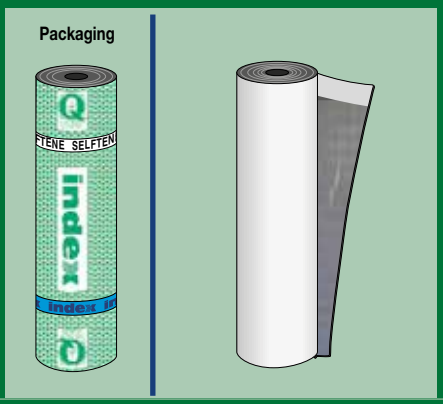


SELFTENE REFLECTIVE

TYPE 4 THERMO-REFLECTIVE INSULATION PANEL CONFORMING WITH UNI EN 16012, FORMED OF A WATERPROOFING MONO-ADHESIVE ELASTOMER DISTILLATE BITUMEN-POLYMER MEMBRANE FOR DISCONTINUOUS ROOFS, WITH UPPER FACE COATED WITH A LOW-EMISSIVITY AND HIGH-REFLECTANCE PURE ALUMINIUM FILM REINFORCED WITH "NON-WOVEN" POLYESTER FABRIC.

GRANTS *LEED* CREDITS

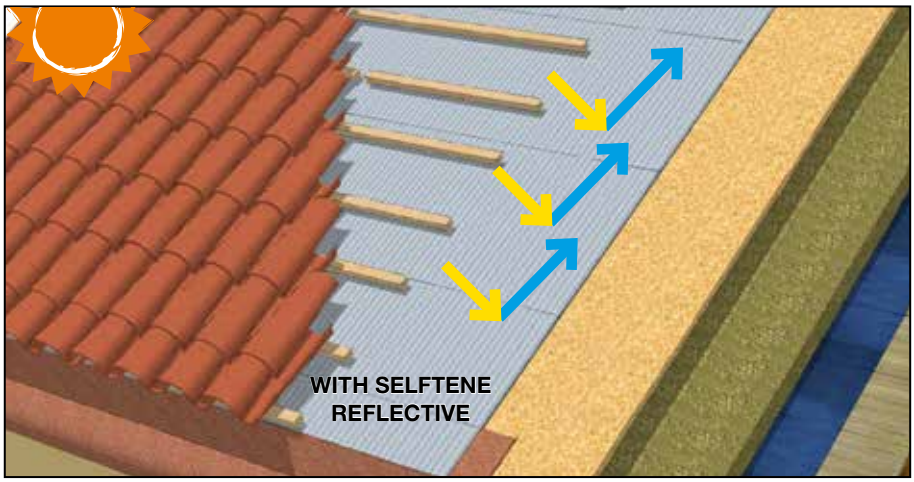
CATEGORY	CHARACTERISTICS			ENVIRONRMENTAL							METHOD OF USE	
SPECIAL ELASTOMERIC FOR SPECIFIC USES	WATERPROOF	SUPER-ADHESIVE	REACTION TO FIRE	ECO GREEN	ASBESTOS FREE	TAR FREE	CHLORINE FREE	RECYCLABLE	NON DANGEROUS WASTE	EXHAUSTED OIL FREE	APPLICATION BY PRESSURE	NAILING

1 PROBLEM

HOW TO INCREASE THE THERMAL REFLECTANCE OF BUILDING MATERIALS FACING AIR SPACES

Standard underlay sheets and building materials (cls, marble, tile, wood, plaster, tar paper, plastic materials, standard thermal insulation, etc.) have emissivity over 90% and reflectance under 10%, so when they face an air space they cannot influence the part of the heat which is transmitted through irradiation and do, in fact, lose a large part of the heat transmissible through irradiation and do not reflect thermal radiation.

2 SOLUTION



Transmission of heat through irradiation depends on the surface of the material and may be changed by applying a low-emissivity and low-reflectance shield above it.

