

SINTEF Building and Infrastructure confirms that

OLDROYD® Xs

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® Xs is a diffusion resistant membrane that is designed to be used as moisture barrier in concrete floors.

OLDROYD® Xs are delivered on roll, produced of polypropylen (PP) with a density of 910 kg/m³ and a nominal thickness of 0.5 mm. The product is made with a pattern of intersecting channels to gain an overall thickness of 2 mm, see fig. 1. The membrane has flat jointing flanges on each side. Measures and tolerances are shown in table 1.

Products specifications for additional accessories to fix OLDROYD® Xs are given in table 3.

Table 1
 Measure and tolerances for OLDROYD® Xs

Property	Oldroyd® Xs	
	Measure ¹⁾	Tolerance
Thickness mm	0,5	± 0,05
Spec.weight kg/m ²	0,5	± 10 %
Total height mm	2	± 5 %
Stand. roll width m	2,08	± 0,01
Stand. roll length m	20	± 0,05

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

3. Fields of application

OLDROYD® Xs is designed to be used as diffusion resistant moisture barrier under floating floors on concrete underlays. Moisture barrier shall avoid that moisture from materials beneath can go further up into the floor construction above. Floating floors above may consist of boards, parquet, floor laminates, levelling compounds or screeds. An example is shown in fig. 2. OLDROYD® Xs can be used in new construction or in refurbishment work.

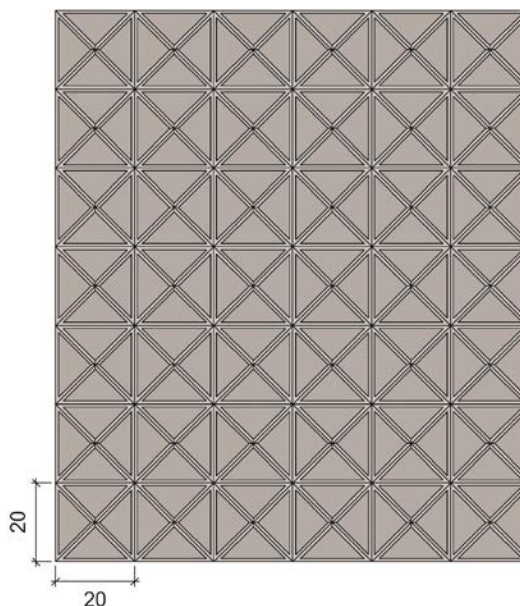


Fig. 1
 OLDROYD® Xs with intersecting channels. Total thickness 2 mm.

These moisture-proof membranes may be used in floor constructions for load category A and B according to EN 1991-1-1:2002, with an imposed maximum uniformly distributed load of 3.0 kN/m² and 2.0 kN concentrated load.

Where problems with smell or gases from the ground occurring, special solutions shall be evaluated. OLDROYD® Xs cannot be used as waterproof membrane in bathrooms etc.

4. Properties

Mechanical material characteristics

OLDROYD® Xs characteristics are given in table 2.

Safety in case of fire

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

Table 2
Product characteristics of fresh material of OLDROYD® Xs

Property	Testmethod EN	OLDROYD® Xs		Unit
		DoP ¹⁾	Control limit ²⁾	
Water tightness	1928 (A)	Tight	Tight	-
Water vapour resistance	1931	-	1x10 ¹² 200	m ² sPa/kg m (equiv. air layer thickness, s _d)
Tensile strength L: T:	12311-2 (A)	> 350 > 350	> 350 > 350	N/50 mm
Elongation L: T:	12311-2 (A)	- -	> 25 > 25	%
Shear resistance in joint	12317-2	-	> 190	N
Puncturing - impact at/+23 °C - static load	12691 (A) 12730 (B)	> 600 > 20	> 600 >20	mm kg
Deformation under load measured after 60 hours	13967, Annex B	-	≤ 0,4 250	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.

