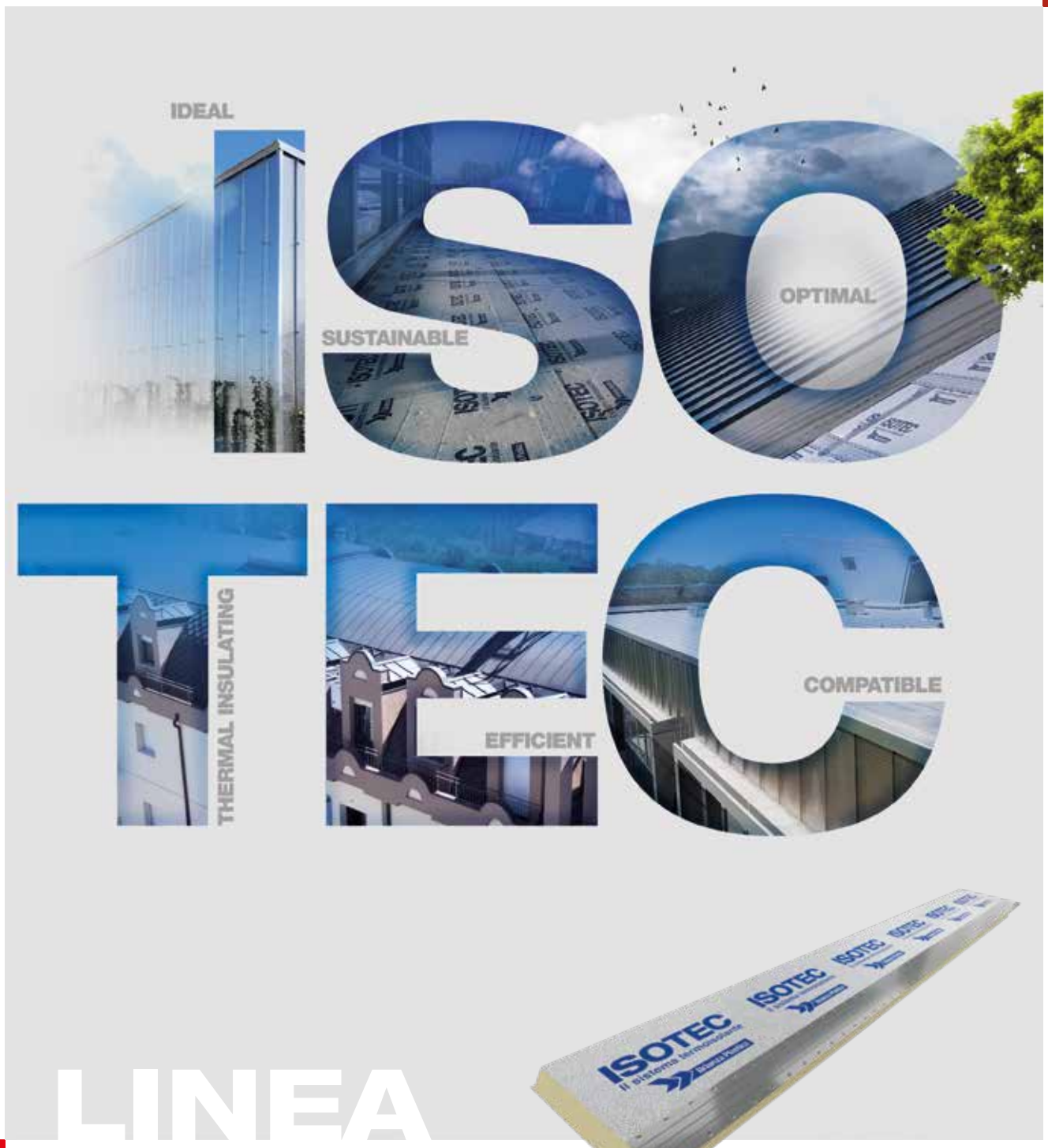


ISOTEC®
LINEA

Brianza Plastica

ISOTEC® LINEA

The insulation system
for roof and facades

THE THERMAL INSULATION SYSTEM FOR ROOFS AND FACADES.

Isotec Linea creates continuous insulation for both walls and roofs, and a support structure for external cladding in a single step.

ISOTEC® LINEA

THE **ISOTEC LINEA SYSTEM**

The Isotec Linea system plays a decisive role in enhancing a building's energy by reducing heat loss during winter and mitigating the effects of solar radiation in warmer seasons. This results in a significant reduction in heating and cooling costs. The system also contributes to reducing CO_2 emissions into the atmosphere.

By consolidating multiple installation phases into a single product, the Isotec Linea System reduces construction times. In fact, Isotec Linea enables the creation of a thermally insulated, waterproof deck in just one step.

THERMAL INSULATION AND SUSTAINABILITY

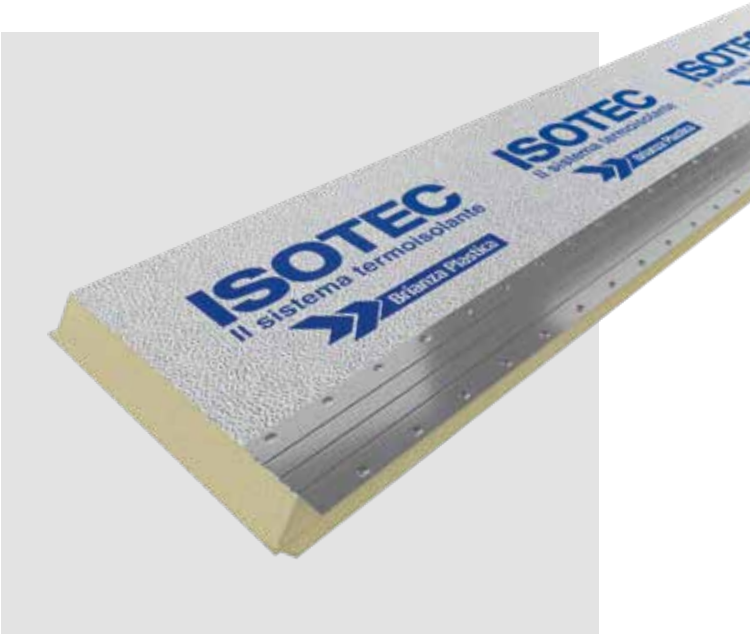
Thermal insulation plays a crucial role in sustainability, addressing environmental, economic and social factors. Environmentally, it reduces energy consumption; economically, it lowers operating costs; and socially, it improves comfort and the overall healthiness of indoor spaces.