INTENDED USE OF "CE" MARKING SPECIFIED ACCORDING TO THE AISPEC-MBP GUIDLINES

EN 13859-1 - UNDERLAY FOR DISCONTINOUS ROOFING
- SELFTENE REFLECTIVE

DESCRIPTION

SELFTENE REFLECTIVE is type 4 thermal insulation conforming with UNI EN 16012 which may be used to give thermo-reflective properties to surfaces facing an air space onto which a mono-adhesive elastomer distillate bitumen-polymer sheet is glued, with the upper face formed of a low-emissivity pure aluminium film with high reflectance of both IR thermal radiation and electromagnetic RF radiation, reinforced with "non-woven" polyester fabric. The lower surface is hot spread with a special adhesive elastomer mixture at ambient temperature, protected by a siliconate film, which maintains the adhesive properties even at low temperatures and remains active even for lengthy storage periods. It has a high resistance to steam migration and is waterproof.

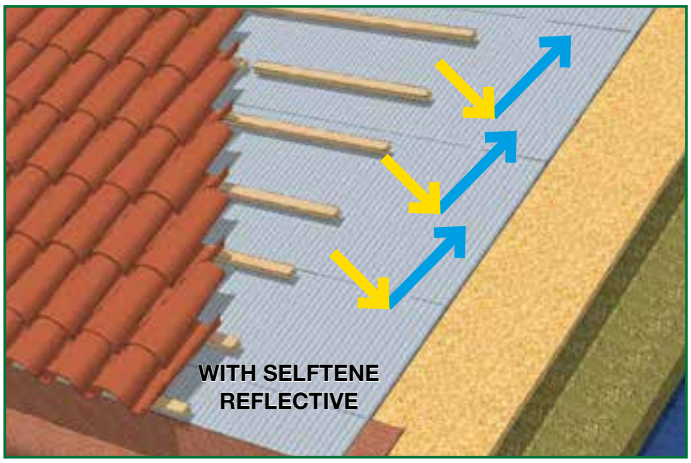
SELFTENE REFLECTIVE also acts as protection against high RF electro-magnetic waves from radio antennas and television transmitters and can offer a high degree of protection of the rooms underneath. However, it does not protect against the electromagnetic fields of ELF power lines.
The tests carried out according to standard MIL-STD 285 on the underlay sheet gave the following results:

- Screening power 100 MHz: 29.00 dB; Damping percentage 96.50%
- Screening power 900 MHz: 38.00 dB; Damping percentage 98.70%
- Screening power 30÷1000 MHz: 40 dB, which means the electromagnetic field is reduced by 95 times.

APPLICATION FIELDS

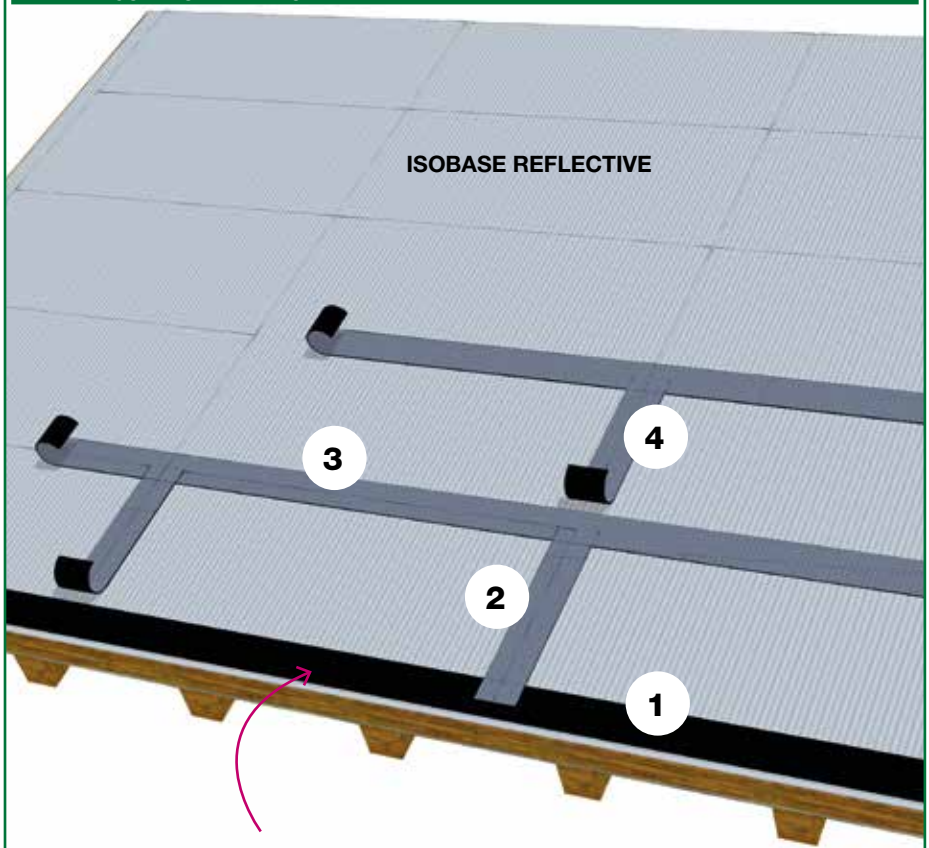
SELFTENE REFLECTIVE is used primarily in roofs as a thermo-reflective underlay sheet above a ventilated board. It can also be used as an air and steam sealing element on wooden roofs. It must always be remembered that the thermo-reflective effect is only obtained if an air space is present and therefore, if this is absent, i.e. if the overlying layers are positioned directly on the sheet, the action of the metal shield is eliminated.

