



ROOFING THERMAL INSULATION WITH Sikatherm PIR BOARDS

FOR FLAT ROOFING APPLICATIONS

BUILDING TRUST





SUSTAINABILITY AND THE ROLL OF THERMAL INSULATION

THERMAL INSULATION blocks or slows the heat flow through the building envelope which results in energy saving, therefore it is important to most green building design.

GLOBAL TRENDS IN ENERGY EFFICIENCY

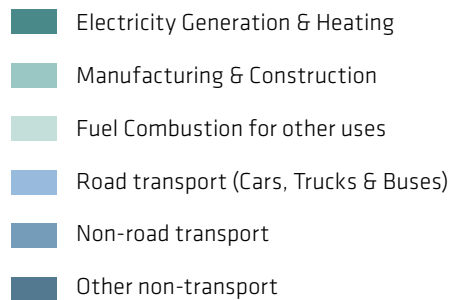
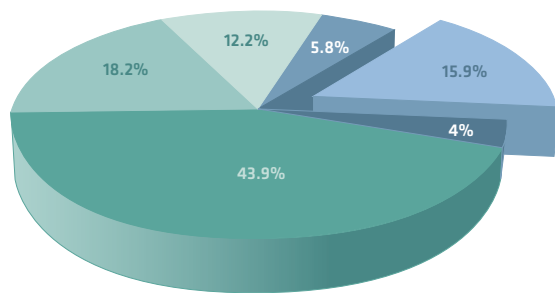
The increase in the Earth's average surface temperature is significantly related to the level of so-called 'greenhouse gases' such as carbon dioxide in the atmosphere, which effectively retain heat that would otherwise escape from our planet. This increase in temperature is the greenhouse effect.

Man-made structures and especially buildings contribute up to 30% of global annual greenhouse gas emissions from burning fossil fuels and these also consume up to 40% of all of the energy produced around the globe. Given the massive volume of new construction that continues, especially in growth and

transition economies around the world, plus the inefficiencies of the existing building stock worldwide, if nothing is done, the greenhouse gas emissions from buildings will more than double within the next 20 years.

Improving the thermal performance and insulation of buildings, traveling in more fuel-efficient vehicles, and using more efficient electrical appliances are all ways to reduce energy consumption, and thereby our CO₂ emissions.

This brochure shows how to make significant reductions and decrease emissions in buildings using the most efficient thermal insulation.



GREEN BUILDING CONCEPT

Green Building generally refers to the incorporation of environmentally friendly and resource efficient processes and materials at each stage of construction, right from the location of the site and design of the whole structure/facility, right through its construction and operation in service, including future maintenance and refurbishment, to its eventual demolition and waste disposal. The endeavor is to seek minimum possible impact on the environment.

The concept of Green Building therefore tends to concentrate on two main aspects:

- Increasing the efficiency with which buildings use energy, water and materials
- Reducing the impact on human health and the environment, through better location, design, construction, operation in service, maintenance, and eventual disposal i.e. throughout the whole life cycle

Green buildings usually include specific measures to reduce energy consumption, like designing water- and air- tight building envelopes and providing increased insulation in roofs,

walls, ceilings, and the floors. As such high-performance buildings and facilities use less energy in their operation, the embodied energy of their construction has assumed much greater importance. This may make up as much as 30% of the overall life cycle energy consumption.

GREEN BUILDING WITH Sikatherm PIR INSULATION:

Polyisocyanurate (PIR) materials are proven to have the best thermal performance per given thickness of insulation among standard commercial products. They also have a very low weight and resultant loading on the structure in comparison with other insulation materials to provide equivalent insulation properties.

Thermal insulation is one of the key design and construction requirements to create comfortable environments inside of buildings, which is achieved by providing protection from the heat and/or cold environment outside. The importance of a buildings thermal insulation has also continuously increased recently, due to higher and higher demands and standards for increased thermal performance to greatly reduce energy consumption for heating or cooling in service.

PIR THERMAL INSULATION

ALTHOUGH MANY TYPES of thermal insulation products are available on the market, increasingly PIR materials are the best option, due to their clear advantages.

Thermal insulation in flat roof systems must have minimal environmental impact and must also fulfil many other requirements in terms of structural support and compatibility with other materials. It is therefore best to determine and consider all of the important characteristics before selection of the most suitable product and system. Although many types of thermal insulation products are available on the market, increasingly PIR materials are the best option, due to their clear advantages over other insulation boards. PIR is a rigid foam produced in a closed chemical process (exothermic chemical reaction) made by mixing MDI, polyols, and other additives, including a 'blowing agent' (usually pentane gas) to aid the foaming process. This forms a uniform cellular structure, resulting in the lowest thermal conductivities and highest insulation values.

As such Sikatherm PIR thermal insulation offers great potential to reduce both embodied and operational energy consumption in many buildings – probably the biggest source of wasted energy on the planet today. Less energy used means fewer CO₂ emissions and a greener future. Sikatherm PIR uses a high performance insulant manufactured with a blowing agent additive that also has zero Ozone Depletion Potential (ODP) and low Global Warming Potential (GWP).

