THERMAL AND SOUND INSULATION

Byeco Sheep Wool Insulation

Warmer and quieter with *sheep wool*.

Sheep wool mats for roofs, walls and floors. Two grades insulate against heat loss and two against sound.



4	18–30 kg/m³	30–300 mm	D-s2, d0
Grades	Density	Thickness	Fire class

Four grades, two *tasks*

THERMAL

Byeco Standard ++

Density	18 kg/m³
λ	0.037 W/(m·K)
Thickness	30–140 mm
Airflow resistivity	4.1 kPa·s/m²

Roofs, floors, external and internal walls.

THERMAL

Byeco Plus +++

Density	20 kg/m³
λ	0.034 W/(m·K)
Thickness	150–300 mm
Airflow resistivity	4.1 kPa·s/m²

Roofs, floors and walls, in a single layer.

SOUND

Byeco Pro ++++

Density	22 kg/m³
λtr, measured	0.035 W/(m·K)
Thickness	30 and 60 mm
Airflow resistivity	> 5 kPa·s/m²

Interior fit-out and acoustic ceilings.

SOUND

Byeco Ultra +++++

Density	30 kg/m³
λtr, measured	0.033 W/(m·K)
Thickness	30–80 mm
Airflow resistivity	10.2 kPa·s/m²

Partition walls, service cavities and acoustic ceilings.

Why *sheep wool* in the build-up

Pure sheep wool

Needle-punched wool with no glue and no plastic support fibres.

No borates

Handles moisture

According to the manufacturer's EPD, the wool can take up to 33% of its weight in moisture and keep insulating.

μ 1 · mould class 0

No dust mask

Fitted without protective clothing or a dust mask, and cut by hand.

One layer up to 300 mm

natureplus® and EPD

Ecolabelled, with an EPD to EN 15804+A2 for the climate declaration.

0103-099-0101

Where it fits

SUITABLE

+ **Roofs and loft floors**
+ **External and internal walls**
+ **Floor structures**
+ **Acoustic ceilings**

WITH CONDITIONS

! **Fire class D-s2, d0**
Classified at 27–33 mm directly on a non-combustible substrate, indoors.

! **Behind acoustic panels**
Byeco Pro ++++ with the carrier felt facing the room.

NOT SUITABLE

× **Ground contact and foundations**
× **Outdoors without weather protection**

Technical values

Byeco Standard ++ THERMAL

PROPERTY	VALUE
Density	18 kg/m³
Thickness	30–140 mm
Width	600, 625 and 650 mm
Thermal conductivity λD, data sheet	0.037 W/(m·K)
Thermal conductivity λD, ETA-07/0214 EN 12667, EN ISO 10456	0.043 W/(m·K)
Reaction to fire EN 13501-1	D-s2, d0
Sound absorption αw EN ISO 354, 11654	0.75 at 50 mm
Airflow resistivity r EN 29053	4.1 kPa·s/m²
Vapour resistance factor μ	1
Mould growth EAD 040005-00-1201, Annex B	Class 0
Marks	natureplus®, CE, EPD

Byeco Plus +++ THERMAL

PROPERTY	VALUE
Density	20 kg/m³
Thickness	150–300 mm
Width	600 mm
Thermal conductivity λD, data sheet	0.034 W/(m·K)
Thermal conductivity λD, ETA-07/0214 EN 12667, EN ISO 10456	0.043 W/(m·K)
Reaction to fire EN 13501-1	D-s2, d0
Sound absorption αw EN ISO 354, 11654	Not stated
Airflow resistivity r EN 29053	4.1 kPa·s/m²
Vapour resistance factor μ	1
Mould growth EAD 040005-00-1201, Annex B	Class 0
Marks	natureplus®, CE, EPD

Byeco Pro ++++ SOUND

PROPERTY	VALUE
Density	22 kg/m³
Thickness	30 and 60 mm
Width	600 mm
Thermal conductivity λtr, measured	0.035 W/(m·K)
Thermal conductivity λD, ETA-07/0214 EN 12667, EN ISO 10456	0.043 W/(m·K)
Reaction to fire EN 13501-1	D-s2, d0
Sound absorption αw EN ISO 354, 11654	Not stated
Airflow resistivity r EN 29053	> 5 kPa·s/m²
Vapour resistance factor μ	1
Mould growth EAD 040005-00-1201, Annex B	Class 0
Marks	natureplus®, CE, EPD

Byeco Ultra +++++ SOUND

PROPERTY	VALUE
Density	30 kg/m³
Thickness	30–80 mm
Width	600 mm
Thermal conductivity λtr, measured	0.033 W/(m·K)
Thermal conductivity λD, ETA-07/0214 EN 12667, EN ISO 10456	0.036 W/(m·K)
Reaction to fire EN 13501-1	D-s2, d0
Sound absorption αw EN ISO 354, 11654	0.85 at 50 mm
Airflow resistivity r EN 29053	10.2 kPa·s/m²
Vapour resistance factor μ	1
Mould growth EAD 040005-00-1201, Annex B	Class 0
Marks	natureplus®, CE, EPD

D-s2, d0 applies at 18–31 kg/m³ and 27–33 mm, directly on a non-combustible substrate (A1 or A2-s1, d0), indoors and uncoated (classification report B24219).

