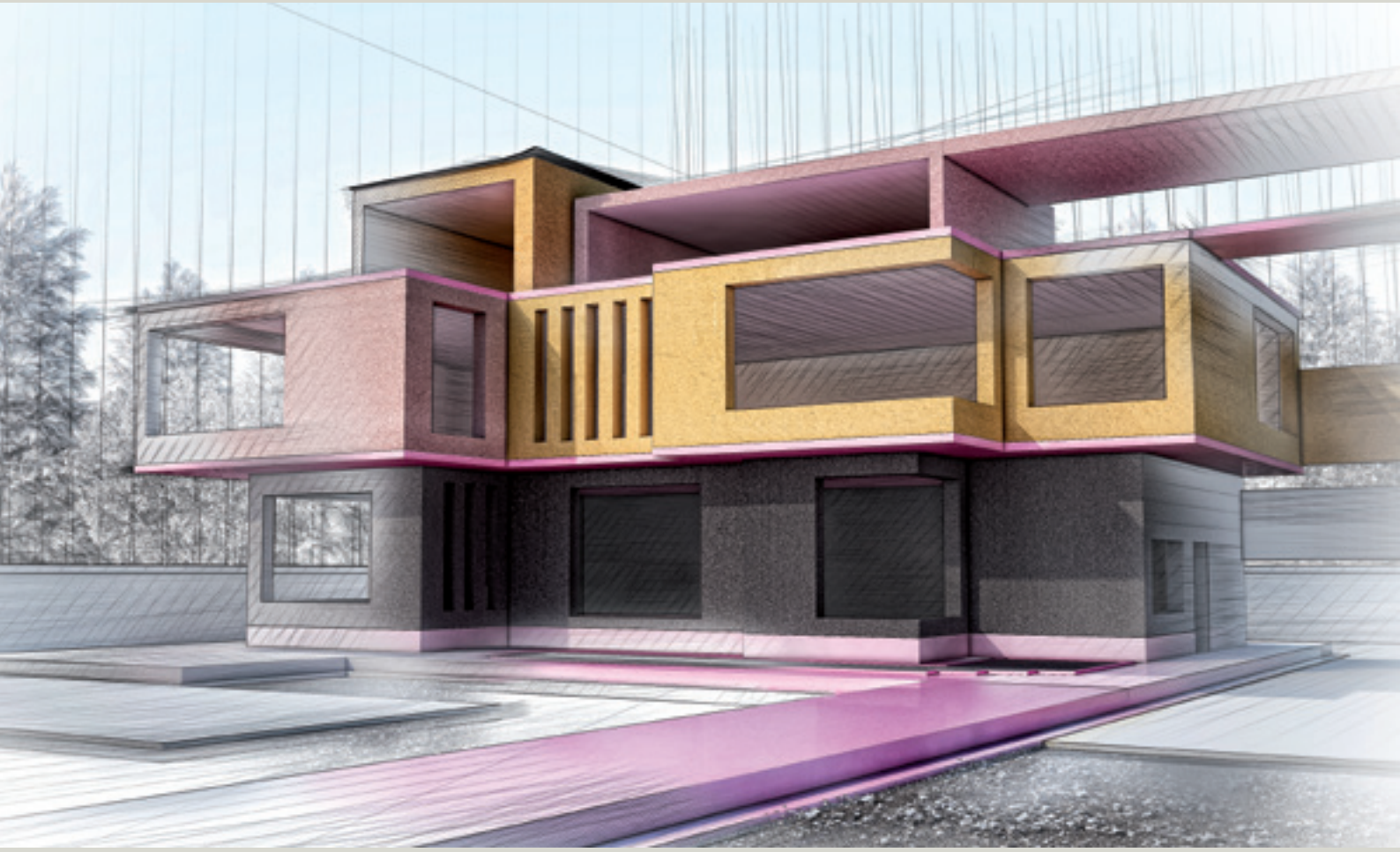
AUSTROTHERM
Dämmstoffe

Perfect insulation from the cellar to the roof



- Outstanding thermal insulation
- Maximum energy savings
- The future of thermal insulation

austrotherm.de

Thermal insulation from the cellar to the roof!

Austrotherm insulating materials

Quality from Germany for reduced heating costs

With Austrotherm®'s high quality products, which have been produced in its newly established plant in Wittenberge since the end of 2013, it is easy to meet the high requirements of efficient low-energy and passive homes. While correctly insulated low-energy homes already result in low heating costs, passive homes eliminate the need for an active heating system entirely.

Perfect insulation

Perfect insulation not only protects against the cold in winter, but also keeps out the heat in summer and therefore creates the perfect room climate all year round.

Austrotherm® is a Climate Alliance company

Active environmental protection is a major concern for Austrotherm®. As such, the Austrotherm plant in Pinkafeld has been part of the Climate Alliance since 1st October 2014.

Eco-label for Austrotherm XPS® TOP

The Austrotherm XPS® TOP uses air as its cell content, meaning that it has outstanding ecological properties. For this reason, Austrotherm XPS® TOP has been awarded with the Austrian eco-label by the Ministry of Environment for particularly environmentally friendly products.

ISO energy efficiency 50001

The ISO 50001 energy management system was successfully introduced in the Austrotherm XPS® plant in Wittenberge. The objective of the energy management system in accordance with ISO 50001 is to continuously improve a company's energy performance. Energy-saving projects are implemented to produce insulating materials with the maximum possible energy efficiency.

ISO-certified

ISO 14001 defines globally recognised requirements for an environmental management system. At Austrotherm®, this begins with appointing an environmental officer for each site and comprises a wide range of individual measures. For instance, in the production processes, 100% of the waste that is produced is recycled. Suppliers are commissioned on the basis of ecological criteria. Austrotherm insulating materials have been reducing emissions that are harmful to the climate for years since reduced heating emits less CO_2 and fine dust.

Cold and heat don't stand a chance
thanks to thermal renovation

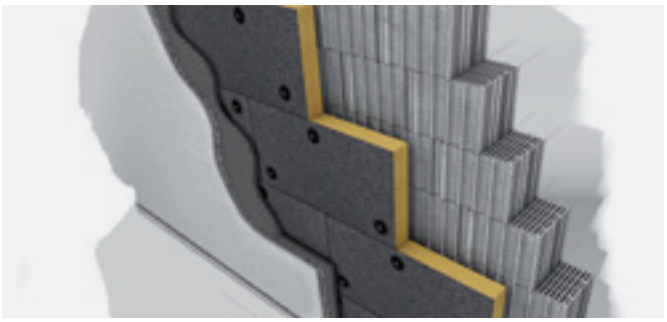
Austrotherm plant in Wittenberge, Germany

The name Austrotherm® stands for the right material for thermal renovation: Austrotherm is a specialist in successful insulation solutions, and has developed the perfect products for comprehensive thermal insulation of buildings. Austrotherm insulating materials offer maximum thermal insulation, stability and ease of use. Their outstanding insulation means residents feel comfortable at all times: While the walls are kept warm in the winter, the thermal insulation acts like air conditioning in the summer.

Austrotherm XPS® Premium

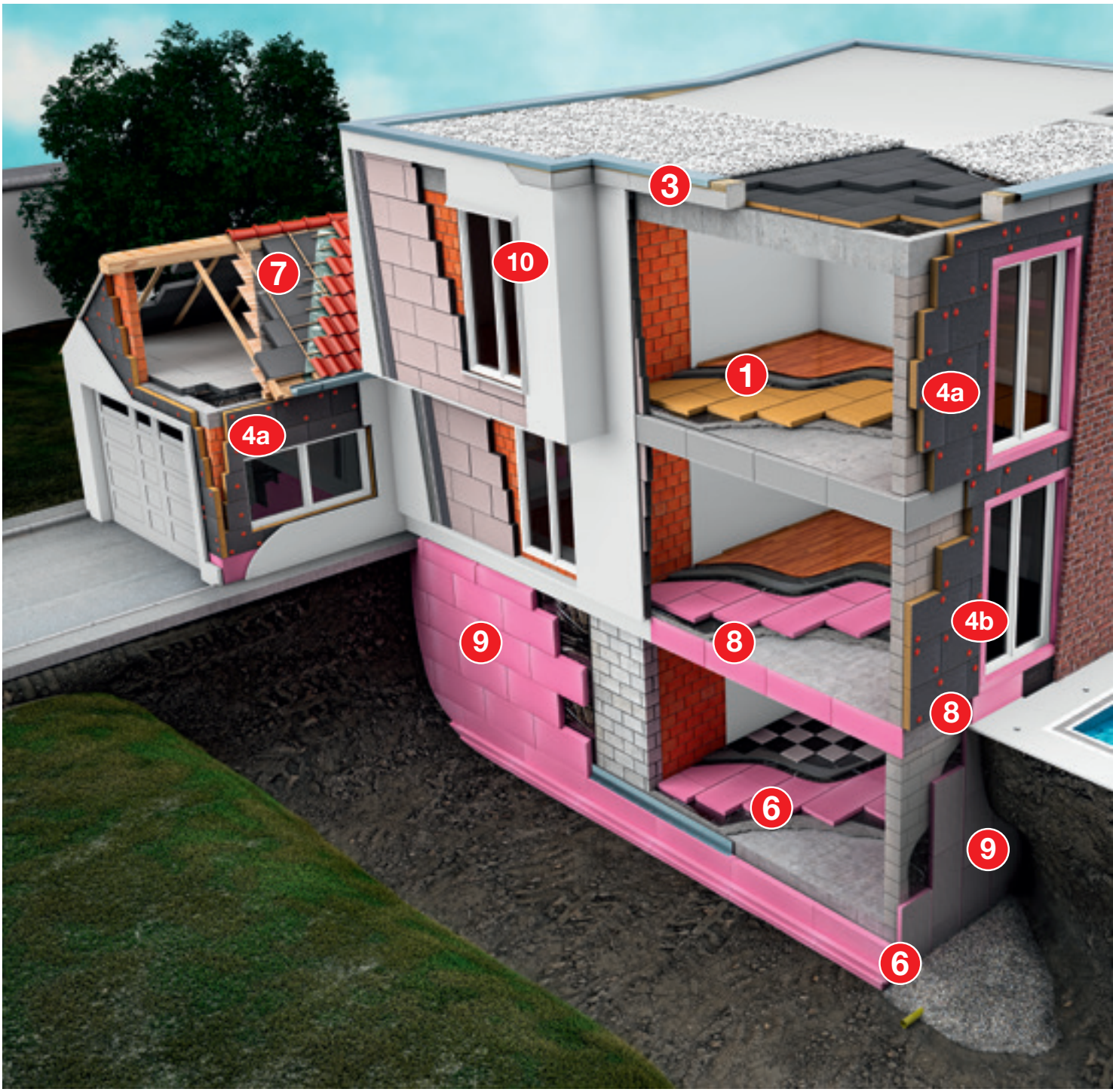
Austrotherm XPS® Plus

Austrotherm XPS® in larger thicknesses


Austrotherm Resolution® façade

Austrotherm insulating materials

Thermal insulation from the cellar to the roof!



Insulation of the exterior cellar wall = perimeter insulation

Insulation on flat roofs

Insulation underneath the floor plate

Base insulation

Insulation of the interior cellar wall

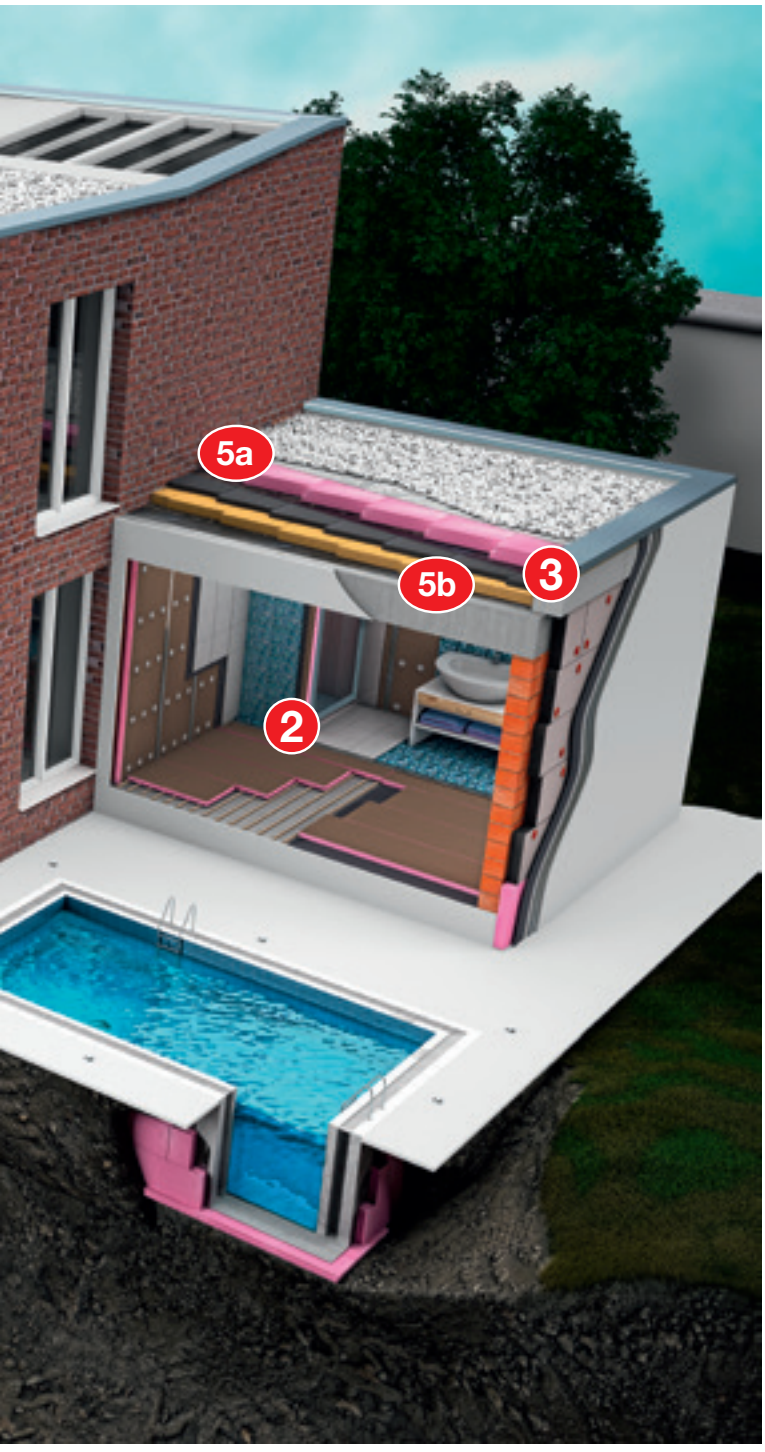
Insulation for wet rooms and on dividing walls

Façade insulation

Insulation of window and door jambs

Floor insulation

Above-rafter insulation



Austrotherm XPS®

From the cellar to the roof

Wherever there is a particularly high moisture or pressure load, the pink Austrotherm XPS® TOP is the ideal choice to reduce energy costs in the long term without construction defects. Austrotherm XPS® insulating boards are ideal even for inverted roofs, because they can withstand many different types of loads and stresses. Characteristics such as resistance to moisture, resistance to alternating frost-thaw cycles, mechanical resistance and resistance to rotting are crucial to ensuring that the product remains functional over a long period.

