body with project-selected fill.

01

NONWOVEN FABRIC

The bag body is made from PET (polyester) or PP (polypropylene) needle-punched nonwoven geotextile. Material and mass per unit area are selected for the project.

02

SEWN BAG BODY

The fabric is cut and sewn into a bag. Dimensions, opening details and seam construction are specified according to product requirements.

03

FILL MATERIAL

Depending on the application, fill may include soil, planting media, sand or other materials specified by the project design.

APPLICATION MUST FOLLOW PROJECT CONDITIONS

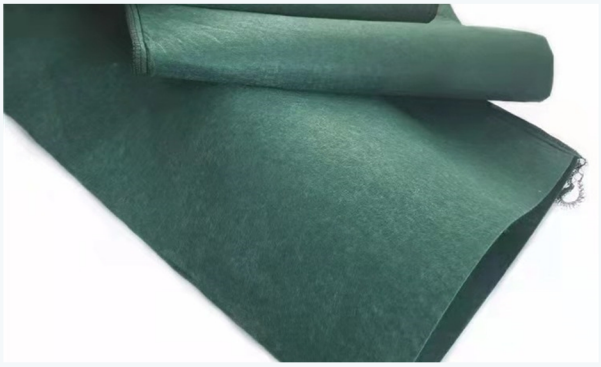
The fabric, fill material, placement pattern and any required restraints should be selected with consideration of slope geometry, soil conditions, water flow, drainage and design requirements. Geobags are commonly used for surface protection and ecological restoration; they are not a stand-alone solution for every slope-stability problem.

03 RAW MATERIALS & MANUFACTURING

PET / PP needle-punched nonwoven and bag conversion

BAG BODY MATERIALS

The bag body is made from needle-punched nonwoven geotextile. Depending on product design and project conditions, polyester (PET) or polypropylene (PP) fibers may be selected.



Actual green needle-punched nonwoven geobag

PET | POLYESTER

May be selected for product designs requiring specific mechanical strength and dimensional stability. In hot, humid or strongly alkaline environments, material durability should be assessed using product-specific data.

PP | POLYPROPYLENE

Offers good resistance to many chemical media and is often considered where chemical resistance and a lightweight polymer are relevant. For prolonged outdoor exposure, UV stabilization also needs to be considered.

MATERIAL SELECTION NOTE

Actual performance depends on fiber quality, nonwoven structure, mass per unit area, manufacturing process and stabilization. Polymer name alone does not establish finished-product performance. Selection should be based on product test data and project conditions.

GEOBAG CONVERSION PROCESS

Cutting, sewing and finished-product inspection according to the specified product design

01
MATERIAL CHECK
Confirm PET / PP, fabric weight, color and fabric specification.

02
FABRIC CUTTING
Cut the nonwoven fabric to the specified bag dimensions and pattern.

03
BAG SEWING
Sew the bag body to the product design and control seam quality.

04
FINAL INSPECTION
Check dimensions, appearance, stitching and seam integrity.

05
PACKING
Sort, count and pack the finished bags according to order requirements.

QUALITY CONTROL FOCUS

Quality review should cover not only the nonwoven fabric, but also finished dimensions, workmanship and seam integrity. Inspection requirements should be defined for each product specification and intended use.

04 PRODUCT PERFORMANCE & KEY FEATURES

Understanding geobag functions in engineering applications

KEY FUNCTIONS & PERFORMANCE FEATURES

The performance of a geobag depends on its fabric, nonwoven structure, mass per unit area, seam quality, fill and installation design. The following are common functions; actual performance must be verified against the product specification and project requirements.



Actual geobag slope-protection installation

FIELD APPLICATION

With suitable material selection, filling and placement design, geobags can contribute to surface protection and ecological restoration.

SUBJECT TO SPECIFICATION

SIX CORE FEATURES

01 WATER PERMEABILITY

The porous nonwoven structure can allow water to pass through and support moisture exchange within the filled bag.

02 FILTRATION & SOIL RETENTION

A suitable pore structure can retain soil particles while allowing water flow. Filter compatibility depends on soil gradation, fabric opening size and hydraulic conditions.

