

SINTEF Building and Infrastructure confirms that

OLDROYD® DrainX

has been found to be fit for use in Norway and to meet the provisions regarding product documentation given in the regulation relating to the marketing of products for construction works (DOK) and regulations on technical requirements for building works (TEK), with the properties, fields of application and conditions for use as stated in this document

1. Holder of the approval

Oldroyd AS
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 3766 Sannidal
 Norway
www.oldroyd.com

2. Product description

OLDROYD® DrainX is a combined moisture barrier and protection sheet for use on external walls against ground. OLDROYD® DrainX has a geotextile fabric welded on top of the studs. The sheet itself shall gain a drainage gap between backfill and external wall. See fig. 1.

OLDROYD® DrainX is delivered as roll. Moisture barrier and geotextile fabric are made of polypropylene (PP). Sheets can be supplied in three different variants with different heights of studs. OLDROYD® DrainX 5 has octagonal studs whereas the other variants have round studs. The geotextile fabric is welded on top of the studs and has a pore size O_{90} according to EN ISO 12956 of 0,10 – 0,14 mm.

All variants can be supplied in several widths and lengths. Measures and tolerances are shown in table 1.

Product specifications for additional accessories to fix OLDROYD® DrainX are given in table 3.

Table 1
 Measure and tolerances for OLDROYD® DrainX

Property	DrainX 5		DrainX 10		DrainX 20	
	Meas. ¹⁾	Tolerance	Meas. ¹⁾	Tolerance	Meas. ¹⁾	Tolerance
Thickness mm	0,5	± 0,05	0,7	± 0,05	0,8	± 0,05
Spec.weight ²⁾ kg/m ²	0,6	± 0,05	0,9	± 0,1	1,0	± 0,1
Total height mm	5	± 5 %	10	± 5 %	20	± 5 %
Stand. width m	2,0	± 0,01	2,0	± 0,01	2,0	± 0,01
Stand. length m	15	± 0,05	15	± 0,05	10	± 0,05

¹⁾ Measured according EN 1848-2 and EN 1849-2

²⁾ Specific weight includes the geotextile fabric

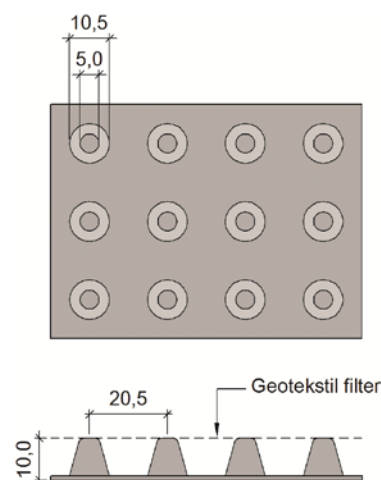


Fig. 1
 OLDROYD® DrainX 10 with geotextile fabric. Plan- and section drawing. Measurements in mm.

3. Fields of application

OLDROYD® DrainX is used as drainage, moisture barrier and capillary breaking layer on the outside of insulated and non-insulated walls against the ground, see fig. 2.

4. Properties

Mechanical material properties

OLDROYD® DrainX characteristics are given in Table 2.

Reaction to fire

Reaction to fire has not been determined for OLDROYD® DrainX according to EN 13501-1. Product must be separated if it is used in different fire cells.

Durability

OLDROYD® DrainX has been tested and assessed to have acceptable durability for its intended use.

5. Environmental aspects

Substances hazardous to health and environment

The product contains no hazardous substances with priority in quantities that pose any increased risk for human health and environment. Chemicals with priority include CMR, PBT or vPvB substances.

Table 2
Product characteristics of fresh material of OLDROYD® DrainX

Property	Testmethod EN	DrainX 5		DrainX 10		DrainX 20		Unit
		DoP ¹⁾	Control limit ²⁾	DoP ¹⁾	Control limit ²⁾	DoP ¹⁾	Control limit ²⁾	
Water tightness	1928 (A)	Tight	Tight	Tight	Tight	Tight	Tight	-
Water vapour resistance	1931	-	1x10 ¹² 200	-	1x10 ¹² 200	-	1x10 ¹² 200	m ² sPa/kg m (equiv. air layer thickness, s _d)
Resist. to tearing (nail shank)	L: T: 12310 -1:	> 400 > 400	> 400 > 400	> 550 > 550	> 550 > 550	> 550 > 550	> 550 > 550	N
Tensile strength ³⁾	L: T: 12311-2 (A)	> 750 > 750	> 750 > 750	> 750 > 750	> 750 > 750	> 750 > 750	> 750 > 750	N/50 mm
Elongation	L: T: 12311-2 (A)	- -	> 50 > 50	- -	> 50 > 50	- -	> 50 > 50	%
Puncturing - Impact at +23 °C - Static load	12691 (A) 12730 (B)	> 300 > 20	> 300 >20	> 300 > 20	> 300 >20	> 300 >20	> 300 >20	mm kg
Deformation und. load meas. after 60 hours	13967, Annex B	-	≤ 1 150	-	≤ 2 250	-	≤ 4 40	mm deformation kN/m ² load

¹⁾ The manufacturers declaration of performance, DoP

²⁾ Control limit shows values the product has to satisfy during internal factory production control and audit testing.