German quality from Wittenberge

Halfway between Berlin and Hamburg lies the 114,000 m² XPS production site of Wittenberge. A modern, company-owned research and testing lab ensures the excellent quality of the products. And of course Austrotherm insulating materials meet the requirements of all relevant product standards: Those of the EU, Germany and Austria as well as those of neighbouring countries to the east.

Recycling is a high priority at Austrotherm®

As Austrotherm XPS® insulating boards are only laid loose in the inverted roof or underneath the foundation plate, they are 100% recyclable. This high reusability of Austrotherm XPS® boards is unrivalled.

Environmentally friendly production as standard

The aim is to produce insulation in as sustainable and environmentally friendly a manner as possible, and to optimise production in order to save energy in this area too. Austrotherm®'s main efforts are focussed on reducing emissions in energy and transport, but it also concentrates on activities in procurement, product design and environment management. The Austrotherm XPS® TOP uses air as its cell content, meaning that it has outstanding ecological properties.

- Outstanding thermal insulation
- High mechanical strength
- Closed cell structure
- Good resistance to ageing
- Low environmental impact
- Easy to work with

Austrotherm XPS® products:

- Austrotherm XPS® Premium 30 SF
- Austrotherm XPS® PLUS 30 SF
- Austrotherm XPS® TOP P GK up to 200 mm
- Austrotherm XPS® TOP P TB GK from 180 mm
- Austrotherm XPS® TOP 30 SF up to 200 mm
- Austrotherm XPS® TOP 30 TB SF from 180 mm
- Austrotherm XPS® TOP Drain
- Austrotherm XPS® TOP 50 SF up to 200 mm
- Austrotherm XPS® TOP 50 TB SF from 180 mm
- Austrotherm XPS® TOP 70 SF up to 200 mm
- Austrotherm XPS® TOP 70 TB SF from 180 mm
- Austrotherm XPS® TOP 30 GK
- Austrotherm Universal Construction Board
- Austrotherm XPS® TOP KW
- Austrotherm Foundation Plate Insulating System
- Austrotherm XPS® TOP edging strip
- Austrotherm XPS® TOP masonry barrier film insulation
- Austrotherm WA Inverted Roof Fleece

In the sector of XPS insulating boards, Austrotherm® has the widest range of products on the market and can therefore meet all different needs and requirements.

Austrotherm XPS® Premium 30 SF

The most insulating XPS

For more than 60 years now, Austrotherm® has been developing its expertise in insulating materials and demonstrating it with a continuous stream of new and improved products. These decades of experience make it possible to develop innovations that meet the highest of requirements. Through intensive research, it has been possible to further improve the insulating values: The result is the new **Austrotherm XPS® Premium 30 SF**. It insulates with an impressive thermal conductivity of 0.027 W/(mK) at a thickness of 40 to 400 mm, around 23 % better than standard XPS. Its advantages come into play particularly where space is limited. The new, highly thermally insulating, pressure-resistant and waterproof XPS insulating board offers perfect insulation and saves space.

- Maximum thermal insulation – **the best XPS,** λ_D = 0.027 W/(mK)
- insulates perfectly – especially where space is limited
- Ideal for subsidised housing
- Water-resistant

Austrotherm XPS® Premium 30 SF is the best XPS available at the present time in terms of its insulating value. Available in thicknesses of 40 to 400 mm.

Austrotherm XPS® PLUS 30 SF

For insulation with X-TREME strength

Austrotherm XPS® PLUS, with a thermal conductivity of λ_D = 0.032 W/(mK), provides outstanding insulation for the best price/performance ratio. The XPS insulating board offers maximum thermal insulation, compressive strength and water resistance.

Area of application:

- Exterior cellar wall
- Above and underneath the floor plate
- In inverted and terrace roofs
- In plus roofs or duo roofs
- In wet areas

The advantages:

- XPS with exceptional thermal conductivity λ_D = 0.032 W/(mK)
- Water-resistant and pressure-resistant

Maximum thermal insulation – **the best XPS,** λ_D = 0.032 W/(mK)

Outstanding thermal insulation

Ideal for subsidised housing

Water-resistant

Austrotherm XPS® in larger thicknesses

Improved thermal conductivity thanks to the thermobonding method

Austrotherm® produces XPS insulating boards up to 400 mm thick using a new thermobonding method. This means the thicker insulating boards necessary to keep energy levels low can be easily achieved for use in cellar and flat roof insulation. The thick boards offer good insulation, with a thermal conductivity of 0.035 W/(mK).

Energy-saving construction methods demand high XPS insulating thicknesses

Insulating boards used in flat roof or cellar insulation are exposed to high stresses. The pink Austrotherm XPS® is the ideal insulating material for these applications, as it is water-proof and pressure-resistant. Low-energy and passive homes demand optimised U-values of components and therefore higher insulating thicknesses or better thermal conductivity of insulating materials. With Austrotherm XPS® TOP TB, it is now possible to achieve the U-values required by low-energy and passive homes even with inverted roofs.

Thermally bonded: New technology results in good thermal conductivity

Austrotherm® is using new technology for thermal bonding of XPS boards. In the thermobonding method, no bonding agents or adhesives are used during production; instead, a special production process is used to bond several thin XPS boards into one thick Austrotherm XPS® TOP TB board.

This results in the thermal conductivity relevant for the insulating efficiency reaching around 0.035 W/(mK). Furthermore, recycling is made easier at the end of the service life of the house, as the end product does not require separating.

Austrotherm XPS® TOP 30 TB SF
Austrotherm XPS® TOP 50 TB SF
Austrotherm XPS® TOP 70 TB SF
Austrotherm XPS® Premium 30 SF
Austrotherm XPS® PLUS 30 SF

- Exterior cellar wall
- Above and underneath the floor plate
- In inverted roofs, terrace roofs and parking decks
- In wet areas, plus roofs or duo roofs
- Core insulation

Austrotherm XPS® TOP P TB GK

- Base insulation
- Thermal bridge insulation
- Wall interior

Optimal perimeter insulation

The foundation of all insulation

If the cellar is well-insulated, the living area will remain warm. Good insulation prevents the cold from the cellar walls and floor plate being transferred upwards.

To protect the environment and to save heating costs, thermal insulation should begin in the cellar or in the foundation walls. To achieve even better insulation, however, thermal insulation in the perimeter area is also advisable and necessary. This reduces the escape of heat from unheated or heated cellar areas, and also reduces the formation of thermal bridges in cellar ceilings or in the area around the foundations. The term "perimeter" means the parts of a house that come into contact with the ground.

Optimal perimeter insulation with Austrotherm XPS® insulating boards

The outstanding properties of Austrotherm XPS® come into play especially when high demands are placed on the insulation by extreme pressure and moisture.

High thermal insulation

The flow of heat from both heated and unheated cellars is reduced thanks to perimeter insulation, i.e. the thermal insulation of the exterior cellar wall on the outside. If the cellar is converted – into a guest bedroom, sauna, hobby room – additional costs and subsequent excavation work can be avoided through the use of Austrotherm XPS®.

With complete insulation of the cellar on the exterior of the walls, **space is saved for the interior,** and thermal bridges are prevented.

The main product advantages – good thermal insulation, high resistance to moisture and high resistance to pressure – are fully utilised here. In addition, Austrotherm XPS® provides excellent protection for damp-proofing. The minimum thickness for a perfect low-energy home is at least 180 mm, or at least 240 mm for a passive home.

Protecting the damp-proofing

Optimal protection of the damp-proofing with Austrotherm XPS® insulating boards makes an important contribution to the overall success of construction. The high pressure resistance means there is no need for a protective layer for the insulating boards when back-filling the construction pit.

Largely waterproof

In a permanently damp environment, the insulating material must be as waterproof as possible. Austrotherm XPS® insulating boards have an almost-closed cell structure. At least 95% of the cells are closed and therefore impenetrable by water. As a result, the capillary water intake is 0.0 vol%. Austrotherm XPS® can also easily be used in applications involving long-term immersion in groundwater or pressing groundwater.

High pressure resistance

With a permissible continuous compressive strength of 13 to 25 t/m² for Austrotherm XPS® thermal insulating boards, they can be used in perimeter insulation up to 15 m deep under ground.

Resistance to humic acids

During trials with installed XPS insulating boards, no damage due to humic acids or other naturally occurring substances in the soil was observed over a period of 15 years.

From the cellar to the roof

Application areas of Austrotherm XPS®

Application areas of Austrotherm XPS®	**Floors**	Underneath the floor plate	Above the floor plate	Wet areas	Industrial floors	**Exterior walls**	Exterior cellar walls	Interior walls	Base area	Ceiling grate	Thermal bridges	Core insulation	**Inverted roofs**	Gravel roofs	Terrace roofs	Parking decks	Green roofs	Plus roofs (renovation)	Duo roofs	**Other applications**	Sports halls	Railway construction	Road construction	Artificial ice rinks	Fruit cellars
Austrotherm XPS® Premium 30		●	●	●	●		●					●		●	●	●	●	●	●		●			●	●
Austrotherm XPS® PLUS 30		●	●	●	●		●					●		●	●	●	●	●	●		●			●	●
Austrotherm XPS® TOP 30		●	●	●	●		●					●		●	●	●	●	●	●		●			●	●
Austrotherm XPS® TOP 30 TB		●	●	●	●		●					●		●	●	●	●	●	●		●			●	●
Austrotherm XPS® TOP Drain							●																		
Austrotherm XPS® TOP 50		●	●	●	●		●							●	●	●	●	●	●		●	●	●	●	●
Austrotherm XPS® TOP 50 TB		●	●	●	●		●							●	●	●	●	●	●		●	●	●	●	●
Austrotherm XPS® TOP 70		●	●	●	●		●							●	●	●	●				●	●	●	●	●
Austrotherm XPS® TOP 70 TB		●	●	●	●		●							●	●	●	●				●	●	●	●	●
Austrotherm XPS® TOP P								●	●	●	●														
Austrotherm XPS® TOP P TB								●	●	●	●														
Austrotherm Universal Construction Board			●					●																	
Austrotherm XPS® TOP edging strip							●					●													
Austrotherm XPS® TOP 30 masonry barrier film insulation							●					●													

Note: You can find the folder containing information on chemical resistance at austrotherm.com.

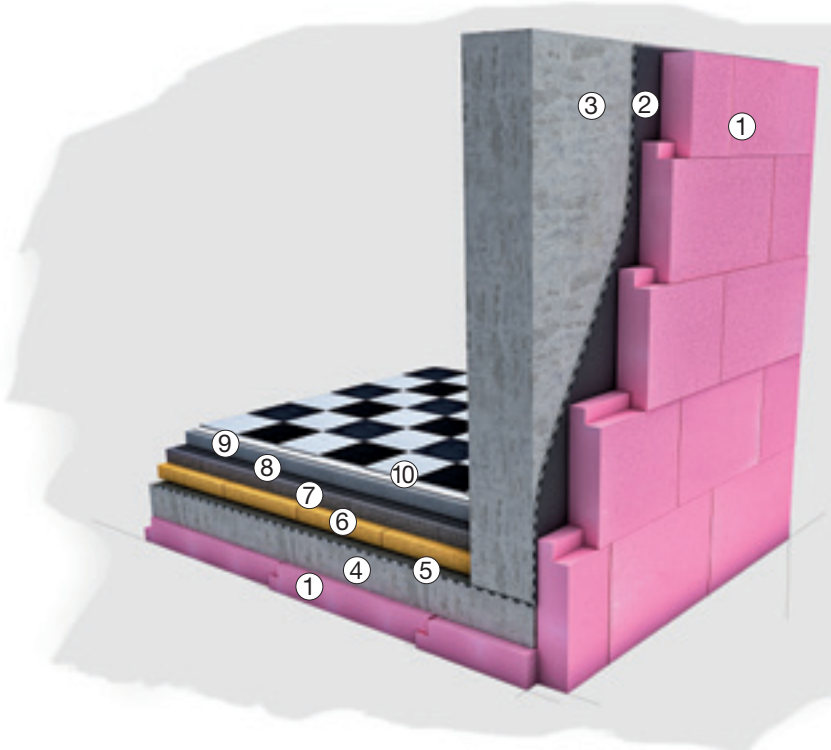
Use of Austrotherm XPS®

Easy to use

Through point-by-point application of a solvent-free adhesive (bitumen or plastic), the boards are glued directly onto the damp-proofing. Usually, Austrotherm XPS® insulating boards with stepped profiles are laid in a staggered arrangement. Cross joints are to be avoided where possible. The boards must be laid close together in order to work on them. Then the construction pit is filled by approx. 30 cm high layers of back-filling material, layer by layer. Mechanical compression is carried out with light equipment.

