

SINTEF Technical Approval

TG 20070

Issued first time: 09.03.2011
 Revised: 30.11.2022
 Amended: 08.04.2026
 Valid until: 01.12.2027

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SINTEF 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
 Isdammen 25
 3962 Stathelle
 Norway
www.OLDROYD.no

2. Product description

OLDROYD® DrainX 5, OLDROYD® DrainX 10 and OLDROYD® DrainX 20 (in the following called OLDROYD® DrainX products) is a combined waterproof membrane and protection sheet for use on outside basement walls against the ground. OLDROYD® DrainX products have a geotextile fabric welded to top of the dimples. The membrane itself can achieve a draining gap. See figure 1.

OLDROYD® DrainX products are supplied as roll-product and are produced of polypropylene (PP) with a density of 910 kg/m³. The products are available with three different heights of dimples. OLDROYD® DrainX 5 has octagonal dimples the other ones have round formed dimples. The geotextile fabric, which is welded on top of the dimples, has a pore size O₉₀ according to EN ISO 12956 of 0,075 – 0,095 mm..

All variants of the products can be supplied in different widths and lengths. Standard measures and tolerances are shown in table 1.

Product specifications for additional accessories for mounting fixing OLDROYD® DrainX products are given in table 3.

Table 1
 Measures and tolerances for OLDROYD® DrainX products

Property	Test-method EN	DrainX 5	DrainX 10	DrainX 20	Unit	Tolerance
Area weight ¹⁾	1849-2	0,6	0,9	1,0	kg/m ²	± 10 %
Total height	1849-2	5	10	20	mm	± 5 %
Roll width	1848-2	2,0	2,0	2,0	m	± 0,5 %
Roll length	1848-2	15	15	10	m	± 0,5 %

¹⁾ Specific weight including geotextile

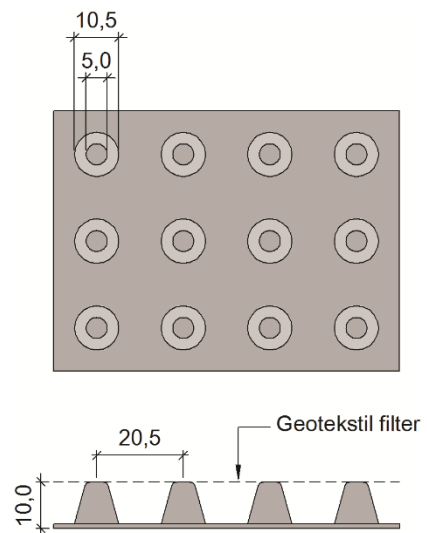


Fig. 1
 Plan and section drawing of OLDROYD® DrainX 10 shows pattern with their channels and dimples. Measurements in mm.

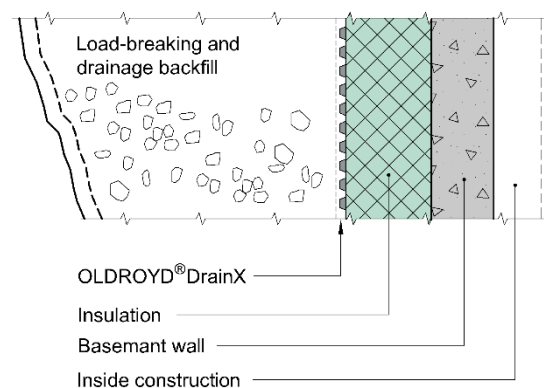


Fig. 2
 OLDROYD® DrainX products, used as moisture protection of external walls against terrain, is recommended to be placed outside a vapour open insulation, as e.g. EPS, with dimples against the insulation. See also SINTEF Building Research Design Guide 523.111 *Yttervegger mot terreng. Varmeisolering og tetting.*

SINTEF is the Norwegian member of European Organisation for Technical Assessment, EOTA, and European Union of Agrément, UEAtc

Table 2
Material properties for OLDROYD® DrainX products

Property	Prøvetode EN	OLDROYD® DrainX 5		OLDROYD® DrainX 10		OLDROYD® DrainX 20		Unit
		DoP ¹⁾	Control limit ²⁾	DoP ¹⁾	Control limit ²⁾	DoP ¹⁾	Control limit ²⁾	
Water tightness 2 kPa, 24 h	1928	tett	tett	tett	Tett	tett	tett	-
Water vapour resistance	1931	-	≥ 1x10 ¹² ≥ 200	-	≥ 1x10 ¹² ≥ 200	-	≥ 1x10 ¹² ≥ 200	m ² sPa/kg m(equiv.air layer s _d)
Tearing (Nail shank)	L T 12310-1	> 400 > 400	≥ 400 ≥ 400	> 550 > 550	≥ 550 ≥ 550	> 550 > 550	≥ 550 ≥ 550	N
Tensile strength	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 v/23°C - Statik load	12691 ³⁾ 12730 ³⁾	> 300 > 20	≥ 300 ≥ 20	> 300 > 20	≥ 300 ≥ 20	> 300 ≥ 20	mm kg
Deformation under load after 60 hours	13967, Annex B	-	≤ 1 ≥ 150	-	≤ 2 ≥ 250	-	≤ 4 ≥ 40	mm deformation kN/m ² Load

¹⁾ Manufacturers Declaration of Performance, DoP

²⁾ Control limit shows values, product need to satisfy during internal factory production control and audit testing

³⁾ Tested on hard support

Table 3
Material specifications for associated installation components for OLDROYD® DrainX products

Component	Material	Description	Dimensions
Edging profile	Plastic rail	Rail as protection of the upper edge over terrain. Edging profile can be supplied for basement wall insulation of 50 and 100mm thickness	Length: 2,0 m

3. Fields of application

OLDROYD® DrainX products can be used in buildings in hazard classes 1-6 in fire classes 1-3 as waterproofing and capillary breaking layer outside of walls against terrain. See also figure 2 and 3.