03 FLEXIBILITY & CONFORMABILITY

The flexible bag body is easy to handle and place, can be stacked as required and can accommodate some ground-profile variation.

04 TENSILE & TEAR RESISTANCE

Fabric strength, mass per unit area, fiber structure and seam construction all influence finished-bag integrity.

05 WEATHERING & DURABILITY

Outdoor use requires consideration of UV radiation, temperature, moisture and soil chemistry. UV stabilization can be specified for the intended conditions.

06 SUPPORT FOR VEGETATION

Bags can contain planting soil or growing media. Plant selection and maintenance should reflect local climate and project design.

IMPORTANT ENGINEERING CONSIDERATIONS

Geobags are commonly used for surface protection, erosion control and ecological restoration. Filtration, soil retention and durability depend on the selected product and site conditions. For steep slopes, significant water flow or structural stability requirements, geobags should be incorporated into a complete design that considers slope stability, drainage and any necessary anchorage or supporting structures.

05 PRODUCT SPECIFICATIONS & CUSTOMIZATION

Configurations selected according to bag dimensions, material performance and project conditions

CONFIGURATION PRINCIPLE

Geobags can be configured to suit project design and site conditions. Dimensions, mass per unit area, fiber type and seam construction should be considered together with the fill, handling and stacking method, installation environment and intended service conditions.

COMMON SPECIFICATION REFERENCES

For preliminary product selection only; these are not universal project standards.

PARAMETER	COMMON OPTIONS / REFERENCE	SELECTION NOTES
BAG DIMENSIONS	40 × 80 cm	A regular production size and a useful starting point for many enquiries.
BAG DIMENSIONS	50 × 100 cm	A relatively non-standard, larger size. Review filled weight, handling and bag strength carefully.
FABRIC WEIGHT	100–250 g/m²	Reference selection range. Confirm the final weight according to bag size, material and site conditions.
COMMON WEIGHTS	150 / 200 / 250 g/m²	Common supplier options. For larger bags, give priority to evaluating 150 g/m² o r above.
FIBER TYPE	PET (polyester) / PP (polypropylene)	Select according to site environment, performance requirements and project specifications.



BAG BODY MATERIAL: NEEDLE-PUNCHED NONWOVEN

PET (polyester) or PP (polypropylene) needle-punched nonwoven can be selected according to project requirements. Polymer type, fabric weight and bag construction should be confirmed as one complete configuration.

HOW SHOULD SIZE AND FABRIC WEIGHT BE MATCHED?

01

40 × 80 cm

100–150 g/m² as an initial reference

This is a regular size. 100 g/m² may suit some requirements; a higher fabric weight c an provide a more robust bag, subject to material and use conditions.

02

50 × 100 cm

Give priority to evaluating 150 g/m²

The larger bag may experience greater loads after filling and during handling. The su pplier recommends considering 150 g/m² or above; confirm for each project.

CUSTOMIZATION ITEMS TO BE CONFIRMED

01
DIMENSIONS
Bag length, width and finished size

02
MATERIAL
PET or PP needle-punched nonwoven

03
FABRIC WEIGHT
Selected for design and site conditions

04
COLOR
Subject to order and production confirmation

05
SEAM DETAILS
Opening, seam and stitching requirements

SPECIFICATION CONFIRMATION

The values above are selection references, not performance guarantees for every application. Before production, confirm the fill material and filling quantity, finished bag dimensions, installation and handling methods, slope or hydraulic conditions, and any required test criteria. For steep slopes, significant water flow or structural stability requirements, the project designer should define the complete protection, drainage and any necessary restraint measures.

Final specifications are subject to mutually approved technical requirements and samples.

06 TYPICAL APPLICATIONS

For slope protection, soil and water conservation, riverbank protection and ecological restoration



FLEXIBLE PROTECTION · SUPPORTING VEGETATION ESTABLISHMENT



01 Slope Protection

Used in selected slope protection applications for roads, railways, mining areas and construction sites. Drainage and appropriate restraint should be considered to help reduce surface erosion.



02 Riverbank & Reservoir Protection

Can be considered for river, lake and reservoir banks. Assess water-level variation, flow velocity, wave action and bank stability before specifying the system.