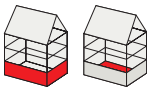
Application examples

Perimeter insulation in a building with a cellar with plate foundation



1 Austrotherm XPS® Premium 30 SF
Austrotherm XPS® PLUS 30 SF
Austrotherm XPS® TOP 30 SF
Austrotherm XPS® TOP 30 TB SF
Austrotherm XPS® TOP 50 SF
Austrotherm XPS® TOP 50 TB SF
Austrotherm XPS® TOP 70 SF
Austrotherm XPS® TOP 70 TB SF
2 Damp-proofing (vertical)
3 Cellar wall
4 Foundation plate
5 Damp-proofing (horizontal)
6 Austrotherm Resolution® floor
7 Austrotherm EPS® T 650-PLUS
8 Separating layer
9 Screed
10 Ceramic covering

Required insulating thicknesses for components in contact with the ground:



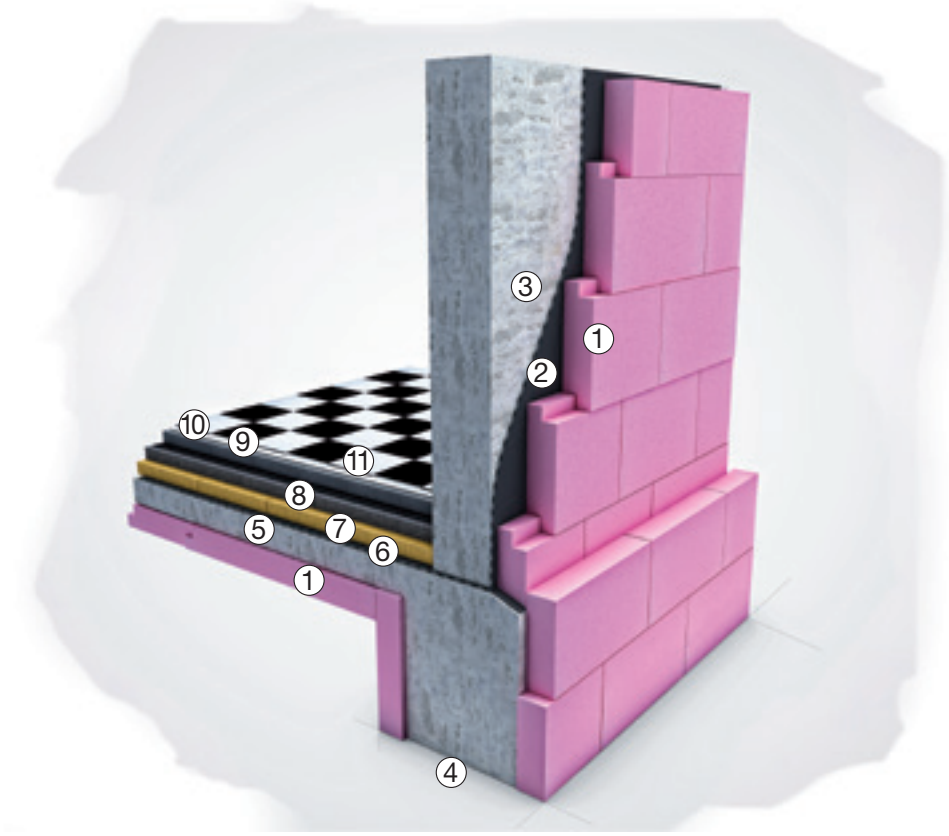
	Passive home	Low-energy home
U-value [W/m²K]	0.10	0.15
Austrotherm XPS® TOP 30, 50, 70 Austrotherm XPS® TOP 30 TB, 50 TB, 70 TB	350 mm	250 mm
Austrotherm XPS® Premium 30	250 mm	170 mm
Austrotherm XPS® PLUS 30	280 mm	200 mm

Perimeter insulation for the highest demands:

	Austrotherm	XPS® TOP 30 XPS® TOP 30 TB XPS® Premium 30 SF XPS® Plus 30 SF	XPS® TOP 50 TB XPS® TOP 50 TB	XPS® TOP 70 XPS® TOP 70 TB
Austrotherm XPS® TOP – compressive stress groups at 10% deformation	[t/m²]	30	50	70
Permissible long-term compressive stress (creeping behaviour)	[t/m²]	13	18	25
Maximum installation depth (guide values)	[m]	5	11	15

Application examples

Perimeter insulation in a building with a cellar with strip foundation



1 Austrotherm XPS® Premium 30 SF
Austrotherm XPS® PLUS 30 SF
Austrotherm XPS® TOP 30 SF
Austrotherm XPS® TOP 30 TB SF
Austrotherm XPS® TOP 50 SF
Austrotherm XPS® TOP 50 TB SF
Austrotherm XPS® TOP 70 SF
Austrotherm XPS® TOP 70 TB SF
2 Damp-proofing (vertical)
3 Cellar wall
4 Strip foundation
5 Floor plate
6 Damp-proofing (horizontal)
7 Austrotherm Resolution® floor
8 Austrotherm EPS® T 650-PLUS/ EPS® T 1000-PLUS
9 Separating layer
10 Screed
11 Ceramic covering

Austrotherm Foundation Plate Insulating System

The foundation for comfort

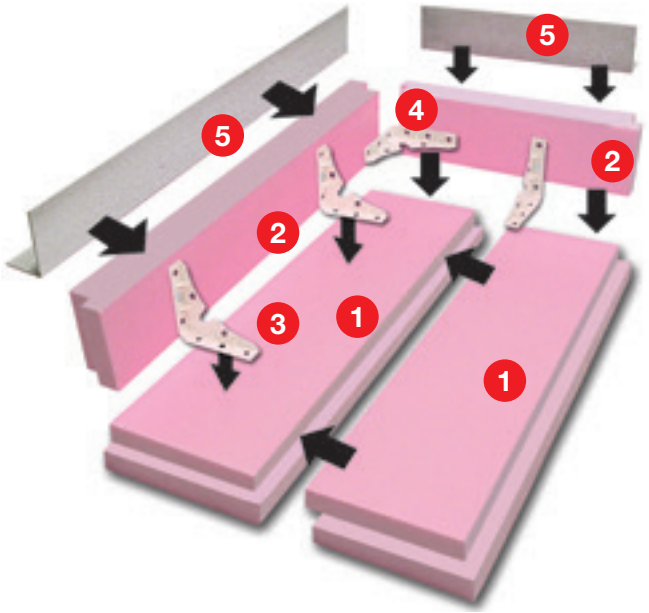
To protect a building against the cold, the best idea is to apply thermal insulation precisely where contact with the cold substrate and moisture-laden ground is at its greatest: In the foundations and cellar. To prevent the risk of thermal bridges in this area, optimal thermal insulation is recommended. The Austrotherm Foundation Plate Insulating System makes it possible for a cellar to be sealed in line with standards for the first time.

For low-energy homes, an insulating thickness of at least 180 mm is recommended. Due to the many possible thermal bridges in this area, optimal thermal insulation is provided by Austrotherm XPS®. In order to avoid risking subsidence and the subsequent formation of cracks in the building, it is recommended that you use Austrotherm XPS® TOP 50 or Austrotherm XPS® TOP 70, which significantly reduce the risk of damage. Likewise, where there are high spot loads, such as with pillars, ceiling cut-outs for stairs, girder formations, etc., Austrotherm XPS® TOP 50 or Austrotherm XPS® TOP 70 insulating boards should be used.

- Extremely rapid formwork system with thermal insulation
- Formwork system for forming seals compliant with standards
- Insulation for foundation plates subject to high pressures

Tip: You can find our online quantity calculator tool at austrotherm.com.

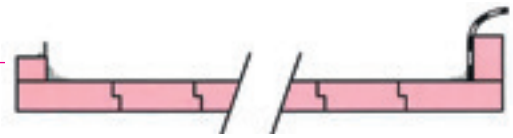
The Austrotherm Foundation Plate Insulating System makes it possible for a cellar to be sealed in line with standards for the first time!



1. Austrotherm XPS® TOP 50 or TOP 70 insulating boards with stepped profile are joined together to form a complete floor plate.
2. The formwork is created by cutting the Austrotherm XPS® TOP 50 or TOP 70 insulating boards to the desired height. (formwork boards should be at least 100 mm thick)
3. Secure two to four system brackets per formwork board with Austrotherm speed bolts and bond with Austrotherm perimeter adhesive.
4. Also join corner areas with Austrotherm system brackets.
5. If the sealing is in accordance with ÖNORM Austrian standards/DIN standards, a vertical seal is inserted and secured with system brackets.

1. Floor and edge elements

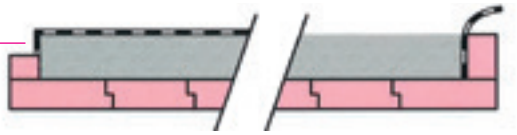
After the Austrotherm foundation plate elements have been laid, the edge elements are installed with system brackets and speed bolts. The vertical seal can be inserted in a single step. The add-on brackets are screwed onto the edge element.



Foundation formwork with Austrotherm system element

2. Horizontal seal

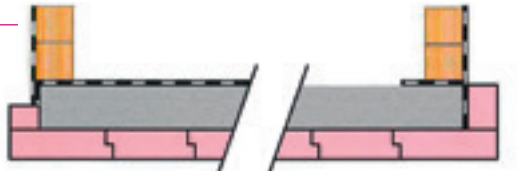
After concreting, the add-on bracket is removed and the horizontal seal is adhered over the entire surface of the foundation plate, or a sealing strip is inserted in the area of the rising cellar wall. The horizontal seal is adhered to the sides of the concrete surface, which is now accessible, at a distance of 10 cm from the side.



Foundation formwork with horizontal seal

3. Vertical seal

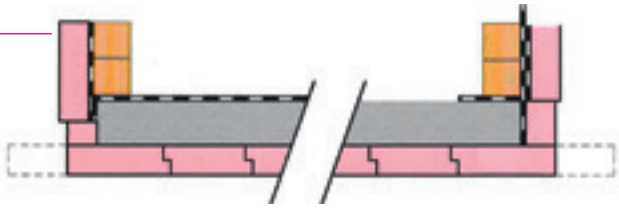
The rising masonry is set up on the horizontal seal and then the vertical seal is attached to the outside such that it forms an overlap.



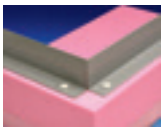
Foundation formwork with vertical seal

4. Base and perimeter insulation

The corresponding base and perimeter insulation is then attached.
Note: A design with a frost barrier is also possible.



Possibly with frost barrier




Components	Parts per pack	Size (in mm)	Length (in mm)
Austrotherm system bracket	25	100 x 150	
Austrotherm add-on bracket	20	60 x 100	1250
Austrotherm speed bolt	100		50
Austrotherm floor plate*			

Quantity per 1.25	Parts	Speed bolts per bracket
System bracket	2–4	4
Add-on bracket	1	5
Speed bolts	21	

*Consists of Austrotherm XPS® TOP 50 or TOP 70 with stepped profile

Austrotherm XPS® TOP P TB GK insulating boards
Austrotherm XPS® TOP P GK insulating boards

Best insulation in the base area

The façade area just above the ground is exposed to particular stresses.
A specific type of insulation can play out its full advantages here.

- High moisture load due to contact with rain, snow and splash water
- Increased demand for thermal insulation due to thermal bridges via interior connecting cellar ceilings and cellar walls
- Increased pressure load, e.g. due to possible mechanical stresses from bicycles, small vehicles, ball games, etc.

To ensure good visual design, it is recommended that you use Austrotherm XPS® TOP P insulating boards with embossed surface. The high pressure resistance, the extensive moisture resistance and the excellent thermal insulation particularly come into effect here.

