

STYROKAP

Thermal Insulation

Description

STYROKAP thermal insulation is a high density, rigid, extruded Polystyrene insulation Board. It has a 100% closed cell structure and is produced on a fully automated extrusion process in accordance with international standards and specifications.

This process will guarantee unique properties such as high compressive strength, excellent resistance to the diffusion of water vapor and water absorption, long term performance with high insulation value.

STYROKAP requires no thermal barrier over a metal deck.

Applications

- Industrial - Residential - Commercial Single Ply Roofing Systems (Ballasted, Mechanically Attached, Fully Adhered)
- Inverted roofing system insulation
- Agricultural Mushroom Farms, Fish Farms, Wineries etc...
- Interior and exterior wall insulation
- Sandwich panels insulation
- Insulation under roads / railways / airport runways and suspended concrete slabs
- Cold storage floor and walls insulation
- Refrigerated trucks for roads and rails
- Underground foundation and walls Insulation
- Refrigerated trucks for roads and rails
- Underground foundation and walls Insulation
- Roof garden insulation

Advantages

- Closed and uniform cell structure
- Uniform density distribution
- Good dimensional stability
- Low moisture absorption
- High resistance to heat flow i.e. conductivity
- High ageing resistance
- Long term performance
- Meets requirements of ASTM C 578

Thermal Properties

STYROKAP Rigid Thermal Insulation Board's Performance is essential for the proper design of a building's air conditioning systems and heating as well as for its ability to assist with moisture management.

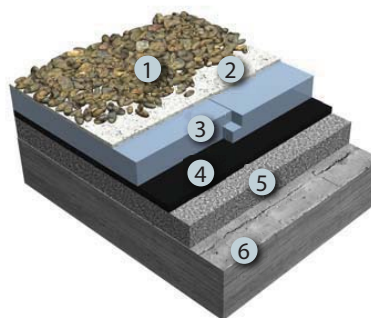
Buildings are kept cooler inside when it is hot outside and warmer when it is cold.

STYROKAP Rigid Thermal Insulation Board will help customers save energy and money, while improving the comfort of those inside and the durability of the building structure.

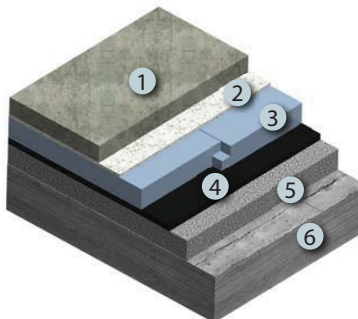
Inverted Roof System

The Inverted Roof Concept, which is also known as protected membrane or upside down roofing, succeeds in insulating both the weather-proofing membrane and the thermal insulation and the thermal stresses.

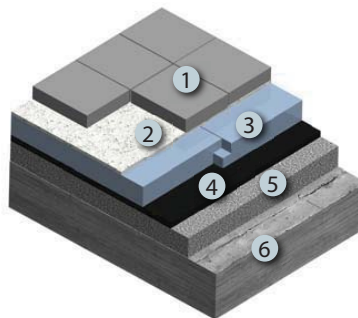
This is achieved by inverting the arrangement of the thermal insulation and the waterproofing membrane and by placing STYROKAP extruded polystyrene thermal insulation board above, instead of below, the waterproofing membrane. This concept is very simple to apply with minimum labour requirements and is very effective in protecting the waterproofing membrane.



1. Gravel
2. Separation Layer
3. STYROKAP
4. Waterproofing membrane
5. Screed to slope
6. Concrete deck



1. Cast in situ concrete
2. Separation Layer
3. STYROKAP
4. Waterproofing membrane
5. Screed to slope
6. Concrete deck



1. Concrete pavers
2. Separation Layer
3. STYROKAP
4. Waterproofing membrane
5. Screed to slope
6. Concrete deck

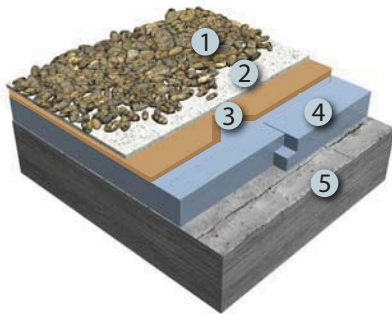
Moisture Resistance & Mechanical Properties

