

Geocomposite HDPE drainage and protection membrane

Uses

Proofex Sheetdrain 80 is an HDPE cuspated drainage sheet, available in a thickness of 8mm for depths up to 6m. It is fixed to walls and roofs of structures to provide a filtered, drainage plane that will route ground water and gases away from the structure, utilising subsoil drains to link with the site drainage system. Proofex Sheetdrain 80 reduces water pressure on structures and the possibility of water ingress and can be effectively used in conjunction with other waterproofing systems.

Proofex Sheetdrain 80 can also be used as protection to a sheet membrane against physical damage from backfill operations.

It is an effective alternative to traditional stone 'French' drains providing improved drainage performance.

Where directly cast concrete sub-structure walls need to be drained, Proofex Sheetdrain 80 may be used as a lost shuttering liner.

Proofex Sheetdrain 80 is effective in constructing basements, retaining walls, service ducts, lift pits and subways with and without Proofex sheet membrane, allowing construction to BS 8102:2009.

Proofex Sheetdrain 80 provides filtered drainage and enhanced protection when used with Proofex waterproof membranes on reservoirs, podia and elevated slabs.

Advantages

- Cost effective - no need for up to 500mm thick stone drainage layer behind retaining walls
- Easy site application
- Reduced environmental impact - no need for vehicular removal and transportation of spoil off site and subsequent replacing with expensive stone drainage layer
- High flow rate (water and gas)
- High impact resistant, HDPE cuspated core with a compressive strength of up to 200 kN/m² provides drainage void around structures under backfill and long term loadings
- Cost effective alternative to 'French Drains'

Description

The Proofex Sheetdrain 80 is a geocomposite drainage sheet with a 8mm thick HDPE cuspated core and non-woven polypropylene geotextiles, recommended for most building and civil engineering drainage applications.


Standard Compliance

- CE mark certification to EN13252:2000/A1:2005 - Geotextile related products for use in drainage systems.

Specification clauses

Specification – depth up to 6m

The geocomposite drainage and protection membrane shall be Fosroc Proofex Sheetdrain 80. It shall be a single cuspated HDPE core, with a non-woven polypropylene geotextile bonded to one side. It shall have a thickness of 8mm and a compressive strength of 200kN/m². The geocomposite drainage and protection membrane shall be installed strictly in accordance with the manufacturer's latest technical data sheet.

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Fosroc® Proofex Sheetdrain 80	
EN 13252: Geotextiles and related products, for use in drainage systems	
Tensile strength, T_{max} , MD	10 kN/m
Tensile strength, T_{max} , CMD	10 kN/m
Elongation, ϵ_{max} , MD	50%
Elongation, ϵ_{max} , CMD	55%
Cone drop penetration, DC (GTX)	38 mm
Static puncture resistance F_p (GTX)	1.35 kN
Characteristic opening size, O_{90} (GTX)	160 μ m
Water flow rate, q_N (GTX)	105 l m ⁻² s ⁻¹
Water flow capacity, q_p	1.65 l m ⁻² s ⁻¹
Weathering resistance	Can be exposed up to 14 days
Oxidation resistance	Durable in natural soil with 4<pH<9 and soil temperature <25°C for a minimum of 25 years@ service life

Fosroc® Proofex Sheetdrain 80

Properties

Membrane core:	8mm HDPE single cusped
Geotextile filter:	Non-woven Polypropylene heat bonded
Geotextile water permeability (EN ISO11058):	100 L/m ² /s
Flow capacity (EN ISO 12958):	1.65 L/m/s under 20kPa
Static puncture CBR (EN ISO12236)	1350N
Tensile strength (EN ISO10319):	10kN/m
Compressive strength (EN ISO25619-2):	200kN/m ²
Geotextile Pore size:	160 microns

Application instructions

Fixing

Proofex Sheetdrain 80 should be fixed using Hilti IZ 8x70 Fixings, or similar, at a rate of 1 per m² if no waterproofing membrane is present. When applied as drainage/protection to a membrane, do not fix Proofex Sheetdrain 80 to the membrane.

Roll end joint

Pull back the geotextile fabric 50mm from one side of joint, and overlap the HDPE cores. Over lap the geotextile fabric. Geotextile should be laid in direction of flow to prevent ingress of fine material.

Roll edge joints

Butt the HDPE cores together and using the geotextile selvage, overlap the geotextile a minimum of 40mm.

Drainage connection

Pull back sufficient geotextile fabric to wrap around the drain. Cut back the HDPE core to an appropriate length and wrap geotextile fabric around drain.

Top closure

Pull back the geotextile fabric 10mm. Cut back the HDPE core by 50mm and wrap the geotextile fabric over the exposed end to prevent ingress of backfill.

Backfilling

Backfilling must be free from any sharp objects or debris,

which could damage the Proofex Sheetdrain 80. It should not contain rocks or boulder larger than 50mm. This must be placed against the Proofex Sheetdrain 80 in 300mm layers compacting to 85% modified Proctor. Backfilling should be in direction of laying of strips.

Ancillary materials

Proofex Detail Strip (Available from Fosroc)
Hilti IZ 8x70 fixings

Limitations

Proofex Sheetdrain 80 should not normally be used in saturated clays at depths greater than 6m to allow for the effects of long term loadings.

Proofex Sheetdrain 80 should not be used in soil containing high concentrations of iron oxides or hydroxides or in extremely fine uniformly graded silts or peat. Please contact Fosroc Technical Department for advice when in doubt.

Proofex Sheetdrain 80 is resistant to chemicals found in normal soil conditions, some chemicals in certain concentrations could have an adverse effect on the drainage performance. Please contact Fosroc Technical Department for advice when in doubt.

Proofex Sheetdrain 80 should not be used in soils containing particle sizes below the pore size of the geotextile.

For soil / ground types that are not well suited to mechanical compaction, rounded Type 1 stone should be placed between the Proofex Sheetdrain and the ground.

Estimating

Product	Packaging
Proofex Sheetdrain 80:	2.4 m x 20 m roll

Storage

The product is supplied in a roll and must not be exposed directly to UV radiation for over two months.

Precautions

There are no known health hazards associated with Proofex Sheetdrain 80 in normal use.

Health and safety

Proofex Sheetdrain 80 weighs approximately 32kg. Each roll should be lifted by a minimum of two site operatives.

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Important note

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