To implement policies that improve the environmental sustainability of buildings, it is essential to assess the contribution of thermal insulation, both during the construction and operational phases. The operational phase, in particular, has a significant impact on a building's environmental footprint. Sustainable design must, therefore, focus on the careful selection of high-quality materials that can effectively reduce energy consumption during a building's use.

POLYURETHANE

Polyurethane is one of the most effective thermal insulators available, delivering exceptional insulating performance even with minimal material thickness.

Thanks to its low mass and high efficiency, polyurethane foam insulation enables substantial energy savings for heating and cooling with minimal consumption of resources. For example, in roof insulation, the resources used to produce polyurethane are offset within the first year of operation of the heating system alone. The extremely low volume and weight of polyurethane insulation, combined with its efficiency and durability, also results in a minimal contribution to the overall waste at the end of a building's lifespan.



- Consistent performance and durability over the entire lifespan of the building.
- Polyurethane's closed-cell structure prevents transformations caused by water absorption, compression, sagging, etc. under normal usage conditions. It is also impervious to the most common chemical agents.
- Rigid polyurethane foam is a thermosetting material that remains stable across a wide temperature range (-50°C to +100°C).

ISOTEC® LINEA

100% RECYCLABLE

ECO DESIGN

Reducing CO_2 emissions, promoting the sustainable use of natural resources, and recycling waste have now become standard practices across all production sectors. With decades of experience and an innovative mindset, Brianza Plastica has always paid particular attention not only to minimising the environmental impact of its production processes but, above all, to the extreme importance of analysing the entire life cycle of its products—from design to end-of-life management. For this reason, the company adopted the UNI EN ISO 14006 guidelines on eco-design in 2020.

NEW ISOTEC PACKAGING, **100% RECYCLABLE**

As part of its commitment to continuous innovation aimed at improving performance and reducing environmental impact, Brianza Plastica has revolutionised the traditional packaging system for Isotec panels. At its main production site in Carate Brianza, the company has begun replacing heat-shrinkable film with a new, lighter and 100% recyclable stretch film. This choice has led to a reduction in energy consumption from non-renewable sources, equivalent to 21 toe/year. Most importantly, it has also led to a **25% reduction in the amount of plastic used per packaging unit (pack)**. The new packaging is also much simpler and easier to dispose of on-site.

LEED® v4 CERTIFICATION

LEED® (Leadership in Energy and Environmental Design) is a voluntary certification system for buildings developed by U.S. Green Building Council (USGBC) and applied in over 140 countries worldwide. It evaluates the environmental sustainability and energy efficiency of buildings - residential, commercial, educational, hospital, etc. - and takes into account the entire life cycle of the building, from design to construction.

The LEED® rating system certifies the building, does not certify the individual products or building components, that can help meet the requirements of the protocol and consequently achieve the score for the building.

The protocol is organized in areas / chapters that contain the prerequisites and credits. The prerequisites are mandatory and do not give points, while the credits are the ones that give the score, which must be achieved to obtain the certification level defined as a certification objective.

ISOTEC RANGE: CREDITS AND PREREQUISITES

Isotec thermal insulation systems have been mapped by QualityNet certification in accordance with version v4 of the LEED® protocol.

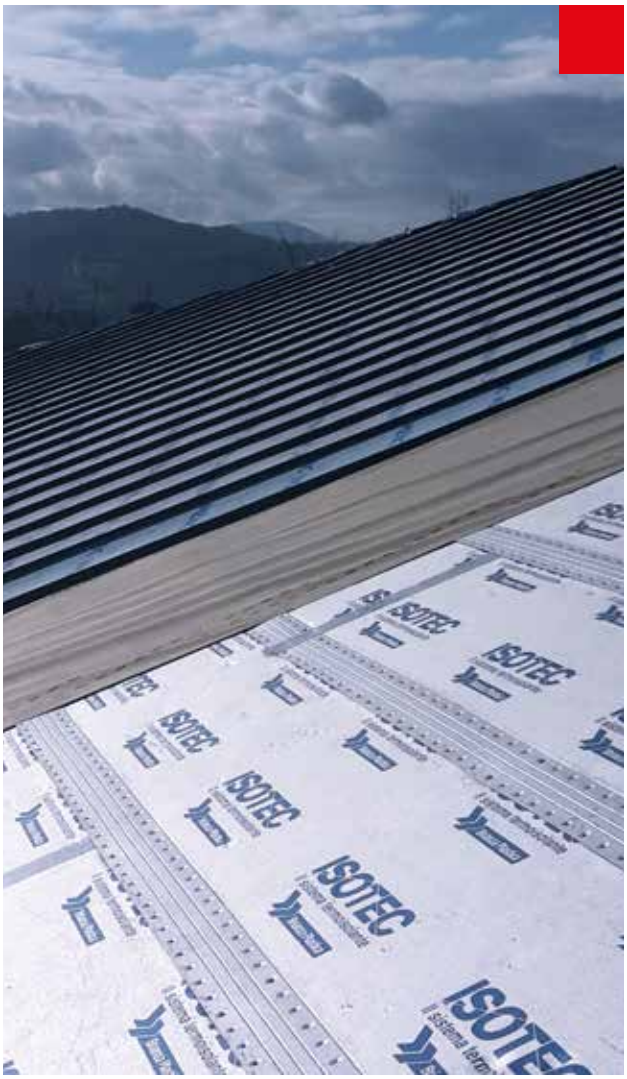
The properties of the individual materials used can contribute positively to meeting requirements and earning credits to the building.

