

SINTEF confirms that

## GAROLUX Vapour Barrier

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

JSC UMARAS  
 Pramonės 19a,  
 LT - 28216, Utena  
 Lithuania  
[www.umaras.eu](http://www.umaras.eu)

### 2. Product description

GAROLUX vapour barrier is an age resistant, UV stabilized vapour barrier, made of polyethylene. The film is transparent. The vapour barrier is produced in 0.15 mm and 0.2mm thickness. Values in this document apply to the 0.15 mm thickness. Product dimensions and tolerances are listed in table 1.

Table 1

Property	Unit	Tolerance
Length	m	± 2 %
Width	m	± 2 %
Thickness	mm	0,15 mm: ± 10 %
		0,2 mm: ± 10 %
Weight	g/m <sup>2</sup>	0,15 mm: 139 ± 10 %
		0,2 mm: 185 ± 10 %

### 3. Fields of application

GAROLUX vapour barrier is used as an indoor vapour barrier in insulated building constructions, see examples in figure 1-3. SINTEF recommend vapour barriers with thickness 0.15 mm in walls and in ventilated pitched roofs. In compact flat roofs and in floors, we recommend thickness 0.2 mm.

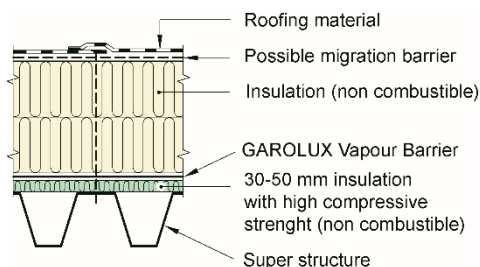


Fig. 1  
 GAROLUX vapour barrier installed in a compact roof construction.

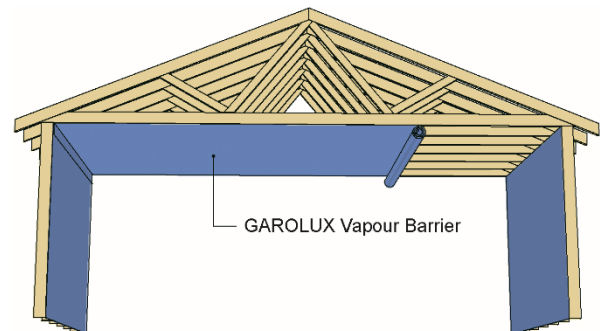


Fig. 2  
 GAROLUX vapour barrier installed in outdoor walls and in roofs against cold lofts.

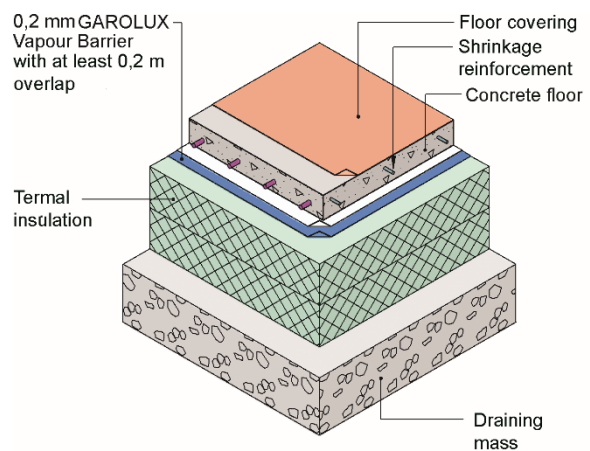


Fig. 3  
 GAROLUX vapour barrier installed in a concrete floor on the ground

### 4. Properties

Product properties for fresh material are shown in table 2.

#### Durability

GAROLUX vapour barrier is assessed to have satisfactory durability when used as described in clause 6. The durability is evaluated based on laboratory tests after accelerated ageing consisting of alkaline ageing and ageing with and UV radiation followed by heat ageing.