The majority of PIR and the older technology, PUR based insulation boards for flat roofing build-ups have a separating layer or 'facers'. These can be aluminium foil, glass tissue or paper and are also used to prevent any outgassing effects, as well as to allow direct contact with single ply PVC-p membranes. The Sikatherm PIR range is fully compatible with both Sikaplan® and Sarnafil® single-ply waterproofing systems based on PVC and FPO/TPO. The range provides solutions for optimal thermal performance with mechanically fixed, ballasted and some types of green roof systems.

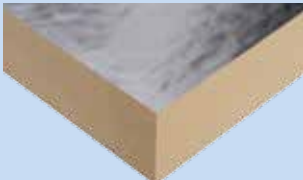



COMPARISON OF TYPICAL THERMAL INSULATION USED IN FLAT ROOFING BUILD-UPS


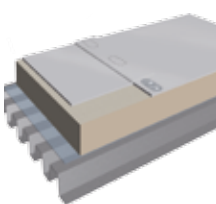



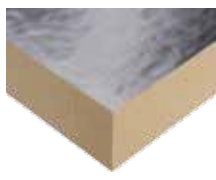
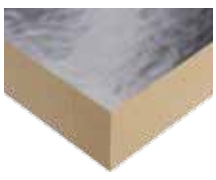




	Sikatherm PIR AL / GT	Mineral wool	EPS
Excellent thermal performance ⁽¹⁾	X		
Resistant to high temperature ⁽²⁾ (≥ 200 °C)	X	X	
High compression strength (≥ 100 kPa)	X		X
Low water absorption capacity (≤ 10%)	X		X
Light weight ⁽³⁾	X		X
Closed cell foam structure	X		X
Direct contact allowed to PVC single-ply membrane	X	X	
Suitable for adhered roof systems	X		X
Suitable for ballasted roof systems	X		X
Suitable for green roof systems	X		X
Suitable for use with liquid applied membranes ⁽⁴⁾	X		
Insulation boards with rebated edges	X		X
Resistance to warm bitumen	X	X	
Resistant to fungal growth	X		X
Non-fibrous material (does not irritate the skin and cannot cause lung disease)	X		X

(1) Thermal conductivity value minimum 0.028 W/mK (2) Short time resistance (3) Less than 50 kg/m³ (4) Only Sikatherm PIR GT allowed

TECHNICAL CHARACTERISTICS OF Sikatherm PIR BOARDS

	Sikatherm PIR AL	Sikatherm PIR GT
	 <p>Sikatherm PIR AL is faced on both sides with an aluminium composite foil that is fully bonded with the core PIR insulation during the manufacturing process.</p>	 <p>Sikatherm PIR GT is faced on both sides with a coated glass tissue that is fully bonded with the core PIR insulation during the manufacturing process.</p>
Thermal conductivity	0,022 W/m*K	0,024 – 0,026 W/m*K
Standard board sizes (other sizes possible on request)	625 x 1250 mm or 1250 x 2400 mm ⁽¹⁾ 600 x 1200 mm or 1200 x 2400 mm ⁽²⁾	625 x 1250 mm or 1250 x 2400 mm ⁽¹⁾ 600 x 1200 mm or 1200 x 2400 mm ⁽²⁾
Standard board thicknesses	40 – 240 mm ⁽¹⁾ 30 – 150 mm ⁽²⁾	40 – 240 mm ⁽¹⁾ 30 – 130 mm ⁽²⁾
Average density	32 – 35 kg/m ³ ⁽¹⁾ 32 kg/m ³ ⁽²⁾	32 – 35 kg/m ³ ⁽¹⁾ 32 kg/m ³ ⁽²⁾
Compressive Strength	> 100 kPa at 10% compression ⁽¹⁾ > 150 kPa at 10% compression ⁽²⁾	> 100 kPa at 10% compression ⁽¹⁾ > 150 kPa at 10% compression ⁽²⁾
Fire performance	Euroclass RtF D-s1, d0 ⁽¹⁾ Euroclass RtF E ⁽²⁾	Euroclass RtF E

(1) Refers to product A (2) Refers to product B

	Liquid Applied	Mechanically Fastened	Adhered	Gravel Ballasted	Green and Utility Roof
Flat Roofing Systems					
Sikatherm PIR AL	Not suitable for liquid applied roofs		Not suitable for adhered roofs		Limited suitable for green and utility roofs
Sikatherm PIR GT					Limited suitable for green and utility roofs

ADVANTAGES OF Sikatherm PIR

Sikatherm PIR THERMAL BOARDS are used as thermal insulation underneath the waterproofing layer. These are high quality CFC/HCFC-free polyurethane foam boards which ideally suit the majority of flat roofing systems and have the following important advantages:

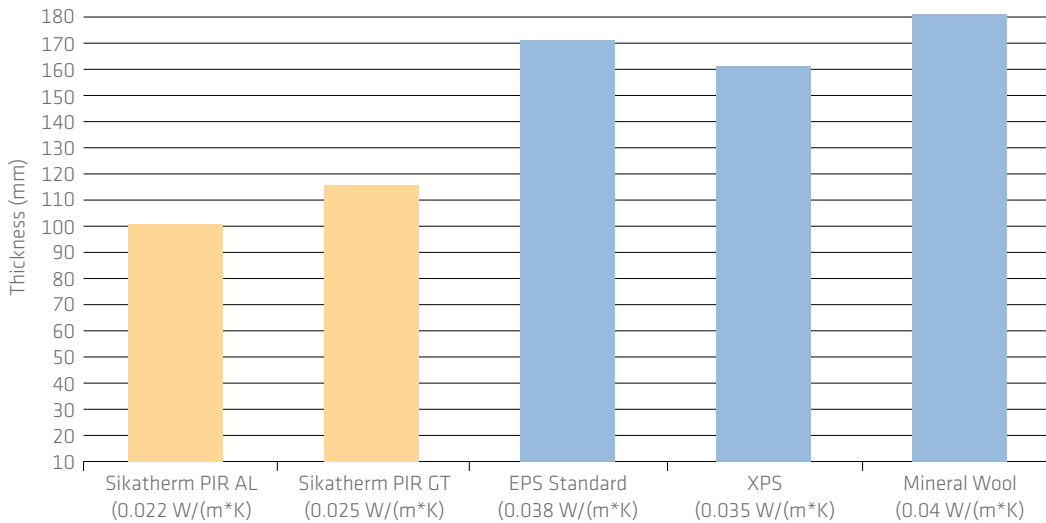
EXCELLENT THERMAL INSULATION PROPERTIES

With a thermal conductivity of 0.022 – 0.026 W/m*K these are amongst the most thermally efficient insulation products and this also allows the use of much thinner boards to achieve the same or significantly increased thermal resistance to most traditional boards and other options.

The lower thickness with equivalent density and increased thermal performance has many advantages:

- Thinner metal sheet can be used for light-weight industrial roofs, alternatively the distance between supports can be increased
- Lower volume m³ of insulation board needs to be delivered to the building site
- Installing a thinner insulation board is more cost effective in terms of labor cost
- Shorter fasteners need to be used for the mechanical fastenings in this type of roof build-up

Thickness of Different Types of Insulation Board with Similar Thermal Insulation Properties (mm)



The following chart is a comparison of how much Sikatherm PIR AL⁽¹⁾ with thickness of 100 mm (0.022 W/(m*K)) and an alternative mineral wool based (0.040 W/(m*K)) thermal insulation with thickness of 180 mm (in volume and mass) needs to be installed for different roof sizes in order to achieve the same thermal insulation requirements.

Roof surface (m ²)	Sikatherm PIR AL, 100 mm		Mineral wool, 180 mm		Deviation	
	volume (m ³)	mass (tons)	volume (m ³)	mass (tons)	in volume (m ³)	in mass (tons)
1,000	100	3,2	180	30,6	80	27,4
2,000	200	6,4	360	61,2	160	54,8
5,000	500	16	900	153	400	137
10,000	1,000	32	1,800	306	800	274

By installing Sikatherm PIR AL⁽¹⁾ instead of a mineral wool option, the volume (m³) and also the mass (tons) of insulation installed can be reduced dramatically for the same thermal resistance value and insulating properties. This will obviously also provide very significant savings in terms of material handling and labor costs as well as in energy consumption and CO₂ emissions.

(1) Refers to product A





SINGLE LAYER INSULATION

Due to the excellent thermal properties and availability of board thicknesses up to 240 mm⁽¹⁾, Sikatherm PIR boards can generally be installed in one single layer.

Advantage:

- Lower labor costs for installation
- Less adhesive is required in comparison with extruded polystyrene (EPS boards), which generally have to be installed in multiple-layers

THINNER INSULATION = SHORTER FASTENERS

PIR boards have excellent thermal properties, therefore thinner boards can be installed.

Advantage:

- Shorter and lower cost fastener fixings

COMPATIBLE WITH LIQUID APPLIED MEMBRANE SYSTEMS

Sikatherm PIR GT boards can also be used in warm build-up roofing systems with liquid applied membranes such as SikaRoof® MTC systems. These liquid applied waterproofing membranes are quickly and easily installed over a Sikalastic® Carrier membrane that is bonded to the insulation boards with Sikalastic® Coldstick® adhesive.