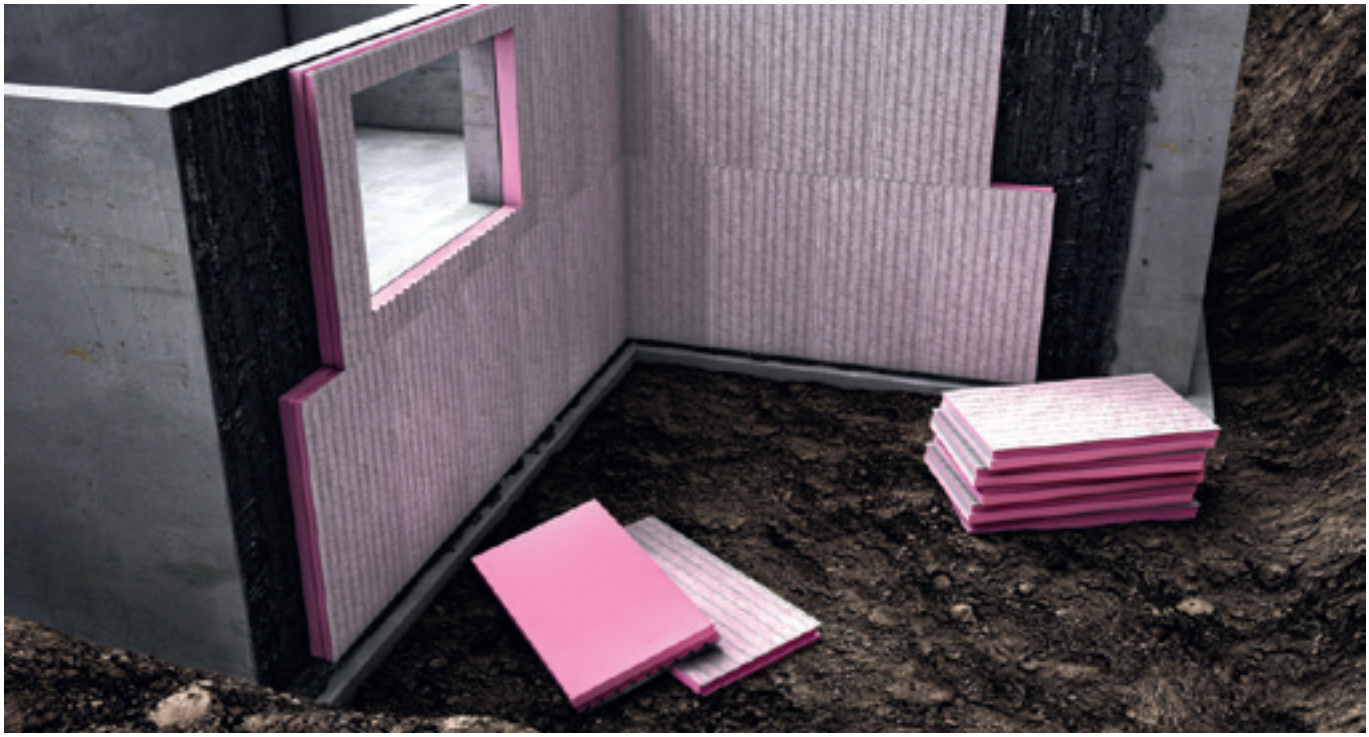
Good plastering surface

Austrotherm XPS® TOP P insulating boards offer excellent adhesive strength for the application of plaster. Austrotherm XPS® TOP is moisture-resistant and therefore well suited to use in the base area, as this area is subject to high moisture loads due to splash water. Base insulation with Austrotherm XPS® TOP P should be positioned up to approx. 30 cm above the finished level. The bonding with the substrate must be performed carefully and can be carried out with adhesive mortar or bitumen cold adhesive, for example. When using a permanently elastic bitumen adhesive, the insulating boards must either be supported (e.g. on perimeter insulation) or must have additional mechanical mountings.

- Excellent bonding properties and plaster adhesion
- Best ecological properties (cell content: Air)
- Outstanding thermal insulation
- Ideal for subsidised housing

Austrotherm XPS® TOP Drain

Pressure-resistant thermal insulating board made of extruded polystyrene rigid foam with stepped profile, with linear grooves and filter fleece, for perimeter insulation and drainage.



The Austrotherm XPS® TOP Drain perimeter insulating board, based on the successful Austrotherm XPS® TOP 30, is firstly designed for exterior insulation in the ground. Secondly, a laminated fleece filters the incoming water and conveys it to the routed linear grooves, where it flows from the exterior cellar wall to the drainage system beneath the floor.

A water flow value of up to 2.19 1/(ms) makes Austrotherm XPS® TOP Drain the ideal insulating material for protecting cellars from moisture penetration. Tested in accordance with DIN EN ISO 12958:2010-08. Austrotherm XPS® TOP Drain is adhered to the seal and has a stepped profile and a smooth inside to make it easy to work with.

- Perimeter insulation and drainage rolled into one
- Outstanding thermal insulation
- Best ecological properties (cell content: Air)
- Ideal for subsidised housing
- Water-resistant

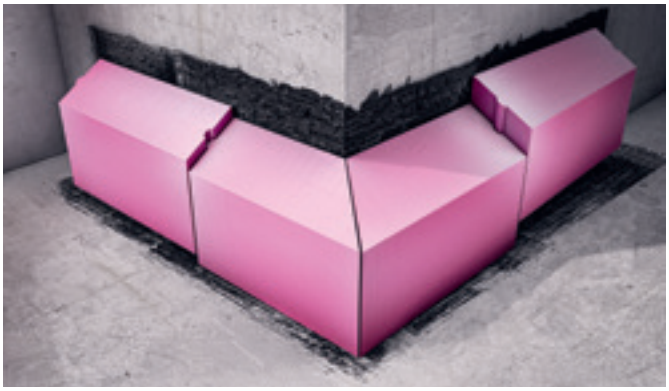
Austrotherm XPS® TOP edging strip

The Austrotherm XPS® TOP edging strip is an edge seal that has been specifically designed for lining door and window openings in double-skin masonry.

It consists of our successful Austrotherm XPS® TOP P GK extruded foam, which offers high thermal insulation, is resistant to rotting and is waterproof. Thanks to its dimensions, it can be precisely yet simply adapted to the calculated distance between the load-bearing and faced masonry. This means that thermal bridges around windows and doors don't stand a chance. The dimensionally stable Austrotherm edging strips have an embossed surface structure so that plaster can be applied directly on top. They are secured to the masonry using plugs, nails or adhesive and can be cut to size on the construction site simply using a cutter knife or jigsaw.

Austrotherm XPS® TOP masonry barrier film insulation

Masonry barrier film insulation made of extruded polystyrene rigid foam with tongue and groove on the face side



The Austrotherm XPS® TOP masonry barrier film insulation is used for dry exterior cellar walls and bases in double-skin masonry made of Austrotherm XPS® TOP 30. The Austrotherm XPS® TOP masonry barrier film insulation can be adhered in the cavity between the layers of masonry in a quick process that is, above all, DIN-compliant. The integrated gradient enables moisture that forms to be drained away and prevents water from entering the core insulation. The Austrotherm XPS® TOP masonry barrier film insulation is then laid horizontally in the area of the faced masonry like usual, in accordance with the applicable DIN standard. The tongue and groove principle on the face side enables a design with no thermal bridges.

Wall insulation with Austrotherm XPS®

Long-lasting durability on the façade

The correct insulating board is an important component of a beautiful and durable façade. There are several good ways of creating a perfectly insulated wall. Austrotherm XPS® insulating boards are always an option: They ensure outstanding insulation, are ready for use even with a temporary moisture load and contribute towards long durability of the outer shell. With the right wall construction, almost any insulating value can be achieved.

Façade insulation

Austrotherm XPS® TOP P insulating boards with embossed surface ensure outstanding thermal insulation and a good plaster substrate in connection with a thermal insulation composite system (full thermal insulation). Sufficient anchoring must be ensured.

For **ventilated façade insulation**, any desired facing formwork can be used. Whether wooden formwork, precast concrete parts, glass or metal elements – the creativity of design knows no limits. Austrotherm XPS® insulating boards with smooth surface cause no reduction in the insulating performance of the wall, even with occasional moisture loads. The advantage of this design lies in the clear physical separation of the individual layers. This makes the design completely unproblematic, even in terms of diffusion.

Swimming pool insulation

Whether in the open air or indoors, insulation with Austrotherm XPS® guarantees low energy consumption and a pleasantly warm pool temperature.

The insulating boards can either be laid outside the swimming pool – on the floor plate or side wall – or within the load-bearing construction. **Note:** Before use within the load-bearing construction, please contact our applications engineers. Compatibility with the various swimming pool liners must be ensured.

Core insulation

With this wall construction, the Austrotherm XPS® insulating boards lie between the inner wall and a usually bricked outer shell. The inner wall adopts the load-bearing function, while the outer wall is not load-bearing. The advantage of this design is the longer life of the outer shell, provided it is made of clinker masonry or another especially weatherproof material. In addition, since the thermal insulation can be created in any desired thickness, almost any insulating value can be achieved, even for a passive home.

Austrotherm XPS® insulating boards even offer significant advantages for **subsequently installing interior insulation**. They are largely moisture-resistant and offer high insulating performance, even at relatively low insulating thicknesses. The advantage of their resistance to moisture comes to bear particularly in components that are critical for vapour diffusion in the interior insulation of old buildings.

Roof insulation with Austrotherm XPS®

The reliable and economical inverted roof

The inverted roof is a flat roof construction whose main characteristic – unlike conventional flat roof constructions – is that the thermal insulation is laid above the damp-proofing. This design has only become possible through the development of insulating materials that absorb next to no water. This roof construction has three main, impressive features: Reliability, simplicity and profitability.

Reliability

To ensure durability of a flat roof construction, optimal interaction of the individual functions is crucial. Protection of the load-bearing construction against the effects of weather and moisture must be guaranteed by durable and resistant damp-proofing. This is possible above all if there are Austrotherm XPS® insulating boards in place to protect the damp-proofing itself against the impact of extreme heat or frost.

Austrotherm XPS® thermal insulating boards ensure that, in contrast to conventional warm roofs, there are almost no temperature stresses on the damp-proofing. Flat roofs with the inverted roof principle have proven their worth over many years and comply with the "recognised rules of technology".

Simplicity

Clear separation of load-bearing construction – damp-proofing – thermal insulation – each in a separate layer. No vapour barrier or pressure equalisation layer are required underneath the damp-proofing. The outstanding thermal insulation value enables the use of thinner insulating materials with Austrotherm XPS® than with other insulating materials. And it goes without saying that good thermal insulation reduces heating costs and protects the environment.

Profitability

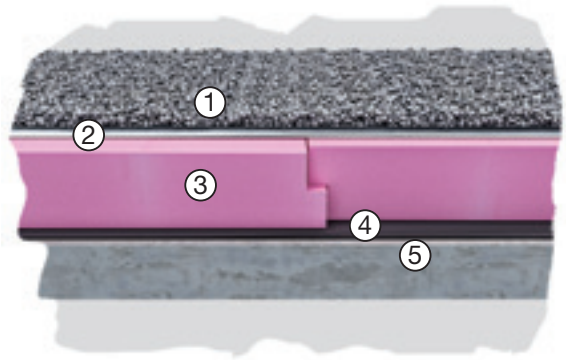
These good experiences with inverted roofs in terms of durability and easy construction are important prerequisites for the profitability of this design with Austrotherm XPS® insulating boards. The outstanding thermal conductivity means that thinner insulating materials can be used with Austrotherm XPS® than when using other insulating materials. This is important above all because the greatest heat losses across the entire building shell occur through the roof surface.

The gravelled inverted roof

Frost-proof and waterproof

The simplest version of the flat roof according to the inverted roof principle is that of the gravelled inverted roof. The roof is only designed to be walked on for inspection or maintenance purposes. A filter fleece and gravel are laid on top of the weatherproof Austrotherm XPS® insulating boards (frost-proof, largely waterproof). The gravel layer, which is at least 5 cm thick and is laid directly on top of a filter layer over the Austrotherm XPS® insulating boards, must fulfil the following functions:

- Protection against wind suction
- Protection against UV rays and radiating heat
- Protection of individual boards against floating
- Protection against flying sparks

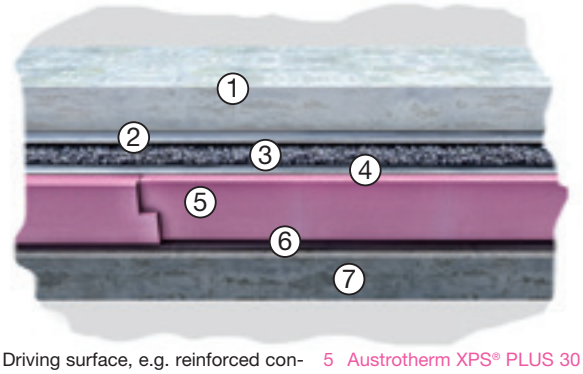


1 Gravel layer (16/32)
2 Austrotherm WA Inverted Roof Fleece
3 Austrotherm XPS® Premium 30 SF
Austrotherm XPS® PLUS 30 SF
Austrotherm XPS® TOP 30 SF or Austrotherm XPS® TOP 30 TB SF
Austrotherm XPS® TOP 50 SF or Austrotherm XPS® TOP 50 TB SF
Austrotherm XPS® TOP 70 or Austrotherm XPS® TOP 70 TB SF
4 Roof seal
5 Bare ceiling on the gradient

The parking deck

Maximum strength under pressure and shear force

This high-strength version of the inverted roof is used, for example, wherever a driveway or parking spaces are needed. It is recommended that you use the especially pressure-resistant Austrotherm XPS® TOP 50/50 TB or Austrotherm XPS® TOP 70/70 TB boards for this. The permissible continuous compressive strength of the insulating board is up to 25 t/m². The driving surface can be made of paving stones, reinforced concrete slabs or prefabricated concrete slabs. To dissipate the shear forces from vehicle use, a sufficiently thick bedding layer between the driving surface and the insulating layer is recommended.