The image below shows use of **SELFTENE REFLECTIVE** glued onto a ventilated board as an underlay sheet reflecting the thermal radiation transmitted by the lower face of the sun-heated tiles, while a standard underlay sheet would be ineffective in terms of this aspect.

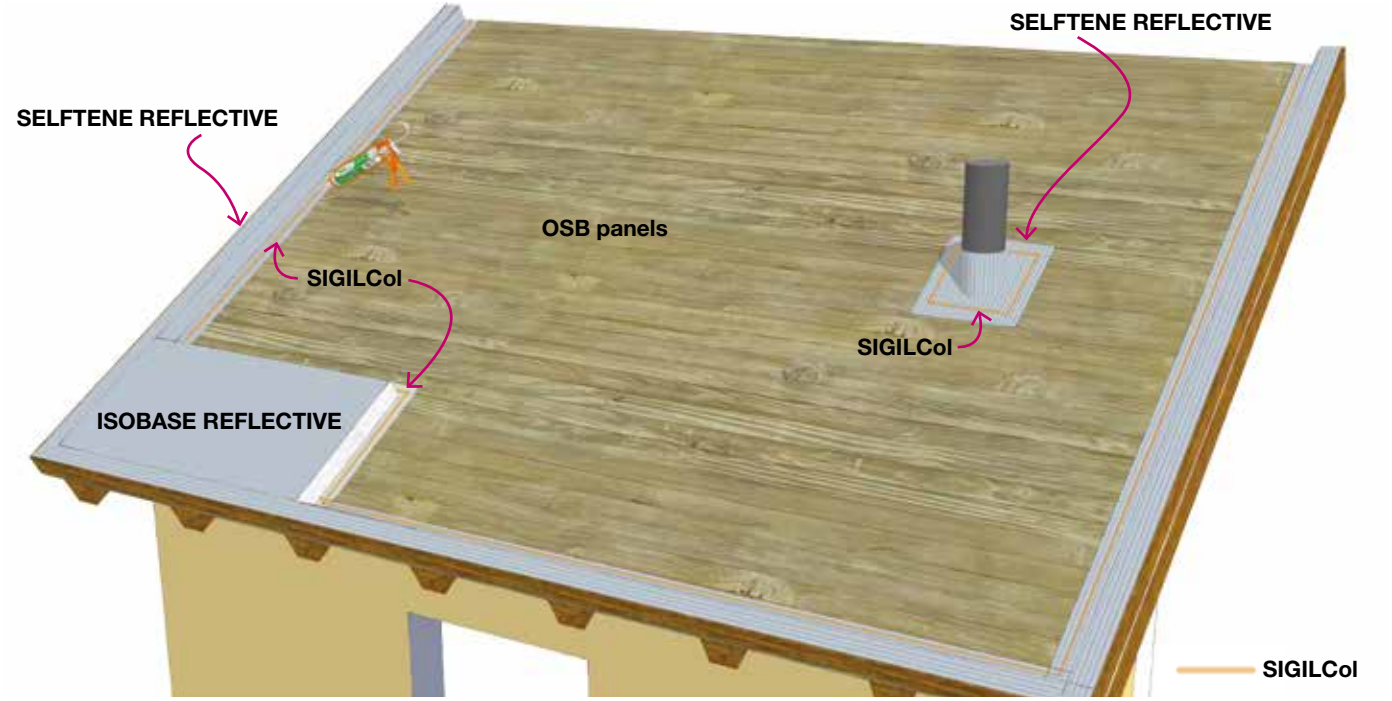


As an accessory, ISOBASE REFLECTIVE is used in 10 cm wide strips to seal the joining lines of the panels and also serves for waterproof and steam proof joins to the projecting elements of the roof, the metal gutter, the perimeter crowning elements and the intersections between installation surfaces, etc.