STYROKAP Rigid Thermal Insulation Board's superior moisture resistance is well established. Not only is polystyrene naturally hydrophobic (no chemical affinity for water), but its fine closed-cell structure and smooth continuous skin helps the foam resist moisture better than other types of insulating materials. These and other characteristics also make STYROKAP Rigid Thermal Insulation Board the proven product choice for below grade insulation. It can be installed under the Roof membrane (conventional system) or over the membrane (inverted system) to protect it from damage and weather, parking decks, underground storage tanks and a number of special insulation applications

Chemical Resistance & Soil Compatibility

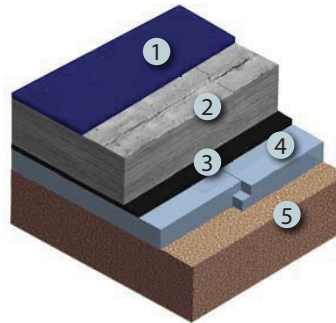
STYROKAP Rigid Thermal Insulation Board is recognised as a stable Extruded Polystyrene Foam Product and is resistant to many common chemicals such as: acids, bases, water and water-based paints, alcohol and alcohol-based paints, brine or salt water, cement and mortars, asphalt, etc. gasoline and fuel oil. It will not corrode, rot, or support the growth of mold, mildew or soil microorganisms. It has no food value and it will not support plant or animal life. STYROKAP Rigid Thermal Insulation Board will last the life of most buildings in which it is used, provided it does not suffer from physical damage. Avoid foam contact with concentrations of solvents, chlorinated hydrocarbons,

Warm Roof System



1. Gravel
2. Separation Layer
3. Single-Ply membrane
4. STYROKAP
5. Concrete deck

Floor Insulation System



1. Floor finish
2. Concrete slab
3. Vapor barrier membrane
4. STYROKAP
5. Soil (well compacted)

Property	STYROKAP	Test Method
Density	32 – 35 kg/m ³	DIN 53420
Thermal Conductivity As manufactured at 4.4°C test temperature	0.016 W / m.k	DIN 52612 or DIN 52616
Thermal Conductivity Laboratory value at 10°C mean temperature	0.027 W / m.k	ASTM C177 or ASTM C518
Thermal Conductivity 5 years aged at 24°C mean temperature	0.030 W / m.k	ASTM C177 or ASTM C518
Compressive strength at 10% deflection (actual result according to sheet thickness)	220 – 360 kPa	DIN 53421
Water vapour diffusion resistance factor (actual result according to sheet thickness)	100 – 225 u 0.4 – 0.6 Perm inch	DIN 52615 ASTM C355
Water vapour permeability (actual result according to sheet thickness)	0.4 – 0.6 Perm inch	ASTM C355
Water absorption by submersion	0.2 % by vol. 1.00 % by vol.	DIN 53428 (28 day submersion of whole board) ASTM D2842 (± 1% by vol. precision)
Capillarity	Nil	na
Linear coefficient of thermal expansion and contraction (Heat soaking conditions)	70 x 10 ⁻⁶ per °C	
Thermal Resistance – R value (m²K / W) (based on a Aged k factor of 0.030 W / m.K)		
Thickness	20mm	25mm
R value (m²K / W)	0.62	0.83
		30mm
		40mm
		50mm
		1.00
		1.33
		1.67



EXPORT ORDERS: Product size and packaging may change slightly to accommodate export shipping requirements.
 WARRANTY: We warrant our materials to be of good quality and will replace materials found defective, providing however, that the buyer shall examine the materials when received and promptly notify use of any defect before the materials are used or incorporated into a structure of which they are intended. Unless otherwise agreed to in writing, this warranty shall extend only to comply with specifications of materials manufactured and published by PLYDEX Company and made available to the buyer at request. We cannot warrant nor in any way guarantee particular methods, use or applications and performance, nor can we warrant that the materials will be suitable for any intended use. This warranty is in lieu of all others expressed or implied and may not be extended representatives, written sale information or drawings, nor do our distributors or salesmen or any representatives of distributors or of this company have any authority to extend any guarantee beyond that outlined above or to waive the limitations of the seller's liability.