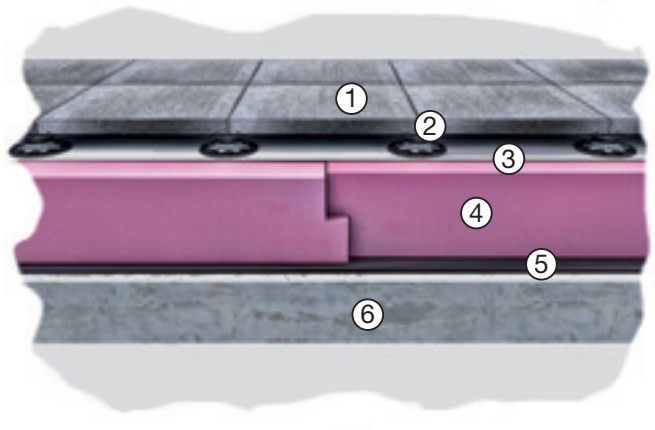


1 Driving surface, e.g. reinforced concrete
2 Separating fleece
3 Drainage gravel
4 Austrotherm WA Inverted Roof Fleece
5 Austrotherm XPS® PLUS 30 SF
Austrotherm XPS® TOP 30 SF or
Austrotherm XPS® TOP 30 TB SF
Austrotherm XPS® TOP 50 SF or
Austrotherm XPS® TOP 50 TB SF
Austrotherm XPS® TOP 70 SF or
Austrotherm XPS® TOP 70 TB SF
6 Roof seal
7 Bare ceiling on the gradient

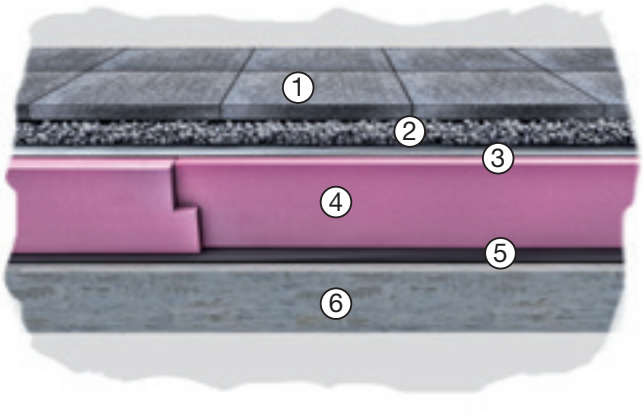
The terrace roof

Above roofs, cellars and oriels

This popular type of inverted roof is used not only above roofs, but also above cellars, oriels, etc. The slabs accessible to foot traffic can either be supported or laid in a gravel bedding layer, supported on slab mountings or laid directly on Austrotherm XPS® TOP 30 strips. Depending on the design, any desired terrace slabs can be used.



1 Terrace slabs
2 Raised supports
3 Austrotherm WA Inverted Roof Fleece
4 Austrotherm XPS® Premium 30 SF
Austrotherm XPS® PLUS 30 SF
Austrotherm XPS® TOP 30 SF or Austrotherm XPS® TOP 30 TB SF
Austrotherm XPS® TOP 50 SF or Austrotherm XPS® TOP 50 TB SF
Austrotherm XPS® TOP 70 SF or Austrotherm XPS® TOP 70 TB SF
5 Roof seal
6 Bare ceiling (on the gradient)



1 Terrace slabs
2 Bedding layer
(gravel 2/8, ≥ 4 cm)
3 Austrotherm WA Inverted Roof Fleece
4 Austrotherm XPS® Premium 30 SF
Austrotherm XPS® PLUS 30 SF
Austrotherm XPS® TOP 30 SF or Austrotherm XPS® TOP 30 TB SF
Austrotherm XPS® TOP 50 SF or Austrotherm XPS® TOP 50 TB SF
Austrotherm XPS® TOP 70 SF or Austrotherm XPS® TOP 70 TB SF
5 Roof seal
6 Bare ceiling (on the gradient)

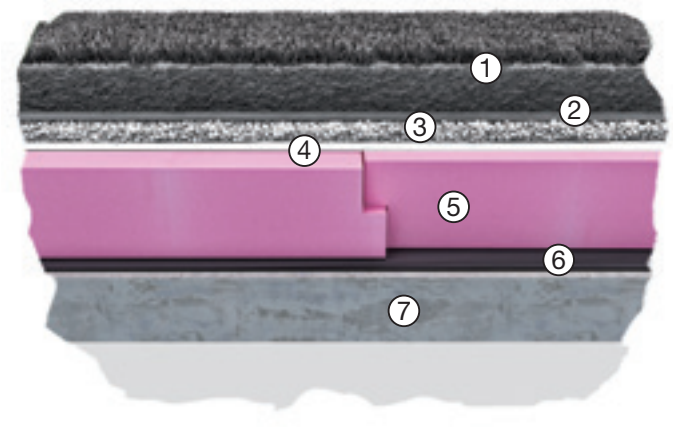
The green roof

Trend towards "increased quality of life"

Green roofs are on trend! They satisfy the longing for a living space close to nature and a slightly "better" quality of life. New habitats for plants can be created through the use of green roofs not only in urban areas with dense construction, but also in communal and industrial construction. Modern flat roof constructions such as the inverted roof with Austrotherm XPS® insulating materials are a reliable basis for this.

Inverted roof with extensive vegetation:
Extensive vegetation means largely self-sufficient types of vegetation that continue to develop and change their appearance. They do not need to be watered or pruned.

Inverted roof with intensive vegetation:
Intensive vegetation includes lawn areas, perennials and shrubs. The plants used need to be watered and cared for. A drainage layer, made of filter gravel for example, is required.



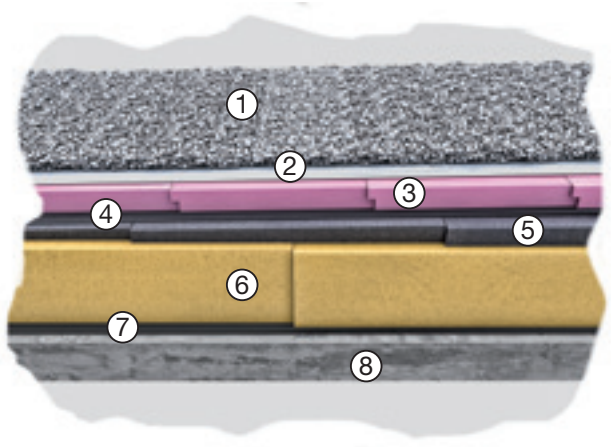
1 Vegetation layer
2 Separating fleece
3 Drainage layer (gravel 2/8 to 16/32)
4 Austrotherm WA Inverted Roof Fleece
5 Austrotherm XPS® Premium 30 SF
Austrotherm XPS® PLUS 30 SF
Austrotherm XPS® TOP 30 SF or
Austrotherm XPS® TOP 30 TB SF
Austrotherm XPS® TOP 50 SF or
Austrotherm XPS® TOP 50 TB SF
Austrotherm XPS® TOP 70 SF or
Austrotherm XPS® TOP 70 TB SF
6 Roof seal (root-proof)
7 Bare ceiling on the gradient

The plus roof

For special requirements

The plus roof is a special form, providing a combination of non-ventilated single-shell roof (warm roof) and inverted roof. For older roofs in particular, which are still waterproof but whose thermal protection is inadequate in today's terms, the Duo roof is used. If the original roof construction has become damaged, the Duo roof offers a simple and effective renovation option.

The need for a vapour barrier depends on the relationship between the insulating material thicknesses and the materials used.[1)] It is recommended that you check this through calculations.



1 Gravel layer (16/32)
2 Austrotherm WA Inverted Roof Fleece
3 Austrotherm XPS® Premium 30 SF
Austrotherm XPS® PLUS 30 SF
Austrotherm XPS® TOP 30 SF or
Austrotherm XPS® TOP 30 TB SF
Austrotherm XPS® TOP 50 SF or
Austrotherm XPS® TOP 50 TB SF
4 Roof seal
5 Austrotherm EPS® W30-PLUS sloping roof insulation
6 Austrotherm Resolution® flat roof
7 Vapour barrier and pressure equalisation layer
8 Bare ceiling

[1)] Use the following as a rule of thumb regarding the need for a vapour barrier: If the thermal insulating effect underneath the roofing membranes is ≤ 1/3 of the total insulating performance, or the thermal insulating effect above the roofing membrane is ≥ 2/3 of the total insulating performance.

Austrotherm parapet element

Prefabricated element for constructing parapets with no static loading

The Austrotherm parapet element is the new, cost-effective alternative to conventional parapet construction. Where expensive concrete formwork and additional insulating elements were previously required, the new prefabricated element can be used, providing significant savings.

Easy to work with

Because the Austrotherm parapet element is quick and easy to work with, you will save time and material costs when producing parapets without static loading.

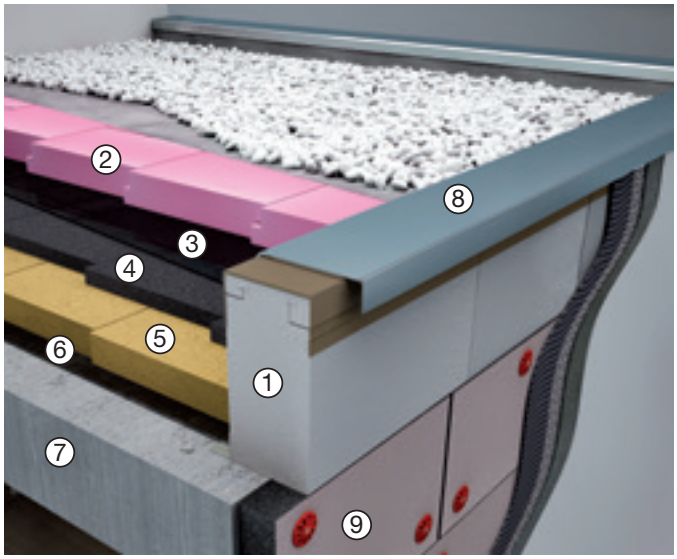
All-in-one solution

The all-in-one solution has mounting brackets to secure it to the substrate and integrated PVC strips for attaching the flashing. The parapet element is coated with the Austrotherm TOP coating compound. All this to make working with the element simpler and to offer you the best possible service.

The Austrotherm parapet element can be used on all common roof structures (warm roof, inverted roof, etc.). The Austrotherm parapet element is also available in custom dimensions or as an EPS PLUS product on request.

The advantages for you:

- **Thermal conductivity: λ_D = 0.037 W/(mK)**
- **Quick and easy processing**
- **No thermal bridges**
- **Suitable for passive houses**
- **All-in-one solution**
- **Mounting brackets are supplied**
- **Custom dimensions available on request**
- **Integrated PVC strips for attaching the flashing**
- **Coated with the Austrotherm TOP coating compound**

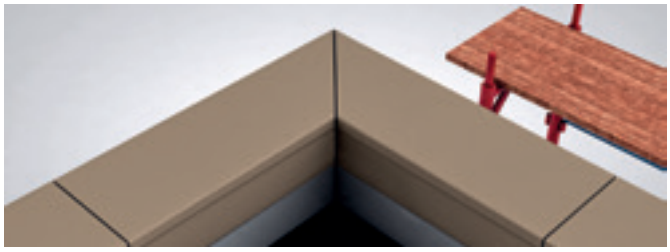


Parapet construction with the new Austrotherm parapet element – saves material costs and time

1 Austrotherm parapet element
2 Austrotherm XPS® TOP 30 SF
3 Seal
4 Austrotherm EPS® W30 PLUS sloping roof insulating board
5 Austrotherm Resolution® flat roof
6 Vapour barrier
7 Ceiling
8 Parapet flashing
9 Austrotherm EPS® F-PLUS

Fewer steps

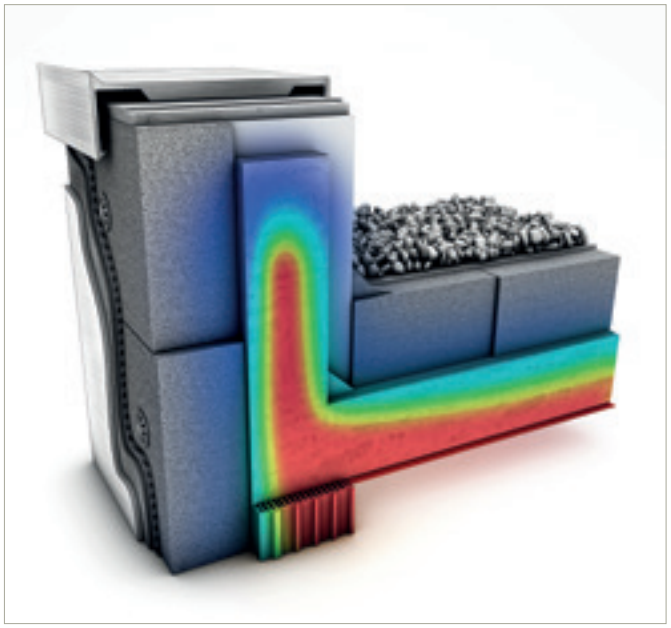
Easy to use on the construction site

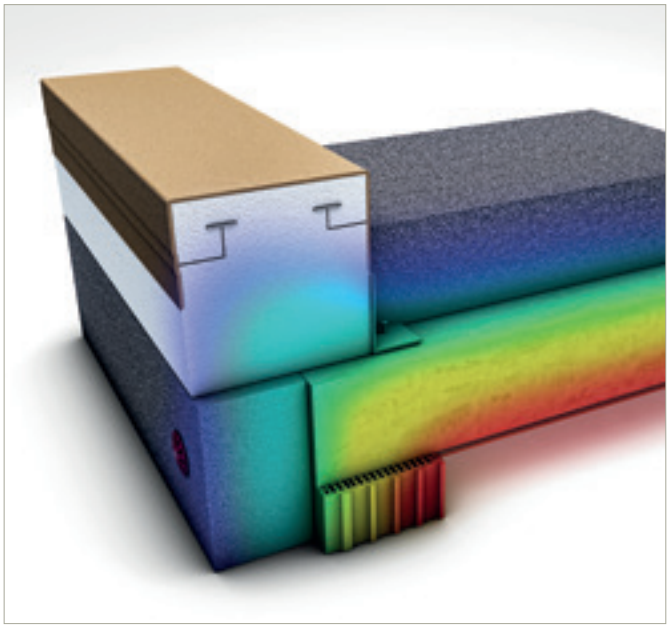


The low weight of the Austrotherm parapet element makes logistics on the construction site simpler and more efficient many times over. The Austrotherm parapet elements are easy to transport and do not require any additional forklift trucks or other means of transportation on the construction site. The elements can be cut to size on site within a short time and can be worked on immediately.

