



Technical Approval

SINTEF confirms that

Baca Dampspærre 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

Baca Plastindustri AS
 Ulsmåvegen 20
 5224 Nestun
 www.baca.no

2. Product description

Baca Dampspærre is an age resistant, UV stabilized vapour barrier, made from sheet polyethylene. The film is transparent. This Technical Approval concerns five different vapour barrier products, listed in table 1.

Table 1
 Baca Dampspærre products

Product	Thickness (mm)	Length (m)	Width (mm)
L2615	0,15	15	2600
L2620	0,20	15	2600
L3003	0,20	25	3000
L4003	0,20	25	4000
L6003	0,20	25	6000

The vapour barriers listed in Table 1 may also be supplied with other length- and width dimensions. Dimensions- and weight tolerances are shown in table 2.

Tabell 2
 Tolerances Baca Dampspærre

Property	Unit	Tolerance
Length	m	± 2 %
Width	m	± 2 %
Thickness	mm	0,15 mm: ± 0,03 mm
		0,20 mm: ± 0,04 mm
Weight	g/m ²	0,15 mm: 140 ± 10 %
		0,20 mm: 185 ± 20 %

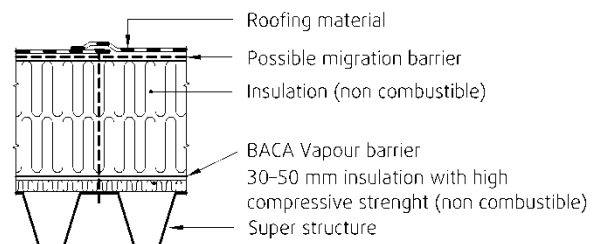


Fig. 1
 Baca Dampspærre installed in a compact roof construction

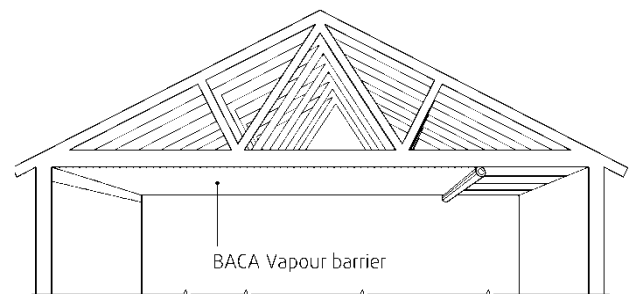


Fig. 2
 Baca Dampspærre installed in outdoor walls and in roofs against cold lofts

3. Fields of application

Baca Dampspærre 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.

4. Properties

Product characteristics for fresh material are shown in table 3. Baca Dampspærre is mainly tested according to EN 13984 with a few simple tests in addition.

Tabell 3
Product characteristics for Baca Dampsperre, fresh material

Property	Test method	DoP ¹⁾	Control limit ²⁾	Unit
Flexibility at low temperature	EN 495-5: 2001	-	≤ - 30	° C
Dimensional stability	EN 1107-2: 2001	-	± 0,4	%
Watertightness	EN 1928 (A): 2000	Tight at 2 kPa for 24 hours	Tight at 2 kPa for 24 hours	-
Resistance to tearing	EN 12310-1: 1999	-	≥60	N
Elongation	EN 12311-2 (B):2000	-	Longitudinal ≥ 300 Transversal ≥ 300	%
Tensile strength	EN 12311-2 (B):2000	Longitudinal ≥ 13 Transversal ≥ 12	Longitudinal ≥ 13 Transversal ≥ 12	N/mm ²
Water vapour resistance	EN ISO 12572:2001	≥ 20 ≥ 100 x 10 ⁹	≥ 20 ≥ 100 x 10 ⁹	S _d -value (m) m ² sPa/kg
Resistance to impact Tested at 23 °C	EN 12691: 2001	-	Tight after stroke from a puncture-object with a diameter of 25 mm and a drop height of 300 mm	
Resistance against static loading	EN 12730 (A):2001	-	≥ 5	kg
Reaction to fire	EN 135012007+A1:2009	-	F	Class