Isotec Linea products contribute to the LEED® v4 protocol score through the following credits and prerequisites:

- EAp2 - Minimum Energy Performance
- EAc2 - Optimize Energy Performance
- MRc3 - Building product Disclosure and Optimization - Sourcing of Raw Material
- MRc4 - Building product Disclosure and Optimization - Material Ingredient
- MRc5 - Construction and Demolition Waste Management
- EQc1 - Enhanced Indoor Air Quality Strategies
- EQc5 - Thermal Comfort

The mapping of the Brianza Plastica products has been monitored and verified by QualityNet and can be found at https://greenitop.com.

ISOTEC® LINEA



Isotec Linea is the insulation system for non-ventilated roofs and facades, equipped with a metal stiffener for the easy application of the external cladding.

The system improves the thermal resistance of the envelope, increasing living comfort and achieving greater energy savings.

The Isotec Linea panel has a polyurethane core coated with an embossed aluminium sheet and is made load-bearing by an integrated steel stiffener. This batten, hot-coated in an aluminium-zinc-silicon alloy, is ribbed and slotted to provide the panel with static resistance. It also acts as a support for the roof covering or facade cladding.

ISOTEC LINEA THICKNESSES

60 mm

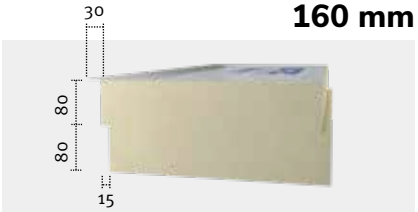
80 mm

100 mm

120 mm

140 mm

160 mm

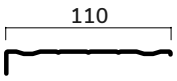


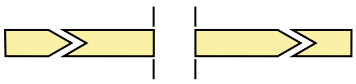
* Standard size:
other pitches
available on request.

1. The Isotec Linea panel is made of self-extinguishing rigid polyurethane foam.

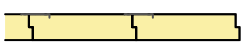
2. The Isotec Linea panel is coated on both surfaces with embossed aluminium sheet.

3. The Isotec Linea panel is fitted with a flat steel stiffener coated with an aluminium-zinc-silicon alloy and comes with fixing holes.



4. 

The transverse side ends of the panel are cut in a dovetail shape to maintain seamless continuity of the insulation.

5. 

The Isotec Linea panel is shaped with opposing battens on the longitudinal sides that enable them to interlock, eliminating the risk of thermal bridges.

ISOTEC® LINEA

TECHNICAL **CHARACTERISTICS**

CHARACTERISTIC	M.U.	VALUE	TEST METHOD
DENSITY	kg/m^3	38.0	UNI EN ISO 845
Declared thermal conductivity λ_D (weighted ageing value for 25 years of use)	W/m K	0.022	UNI EN 13165 Annexes A e C
Thermal conductivity U	W/m^{2}K	0.37 for 60 mm 0.28 for 80 mm 0.22 for 100 mm 0.18 for 120 mm 0.16 for 140 mm 0.14 for 160 mm	U= λ_D /d (d= panel thickness in m)
Thermal resistance R	m^2 K/W	2.73 for 60 mm 3.64 for 80 mm 4.55 for 100 mm 5.45 for 120 mm 6.36 for 140 mm 7.27 for 160 mm	R= d/λ_D (d= panel thickness in m)
Thermal consistency	°C	- 50 ÷ +100	UNI 9051
Dimensional stability DS(70,-)	level	3	UNI EN 1604
Compressive strength at 10% deformation CS(10\Y)	kPa	≥ 120	UNI EN 826
	kg/cm^2	≥ 1.22	UNI EN 826
Resistance to water vapour diffusion MU	μ	> 50.000	UNI EN 12086
Long-term water absorption WL(T)	%	< 0.6	UNI EN 12087
Specific heat	J/kgK	1400	UNI EN ISO 10456
Emission of dangerous substances	//	Compliant	UNI EN 13165 Annex ZA
Reaction to fire	Euroclass	F	EN 13501-1

CE marking in compliance with Regulation 305/2011/CE, UNI EN 13165:2013 and UNI EN 13172:2012 standards - System 3; notified body: CSI S.p.A. (0497).

REQUIREMENTS ON TOLERANCES EXPRESSED IN ACCORDANCE WITH UNI EN 13165 (PAR. 4.2.2, 4.2.3)		
PANEL THICKNESS	60 mm	80 - 100 - 120 - 140 - 160 mm
Thickness Class T2	± 3 mm	+ 5 ÷ -3 mm
Length	± 10 mm	
Width	± 5 mm	

MATERIAL THICKNESSES REQUIRED TO ACHIEVE U = 0.18 W/m²K or R = 5.45 m²K/W	
POLYURETHANE FOAM WITH WATERPROOFING COATINGS	12 cm ISOTEC LINEA
POLYURETHANE FOAM WITH WATERPROOFING COATINGS	15 cm
EXPANDED POLYSTYRENE WITH GRAPHITE	17 cm
EXPANDED OR EXTRUDED POLYSTYRENE	20 cm
MINERAL WOOLS	21 cm
BLOND CORK	24 cm
WOOD WOOL	26 cm


ISOTEC

SPECIFICATIONS
ISOTEC LINEA

Thermal insulation should be achieved using an insulation system consisting of a **structural, monolithic panel** that is modular, load-bearing and insulating. This panel is made of rigid closed-cell polyurethane foam with a density of 38 kg/m³. It is self-extinguishing in Euroclass F (EN 13501-1) and offers a **declared thermal conductivity λ_D of 0.022 W/mK** (in accordance with UNI EN 13165) and a thermal resistance R of not less than:

- 2.73 m²K/W for 60 mm thick panels
- 3.64 m²K/W for 80 mm thick panels
- 4.55 m²K/W for 100 mm thick panels
- 5.45 m²K/W for 120 mm thick panels
- 6.36 m²K/W for 140 mm thick panels
- 7.27 m²K/W for 160 mm thick panels.