³⁾ Geotextile fabric is included in the testing

Table 3
Product specifications for additional accessories to fix OLDROYD® DrainX

Komponent	Materialtype	Beskrivelse	Dimensjoner
Nails with fastening plugs	Nails with fastening plugs	Nails with fastening plugs	Diameter: 3,0 mm Length: 30 mm to concrete/underroof of boards Length: 60 mm to light weight concrete
Fastening plug for bolt gun	High density Polyethylene HDPE	Fastening plug	Dimension: 7mm Length: 50mm
Toplist	PVC HDPE	Edge profile for closing top edge at external walls against ground level. Fastened with steel nails.	Width/thickness: ca. 50 x 1,7 mm Width/thickness: ca. 50/115/40 x 1,7 mm Width/thickness: ca. 50/80/40 x 1,7 mm Standard length: 2 m

Effect on soil, surface water and ground water

The leaching properties to soil and water have not been tested.

Waste treatment/recycling

The product shall be sorted as residual waste. The product shall be delivered to an authorized waste treatment plant for energy and material recovery.

Environmental declaration

An environmental declaration (EPD) has not been worked out according to EN 15804 for the products.

6. Special conditions for use and installation

Design considerations

If the ground material does not have self-draining characteristics a drainage piping system, in level of the basement, has to be installed. In case of big amount of surface-water, other actions have to be performed like for example drain ditches.

Backfill may be done with local excavated soil. The ground material does not have to be self-draining, but the backfill should not be susceptible to frost heaving.

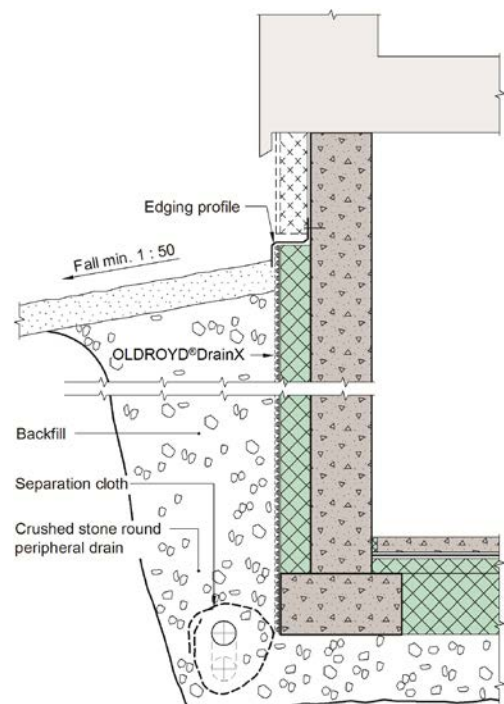


Fig. 2
Example of OLDROYD® DrainX used as a combined water repellent and drainage layer outside a basement wall with thermal insulation.

Other conditions which have to be considered:

- Roof water shall be drained away from the building, either on the ground or by a drainage piping system
- The ground surface shall always slope away from the building
- Backfilling shall be done without damaging the moisture barrier or the wall insulation
- Basement wall must be designed to resist horizontal ground pressure loads

Approval is conditional upon OLDROYD® DrainX being applied according to the recommendations contained in the following SINTEF Building Research Design Guides:

514.221 Fuktsikring av bygninger

520.706 Sikring mot radon ved nybygning

523.111 Yttervegger mot terreng. Varmeisolering / tetting

Installation

OLDROYD® DrainX is installed with the studs and geotextile facing away from the wall and towards the ground. Installation starts at the bottom of the wall, rolling out along the length of the wall. Horizontal joints shall have 120 mm overlap, and vertical joints 500 mm overlap.

The sheet is fastened with nails and plugs or plugs for bolt gun every 250 mm along the top edge after where the topplst shall be applied.

Transport and storage

The rolls shall be stored and transported standing vertically on pallets, protected from sunlight. Pallets may be stacked in two levels, providing the stacks are staggered. Caution must be shown when stacking pallets.

7. Factory production control

The product is produced by Oldroyd AS, Industriveien 1, 3766 Sannidal, Norway.

The holder of the approval is responsible for the factory production control in order to ensure that the product is produced in accordance with the preconditions applying to this approval.

The manufacturing of the product is subject to continuous surveillance of the factory production control in accordance with the contract regarding SINTEF Technical Approval.

Oldroyd AS; Sannidal has a quality system, certified of KIWA Teknologisk Institut Sertifiserings AS according to EN ISO 9001:2008. Certificate no. 213

8. Basis for the approval

The approval is primarily based on the verification of properties documented in the following reports:

- SP Sveriges Tekniska Forskningsinstitut, Report F609470, dated 05.12.2006, Test of Damp proof membrane
- SP Sveriges Tekniska Forskningsinstitut, Report F515377, dated 21.01.2006, Test of three Damp proof membranes
- SINTEF Building and Infrastructure, Report O 21772, datert 20.06.2007, Evaluation of drainage solutions of Oldroyd Gtx
- SINTEF Building and Infrastructure, Report 3D0971, dated 01.09.2010, Testing of material properties
- SINTEF Building and Infrastructure, Report 3D0971B, dated 21.02.2011, Testing of material properties
- SP Sveriges Tekniska Forskningsinstitut, Report 6F016845-1, dated 18.10.2016, testing of product properties

9. Marking

OLDROYD® DrainX shall be marked at least with name of producer, product name og production date or batch-number. The product is CE marked in accordance with EN 13967. The approval mark for SINTEF Technical Approval No. 20070 may also be used.



Approval mark

10. Liability

The holder/manufacturer has sole product responsibility according to existing law. Claims resulting from the use of the product cannot be brought against SINTEF beyond the provisions of Norwegian Standard NS 8402

for SINTEF Building and Infrastructure

Hans Boye Skogstad
Approval Manager