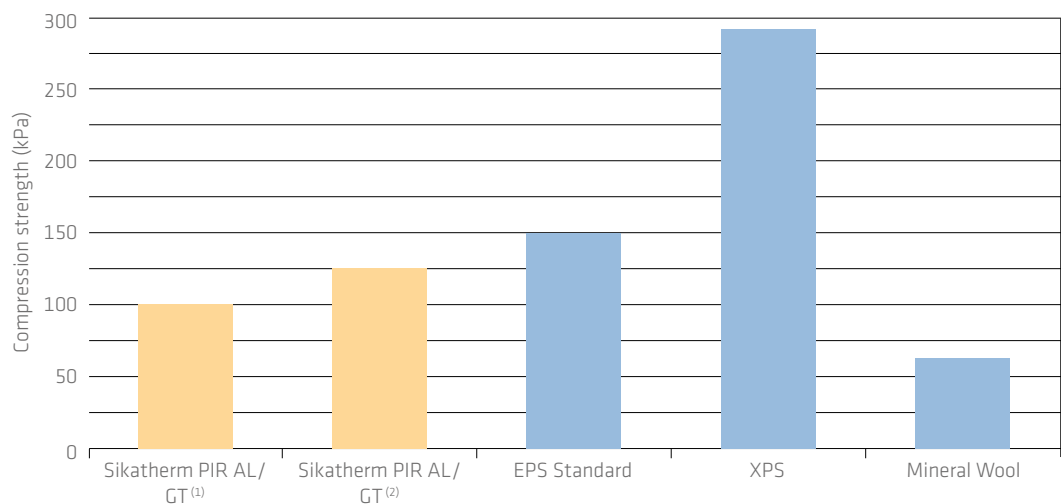
HIGH COMPRESSION STRENGTH

Advantage:

- The insulation surface is not depressed in by the fixing tubes
- It does not get soft and uneven during the installation process as mineral wool insulation does
- For these reasons puddling and ponding water on the roof is greatly reduced
- Photovoltaic systems can be installed on the surface



Typical Compression Strength of Different Types of Thermal Insulation Boards (kPa)



(1) Refers to product A (2) Refers to product B

GOOD FIRE RESISTANCE

Sikatherm PIR has short-term temperature resistance to 250°C and long-term resistance to 90°C.

Behavior of Sikatherm PIR boards in fire:

- They do not melt
- They do not support the spread of flame
- When heated it becomes hard, unlike EPS (expanded polystyrene) that melts
- This new generation of polyurethane (PIR) carbonizes in flames, forming an isolation oxygen barrier (self-extinguishing effect)
- Sikatherm PIR GT – Class E according to EN13501-1
- Sikatherm PIR AL – Class D-s1, d0 according to EN13501-1 ⁽¹⁾
- Sikatherm PIR AL – Class E according to EN13501-1 ⁽²⁾

Advantage:

Class D relates to fire behavior characteristics, where “s1” represents the best performance relating to smoke and “d0” is the best class for minimal burning droplets performance. Both of these characteristics are significant in fires, because smoke development is the biggest barrier during fire-fighting, whilst burning droplets support the propagation and spread of fire. Alternative EPS and XPS insulation boards only meet Class E.

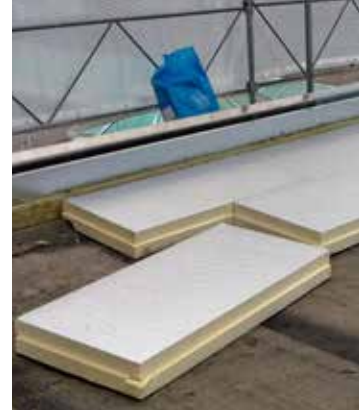
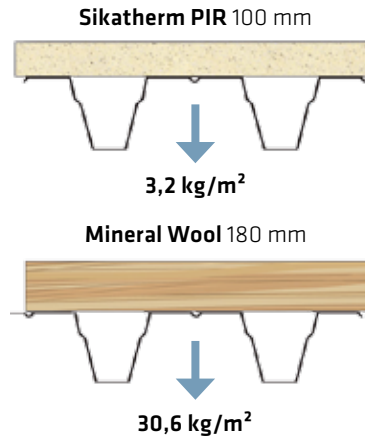
(1) Refers to product A (2) Refers to product B

LOWER WEIGHT

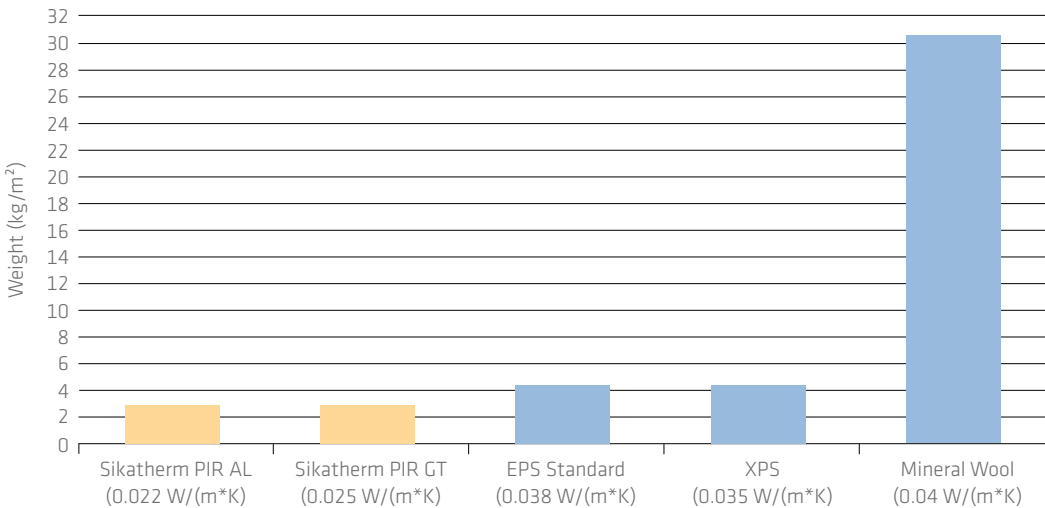
Due to its lower weight, Sikatherm PIR thermal insulation boards put less load on the structure of the building.