03 Soil & Water Conservation

Suitable for selected exposed slopes and areas vulnerable to rainfall erosion. Combined with suitable fill and vegetation measures, bags can help control surface erosion and support plant establishment.



04 Ecological Restoration & Landscaping

Can be used in mine rehabilitation, landscaped slopes and park projects. When filled with suitable soil and combined with planting, the system can support vegetation recovery.

APPLICATION NOTE

Geotextile ecological bags are generally used as part of a flexible surface protection and ecological restoration system. Performance depends on site geology, slope geometry, fill material, drainage, vegetation design and installation quality. Where significant flow, scour, high slopes or structural stability are involved, the project designer should define the complete protection, foundation, drainage and anchorage measures.

SITE CONDITIONS

Slope, flow and ground conditions

SYSTEM DESIGN

Fill, drainage and restraint design

INSTALLATION QUALITY

Placement, connections and vegetation care

07 INSTALLATION GUIDE

Field workflow and short-end bag closure detail

From site preparation and filling to closure, placement and vegetation care. Illustrative workflow; project-specific designs govern installation.



01 SITE PREPARATION

Clear loose material, prepare the slope and verify foundation stability and drainage in accordance with project drawings.

ILLUSTRATIVE SCENE · PROJECT DETAILS GOVERN



02 BAG FILLING

Fill with specified soil or planting media. The opening is on the short end of the bag. Control fill quantity to avoid excessive bulging.

ILLUSTRATIVE SCENE · PROJECT DETAILS GOVERN



SHORT-END CLOSURE DETAIL

03 PORTABLE MACHINE CLOSURE

Align the short-end opening and close it using a portable bag-closing sewing machine suitable for needle-punched nonwoven fabric. Trial sewing should confirm thread, stitches and seam integrity.

ILLUSTRATIVE SCENE · PROJECT DETAILS GOVERN



04 LAYERED PLACEMENT

Place bags in courses per the design. Use staggered joints where specified and provide the required drainage, interlayer connections, restraint and crest details.

ILLUSTRATIVE SCENE · PROJECT DETAILS GOVERN



05 VEGETATION & MAINTENANCE

Seed or plant according to local climate, specified fill and project objectives. Provide watering, replacement planting and initial maintenance.

ILLUSTRATIVE SCENE · PROJECT DETAILS GOVERN

IMPORTANT INSTALLATION NOTE

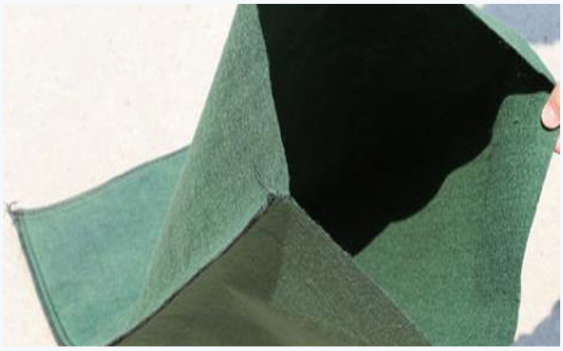
Verify bag-closing method, seam integrity, connections and restraints for the selected fabric, fill and site conditions. Trial sewing is recommended. Slope stability and drainage remain part of the engineering design.

08 QUALITY CONTROL & TESTING

Key inspection considerations from material to finished bag

WHY QUALITY CONTROL MATTERS

Geobag reliability depends on more than fabric weight. Polymer selection, mechanical properties, permeability and filtration, seam integrity and finished-bag consistency all matter. Inspection requirements should reflect the intended project conditions.



User-supplied bag photo / actual product reference

BAG CONSTRUCTION & SEAM REVIEW

OPENING	Confirm narrow-side opening and dimension
STITCHING	Check seam continuity and stitch integrity
APPEARANCE	Inspect fabric defects and visible damage

KEY INSPECTION ITEMS

01 RAW MATERIAL & MASS

Confirm PET / PP type, mass per unit area (g/m²), color and batch consistency.

VERIFY: material identification, weight tolerance and batch records

02 MECHANICAL PROPERTIES

Check tensile, elongation and tear-related properties where specified.