No thermal bridges

Conventional design with concrete by comparison





Unlike a conventional parapet, no thermal bridges can form. The temperature is continuous across the entire insulated outer shell of the structure. This successfully counteracts any formation of mould.

The Austrotherm UNIPLATTE®

The base panel for ceramic coverings

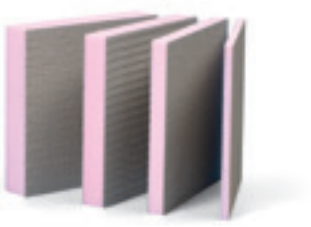
The Austrotherm UNIPLATTE® board is a perfect support element, made of pink extruded polystyrene rigid foam, coated with a synthetic resin modified mortar and reinforced with a glass fibre net on both sides. It is waterproof, heat-insulating, robust and particularly suitable for use as a substrate for laying tiles using the thin-bed method.

The complete range

With the right accessories (on request), the versatile range of applications for Austrotherm UNIPLATTE® is limitless. Connection brackets, sealing tape and fastening sets, which are tailored to the specific purpose, form a complete system together with Austrotherm UNIPLATTE® boards. Prefabricated elements are available for pipe cladding, dividing walls or, for example, shower trays and bathtub cladding.

The advantages of using Austrotherm UNIPLATTE®

- Mostly waterproof
- Design diversity
- Outstanding bonding properties
- Easy to cut
- High thermal insulation
- Dimensionally accurate/flush surface
- Frost-resistant
- High pressure resistance



Room-height prefabricated element

Ready-made tiling substrate

Mostly waterproof

Versatility

Outstanding bonding properties

Austrotherm UNIPLATTE®

To create dividing walls

When creating dividing walls, forming bathtub cladding and so on, it is best to use connecting brackets (available as an accessory on request) to help with assembly. These are screwed or nailed into the wall or floor. The Austrotherm UNIPLATTE® board is then inserted into the brackets, meaning that the board is immediately held in place. In wet rooms, recesses in the walls and floor must be sealed using sealing tape and sealing sleeves.

Forming joints and coverings

All connections, inside corners, wall connections and floor-cover connections can be flexibly formed using silicone. In addition, all head joints and longitudinal joints should be adhered using silicone. Usually, all head joints and longitudinal joints must be pasted over with glass fabric, width: 10 cm. The strip is inserted into the tile adhesive and then filled into the joint. In wet areas, i.e. wherever there is running or standing water, the sealing tape must be inserted in the wall and floor niches instead of the fabric strip.

Subsequent work

After the adhesive mortar has hardened (after approx. 12 hours or, when using Murexin Quick Flex Adhesive Mortar, after approx. 3 hours), the ceramic covering can then be applied in the form of tiles, panels or a mosaic. When laying ceramic coverings, the processing guidelines for Murexin tile adhesive mortar apply.

Thickness in mm	Austrotherm Uniplatte® applications
4*, 6*, 10*	As a **corrective panel,** e.g. for half-height tiled bathrooms. Old tiles are often 4 to 6 mm thick. Walls can be retiled to ceiling height without having to remove the old tiles. If the wall was previously tiled using the thick-layer procedure, the 10 mm panel is suitable.
12.5	Used, for example, as a **corrective panel** that finishes flush with gypsum plasterboard in wet areas.
20, 30, 40, 50	For **solving all kinds of design problems**, e.g. cladding, furniture in the bathing area such as washstands and shelves, fitting attachments, etc.
60, 70, 80	For **solving all kinds of design problems** if **greater stability** is required, for example for furniture in the bathing area, for steps, for free-standing dividing walls for balconies, etc.
100, 120	For **solving all sorts of design problems** if **greater stability** is required, for example for free-standing dividing walls for balconies, etc.

* Dimensions: 1300 x 600 mm, format for 10 mm and above: 2600 x 600 mm

Austrotherm UNIPLATTE®
L-/U-shaped boards save costs and time

The Austrotherm UNIPLATTE® L-/U-shaped boards are ceiling-height prefabricated elements that considerably simplify the production of vertical and horizontal pipe cladding, which is usually a cost- and time-intensive process. Time-consuming brick laying and plastering or substructures are a thing of the past. The L-/U-shaped board can simply be cut using a saw and it is fitted as part of the tiling work.

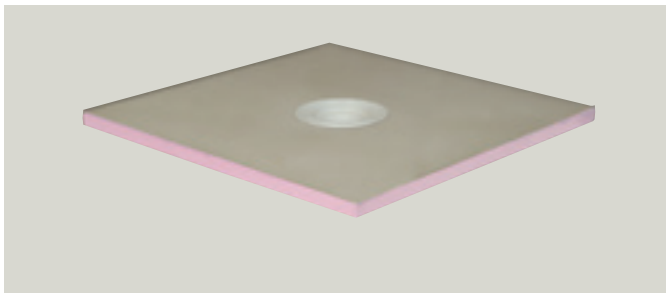
- Ceiling-height prefabricated element
- Simple mechanical fitting using a corner bracket
- Ready-made tiling substrate

Practical levelling foot made of hard plastic. Can be easily set to precisely the required height (up to approx. 10 cm) using a 17 mm open-end wrench.

Austrotherm UNIPLATTE® bathtub element – the custom-fit cladding element

The Austrotherm UNIPLATTE® bathtub element is the right-sized solution for bath-end and bath-side cladding of standard bathtubs. The inclusion of height-adjustable fixing feet means that unevenness can easily be equalised.

- Simple mechanical fitting using a corner bracket
- Ready-made tiling substrate
- Custom-fit cladding elements for standard bathtubs

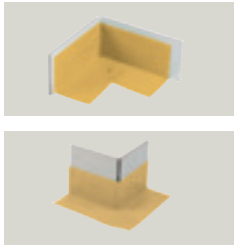


Example of a prefabricated accessible shower floor element with corresponding gradient and integrated drain, which can be used both horizontally and vertically.

Austrotherm UNIPLATTE® shower element – the systematic solution for floor-level showers

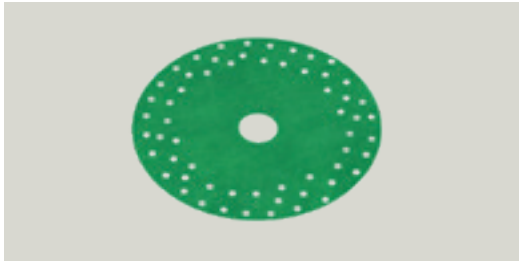
Enormous versatility, easy to work with and maximum safety Shower element with waterproof coating, reinforced on both sides with a glass fibre net. Available in different shapes and dimensions, available with drains or channels on request.

- In wet areas of: Sports and games facilities, swimming pools, nursing homes and hospitals, accessible installation is possible



Austrotherm sealing tape – sealing of board edges in wet areas

Austrotherm sealing tape is a dense reinforcement fabric and is used to reliably seal the board joints of Austrotherm UNIPLATTE® boards in floor-wall connections and of Austrotherm UNIPLATTE® boards in wet areas.



Austrotherm sealing sleeve

Special cuts of sealing tape for reliable sealing of pipe ducts in wet areas.

Austrotherm Resolution®

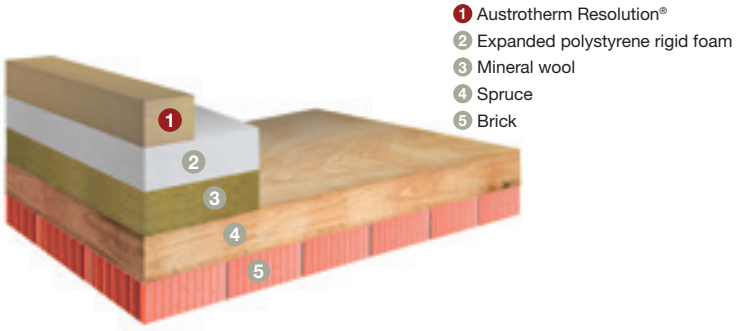
The future of thermal insulation is slim

The future is slim and perfectly insulating.

With an outstanding thermal conductivity of λ_D = 0.022 W/(mK), Austrotherm Resolution® makes short work of tight space conditions. It is an innovative insulating material made of Resol rigid foam. The extremely good insulating value, together with the resulting thinner material, means it can be used on surfaces that previously could not be insulated well due to space restrictions. But even where there are difficult structural conditions, such as bordering properties, there is now no longer any need to make compromises in complying with the U-value. The reduction in the component thicknesses with simultaneous increase in effective area is reason for celebration among building developers.

- **Outstanding thermal conductivity: λ_D = 0.022 W/(mK)**
- **Very slim designs**
- **Quick and easy processing**
- **Low weight**
- **Ideal for new buildings and thermal renovation**
- **Customised cuts**
- **Available as roof, wall and floor insulation**

Same insulating value – Different material thicknesses



With a thermal conductivity of λ_D = 0.022 W/(mK), Austrotherm Resolution® guarantees the greatest space savings!

In multiple laboratory tests, Austrotherm Resolution® has proven that it offers impressive and reliable shielding against fire and heat.

Application areas of Austrotherm Resolution®	Walls	Façade insulation	Interior insulation	Core insulation	Ventilated façade	Roofs	Warm roofs (flat roofs)	Green roofs	Lightweight roof construction	Sloping roofs	Above-rafter insulation	Below-rafter insulation	Ceilings	Top storey ceilings	Mezzanine ceilings	Ceilings over cellars	Ceilings over passageways
Austrotherm Resolution® block		●	●	●	●		●	●	●	●	●						●
Austrotherm Resolution® façade		●			●						●						
Austrotherm Resolution® façade jamb panel		●									●						
Austrotherm Resolution® flat roof							●	●	●	●	●	●					
Austrotherm Resolution® floors			●	●										●	●	●	●

The future is easy to process.

Austrotherm Resolution® is easy and simple to work with. The boards can be cut easily with a fine-toothed hand saw or a sharp knife. It might be a new material, but you don't have to change how you work with it. For example, the Austrotherm Resolution® façade is laminated with a thin Austrotherm EPS® F-PLUS layer, so that it can be worked with in exactly the same way as a normal expanded polystyrene rigid foam board.

Best insulating value – slim constructions

The new Austrotherm Resolution®, with a thermal conductivity of λ_D = 0.022 W/(mK) and an insulating thickness of 120 mm, can achieve the same insulating value as traditional expanded polystyrene rigid foam with an insulating thickness of 200 mm.

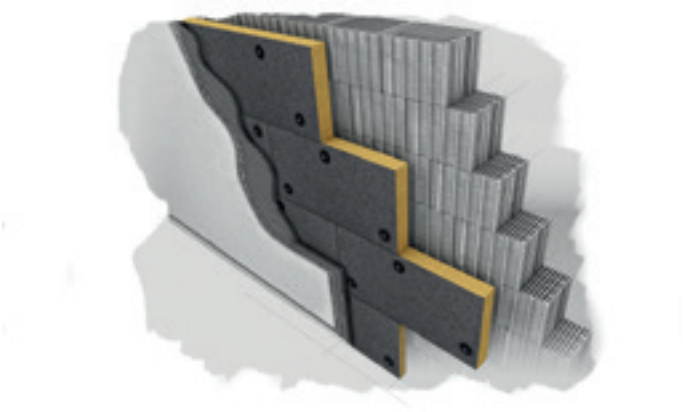
Austrotherm Re-solution®

The Resol rigid foam solution.

Austrotherm Resolution® façade

More living space with greater profitability

What's the benefit of a slim façade? Valuable additional square metres of useful space, for a start, and improved profitability of your property. You hadn't counted on that? We'll do the calculations for you. For new buildings and for renovations – you only stand to gain.



Uncompromising in new buildings:

In urban areas in particular – where property costs are high or there are strict building regulations – the thinner insulation can free up valuable square metres, which will help to significantly increase the value of the property and its profitability. You can gain more useful living space on the same footprint. When building new properties, it is now possible to meet all legislative requirements and guarantee optimal thermal insulation, even where there are difficult structural conditions.

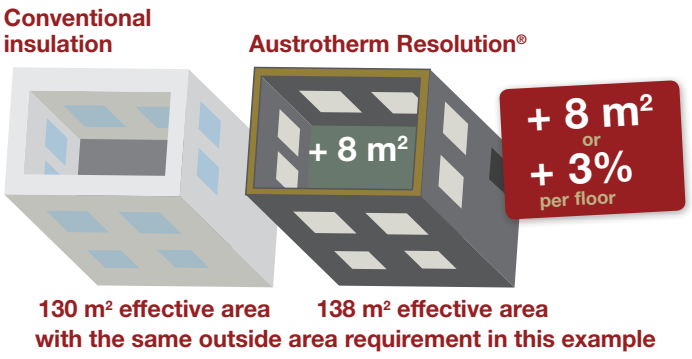
Uncompromising in renovations:

Thanks to the extremely good thermal insulation values of Austrotherm Resolution®, there is no need to dispense with thermal insulation in construction-related narrow corridors, balconies, entrance areas and many other places. This means a crucial increase in space can be achieved.