The panel is shaped with longitudinal overlapping battens on the long side and dovetail joints on the short side.

The panel is coated with embossed aluminium sheet on both the intrados and extrados.
The 11 cm wide steel roof stiffener coated with an aluminium, zinc and silicon alloy integrated into the panel, has a continuous modular surface, on which can subsequently be fixed finishing units or any supporting elements of these units. The stiffener also comes with multiple holes aligned along two parallel lines placed at the edges of the metal profile. The panel must bear the CE marking, supported by certificates issued by accredited bodies.

Width: 340 mm (other depths available on request)
Length: 3.000 mm
Thicknesses: 60 mm, 80 mm, 100 mm, 120 mm, 140 mm and 160 mm

ISOTEC® LINEA

The insulation system
for roof and facades

A SOLUTION FOR THE ENTIRE BUILDING ENVELOPE

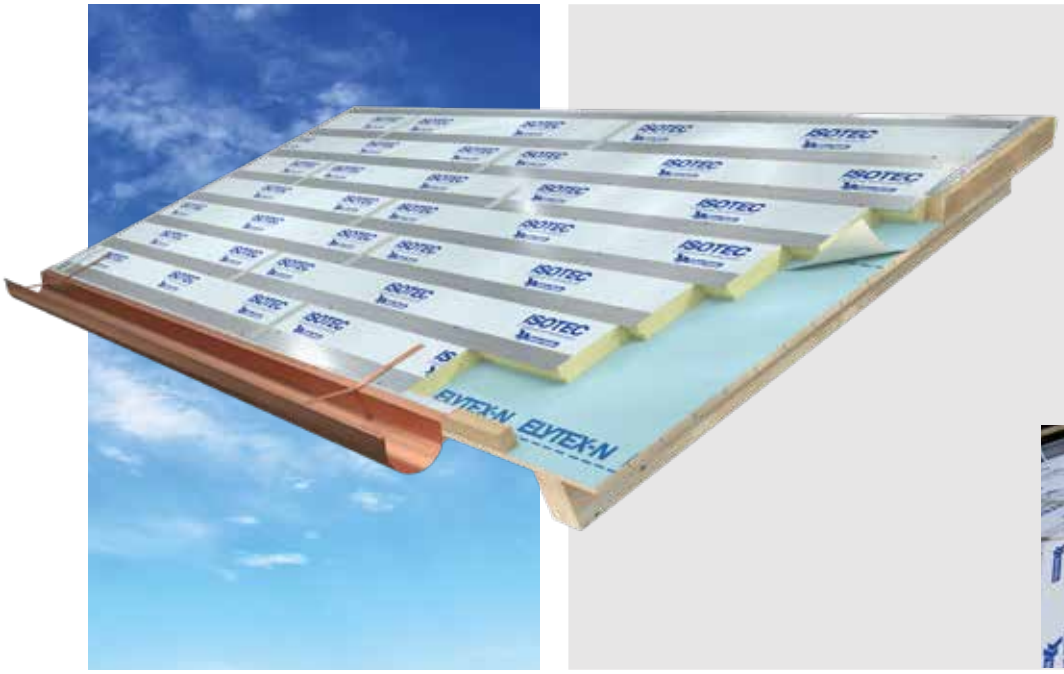
Isotec Linea is ideal for both the restoration of existing roofs and walls and the construction of new buildings, improving their thermal performance.

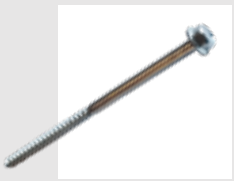
ISOTEC® LINEA

THE **INSULATED ROOF** SYSTEM

EXAMPLES OF STRUCTURES:

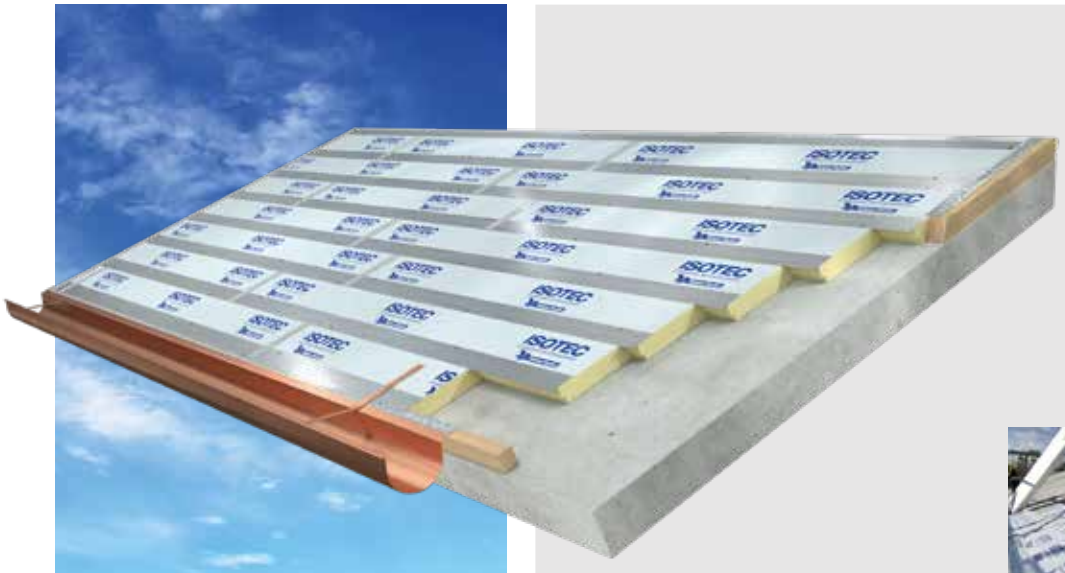
WOODEN BOARDING

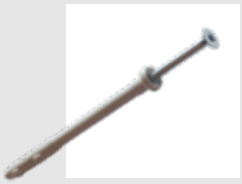




SELF TAPPING
SCREW FOR WOOD

CONCRETE SLAB





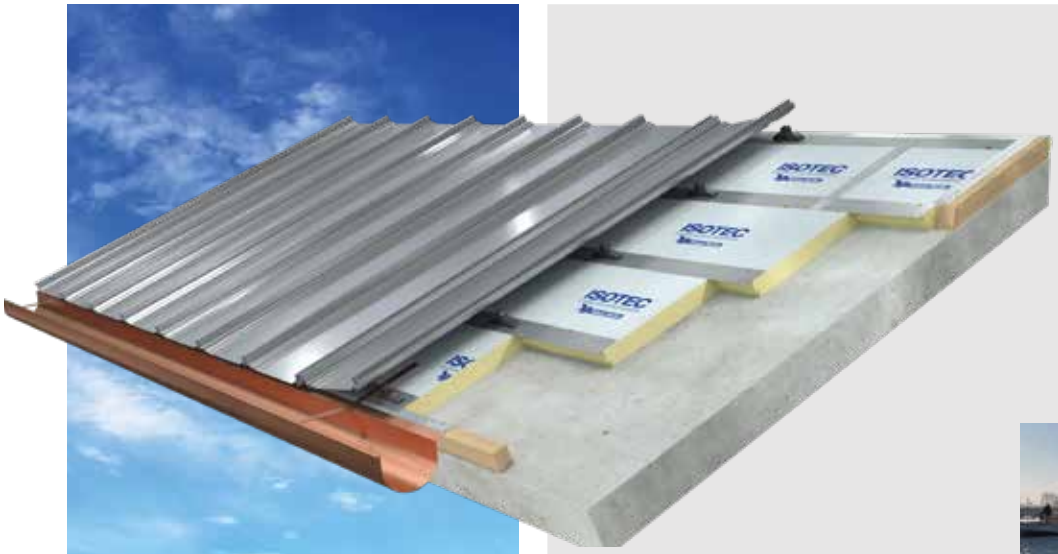
SCREW
ANCHOR

The Isotec Linea thermal insulation system is designed to be applied on pitched roofs. It ensures thermal insulation, moisture protection and, thanks to the steel roof batten, acts as a substructure for the covering. Ideal for upgrading and restoring old roofs or creating new ones.

ROOF

CLADDING EXAMPLES:

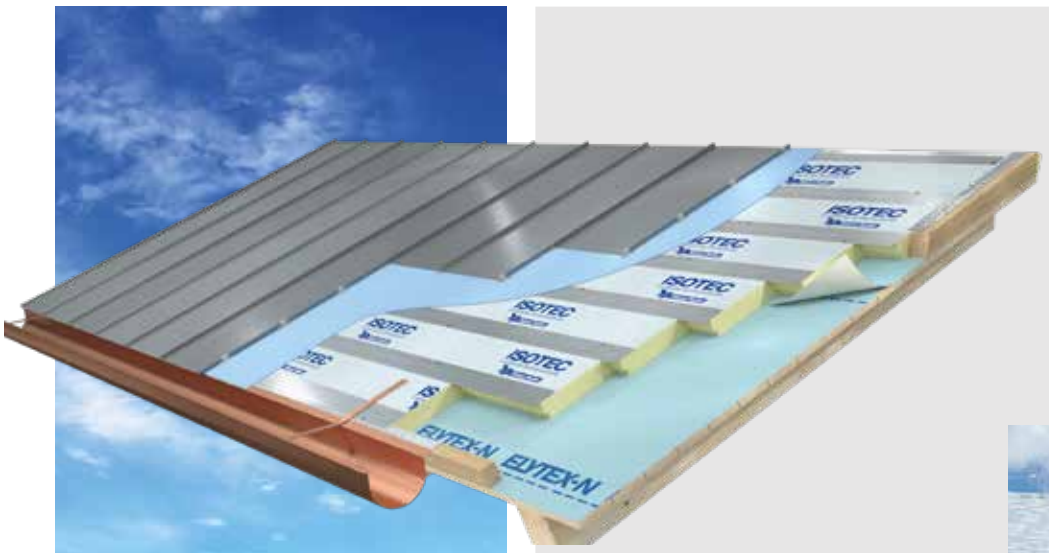
SNAP-ON METAL SHEETS



CLAMP

Slope **≥1%**
Recommended pitch **600 mm**

STANDING SEAM PANELS

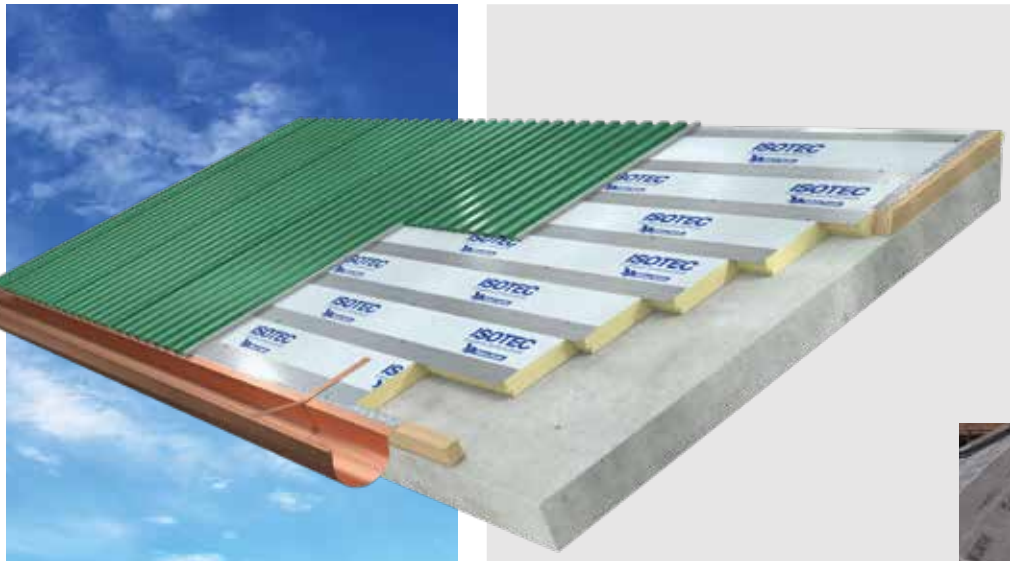


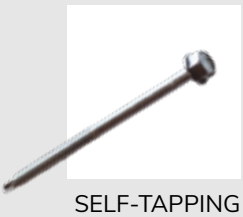
CLIP

Slope **≥5%**
Recommended pitch **340 mm**

ISOTEC® LINEA

CORRUGATED OR RIBBED METAL SHEETS

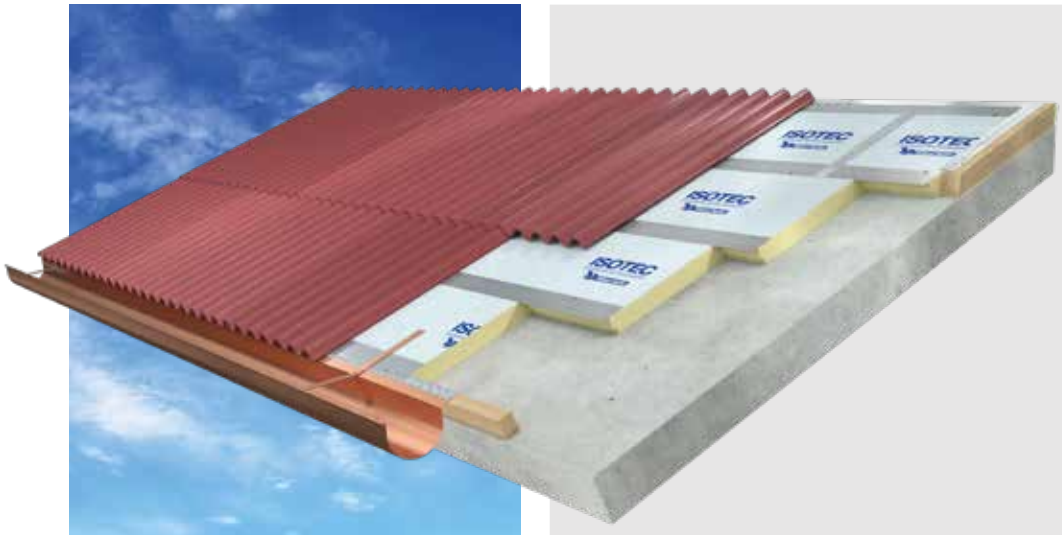




SELF-TAPPING SCREW

Slope **≥7%**
Recommended pitch **600 mm**

FIBRE CEMENT OR FIBRE-BITUMEN SHEETS

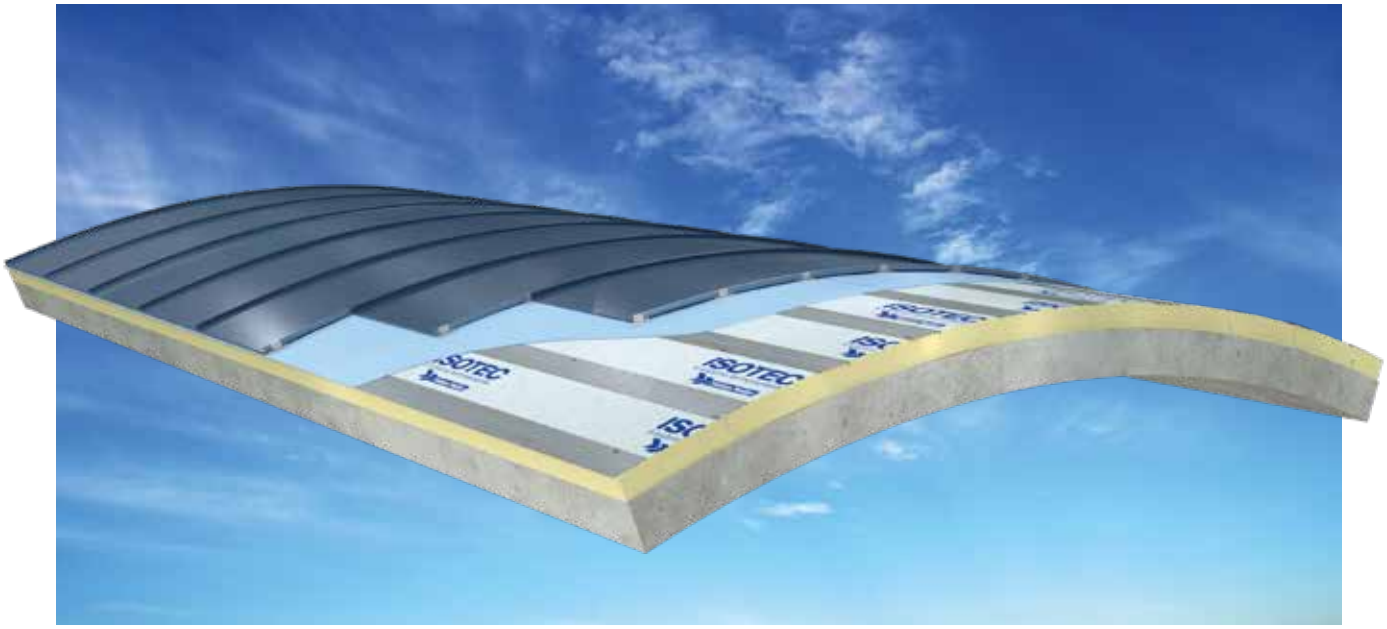


SELF-TAPPING SCREW

Slope **≥15%**
Recommended pitch **600 mm**

INSTALLATION ON CURVED OR VAULTED STRUCTURES WITH DOUBLE-LOCK ALUMINIUM COVERING

ROOF



CLIP

ISOTEC® LINEA

THE **INSULATED WALL** SYSTEM

EXAMPLES OF STRUCTURES:

LIGHTWEIGHT MASONRY

SCREW
ANCHOR

Isotec Linea is the solution for the thermal insulation of walls characterised by the combination, in a single panel, of a thermal insulating system and a support structure for cladding facades in metal sheets, fibre cement slabs or other finishes. It is suitable both for new buildings, and for updating or renewing existing buildings.