VERIFY: test method and project performance requirements

03 HYDRAULIC & FILTRATION

Evaluate water permeability and apparent opening size where relevant.

VERIFY: compatibility between fill soil and filter fabric

04 WEATHERING RESISTANCE

Consider UV stabilization and supporting durability data for outdoor exposure.

VERIFY: exposure conditions and relevant durability evidence

05 SEAMS & CLOSURE

Check seams, narrow-side closure and required seam-strength performance.

VERIFY: thread, stitch spacing and closure integrity

06 FINISHED PRODUCT

Verify bag dimensions, visual condition, packing count and identification.

VERIFY: sampled dimensions, count and packing labels

TEST BASIS & DOCUMENTATION

Test methods and acceptance limits should follow the purchase specification, applicable standards and mutually agreed test plan. This is a recommended QC framework, not evidence of completed testing or certification.

09 CUSTOMIZATION & TECHNICAL CONFIRMATION

From project enquiry to specification approval and production preparation

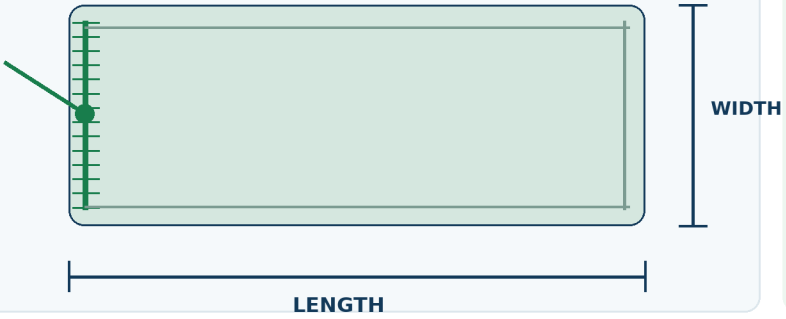
PROJECT-DRIVEN CONFIGURATION

Selecting a geobag involves more than choosing dimensions and fabric weight. To improve project suitability, confirm the application, site conditions, filling method and technical requirements before the final product specification is approved.

BAG CONSTRUCTION REFERENCE

NARROW-SIDE OPENING

Dimensions and seam details subject to approved sample



CUSTOMIZABLE PARAMETERS

1. **Dimensions & Bag Style**
   Length, width and opening details
2. **Polymer & Fabric Weight**
   PET/PP and mass per unit area
3. **Color & Seams**
   Color, closure and stitching
4. **Packing & Labels**
   Pack count and identification

SIX KEY DETAILS TO SHARE WITH US

01 Application

Slope, bank protection, erosion control or restoration

02 Site Conditions

Slope, ground, flow, rainfall and outdoor exposure

03 Preferred Specification

Dimensions, PET/PP, fabric weight and color

04 Filling & Placement

Fill type, quantity and installation approach

05 Technical Requirements

Specified properties, standards, testing and documents

06 Procurement Plan

Estimated quantity, destination and project schedule

TECHNICAL CONFIRMATION WORKFLOW

ENQUIRY — SPECIFICATION — SAMPLE / DOCUMENTS — PRODUCTION

BEFORE FINAL APPROVAL

Common dimensions and weights are preliminary references only. Final specifications, tolerances, seam method, testing and documentation must follow mutually approved technical and order requirements. Complex slopes, hydraulic conditions or structural stability require project-specific engineering design.

博世达无纺织品有限公司
BOSHIDA NONWOVEN TEXTILE CO., LTD.

Thank you

We look forward to supporting your next project.

OUR MANUFACTURING FACILITY



BOSHIDA MANUFACTURING FACILITY

Actual manufacturing facility photograph

LET’S CONNECT

BOSHIDA NONWOVEN TEXTILE CO., LTD.

CONTACT

Yilin Deng

WHATSAPP

+86 138 1067 5463

EMAIL

Yilin.Deng@bsdnonwoven.com

WEBSITE

www.bsdnonwoven.com

FACTORY ADDRESS

Nanyi Industrial Zone, Boye County, Baoding, Hebei, China

Engineered for Reliable Applications

Geotextile Ecological Bags · Slope Protection · Restoration