4. Properties

Product properties

Product properties of OLDROYD® DrainX products are shown in table 2. Product is classified from manufacturer according EN 13967 as Type V.

Properties related to fire

Classification of reaction to fire according to EN 13501-1 is not defined for OLDROYD® DrainX products.

Durability

OLDROYD® DrainX products are evaluated to have satisfying durability in physical contact to concrete- and mortar materials, based on testing before and after accelerated alkali, climate ageing (NT Poly 161).

5. Environmental aspects

Substances hazardous to health and environment

OLDROYD® DrainX products contain 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.

Effect on soil, surface water and ground water

The leaching properties of the product are evaluated to have no negative effects on soil or ground water.

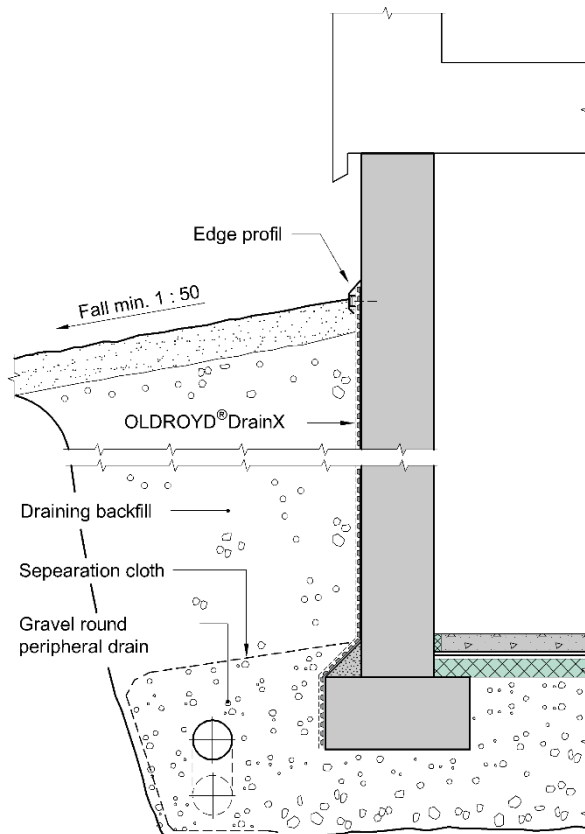


Fig. 3
Principle use of OLDROYD® DrainX products on exterior walls against terrain.

Waste treatment/recycling

The product shall be sorted as residual waste on the building/demolition site. The product shall be delivered to an authorized waste treatment plant for energy recovery

Environmental declaration

No environmental declaration (EPD) has been worked out for OLDROYD® DrainX products.

6. Special conditions for use and installation*Design considerations regarding safety in case of fire*

OLDROYD® DrainX products need to be separated at fire cell limiting constructions in a way that fire spread is avoided and the fire cell limiting function is ensured.

OLDROYD® DrainX products shall be completely covered of soil. Regarding covering of insulation of basement walls see also to SINTEF Building Research Design Guide:

- 520.339 *Bruk av brennbar isolasjon i bygninger*

Design considerations regarding use of OLDROYD® DrainX

OLDROYD® DrainX products should cover both the foundations and the wall and installed up to outside ground level.

OLDROYD® DrainX products used as dimple sheet for protection of the basement wall shall avoid that water can penetrate insulation and concrete construction uncontrolled. Condition for this is also that draining pipes underneath bottom level of the dimple sheet are sufficient to drain water satisfying fast away from the basement construction.

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.

Where backfill not has self-draining properties should additional draining pipes be placed in different heights in front of the dimple sheet. At high risk for big amount of water from terrain around, perhaps other actions, like draining moats or adjusting the ground with pitch away from the building, should be taken in account.

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

External insulation between concrete and dimple sheet should be vapour open to ensure a faster drying of the basement wall.

OLDROYD® DrainX products used as basement dimple sheet shall follow principles shown in SINTEF Building Research Design Guide:

- 514.221 *Fuktsikring av konstruksjoner mot grunnen*
- 523.111 *Yttervegger mot terreng. Varmeisolering / og tetting*

Mounting

OLDROYD® DrainX products can be 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.

OLDROYD® DrainX products is fastened with nails and plugs every 250 mm along the top edge after which the edging profile is 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 of Oldroyd AS, Isdammen 25, 3962 Stathelle, Norway.

The holder of the approval is responsible for maintaining the factory production control to ensure that "the product" is manufactured in compliance with the preconditions upon which this approval is based.

The manufacturing of OLDROYD® DrainX products and the manufacturer's system for factory production control (FPC) is subject to continuous surveillance in accordance with the contract regarding SINTEF Technical Approval.

Manufacturer of OLDROYD® DrainX products has a certified quality management system according to EN-ISO 9001.

8. Basis for the approval

The product's characteristics are documented in reports issued by independent bodies. The technical documentation serves as the basis for SINTEF's product assessment with respect to the product standard EN 13967, the guidelines for SINTEF Technical Approval, and recommendations as outlined in SINTEF Building Research Design Guides.

9. Marking

The rolls of OLDROYD® DrainX products shall be marked with name of producer, name of product and date of production.

The product is CE marked in accordance with EN 13967

The approval mark for SINTEF Technical Approval No. 20067 may also be used.

10. Liability

The holder/manufacturer has sole product liability according to **current** law. Claims can only be made against SINTEF under general law or other special grounds.

for SINTEF


Ola Asphaug
Approval Manager