WALL

REINFORCED CONCRETE

SCREW ANCHOR

XLAM

SELF-TAPPING SCREW FOR WOOD

ISOTEC® LINEA

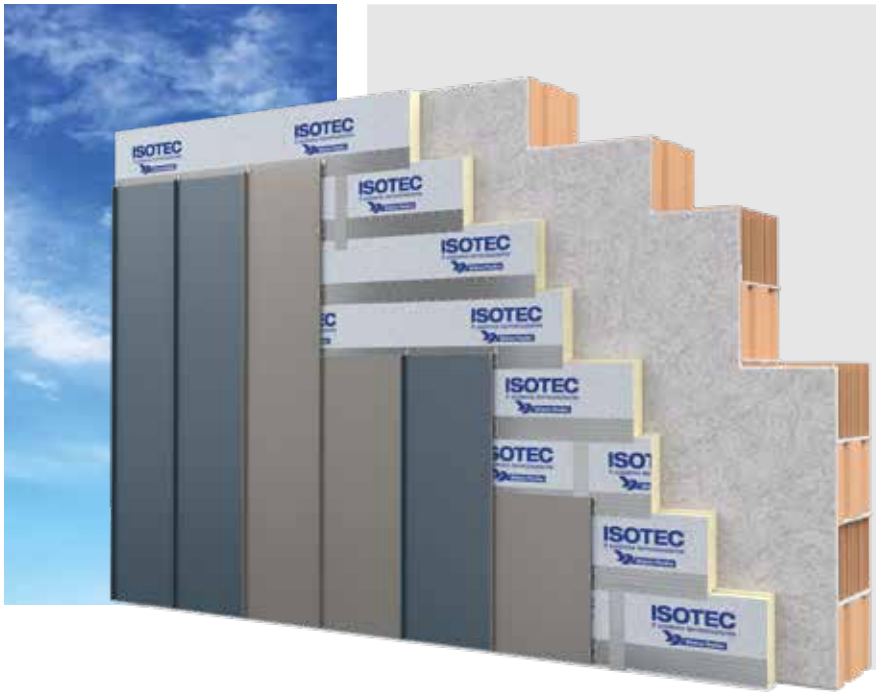
CLADDING EXAMPLES:

FIBRE CEMENT RENDER-CARRIER BOARD

SELF-TAPPING
SCREWS

WALL

STANDING SEAM PANELS



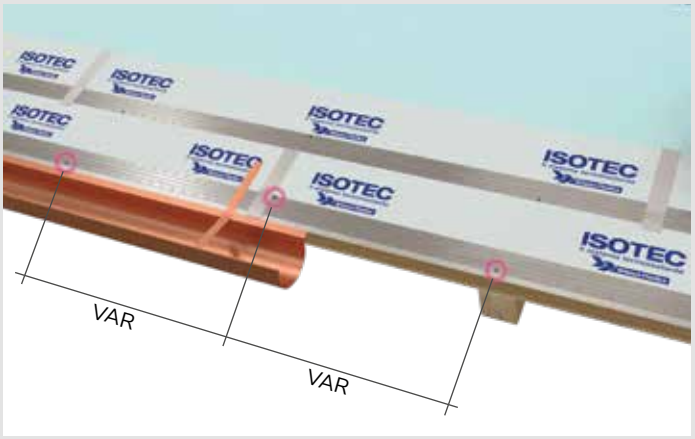
CLIP

CORRUGATED OR RIBBED METAL SHEETS

SELF-TAPPING SCREW

ISOTEC® LINEA

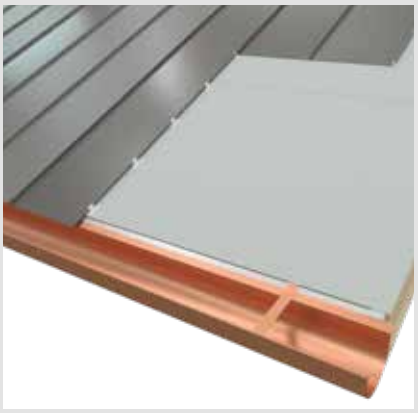
LAYING STEPS: ON ROOFS



For correct fixing, use the holes on the stiffener and alternate between its lower and upper part.

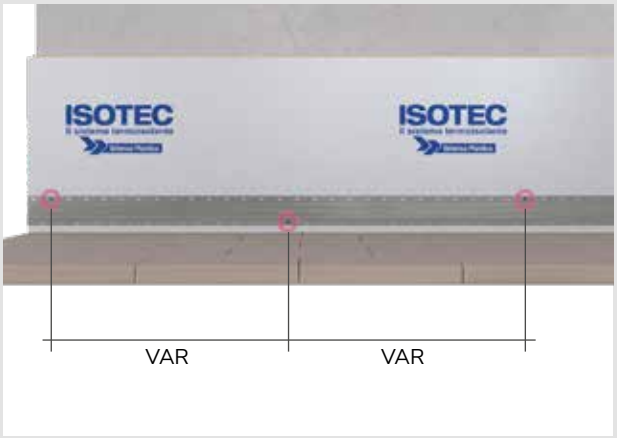
1 - Secure the Isotec Linea panel to the structure using mechanical fasteners, starting from the gutter channel and continuing towards the ridge. Use the pre-drilled holes in the metal stiffener for this operation.

