

# Geotex PP110

Nonwoven polypropylene high performance geotextile



## Description

Nonwoven geotextile made from polypropylene fibers that are mechanically needle punched and thermally bonded to produce a dimensionally stable network.

## Applications

Geotex PP110 is used in road and railway soil stabilization, waterways and seashore erosion control, asphalt pavement overlay crack relief, subsurface drainage systems, waterproofing membrane protection, landfill, landscaping, etc.

**Separation** between two dissimilar materials so that the integrity and functioning of both materials can remain intact or be improved.

**Filtration** by permitting water flow across the plane of the geotextile while retaining fine soil particles.

**Transmission** by providing water drainage and gas venting within the plane of the geotextile.

**Sealing** when impregnated with asphalt or resin to act as a moisture barrier.

**Stress Absorption** in pavement overlay when impregnated with asphalt.

**Protection** of geomembrane against puncture by absorbing the point stresses.

## Performance Properties

1) **Hydraulic Properties** include opening size, permeability, and transmissivity. For optimum filtration, the geotextile is required to meet two seemingly conflicting requirements: the geotextile pore spaces must be small enough to retain soil particles while also being large enough to permit relatively unimpeded water flow.

Geotex PP110 meet this requirement and have exceptionally high filtration properties due to the needle punching process, which produces a large number of small holes in the fabric structure.

## Technical Properties:

Mass per unit area: EN ISO 9864/ASTM D5261	150 g/m <sup>2</sup>
Thickness: EN ISO 9863-1/ASTM D5199	1.10 mm
Roll Size: (W x L)	6 x 150 m
CBR puncture resistance: EN ISO 12236/ASTM D6241	1800 N
Tensile strength: EN ISO 10319/ASTM D4595	MD 10.5 kN/m CD 10.5 kN/m
Elongation: EN ISO 10319/ASTM D4595	MD 55% CD 60%
Tensile strength grab: ASTM D4632	MD 600 N CD 600 N
Tear strength: ASTM D4533	225 N
Dynamic perforation resistance: (cone drop) EN ISO 13433	31 mm
Characteristic pore size O <sub>90</sub> : EN ISO 12956	90 μm
Permittivity: ASTM D4491	3.8 /sec
Water flow normal to plane 50 mm WH: EN ISO 11058	90 ltr/m <sup>2</sup> /sec
UV Resistance @ 500 hr: ASTM D4355	> 70%

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Building # 66

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This process provides Geotex PP110 with superior filtration properties, offering a unique combination of high permeability that allows unimpeded flow of water across the fabric whilst maintaining a low opening size to retain the fine soil particles without becoming clogged over time.

2) **Survivability Properties** refer to the ability of the geotextile to withstand the installation stresses and to perform as intended in the design. The survivability properties include puncture resistance, dynamic puncture, CBR puncture and Mullen burst strengths. Geotex PP110 due to its high elongation property, are inherently more resistant to installation damage than stiff low elongation fabrics.

The high elongation property of Geotex PP110 allows the fabric to adapt to the uneven contour of the matrix and transmit the installation stresses, unlike stiff geotextile fabrics with low elongation that tend to carry the installation loads and hence are required to meet a set of higher strength values compared with high elongation geotextiles. The geotextile fabric in the tensile and grab tests is stressed in a linear direction along its plane, and hence these index test values need necessarily be considered in conjunction with elongation values.

## Biological and Chemical Resistance

Geotex PP110 is non-biodegradable, and have excellent resistance to chemicals and salts normally present in the soil. Geotex PP110 is unaffected by prolonged contact with common organic solvents such as gasoline and diesel.

## Exposure to Sunlight

Geotex PP110 have excellent UV resistance and exhibit strength retention of 70% on test for weathering resistance to ASTM D4355. The recommended maximum time of exposure to direct sunlight is 15 days.

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