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

Component	Material type	Description	Dimensions
OLDROYD® Butyl jointing tape	Butyl rubber	Taping of overlap joints for dimple sheets	Width/thickness: 50 mm / 1,5 mm Length: 10 m
OLDROYD® Butyl jointing Flextape	Butyl rubber	Flexible tape for joints to other material	Width/thickness: 100 mm / 0,8 mm Length: 10 m

Sound insulation

Weighted impact sound pressure reduction ΔL_w according to ISO 717/2 is 16 dB for floating floors with 14 mm parquet on OLDROYD® Xs. Such floors installed on concrete slabs with minimum thickness 180 mm satisfy Class C in NS 8175, except for residential housing.

Durability

OLDROYD® Xs has been tested and assessed to have acceptable durability for the intended use, shown in this approval.

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.

Effect on indoor environment

The product is not regarded as emitting any particles, gases or radiation that have a perceptible impact on the indoor climate, or to have any significant impact on health.

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.

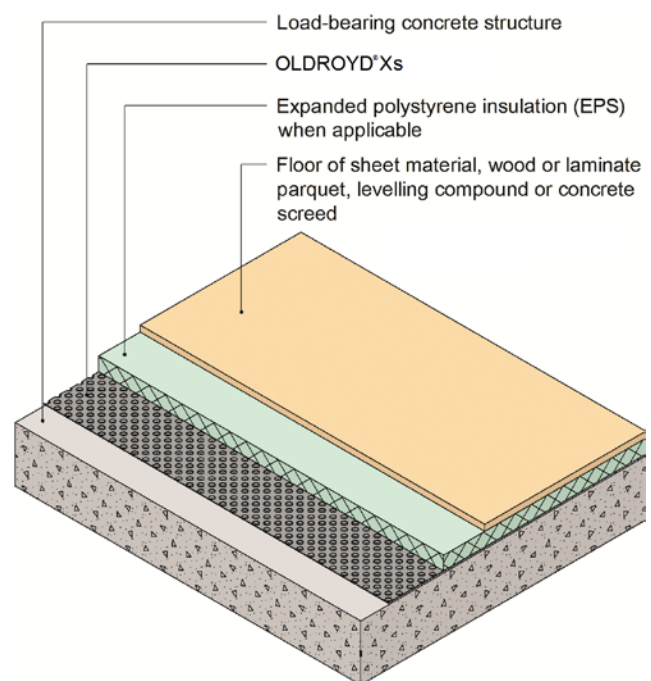


Fig. 2
Example for a floor construction with OLDROYD® Xs.

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

In case OLDROYD® Xs is used in floor constructions with particularly high loads, especially for point loads, has the deformations to be evaluated specific. Non load-bearing walls and non-fire resistant walls can be erected on top of the moisture barrier.

Thermal insulation and air tightness

Floors may be insulated with polystyrene sheets between the moisture-barrier and the floating floor. See fig. 2. When parquet flooring or board materials are installed over insulation it is required to use XPS (extruded polystyrene) or EPS (expanded polystyrene) sheets with a resistance to compression of at least 200 kN/m² (CS(10)200). A thin sliding material like a fibre cloth or equivalent should be laid between the insulation and flooring to avoid squeaking.

It is assumed that the use of XPS or EPS is in accordance with the recommendations contained in the SINTEF Building Research Design Guides: 520.339 *Bruk av brennbar isolasjon i bygninger*.

Moisture conditions

The building is assumed to have a normal indoor climate as long as no special measures are taken. OLDROYD® Xs can be installed independently of the moisture content of the underlying concrete construction. The product cannot be used in cases where free flowing water on the underlying concrete floor may occur.

Installation

Lengthwise joints are taped at overlaps with self-adhesive jointing tape. Transverse joints are made as butt joints with the tape across the top of the joint.

Two rings of jointing rope are used for sealing joints between the concrete floor and penetrating pipes and ducts, after applying a dust binding primer.

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 97M22008, dated 12.08.1997, type testing of product characteristics
- Nemko Trondheim, Report 974404532, dated 04.97, sound characteristics
- Sintef Byggforsk, Report 3D0971, dated 01.09.2010, testing of material characteristics
- SP Sveriges Tekniska Forskningsinstitut, Report 6F016845-1, dated 18.10.2016, testing of product characteristics

9. Marking

OLDROYD® Xs 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. 20069 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