In renovations, it is now possible for the first time to react optimally to the given circumstances. Structural features such as eaves, attics or dormers can be provided with optimal thermal insulation without the need for structural changes.

More useful space on the same footprint: Example of a two-storey detached house:

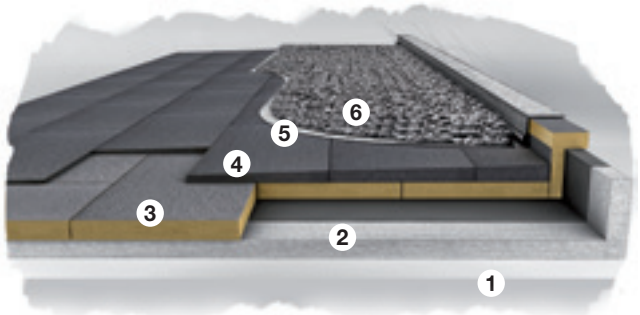
By using Austrotherm Resolution® at a thickness of 120 mm, you can increase the useful living space by 8 m². And all this with the same insulating value as 200 mm thick traditional expanded polystyrene rigid foam.



- Super-slim – space-saving insulation solution
- Quick and easy processing
- Thermal insulation that is more than 40% better than EPS F

Austrotherm Resolution® flat roof

Extremely low installation height with an extremely high insulating value



1 Reinforced concrete ceiling on the gradient
2 Vapour barrier and equalisation layer
3 Austrotherm Resolution® flat roof
4 Austrotherm EPS® sloping roof plus
5 Roof seal
6 Surface protection, gravel layer 16/32

A building loses up to 30% of its heat through the roof surfaces. To ensure that this valuable energy doesn't simply fly away, it is advisable to use the best possible thermal insulation. For roof insulation, Austrotherm® offers products with maximum thermal insulation. With the new super-slim Austrotherm Resolution® flat roof insulating board, you can save a lot of weight thanks to a favourable weight/performance ratio. When renovating flat roofs, such as terraces, in which there is no space for thick insulation, a reasonable level of insulation can now be achieved.

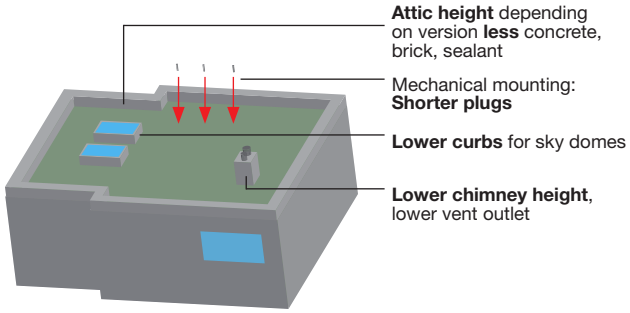
Lower installation height on flat roofing pays off.

Higher energy requirements mean the insulating thicknesses of normal insulating materials are growing. This in turn has an impact on the height of the attic: Its size is of course essentially determined by the overall design and the building height, but the damp-proofing of the roof at the attic must be implemented at least 15 cm above the top "layer". If the roof insulation has now already reached 35 cm, and if you add another 5 cm of gravel – plus the 15 cm bonding height (connecting height) above the top layer – then you have a minimum attic height requirement of 55 cm. The choice of insulating material is crucial when it comes to the height of the attic and associated additional cost savings for all connections, sky domes, pipe ducts and roof fittings. Roof openings – such as sky domes, chimneys or outlet vents – always represent potential leaks in the flat roof. Here, a minimum bonding height in accordance with the standards is required. If you work with more efficient insulation materials, such as Austrotherm Resolution® flat roof, everything becomes much more affordable, such as sky domes – with curbs 30 cm high instead of 50 cm, you save a lot of money.

An additional storey is possible

Building developers and planners must adhere to a maximum permissible construction height. In extreme cases, it might not be possible to add another storey because it would be just a couple of centimetres too high. Austrotherm Resolution® flat roof and floor boards are slim but efficient, and help increase room height.

Cost saving through lower installation heights on flat roofs



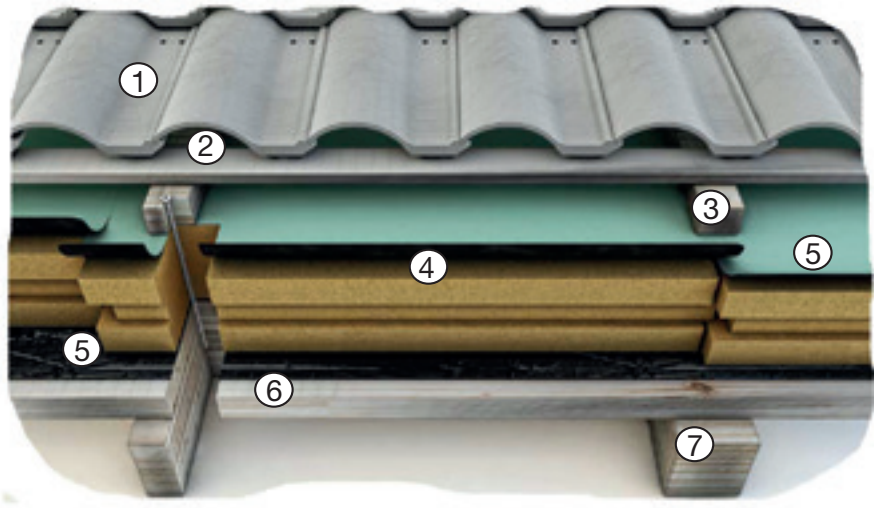
If the flat roof is anchored, there is an additional cost saving, as now only shorter plugs are needed thanks to the thinner insulating material.

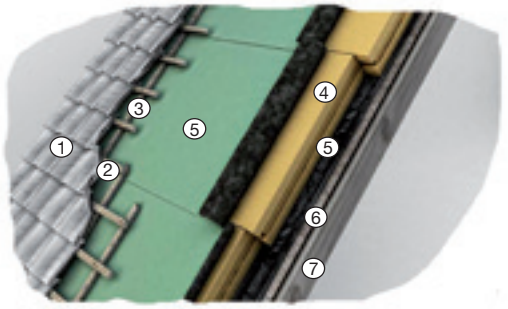
And, of course, you also require less sealing liner for attic construction. For chimney outlets and other roof openings, such as lightning protection, ventilation pipes or roof exit doors, the following therefore applies: Use Austrotherm Resolution® instead of traditional insulating materials – you'll save space and money.

- Enormous weight reduction
- Super-slim – space-saving insulation solution
- 0.022 W/(mK)

Austrotherm Resolution® pitched roof

Thermal insulation specifically above rafters





1 Roof covering
2 Roof battens
3 Counter-battens
4 Austrotherm Resolution® above-rafter insulation
5 Permeable underlayer
6 Full formwork (fire protection design)
7 Rafters (dimensioned to ensure fire protection)

In a pitched roof, perfect thermal insulation ensures a comfortable indoor climate in the rooms covered by the roof. The requirements for thermal insulation are not only high in new buildings; building developers who are conscious of energy and the environment take efficient, profitable thermal insulation into consideration when renovating old buildings, too.

Thermal insulation:

The new, easy to use Austrotherm Resolution® above-rafter insulation covers the following U-values:

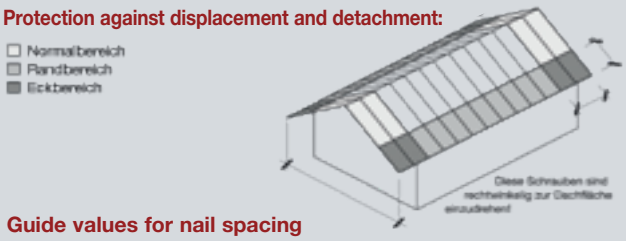
Austrotherm Resolution® above-rafter insulation	U-value in (W/m²K)*
100 mm	0.20 (minimum standard)
120 mm	0.17
140 mm	0.15
160 mm	0.13
180 mm	0.12
200 mm	0.11 (passive house standard)
220 mm	0.10
240 mm	0.09
300 mm	0.07

*) Calculation with 40 mm tongue and groove formwork

Stability:

Strength: Austrotherm Resolution® insulating boards with a permissible pressure resistance of 3000 kg/m².

Protection against displacement and detachment:



Guide values for nail spacing for attaching the counter-battens:

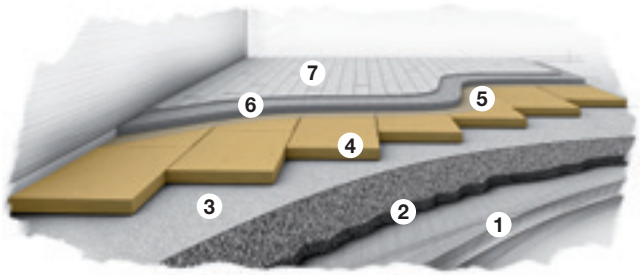
Normal area: e ≤ 105 cm
Edge area: e ≤ 95 cm
Corner area: e ≤ 45 cm

In contrast to between-rafter insulation, a completely homogenous insulating thickness is achieved over the entire roof surface. Additional advantage: The load-bearing structure of the roof truss remains visible. Good sound insulation values when 40 mm thick visible formwork with double groove is laid. The Austrotherm Resolution® above-rafter insulation is laminated with Austrotherm EPS® PLUS on the underside and with a permeable formwork liner (incl. overlap and adhesive strips) on the upper side. The edges have a tongue and groove design spanning the whole of their length.

The Austrotherm Resolution® pitched roof above-rafter element is now also available without a film. The product is coated with Austrotherm EPS® PLUS on both sides.

Austrotherm Resolution® floors

Increased room height due to extremely low installation height



1 Reinforced concrete slab
2 Potentially bound filling
3 Separating layer
4 Austrotherm Resolution® floor
5 Separating layer
6 Screed
7 Floor covering

Are you also interested in rooms with high ceilings? Then you won't gain anything with thick insulation layers. Floor insulation with the new super-slim Austrotherm Resolution® floor insulating boards meets increased requirements for thermal protection with the smallest installation heights.

During renovation work, there is often too little space available for subsequent insulation of the floor, as the minimum room height has to be adhered to. Even just a few centimetres of installation height can have a significant impact here. Austrotherm Resolution® is compatible with all common screed types, offers the smallest installation height and is the easiest to work with. Austrotherm Resolution® is also suitable for use with all kinds of heating screeds.

- Super-slim – space-saving insulation solution
- λ_D 0.022 W/(mK)
- Increased room height due to extremely low installation height

Austrotherm Resolution®

Customised cuts from one block: Insulate where and how you wish

Is your ideal insulating solution not available off the shelf? With the endless possibilities of Austrotherm Resolution® blocks, there are no limits on your insulation wishes.

Austrotherm Resolution® product data

Product type	in accordance with ÖNORM EN 13166 (PF)
Delivery type: Block	Length 2500 mm, width: 1000 mm, height: 1000 mm
Special board formats and individual cuts are possible.	
Thermal conductivity	λ_D = 0.022 W/(mK)
Pressure resistance	120 kPa
Closed cell structure	> 90%
Resistance to water vapour diffusion	μ = 20
Max. usage temperature	130 °C

The revolutionary block products of Austrotherm Resolution® allow all possible formats and shapes to be cut out of the insulating block easily and individually, with immediate effect. From pipe formwork to hulls – there are no limits on your creativity, and you can achieve maximum insulating performance.

- Outstanding thermal insulation

Austrotherm façade profiles

The imagination knows no bounds.

The façade is the face of the house, and as such it reflects on the house's inhabitants. With individual façade profiles, a truly unique design can be created. Individual solutions mean that architects and building developers can give their creativity free reign in the design of modern building façades as well. Anyone who works with historical building structures understands the distinctive design options offered by façade profiles.

Wide range of uses

Façade profiles have a wide ranges of uses. They lend modern buildings an extraordinary emphasis, help to give new buildings a classical look in an antique style or can be used for cost-effective renovation of old buildings. As the flexibility of Austrotherm profiles is guaranteed by the elastic Austrotherm TOP coating compound, radii can be bent on site according to the profile cross-section and size. Austrotherm® is also a specialist in historical replicas and has developed many profile versions for elegant façade designs. This allows for loving reconstruction of old buildings and careful decoration of new buildings.

The advantages:

- Individual design options
- Cost-effective and easy to work with
- For modern and classical façades

Easy to work with

Austrotherm façade profiles are robust, flexible and easy to work with. Butt joints are bonded only with Austrotherm PU butt joint adhesive. One coat of façade paint is all that's needed.

Modern and individual façades

with Austrotherm® façade profiles

Façade profiles are usually associated with classical old buildings and playful turn-of-the-century villas. But would you have suspected that there were façade design elements on this modern, new building? And yet, every cornice and every oriel partially consists of profiles that have just as much reason to exist today as ever before. Individual, easy to work with and cost-effective: That is the requirements profile.

Modern new building with customised profiles

Residential and functional buildings can have a charismatic exterior thanks to developments in modern aesthetics and façade profiles. Austrotherm® produces made-to-measure modern profiles and enables innovative façades that are guaranteed to attract attention. There are no limits on the design ideas of planners and architects. The result is profiles with an entirely unmistakable, distinct character.

Austrotherm design element

Giving every façade a modern design

Austrotherm design elements provide a clear and geometric structure and create an individual design on façades.