SEALING OF JOIN LINES OF THE UPPER FACE AND THE JOIN TO THE RATCHET



SELFTENE BASE HE POLYESTER
Strip for joining the ratchet of the gutter line



METHOD OF USE AND PRECAUTIONS

When it is planned to use self-adhesive membranes, it is necessary to remember that, compared with traditional flame laying, cold laying requires more attention to be paid to the nature and state of the laying surface, since dust, humidity and crumbling surfaces prevent self-adhesive materials from adhering properly. Attention must also be paid to the weather, as low temperatures reduce the adhesiveness of the materials, whereas high temperatures soften them and make them more adhesive, which slows down laying operations. In the first case, lightly touching the surface with a "gentle" flame or with hot air immediately reactivates the adhesiveness of the material, whereas, when it is hot, the siliconate film must only be removed when you are sure the sheets are properly aligned, since they while be hard to detach and realign once they stick. Atmospheric humidity which condenses on the laying surface and on the sheet during cold weather prevents adhesion and the same applies if it is foggy. Laying should be suspended or flame-assisted at temperatures below +5°C.

SELFTENE REFLECTIVE adheres to aluminium, copper, lead, steel and galvanised steel even without using primer, provided the surface is clean, dry and degreased. If the surface could be greasy, it is preferable to paint it first with a coat of INDEVER PRIMER E.

It adheres to polystyrene foam, extruded polystyrene and polyurethane foam coated with tar paper, kraft paper or glass fibre resin-coated paper. It is not advisable to use it on insulating material panels which are not very cohesive or powdery materials, such as mineral wool or cellulose fibre.

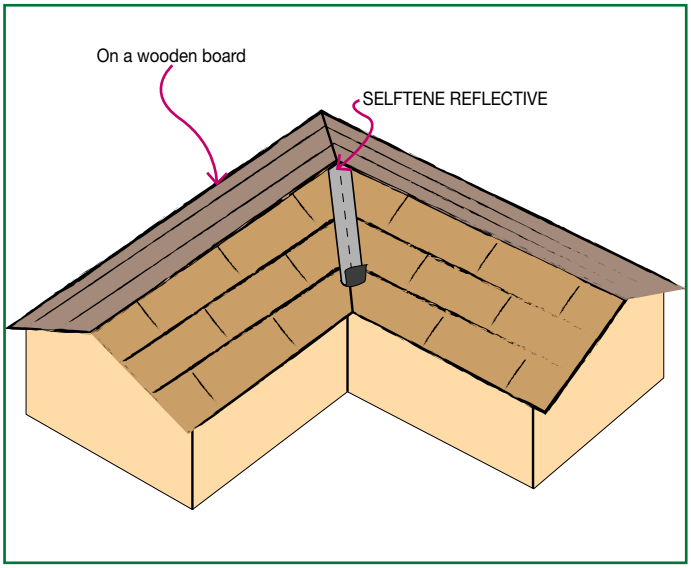
It also adheres without primer to industrial wooden panels such as OSB and Plywood, provided they are clean and dry, and also sufficiently dry and seasoned wooden boards. In the case of greener wood, it is preferable to use FONOCOLL transparent water-based polymer adhesive. Old wooden surfaces should always be painted with a coat of FONOCOLL.

