VABREN

Composite Geomembrane

GB/T 17642-2025 | membrane and hydraulic properties

Nonwoven geotextile bonded to a polymer geomembrane for reservoir lining, canal lining and seepage control.

Supply: 200-1000 g/m² | roll width 1-6 m | roll length 50-100 m.

One geotextile layer: textile bonded to one face. Two geotextile layers: textile bonded to both faces. Select layer sequence, membrane thickness, total mass and composite strength as separate specification fields.

Nominal membrane thickness (mm)	Average membrane thickness (mm, ≥)	Hydrostatic pressure: one geotextile layer (MPa, ≥)	Hydrostatic pressure: two geotextile layers (MPa, ≥)
0.30	0.30	0.5	0.6
0.40	0.40	0.6	0.9
0.50	0.50	0.8	1.0
0.60	0.60	1.0	1.2
0.70	0.70	1.2	1.4
0.80	0.80	1.4	1.6
1.00	1.00	1.6	1.8

Property	Requirement
Mass per unit area deviation	≥-5%
Mass per unit area coefficient of variation (CV)	≤10%
Peel strength	≥6 N/cm
Membrane ash content	≤1%
Elongation at maximum load (MD/TD)	30-100%
Width deviation	≥0%
Acid/alkali resistance: MD/TD strength retention	≥90%

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Composite Geomembrane

GB/T 17642-2025 | Staple fiber nonwoven composite geomembrane

Nominal strength (kN/m)	Breaking strength (MD/TD, kN/m)	Puncture strength (kN)	Tear strength (MD/TD, kN)
5	≥5.0	≥1.1	≥0.15
8	≥8.0	≥1.5	≥0.25
10	≥10.0	≥1.9	≥0.32
12	≥12.0	≥2.2	≥0.40
14	≥14.0	≥2.5	≥0.48
16	≥16.0	≥2.8	≥0.56
18	≥18.0	≥3.0	≥0.62
20	≥20.0	≥3.2	≥0.70

MD/TD = machine/transverse directions. Acid/alkali resistance: MD/TD strength retention ≥90%.

Layer structure and project use

A composite geomembrane combines the seepage barrier of the membrane with cushioning and protection from the bonded textile. Applications include reservoirs, dams, irrigation canals, storage ponds, aquaculture ponds and civil works.

Read the layer drawing together with the membrane thickness and composite strength requirements. Plan substrate preparation, cover placement and field seams as parts of the lining system.

VABREN

Composite Geomembrane

GB/T 17642-2025 | Continuous filament nonwoven composite geomembrane

Nominal strength (kN/m)	Breaking strength (MD/TD, kN/m)	Puncture strength (kN)	Tear strength (MD/TD, kN)
10	≥10.0	≥2.1	≥0.34
12	≥12.0	≥2.4	≥0.42
14	≥14.0	≥2.7	≥0.50
16	≥16.0	≥3.0	≥0.58
18	≥18.0	≥3.2	≥0.64
20	≥20.0	≥3.4	≥0.72
25	≥25.0	≥3.6	≥0.80
30	≥30.0	≥4.0	≥1.0
40	≥40.0	≥5.0	≥1.2

MD/TD = machine/transverse directions. Acid/alkali resistance: MD/TD strength retention ≥90%.

Request a project quotation

Send application, quantity in m², destination country and port, layer structure, membrane thickness, geotextile type, total mass, strength grade, roll dimensions and project standard. Attach the layer drawing and joint detail.

Product: vabren.com/products/composite-geomembrane/

Specification guide: vabren.com/resources/how-to-specify-composite-geomembrane/