λD to ETA-07/0214 is the value behind the CE marking and the requirement in the specification texts. For Byeco Pro ++++ and Byeco Ultra +++++, the data sheet's λtr is measured on a dry sample.

αw is measured at 50 mm in mounting type A to ETA-07/0214. The manufacturer states no αw for Byeco Plus +++ and Byeco Pro ++++.

Size and packaging

Byeco Standard ++

THICKNESS	PER PACK	PACKS PER PALLET
30 mm	14.4 m²	18
40 mm	14.4 m²	16
50 mm	10.8 m²	16
60 mm	10.8 m²	16
80 mm	7.2 m²	16
100 mm	7.2 m²	14
120 mm	7.2 m²	12
140 mm	3.6 m²	18

Byeco Plus +++

THICKNESS	PER PACK	PACKS PER PALLET
150 mm	3.42 m²	14
160 mm	3.6 m²	14
180 mm	3 m²	14
200 mm	3 m²	12
240 mm	2.4 m²	13
260 mm	2.4 m²	12
280 mm	2.4 m²	10
300 mm	2.4 m²	9

Byeco Pro ++++

THICKNESS	PER PACK	PACKS PER PALLET
30 mm	10.8 m²	22
60 mm	7.2 m²	16

Byeco Ultra +++++

THICKNESS	PER PACK	PACKS PER PALLET
30 mm	10.8 m²	16
40 mm	7.2 m²	16
50 mm	7.2 m²	14
60 mm	7.2 m²	12
80 mm	4.8 m²	14

Packs in 600 mm width.

How to fit it

01

Cut by hand

Tear or cut the mat to length. No dust mask or protective clothing is needed.

02

Slightly wider than the bay

The mat should be slightly wider than the bay and fill it completely, without gaps.

03

Clamp and fix

Clamp the mat between studs, joists or rafters. From below and in sloping roofs, fix it with staples.

04

Close the build-up

Fit the airtight layer and the lining as the construction drawings specify.

The insulation

Sheep wool, 18–30 kg/m³	Needle-punched, with no glue or plastic support fibres.
Borates	None.
Ionic Protect®	Moth protection, biocide-free according to the manufacturer.
Formaldehyde resin	None.

For the specification

External walls

Thermal insulation of external walls with sheep wool mats between studs.
Thickness to drawings. Density at least 18 kg/m³. Declared thermal conductivity λD not exceeding 0.043 W/(m·K), determined to EN 12667. Reaction to fire class D-s2, d0 to EN 13501-1, classified at 27–33 mm and 18–31 kg/m³ directly on a non-combustible substrate (A1 or A2-s1, d0), indoors. Ecolabel: natureplus or equivalent. Environmental Product Declaration (EPD) to EN 15804+A2.
Product: Byeco Standard ++ (30–140 mm) or Byeco Plus +++ (150–300 mm) or equivalent.
The mats are slightly wider than the bay and are clamped between the studs so that the bay is completely filled, without gaps.

Floor structures

Insulation of floor structures with sheep wool mats between joists.
Thickness to drawings. Density at least 18 kg/m³. Declared thermal conductivity λD not exceeding 0.043 W/(m·K), determined to EN 12667. Reaction to fire class D-s2, d0 to EN 13501-1, classified at 27–33 mm and 18–31 kg/m³ directly on a non-combustible substrate (A1 or A2-s1, d0), indoors. Ecolabel: natureplus or equivalent. Environmental Product Declaration (EPD) to EN 15804+A2.
Product: Byeco Standard ++ (30–140 mm) or Byeco Plus +++ (150–300 mm) or equivalent.
The mats are slightly wider than the bay and fill it completely between the joists, without gaps. When fitted from below and in sloping roofs, the mats are fixed mechanically, for example with staples.

Roofs and loft floors

Thermal insulation of roofs and loft floors with sheep wool mats between trusses, rafters or joists.
Thickness to drawings. Density at least 18 kg/m³. Declared thermal conductivity λD not exceeding 0.043 W/(m·K), determined to EN 12667. Reaction to fire class D-s2, d0 to EN 13501-1, classified at 27–33 mm and 18–31 kg/m³ directly on a non-combustible substrate (A1 or A2-s1, d0), indoors. Ecolabel: natureplus or equivalent. Environmental Product Declaration (EPD) to EN 15804+A2.
Product: Byeco Plus +++ (150–300 mm) or Byeco Standard ++ (30–140 mm) or equivalent.
The mats are slightly wider than the bay and fill it completely, without gaps. When fitted from below and in sloping roofs, the mats are fixed mechanically, for example with staples.
Byeco Plus +++ is laid in a single layer, 150–300 mm.

Documents

The manufacturer's data sheets, the declarations of performance, the ETA, the EPD and the fire classification report:
byeco.se/en/materials/farullsisolering

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