2 - Once the panels have been laid, seal the joints by applying silicone and butyl tape. Then, stretch the breathable, waterproof membrane over the panels.



3 - Install the metal cover and secure it to the metal stiffener using the brackets provided. This step completes the roof package.

LAYING STEPS: ON WALLS



For correct fixing, use the holes on the stiffener and alternate between its lower and upper sections.

1 - The Isotec Linea panel is fixed to the supporting structure using screw anchors and tapping screws passing through the stiffener. The type and quantity of fixings will depend on the structure and the weight of the cladding.

2 - Apply butyl aluminium tape along all the vertical joints and areas where the polyurethane remains uncovered.

3 - Secure the cladding to the metal stiffener using mechanical fasteners. The type and quantity of fasteners will depend on the selected finishing material.

ISOTEC® LINEA

ACCESSORIES
FOR SEALING
AND FINISHING

Polyurethane foam

Isoband coated butyl aluminium tape

Silicone sealer

Elytex-N, breathable waterproof membrane


Loose stiffener

ADVANTAGES
OF THE ISOTEC LINEA SYSTEM

THERMAL INSULATION IN SUMMER AND WINTER

Isotec Linea has a core made of closed-cell rigid polyurethane foam with a density of 38 kg/m³, currently one of the best thermal insulators in existence. The available thicknesses of the Isotec Linea panel are designed to meet the minimum requirements of any climate zone, depending on the thermal performance of the envelope.

THERMAL RESISTANCE

Thermal resistance (R) takes into account the actual thickness of the panels and provides a clear measure of the insulation's ability to resist heat exchange. With its wide range of thickness options and the low conductivity of polyurethane, Isotec Linea delivers the highest thermal resistance values on the market while offering the lowest cost per unit of thermal resistance.

ELIMINATION OF THERMAL BRIDGES

The Isotec Linea system provides continuous and homogeneous insulation of the building envelope, eliminating thermal bridges and minimising temperature fluctuations.

PROTECTION AGAINST HUMIDITY AND ACCIDENTAL INFILTRATION

When installed following our "Installation Instructions" and on structures with a slope of ≥ 30% (or in line with the minimum slope requirements of the roof covering), Isotec Linea acts as an excellent second-stage waterproofing layer. It provides reliable protection against accidental infiltration caused by cracks or imperfections in the roof covering.

NEW BUILDINGS AND RENOVATIONS

Isotec Linea can be used in both new buildings and to upgrade and renew existing ones, improving the energy efficiency of the building.

MAXIMUM COMPATIBILITY

Isotec Linea can be applied to any type of structure, whether continuous or discontinuous, and is compatible with most roof and facade cladding materials.

FAST AND COST-EFFECTIVE INSTALLATION

Isotec Linea is lightweight and easy to handle, even at a height. These factors, together with the opposing batten design, ensure safe, faster and more cost-effective installation.

LIVING COMFORT

Isotec Linea is the ideal solution to improve indoor living comfort throughout the year. In fact, the Isotec Linea system allows a constant temperature to be maintained regardless of external weather conditions.

DURABILITY

With a polyurethane core and aluminium coating on both surfaces, Isotec Linea offers exceptional durability.

ENERGY SAVING

The characteristics of the pre-coupled Isotec Linea panel provide the envelope with effective thermal insulation that allows considerable savings on heating costs in winter and cooling costs in summer.

CERTIFICATIONS AND TEST **REPORTS**

ISOTEC LINEA

- Type-examination certificate of EC marking – certification system 3 – issued by CSI SPA (UNI EN 13165, UNI EN 13172).
- Test report of initial/aged thermal conductivity issued by CSI SPA (UNI EN 13165,UNI EN 12667).
- Test report of water vapour transmission issued by CSI SPA (UNI EN 13165, UNIEN 12086).
- Test report of water absorption by long-term immersion issued by CSI SPA (UNI EN 13165, UNI EN 12087).
- Test report of compression strength issued by CSI SPA (UNI EN 13165, UNI EN 826).
- Report on the sound insulation power of “Isotec” issued by CSI SPA (UNI EN ISO 140-3, UNI EN ISO 717-1).
- Determination of the classification as non-hazardous waste.
- LEED® v4 mapping report issued by QualityNet®.

SERVICE **INFORMATION**

IDENTIFICATION, TRACEABILITY AND PACKAGING

Isotec Linea panels are marked with the production batch number and are packaged and packed by Brianza Plastica using UV-resistant and waterproofing polyethylene film. Each pack features an identification label with a barcode, ensuring full product traceability. The CE marking is affixed to each label.

TRANSPORT

Packages are equipped with support beams in expanded polystyrene placed at appropriate intervals to distribute the weight evenly and to facilitate easy handling.

STORAGE

Do not remove the packing film until installation; any loose panels should remain in their original packaging and be stored off the ground.
If necessary, a maximum of two packs can be stacked on top of each other to minimise the area occupied.

LIFTING AND HANDLING

Packages must be secured at two points, with the distance between them no less than half the package length. Use special spacers to prevent direct contact between belts with the package. Packages must be lifted only with a rocker arm. Packages must be deposited on roof surfaces capable of supporting their weight, ensuring proper resting and safety conditions. Isotec Linea panels are light enough to allow for quick and easy manual handling by a single operator.

WARRANTY

With over 40 years of experience in thermal insulation systems and the use of high-quality materials, Isotec has reached a standard of excellence that ensures long-lasting durability and reliability.
Isotec Linea can benefit from an extended warranty of up to 10 years by completing the appropriate form available on the website www.sistemaisotec.it within 30 days of purchase.

DISPOSAL

Based on its characteristics, the Isotec Linea panel can be classified as NON-HAZARDOUS WASTE and managed with EER Code 170604 - “insulating materials other than those mentioned in items 170601 and 170603.”

CTL 169/EN REV.13 - 05.25

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ISO 9001:2015
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MANAGEMENT SYSTEM

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