¹⁾ Declared value given in the manufacturers DoP (Declaration of performance)

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

³⁾ Results from type testing

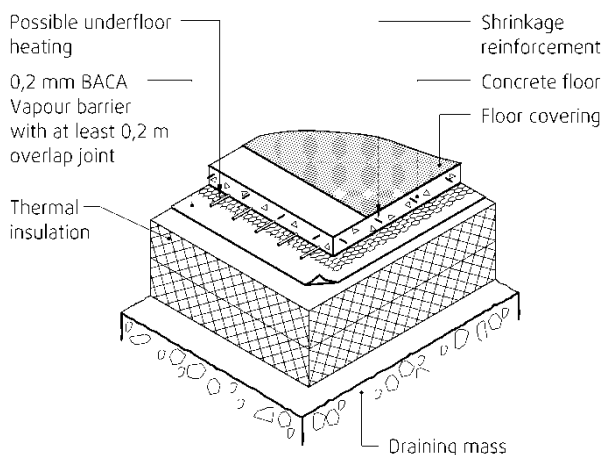


Fig. 3
Baca Dampsperre installed in a concrete floor on the ground

Durability

BACA Dampsperre with thickness 0,2 mm is considered to have satisfactory durability as long as the product is used as specified in this Approval. The durability is evaluated after ageing in a climate carousel, heat aging and alkaline ageing.

BACA Dampsperre with thickness 0,15 mm has not documented durability against alkaline moisture

5. Environmental aspects

Substances hazardous to health and environment

Baca Dampsperre 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 indoor environment

The product is assessed not to liberate particles, gases or radiation that can influence negatively to the indoor climate, or lead to health-related problems.

Waste treatment/recycling

The products shall be sorted as plastic-based materials on the building/demolition site. The products shall be delivered to an authorized waste treatment plant for material recovery.

Environmental declaration

Environmental declaration (EPD) according to EN 15804 has been worked out for Baca Dampsperre. The environmental indicators from the declaration are given in Table 4. For full environmental declaration, see EPD No. NEPD00273N, www.epd-norge.no

Table 4

Environmental declaration according to EN 15804 for Baca Dampsperre. Cradle to gate (Norge). Declared unit is 1m² produced vapour barrier.

Indicator	Value
Global warming, kg CO ₂ ekv.	0,15mm => 0,4 0,20mm => 0,5
Total energy consumption, MJ	0,15mm => 15,66 0,20mm => 17,27

6. Special conditions for use and installation

General

Generally the vapour barrier should 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.

Generally the vapour barrier shall be installed according to SINTEF Building Research Design Guides No. 523.255 *Bindingsverk av tre. Varmeisolering og tetting*, 525.101 *Isolerte skrå tretak med lufting mellom vindspærre og undertak*, 525.102 *Isolerte skrå tretak med kombinert undertak og vindspærre*, 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, eg. of 50 mm rock wool, and not directly on the steel plates to ensure that the overlapping joints is closed (see fig. 1). See also SINTEF Building Research Design Guide 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 a additional vapor barrier under the heat insulation a few meters to each side of the heating pipes. See also SINTEF Building Research Design Guide No. 521.112 *Golv på grunnen med ringmur. Varmeisolering, frostsikring og beregning av varmetap*.

7. Factory production control

The product is produced by Baca Plastindustri AS, Ulsmåvegen 20, 5224 Nestun.

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.

8. Basis for the approval

The approval is mainly based on verification of product characteristics documented in the following reports:

- SINTEF, report 3D0757.01 dated 02.10.2010 (material properties and durability)
- SP, report FX104547, dated 15.04.2011 (emission)
- SINTEF, report 102000589-1, dated 05.02.2016 (durability)

9. Marking

BACA Dampspærre shall be marked with the name of manufacturer, production date and production number directly on the product.

The product is CE marked in accordance with EN 13984.

The approval mark for Technical Approval No. 20027 may also be used.



Approval mark

10. Liability

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

for SINTEF

Hans Boye Skogstad
Approval Manager