SINTEF Technical Approval

TG 20070

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Valid until 01.12.2027

Provided listed on
www.sintefcertification.no

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 10 (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/m^3. 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 O_{90} according to EN ISO 12956 of 0,10 – 0,14 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

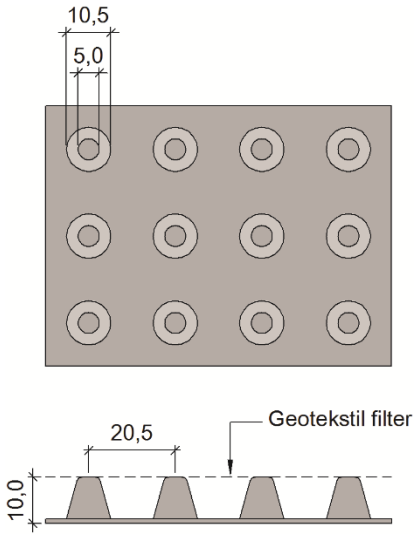

Fig. 1
Plan and section drawing of OLDROYD® DrainX 10 shows pattern with their channels and dimples. Measurements in mm.

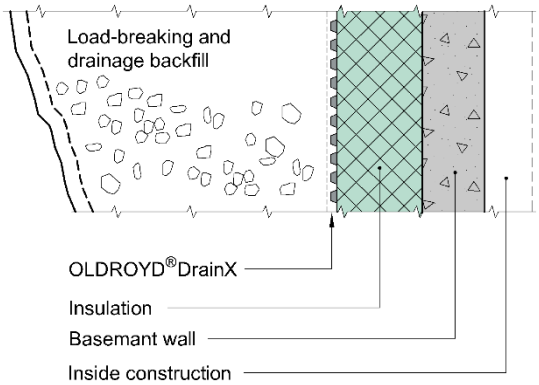

Fig. 2
OLDROYD® DrainX products, used as moisture protection of external walls against terrain, is recommended to be placed outside a vapour open insulation, as e.g. EPS, with dimples against the insulation. See also SINTEF Building Research Design Guide 523.111 *Yttervegger mot terreng. Varmeisolering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

Table 2
Material properties for OLDROYD® DrainX products

Property	Prøvemetode 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(equv.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	≥ 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.

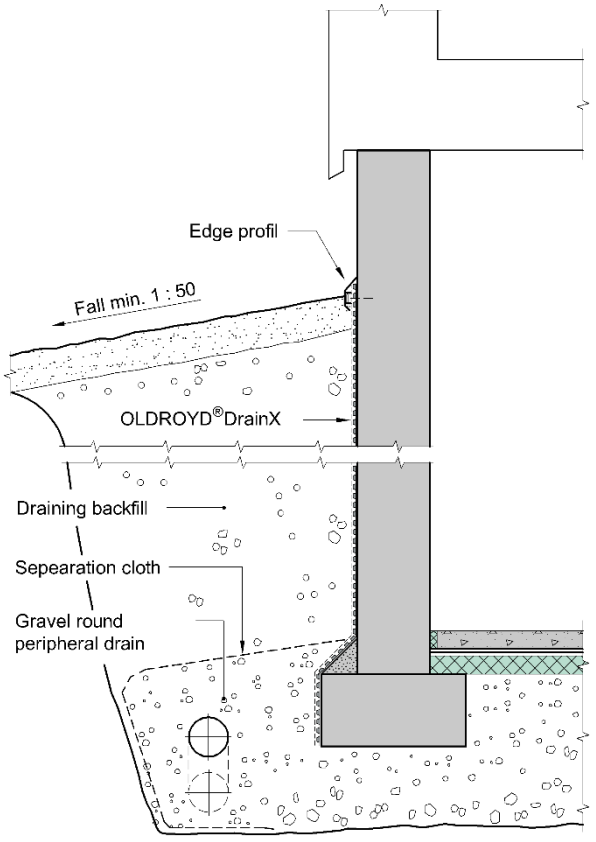

Fig. 3
Principle use of OLDROYD® DrainX products on exterior walls against terrain.

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 the factory production control in order to ensure that OLDROYD® DrainX products is produced in accordance with the preconditions applying to this approval.

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 evaluation of OLDROYD® DrainX products is based on reports owned by the holder of the approval.

The evaluation of design and technical solutions are based on recommendations given 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 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

Susanne Skjervø
Godkjenningsleder