Advantage:

- Only 32 kg/m³ weight (equivalent mineral wool 170 kg/m³)
- Ideal for refurbishment, because the roof structure does not need to be loaded with significant additional weight



Weight of 1 m² of Different Types of Insulation Boards with Equivalent Thermal Insulation Properties (kg/m²)



COMPATIBILITY WITH PVC-p / FPO-TPO MEMBRANES

Sikaplan® / Sarnafil® roof waterproofing membranes can be laid directly onto and in direct contact with Sikatherm PIR AL/GT boards, no separation layers are needed. The integrated facers in the boards prevent direct contact (membrane and PIR foam).

Advantage:

- Faster and easier installation
- More cost efficient roof build-ups



LARGER BOARDS ARE AVAILABLE

For large areas, larger Sikatherm PIR boards are available in dimensions of 1250 x 2400 or 1200 x 2400 mm.

Advantage:

- Lower labor cost for installation
- Faster and cost efficient installation

WATER ABSORPTION

Sikatherm PIR boards have a 95% by closed-cell structure of the polyurethane foam that resists both air, water and water vapour ingress. This prevents problems associated with open cell materials such as mineral fibre boards, which can absorb moisture and allow air infiltration, resulting in reduced thermal performance.

Advantage:

- Sikatherm PIR boards have high resistance to moisture absorption (although not designed for inverted roofs)

INSULATION BOARDS WITH REBATED EDGES

Due to the rebated edge design of Sikatherm PIR boards there are no cold bridges that can occur across the roof.

Advantage:

- Faster and more cost effective installation compared to mineral wool, which is generally installed in two layers to prevent cold bridges

EASY TO USE

Advantage:

- Sikatherm PIR boards are easy to carry and transport to the roof due to their light weight
- They are easy to cut
- PIR boards do not release fibers that irritate skin
- They do not warp during handling or installation
- Sikatherm PIR boards are safe to work with

DESIGN & SITE SUPPORT WITH SINGLE POINT SUPPLY AND GUARANTEE

Specific project U-Value design can be made for Sikatherm PIR on request and they can be included into the Sika guarantee, providing owners and designers with a single source supply and single point guarantee for all of the major roof build-up components (vapour barrier, insulation, membrane, fasteners etc.).

FM APPROVED

FM Global (Factory Mutual) provides comprehensive global commercial and industrial property insurance, engineering-driven underwriting and risk management solutions, plus innovative property loss prevention research and risk management. Roofing products are covered by FM Approvals standard 4470, which is becoming increasingly important and recognized around the world, specifically now in Europe. Some Sikatherm PIR AL and GT have passed testing and inspection by FM Approvals.

AVAILABILITY OF Sikatherm PIR TAPERED INSULATION

TAPERED INSULATION is of great assistance to the designer and the contractor as it can help to form slopes to drainage points, scuppers and gutters on flat parts of the roof.

This also reduces the possibility of ponding water and can help to extend the service-life of a roof. Ponding water on flat roofs can otherwise lead to serious problems including structural deflections in the roof deck and unwanted bacterial or vegetative growth on the roof. These are critical factors to consider in the design of flat roof structures and their build-ups.

Tapered insulation can be cut to size on site. However, Sikatherm PIR tapered boards are usually designed and produced pre-cut, pre-assembled and delivered ready to install, to a pre-defined installation scheme on site.

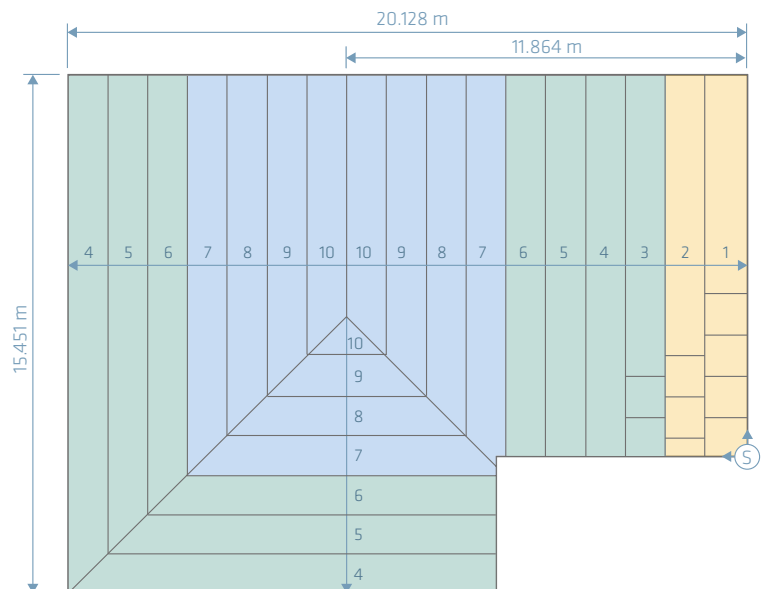
Sikatherm PIR boards are also available with a factory produced and quality controlled falls. When required a special roof scheme with pre-mitred tapered insulation boards can also be designed and produced. All tapered boards are clearly marked for identification on site during their production. This is therefore one of the easiest and most convenient ways to produce sloping roofs. Sika can provide you with a complete, specifically designed, tapered insulation scheme for your project.