Table 2  
Product properties for GAROLUX vapour barrier, fresh material

Property	Test Method	GAROLUX Vapour Barrier		Unit
		DoP <sup>1)</sup>	Control limit <sup>2)</sup>	
Resistance to tearing (nail shank)	EN 12310-1	≥60	≥60	N
Elongation	EN 12311-2 (B)	L: ≥ 300 T: ≥ 300	L ≥ 300 T ≥ 300	%
Tensile strength	EN 12311-2 (B)	L:12 T:12	L ≥ 12 T ≥ 12	N/mm <sup>2</sup>
Water vapour resistance	EN ISO 12572	≥80	≥ 80	S <sub>d</sub> -value (m)
Resistance to impact (23 ± 2)°C	EN 12691	≥100	≥100	mm-
Resistance to static loading	EN 12730 (A)	≥ 5	≥ 5 <sup>3)</sup>	kg

<sup>1)</sup> Manufacturers Declaration of Performance, DoP

<sup>2)</sup> Control limit shows values, product has to satisfy during internal factory production control and audit testing

<sup>3)</sup> Result from type testing

## 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 evaluated according to SINTEF Technical Approval – Health and Environmental Requirements version 09.05.2022. 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. The product meets the requirements in BREEAM-NOR v6.0, Emissions from building products according to Hea 02 Indoor air quality.

### *Waste treatment/recycling*

The product shall be sorted as plastic waste. The product shall be delivered to an authorized waste treatment plant for material or energy recycling.

### *Environmental declaration*

No environmental declaration (EPD) has been worked out for the product.

## 6. Special conditions for use and installation

### *General*

The vapour barrier should generally be installed on the inner warm side of the construction. Continuously clamping of the joints, together with sealing of bushings, is a prerequisite to prevent air leakage and water vapour transmission into the construction.

### *External walls and insulated pitched wooden roofs*

The installation must be done as soon as the construction is insulated, and before the heating of the building commences. The installation must be done in a way that the film will not be punctured or teared.

The vapour barrier shall generally be installed according to SINTEF Building Research Design Sheet No. 523.255 *Yttervegger av bindingsverk.. Varmeisolering og tetting*, 525.101 *Skrå, luftede tretak med isolerte takflater*, 525.106 *Skrå tretak med kaldt loft* and 525.107 *Skrå tretak med oppholdsrom på deler av loftet*.

### *Vapour barrier installed into the insulation layer*

For easier to avoid damage from for example hidden electrical systems, the vapour barrier can be installed behind an internal battening. To avoid condensation on the vapor barrier, the insulation thickness on the cold side should then be at least three times that on the warm side.

### *Flat roofs on load-bearing profiled steel decks*

In roofs with supporting profiled steel decks, the vapour barrier should be placed on a flat surface, e.g. of 50 mm rock wool, and not directly on the steel plates to ensure that the overlapping joints is closed (see figure 1). See also SINTEF Building Research Design Sheet No. 525.207 *Kompakte tak*.

### *Floors on the ground*

In floors on the ground the vapour barrier should be installed above the insulation layer to prevent moisture accumulation in the heat insulation during the building period. In the case that pipes for district heating is installed in the ground under the floor, it is recommended to install an additional vapor barrier under the heat insulation a few meters to each side of the heating pipes. See also SINTEF Building Research Design Sheet No. 521.112 *Golv på grunnen med ringmur. Telesikring og varmeisolering av oppvarmede bygninger*

## 7. Factory production control

GAROLUX Vapur barrier is produced by  
JSC UMARAS  
Pramonės 19a,  
LT - 28216, Utena  
Lithuania

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

JSC Umaras has a certified QM system according to ISO 9001.

## 8. Basis for the approval

The evaluation of *GAROLUX vapour barrier* is based on reports owned by the holder of the approval.

**9. Marking**

GAROLUX vapour barrier shall be marked with the name of holder, product name, production date and item number directly on the product.

GAROLUX vapour barrier is CE marked in accordance with EN 13984.

The approval mark for SINTEF Technical Approval TG 20850 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  
Approval Manager