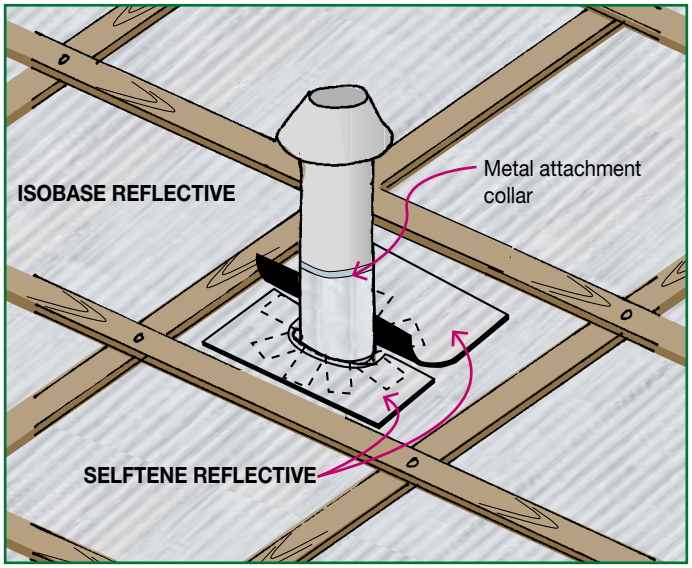
An old bituminous surface should first be treated with the INDEVER PRIMER E primer before laying. Cement surfaces must be smoothed first, otherwise the sheet only adheres to the rough parts, and must always be treated with a coat of INDEVER PRIMER E. Rough surfaces in the single points of the roof, corners and vertical turn-ups must be smoothed with HEADCOLL adhesive spread with a trowel.

In the case of laying at a height, packaging with the siliconate film divided in two must be requested and, after unwinding the roll and aligning the sheet, remove the first half of the film from a corner under the canvas, gluing a small part to the base to keep it firm until the entire film has been removed. The same operation is then repeated for the other half of the siliconate film. **As for all self-adhesive sheets, adhesion of the membrane must be confirmed by exerting pressure with a roller or metal roller.**

• PRECAUTIONS

In order to avoid galvanic corrosion of the aluminium foil for mechanical attachments which cross the material, it is recommended to use stainless steel or galvanised nails, screws or staples. Galvanised ones should be used in a marine environment. Contact between the foil and elements in copper or lead or their alloys and also larch, chestnut or oak wood and any wood essence with a pH lower than 5 must be avoided. Compatible essences are: fir, spruce, Scots pine and poplar.





TECHNICAL CHARACTERISTICS

	Standard	T	SELFTENE REFLECTIVE
Reinforcement			"Non-woven" composite polyester stabilized with fibreglass
Mass per unit area	EN 1849-1	±10%	0.8 kg/m²
Roll size	EN 1848-1	≥	1×30 m (*)
Shear resistance L/T	EN 12317-1	-20%	300/150 N/50 mm
Elongation L/T	EN 12311-1	-15% V.A.	20/15%
Resistance to tearing (nail shank) L/T	EN 12310-1	-30%	100/100 N
Flexibility to low temperature	EN 1109	≤	-25°C
Flow resistance at high temperature	EN 1110	≥	–
Water vapour transmission • after ageing	EN 1931 EN 1296-1931	-20% -20%	μ = 180 000 NPD
Res. to water penetration • after ageing	EN 1928 EN 1296-1928		W1 –
Reaction to fire Euroclass	EN 13501-1		NPD
External fire performance	EN 13501-5		F roof
Thermal specifications			
Emissivity of the upper face	ASTM 1371.15		0.05
Thermal conductivity	EN 12667		0.2 W/mK
Heat capacity			0.96 KJ/K·m²

(*) **Available dimensions: 1×30 m; 0.50×30 m; 0.33×30 m; 0.25×30 m; 0.20×30 m; 0.10×30 m; 0.08×30 m.**

COMPOSITION OF THE MEMBRANE

SELFTENE REFLECTIVE

PRODUCT FINISHING

ALUMINIUM. *The low-emissivity and high-reflectance pure aluminium sheet covering the upper face of the sheet gives it the thermo-reflective properties of type 4 insulation conforming with UNI EN 16012.*

REMOVABLE SILICONE-COATED FILM. *The lower face of the membrane is covered in a silicone-coated film which preserves the adhesive mix.*

the numerous possible uses and the possible interference of conditions or elements beyond our control, we assume no responsibility regarding the results which are obtained. The purchasers, of their own accord and under their own responsibility, must establish the suitability of the product for the envisaged use.

The figures shown are average indicative figures relevant to current production and may be changed or updated by INDEX at any time without previous warning. The advice and technical information provided, is what results from our best knowledge regarding the properties and the use of the product. Considering

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