The following information is included:

- Product details and all required installation information
- Description of maximum thicknesses
- Lay-out plan is designed to meet the required U-value
- Drawings of the lay-out with the tapered Sikatherm PIR boards
- Exact quantities of materials required for the installation

BENEFITS OF PRE-CUT Sikatherm PIR TAPERED INSULATION

- High performance thermal layer
- Provides effective insulation and drainage as one system
- Helps to reduce the labour cost & installation time
- Reduces the risk of ponding / standing water
- Compatible with most waterproofing systems
- Excellent sound reduction and absorption
- High compression strength
- Dimensionally stable
- Improves the service-life expectancy of flat roofs
- Suitable for new build and refurbishment
- Easy and fast to install
- Pre-cut boards help to cut rooftop waste and disposal fees by nearly 50%
- Sikatherm PIR tapered insulation is light weight (32 kg/m^3) whilst alternative cement screeds ($2,000 \text{ kg/m}^3$) and mineral wool (170 kg/m^3) are much heavier



CASE STUDIES

REAL SUPERMARKET, DUNAUJVAROS, HUNGARY

PROJECT DESCRIPTION

Complex refurbishment work of a 30 years old food shop roof. To meet current standards for thermal efficiency, additional insulation had to be provided.

PROJECT REQUIREMENTS

Although originally a mechanically fastened PVC roofing system was specified, after site assessment with pull-off testing by Sika Technical Services, it became clear that due to the inadequate condition of the roof deck, mechanically fixed or ballasted systems could not be used. The only possible solution was a fully adhered roofing system build-up. The thermal insulation had to have a U value of 0,183 W/m²K.

ADVANTAGE OF USING Sikatherm PIR BOARDS

- Lower thickness of thermal insulation required – 120 mm thick Sikatherm PIR GT was used instead of 200 mm thick expanded polystyrene (EPS) for the same performance
- Single layer insulation – less adhesive was needed
- Smaller parapet was required – with lower labor costs



CHERRY TREE ELEMENTARY SCHOOL CARMEL, INDIANA, USA

PROJECT DESCRIPTION

When the 524-student elementary school decided to renovate its roof, it was looking for the visual identity of a standing seam roof, but didn't want to use standing seam roof again, because of problems it had had with the roof in the past. Fortunately one Sika's certified roofer proposed a good and cost efficient solution: Sika Sarnafil® Décor Roof System – an adhered roofing system using special decorative profiles which make the metal roof imitation possible.

PROJECT REQUIREMENT

A typical reroof would involve the removal of the old roof, but in this case it was not necessary to do so. Solution: the existing standing seam rib flutes were filled with pre-cut Sarnatherm CG insulation, one layer of Securock Gypsum Fibre Roof Board was then mechanically fastened, and the Sarnafil® feltback membrane was then adhered to the boards with Sarnacol® adhesive.

ADVANTAGE OF USING Sarnatherm BOARDS

- Good workability, easy to cut
- High compression strength
- Light weight



CASE STUDIES

NEW STORE OF FOOD DISCOUNTER CHAIN, GIRONA, SPAIN

PROJECT DESCRIPTION

The owner was looking for a long lasting and high quality roofing system which performs for at least 20 years.

PROJECT REQUIREMENTS

Since the owner considered installing PV solar panels on the roof later, the Sikatherm PIR insulation seemed to be the best option.

Sika implemented a full-system approach by taking both the environmental impacts of the system and the heating/cooling savings for this specific project at its location for an estimated service lifespan of 20 years into account.

ADVANTAGE OF USING Sikatherm PIR BOARDS

- Excellent thermal insulating property
- High compression strength



KERRY FOODS GLOBAL INNOVATION & TECHNOLOGY CENTRE, NAAS, IRELAND

PROJECT DESCRIPTION

Kerry Group is a world leader in the global food industry. The new Innovation and Technology Center was built in Naas, Ireland

PROJECT REQUIREMENTS

The main requirement for this €100 million project was that it would be designed and built through the utilization of BIM; therefore the designer needed all roofing details to be in BIM format. As Sikatherm PIR products are integrated into Sika Ireland's roofing systems, the architect could download the BIM objects from the national BIM Library, accessible via the Sika website.

ADVANTAGE OF USING Sikatherm PIR BOARDS

- Low water absorption capacity made the work easier
- The Sikatherm PIR AL board is only 100 mm thick



FURNITURE DISTRIBUTOR STORE, KUALA LUMPUR, MALAYSIA

PROJECT DESCRIPTION

In 2015, the furniture distributor's store in Damansara was the 2nd most visited store of this distributor in the world. That was a good reason to open an even bigger store in Cheras, Kuala Lumpur. The new store has a roof surface of 26.000 m².

