

Nonwoven Geotextile

(1) Product Definition

A high-performance permeable geosynthetic fabric manufactured from polypropylene (PP) or polyester (PET) staple fibers or continuous filaments using advanced needle-punching and thermal bonding processes. It is specifically engineered to deliver superior filtration, separation, drainage, and protection in civil engineering, road construction, and environmental remediation projects.

Filtration

Prevents fine soil particle migration while maintaining free water passage, preserving soil structure integrity.

Separation

Segregates dissimilar soils and construction materials, preventing contamination and ensuring load distribution.

Drainage

Facilitates rapid water flow within soil profiles, reducing hydrostatic pressure and preventing waterlogging.

Protection

Shields geomembranes and subgrades from mechanical damage, punctures, and UV degradation.

Key Benefit: Its high permeability combined with exceptional tensile and puncture resistance makes it the ideal choice for enhancing soil stability, erosion control, and extending the service life of infrastructure.

How It Works and Key Benefits

(2) How It Works

1

Separation

Effectively separates fine soil particles from coarse aggregates, preventing contamination and maintaining the structural integrity of the base layer for long-term stability.

2

Filtration

Permits unimpeded water flow while retaining fine sediments, preventing clogging and ensuring continuous hydraulic conductivity essential for effective drainage systems.

3

Drainage

Accelerates the removal of excess pore water and surface runoff, reducing hydrostatic pressure and mitigating risks of frost damage or foundation settlement.

4

Protection

Shields the subgrade from erosion and deformation under heavy traffic loads, enhancing the durability and service life of roads, railways, and embankments.

(3) Key Benefits

01. Superior Filtration

Uniform pore structure ensures optimal soil retention while maintaining high water permeability, complying with strict industry standards.

02. High Permeability

Low-flow resistance design allows rapid water evacuation, preventing waterlogging and ensuring stability in wet conditions.

03. Durable & Resistant

UV-stabilized and chemically inert materials withstand harsh environments, biological degradation, and mechanical stress for decades.

04. Soil Integrity

Prevents intermixing of soil layers, preserving load-bearing capacity and preventing structural failure in pavement systems.

05. Easy Installation

Lightweight and flexible for quick deployment, conforming to uneven terrain and reducing construction labor costs.

06. Versatile Application

Ideal for roads, railways, landfills, drainage systems, and environmental remediation projects.

(4) Applications



01. Roads & Highways

Reinforces subbase to enhance load-bearing capacity, prevent cracking and rutting for durable pavement.



03. Drainage Systems

Filters soil particles while allowing water flow, preventing clogging in retaining walls and tunnels.



05. Coastal Engineering

Resists wave action and scouring for embankment protection, revetments, and port construction.



07. Environmental Remediation

Used in ecological restoration, landfill capping systems, and containment of contaminated soils to ensure environmental safety.



02. Railway Infrastructure

Stabilizes track subgrade, disperses dynamic train loads, and reduces long-term settlement.



04. Waste Containment

Protects geomembrane liners from punctures, preventing hazardous leachate leakage.



06. Slope Stabilization

Reinforces soil to prevent landslides and erosion, suitable for cut/fill slopes and embankments.

(5) Technical Specifications

Model	Tensile (kN/m)	Elong. (%)	Burst (kN)	Aperture (mm)	Perm. (cm/s)	Tear (kN)
NW05	5.0	30	1.2	0.08	>0.5	0.10
NW08	8.0	30	1.8	0.10	>0.6	0.15
NW10	10.0	30	2.2	0.12	>0.7	0.20
NW12	12.0	30	2.5	0.15	>0.8	0.25
NW15	15.0	30	3.0	0.20	>0.9	0.30
NW20	20.0	30	4.0	0.25	>1.0	0.40
NW25	25.0	30	5.0	0.30	>1.2	0.50
NW30	30.0	30	6.0	0.35	>1.5	0.60
NW35	35.0	30	7.0	0.40	>1.8	0.70
NW40	40.0	30	8.0	0.45	>2.0	0.80
NW50	50.0	30	10.0	0.50	>2.5	1.00