New buildings with class

Austrotherm façade profiles for classical style

If you want to maintain a classically antique appearance in a new building, then Austrotherm ® façade profiles are just the thing for you. The wide range of different profiles can turn any home with bare walls into a true architectural jewel.

Classical and prestigious

Austrotherm® is a specialist in historical replicas, and has developed many profile versions for elegant façade design. An appropriate façade design lends a classical look even to new buildings.

Whether it's a classical detached house or an opulent shopping centre, Austrotherm façade profiles give every building type an individual appearance.

BOM generator

Using this online program, you can generate a list of materials for façade profiles and adhesives specifically tailored to your home.

Online search

Go to austrotherm.de to search for many other façade profiles (special range) online.

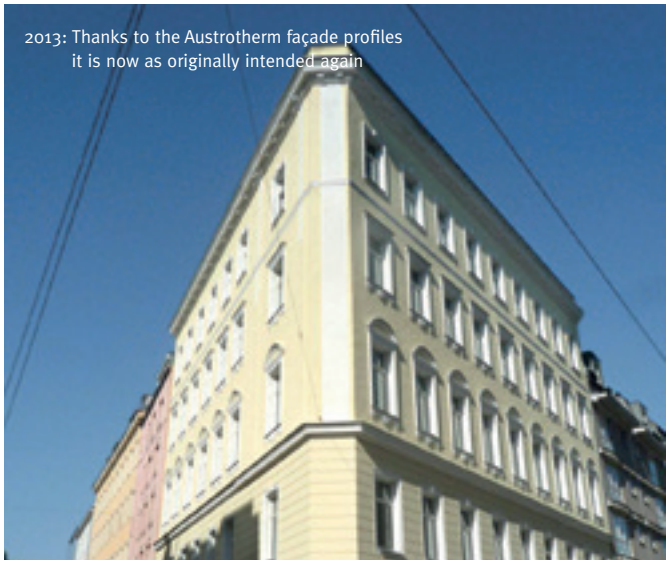
Renovate old buildings cheaply and stylishly

with Austrotherm façade profiles

Classical façades are exposed to high stresses through environmental influences. Even profiles of sandstone, quarried by stonemasons, are not permanently resistant and are practically unaffordable as original replicas. During renovation of old buildings, Austrotherm façade profiles allow for cost-effective, authentic reproduction that lasts.

1959: Wilhelminian house, Vienna, Baumgasse

2012: The same house without façade profiles



2013: Thanks to the Austrotherm façade profiles it is now as originally intended again

Austrotherm customised cuts

Customised for all requirements, from industrial to artistic

Anything is possible

Austrotherm® has a separate team for customised cuts. The customised cuts are produced with state of the art systems in the Pinkafeld plant, guaranteeing top quality and dimensional precision. They are prepared exactly in accordance with individual dimensional drawings and also offer different material qualities depending on requirements (e.g. higher pressure resistance). This in-house customised cuts team means Austrotherm® can respond very flexibly to short-notice changes and guarantee quick, punctual deliveries.

The advantages:

- For industry, packaging and the creative field
- High-performance insulating materials and material qualities
- Precision contour cuts and customised cuts
- Quick and punctual delivery
- Versatile and easy to work with

- **Customised cuts of Austrotherm Resolution®:** The slim customised cut **for industrial use**
- **Customised cuts of Austrotherm EPS®:** Block by block, good ideas **for industry, construction and creation**
- **Customised cuts of Austrotherm XPS®:** Customised **for pressure and moisture**

Austrotherm XPS® Technical data

Properties	Standard	Unit	Austrotherm XPS® Premium 30 SF	Austrotherm XPS® PLUS 30 SF	Austrotherm XPS® TOP 30 SF	Austrotherm XPS® TOP 30 TB SF	Austrotherm XPS® TOP 50 SF	Austrotherm XPS® TOP 50 TB SF	Austrotherm XPS® TOP 70 SF	Austrotherm XPS® TOP 70 TB SF	Austrotherm XPS® TOP P	Austrotherm XPS® TOP P TB	Austrotherm XPS® TOP Drain
Product type	EN 13164	–	XPS	XPS	XPS	XPS	XPS	XPS	XPS	XPS	XPS	XPS	XPS
Compressive strength	DIN 4108-10	–	dh	dh	dh	dh	ds	ds	dx	dx	dh	dh	dh
Thermal conductivity	EN 13164	W/(mK)	**4–40 cm: 0.027**	**8–40 cm: 0.032**	**3 cm: 0.033 4–5 cm: 0.032 6–12 cm: 0.035 14–16 cm: 0.036 18–20 cm: 0.037**	**18–40 cm: 0.035**	**5–6 cm: 0.033 8–12 cm: 0.035 14–16 cm: 0.036 18–20 cm: 0.037**	**18–40 cm: 0.035**	**5–6 cm: 0.033 8–12 cm: 0.035 14–16 cm: 0.036 18–20 cm: 0.037**	**18–40 cm: 0.035**	**3–6 cm: 0.033 7–8 cm: 0.035 10–16 cm: 0.036 18–20 cm: 0.038**	**18–40 cm: 0.035**	**6 cm: 0.033 8–12 cm: 0.035 14 cm: 0.036**
Third-party monitoring	–	–	FIW Munich	FIW Munich	FIW Munich	FIW Munich	FIW Munich	FIW Munich	FIW Munich	FIW Munich	FIW Munich	FIW Munich	SKZ Würzburg
Surface	–	–	smooth	smooth	smooth	smooth	smooth	smooth	smooth	smooth	embossed	embossed	Groove and fleece
Edge shape	–	–	SF	SF	GK, SF	SF	SF	SF	SF	SF	GK	GK	SF
Dimensions: Length: Width: Thickness tolerance:	DIN EN 822 DIN EN 822 EN 13164	mm mm –	1250 600 T1	1250 600 T1	1250 600 T1	1250 600 T1	1250 600 T1	1250 600 T1	1250 600 T1	1250 600 T1	1250 600 T1	1250 600 T1	1250 600 T1
Gross density approx.	DIN EN 1602	kg/m³	37	30	30	30	34	34	39	39	30	30	30
Pressure resistance	DIN EN 826 DIN B 6000	– kPa	CS(10\Y)300 ≥ 300	CS(10\Y)300 ≥ 300	CS(10\Y)300 ≥ 300	CS(10\Y)300 ≥ 300	CS(10\Y)500 ≥ 500	CS(10\Y)500 ≥ 500	CS(10\Y)700 ≥ 700	CS(10\Y)700 ≥ 700	CS(10\Y)300 ≥ 300[1]	CS(10\Y)300 ≥ 300[1]	–
Creeping behaviour (after 50 years < 2%) **Permissible long-term compressive stress**	DIN EN 1606	– kPa	CC(2/1.5/50)130 130	CC(2/1.5/50)130 130	CC(2/1.5/50)130 130	CC(2/1.5/50)130 130	CC(2/1.5/50)180 180	CC(2/1.5/50)180 180	CC(2/1.5/50)250 250	CC(2/1.5/50)250 250	– –	– –	– –
Elasticity module	DIN EN 826	kPa	12,000	12,000	12,000	12,000	20,000	20,000	25,000	25,000	12,000	12,000	12,000
Closed cell structure	DIN EN ISO 4590	%	≥ 95	≥ 95	≥ 95	≥ 95	≥ 95	≥ 95	≥ 95	≥ 95	≥ 95	≥ 95	≥ 95
Water absorption: Capillary through diffusion	– DIN EN 12088	Vol% –	0 WD(V)3[3]	0 WD(V)3[3]	0 WD(V)3[2]	0 WD(V)3[3]	0 WD(V)3[2]	0 WD(V)3[2]	0 WD(V)3[2]	0 WD(V)3[2]	0 WD(V)5[3]	0 WD(V)5[3]	0 WD(V)3[3]
Application limit temperature	–	°C	70	70	70	70	70	70	70	70	70	70	70
Linear coefficient of thermal expansion	–	mm/mK	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Resistance to alternating frost-thaw cycles	DIN EN 12099	–	FTCD: 1	FTCD: 1	FTCD: 1	FTCD: 1	FTCD: 1	FTCD: 1	FTCD: 1	FTCD: 1	FTCD: 2	FTCD: 2	FTCD: 1
Fire behaviour:	DIN EN 13501-1	–	E	E	E	E	E	E	E	E	E	E	E

GK... straight edge, SF... stepped profile

[1] Applies from 5 cm thickness
[2] Thickness 50 mm ≤ 3 vol%; thickness 100 mm ≤ 1.5 vol%; thickness 200 mm ≤ 0.5 vol%; Intermediate values are interpolated
[3] Thickness 50 mm ≤ 5 vol%; thickness 100 mm ≤ 3 vol%; thickness 200 mm ≤ 1.5 vol%; Intermediate values are interpolated
[4] After 300 frost-thaw cycles, max. 2 vol% water absorption
[5] After 300 frost-thaw cycles, max. 1 vol% water absorption

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Every construction measure – including thermal insulation with Austrotherm XPS® – is subject to applicable construction regulations, which must be observed.

Please note:

- AUSTROTHERM XPS® is not resistant to constant UV radiation; it must be protected by suitable means.
- AUSTROTHERM XPS® is not resistant to radiating heat; for permanent use, the threshold temperature of 70 °C should not be exceeded under any circumstances. Dark-coloured film and filter fleece can encourage an accumulation of heat and invariably result in deformation of the boards.
- If AUSTROTHERM XPS® comes into contact with materials that contain volatile substances (e.g. solvents, plasticisers, etc.), damage can occur. Ensure that any adhesives used are suitable for bonding polystyrene foam.
- AUSTROTHERM XPS® must be installed and used in accordance with the recognised rules of good engineering practice and up-to-date technology. Constant attention must be paid to the particular conditions of the application during use, particularly in terms of physical structure. The local building regulations must be observed.
- AUSTROTHERM XPS® products do not contain any hydrochlorofluorocarbons (HFCs).
- Produced without use of HBCD.

Austrotherm UNIPLATTE® Technical data

Austrotherm UNIPLATTE®		Dimensions (in mm)	Thickness (in mm)	Packing unit
Uniplatte 4	2.3 kg/m²	1300 x 600	4	80 pcs/pal.
Uniplatte 6	2.4 kg/m²	1300 x 600	6	160 pcs/pal.
Uniplatte 10	2.5 kg/m²	1300 x 600	10	108 pcs/pal.
Uniplatte 10	2.5 kg/m²	2600 x 600	10	108 pcs/pal.
Uniplatte 12.5	2.6 kg/m²	2600 x 600	12.5	90 pcs/pal.
Uniplatte 20	2.8 kg/m²	2600 x 600	20	60 pcs/pal.
Uniplatte 30	3.2 kg/m²	2600 x 600	30	40 pcs/pal.
Uniplatte 40	3.5 kg/m²	2600 x 600	40	30 pcs/pal.
Uniplatte 50	3.8 kg/m²	2600 x 600	50	24 pcs/pal.
Uniplatte 60	4.1 kg/m²	2600 x 600	60	20 pcs/pal.
Uniplatte 80	4.8 kg/m²	2600 x 600	80	16 pcs/pal.
Uniplatte 100	5.4 kg/m²	2600 x 600	100	12 pcs/pal.
Uniplatte 120	6.1 kg/m²	2600 x 600	120	10 pcs/pal.
Austrotherm UNIPLATTE® L-shaped board		**Dimensions (in mm)**	**Thickness (in mm)**	**Packing unit**
L-shaped pipe box 15/15		2600 x 150/150	20	60 pcs/pal.
L-shaped pipe box 20/20		2600 x 200/200	20	40 pcs/pal.
L-shaped pipe box 30/30		2600 x 300/300	20	40 pcs/pal.
L-shaped pipe box 40/20		2600 x 400/200	20	40 pcs/pal.
Austrotherm UNIPLATTE® U-shaped board		**Dimensions (in mm)**	**Thickness (in mm)**	**Packing unit**
U-shaped pipe box 20/20/20		2600 x 200/200/200	20	50 pcs/pal.
U-shaped pipe box 20/40/20		2600 x 200/400/200	20	20 pcs/pal.
U-shaped pipe box 30/60/30		2600 x 300/600/300	20	12 pcs/pal.
Austrotherm UNIPLATTE® bathtub element		**Dimensions (in mm)**	**Thickness (in mm)**	**Packing unit**
Head piece 730 (incl. 1 levelling foot)		730 x 600	30	30 pcs/pal.
Length piece 1770 (incl. 2 levelling feet)		1770 x 600	30	30 pcs/pal.
Length piece 2100 (incl. 2 levelling feet)		2100 x 600	30	30 pcs/pal.

Technical properties of extruded polystyrene rigid foam (mean values):	
Pressure resistance:	200 kPa
Thermal conductivity: λ_d	20–60: 0.033 W/mK 80 –120: 0.036 W/mK
Diffusion resistance factor: μ	100-200
Capillary water absorption:	None
Application limit temperature:	70 °C
Fire behaviour:	In accordance with EN 13501-1

Storage:

All Austrotherm UNIPLATTE® boards must be stored laid flat in a dry place. Austrotherm UNIPLATTE® boards must not come into contact with substances that contain solvents.

Notes:

The information in this brochure is intended as non-binding advice on the basis of current technology. Where applicable, property rights must be observed. No legal obligation can be inferred from the contents of this brochure.

New:

The base material is Austrotherm XPS® TOP with good ecological properties, as the cell content is air.

- Produced without use of HBCD

AUSTROTHERM
Dämmstoffe

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