PROJECT REQUIREMENTS

The owner's requirements were simple: to create a long lasting waterproofed flat roof with easy maintenance and the capability to bear the load of a large amount of solar panels. Indeed, about 70% of total roof area was covered with solar panels. Further requirement was to install FM approved products.

ADVANTAGE OF USING Sarnatherm PIR BOARDS

- Sarnatherm PIR G/S is FM approved
- Due to its high compression strength it can bear the load of solar panels and is also durable for the periodical maintenance work done for photovoltaic system
- One layer insulation was easy and fast to install



LANCASTER AND MORECAMBE COLLEGE, UNITED KINGDOM

PROJECT DESCRIPTION

Lancaster and Morecambe College has been providing higher education since it was built in the 1950's. Due to the age of the building and standards on the renovation works, the current roof failed to meet BREEAM requirements and expected U-values.

PROJECT REQUIREMENTS

An SGK membrane from Sika-Trocal SGK was specified by the client, to re-cover the existing roof by adhered roofing system. Sikatherm insulation was installed by being slotted and glued to the existing felt to increase thermal performance. The domed roof contained a lot of detail work and had a large surface area. As the site is situated on a working college campus, the project had tight deadlines.

ADVANTAGE OF USING Sikatherm PIR BOARDS

- It fulfilled the required U-value with only one layer
- Suitable for adhered roofing systems
- Easy to cut
- The insulation surface is not depressed and damaged when applicators working on it



SAVING ENERGY WITH Sikatherm® PIR THERMAL INSULATION

Case study



Fulgar Textile Company (9,400 m²), Zrenjanin, Serbia

SIKA HIGH-PERFORMANCE THERMAL INSULATION

Thermal insulation is a key to creating a comfortable environment inside a building and it is also a key to saving energy. The importance of insulation has increased along with continuously evolving insulation standards worldwide, which place higher and higher demands on the thermal resistance of buildings in order to reduce energy demand for heating and cooling. Sika provides a wide range of thermal insulation materials specially designed and manufactured for optimal performance as part of Sika roofing systems. For example, Sikatherm® PIR thermal insulation board is known for low thermal conductivity, low density and good compressive strength. Most boards are coated with an aluminium, glass tissue or paper facer, which prevents either outgassing effects or allows direct contact with single-ply PVC membranes.

SUSTAINABLE SOLUTIONS

More Value

Customer: Martini Grandnja d.o.o. was the main contractor in Zrenjanin, Serbia. The roofing sub contractor was DMA Koprivica d.o.o. in Belgrade, Serbia.

Project: Expansion of an industrial production plant (9,400 m²) of the Fulgar textile company in Zrenjanin, Serbia.

Requirements: Fulgar sought a cost-effective refurbishment solution, including thermal insulation, which could be installed fast and easily. High resistance to moisture absorption and low humidity absorption of insulation were important criteria.

Sika Solution: The customer decided to implement the cost- and time-effective Sikaplan® G 15 / Sikatherm® PIR GT T 100 roofing system.

Sika Sustainability Approach: Custom project-specific LCA report and energy-saving calculations for heating and cooling.



ECO-EFFICIENCY IN ROOF REFURBISHMENT

Case study



Shopping center MetroCentre (20,000 m²), Gateshead, UK

MINIMIZING SITE WASTE IN ROOF REFURBISHMENT

Upgrading the thermal performance of existing buildings is an ideal way to save energy and comply with UK building regulations. A thermal upgrade can be easily achieved by installing additional insulation over the existing substrate and covering it with a Sika roofing system. By using the existing buildup as a base for the new system, the client benefits from:

- Reduced carbon costs of the roofing system
- Reduced waste because the existing system remains in situ and need not be removed (stripped out)
- Minimal disruption to the operation of the building during installation
- A cost-effective method of increasing the design life of the building's roofing system

SUSTAINABLE SOLUTIONS

More Value

Customer: Intu Properties plc. owns some of the very best shopping centers in the strongest locations in the UK. The Intu Environmental Policy states that a responsible and forward-looking approach to environmental issues is an important factor in Intu's continuing success in the UK property industry.

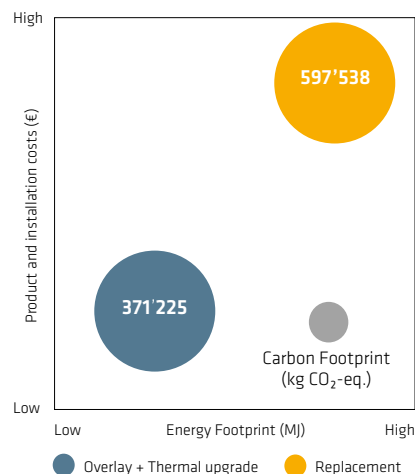
Project: Refurbishment of the MetroCentre (20,000 m²) in Gateshead, UK.

Requirements: Intu MetroCentre sought a cost-effective refurbishment solution, including a thermal insulation upgrade, that could be installed fast and easily.

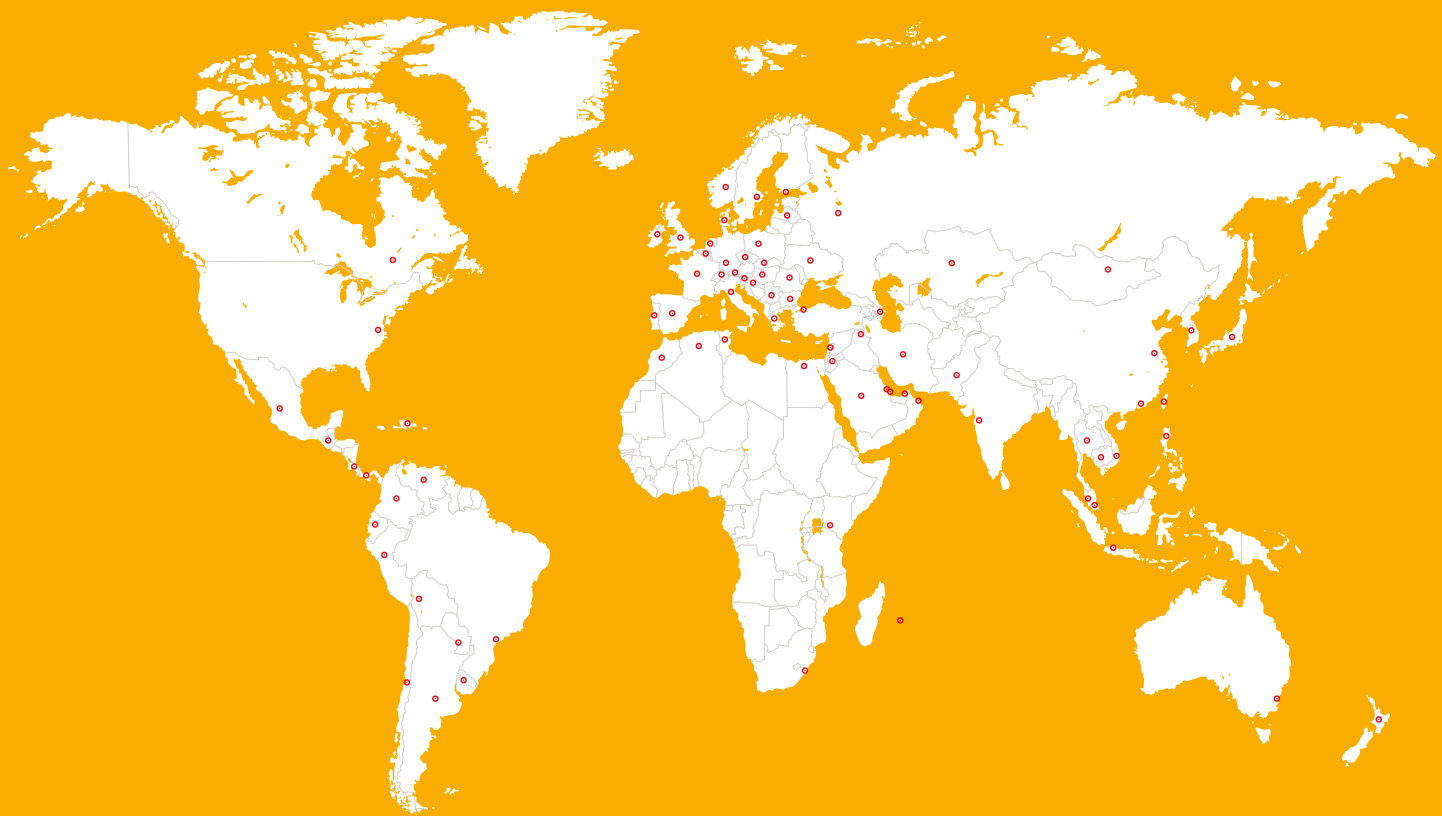
Sika Solution: The customer decided to specify SikaRoof® MTC 18 liquid-applied membrane / Sikatherm® PIR GT 40 mm to overlay and upgrade the existing felt roofing system to increase the thermal efficiency of the building and minimize waste to landfill.

Sika Sustainability Approach: Providing a solution that contributes to the customer's eco-efficiency strategy of reducing its energy use and carbon footprint, complying with UK building regulations.

Eco-efficiency of the Intu MetroCentre project per 20'000 m²: Cradle to Gate



GLOBAL BUT LOCAL PARTNERSHIP



FOR MORE ROOFING INFORMATION:



WE ARE SIKA

Sika is a specialty chemicals company with a leading position in the development and production of systems and products for bonding, sealing, damping, reinforcing and protecting in the building sector and the motor vehicle industry. Sika's product lines feature concrete admixtures, mortars, sealants and adhesives, structural strengthening systems, industrial flooring as well as roofing and waterproofing systems.

Our most current General Sales Conditions shall apply.
Please consult the Data Sheet prior to any use and processing.



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