PITCHED ROOFING HANDBOOK

INFORMATION FOR THE PLANNING AND INSTALLATION OF UNDERLAYING PITCHED ROOF MEMBRANES SikaRoof® MTP-380 AND Sarnafil® S 352 TEX

Sarnafil®

BUILDING TRUST

Sika®

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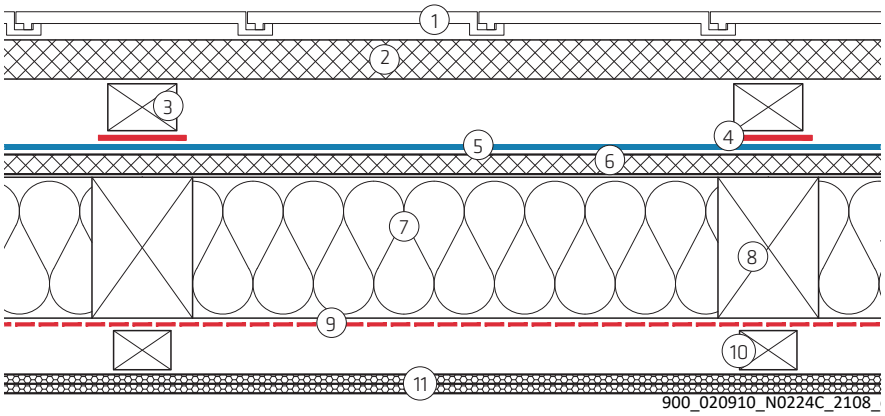
SikaRoof®

PITCHED ROOF PRINCIPLES AND SYSTEMS

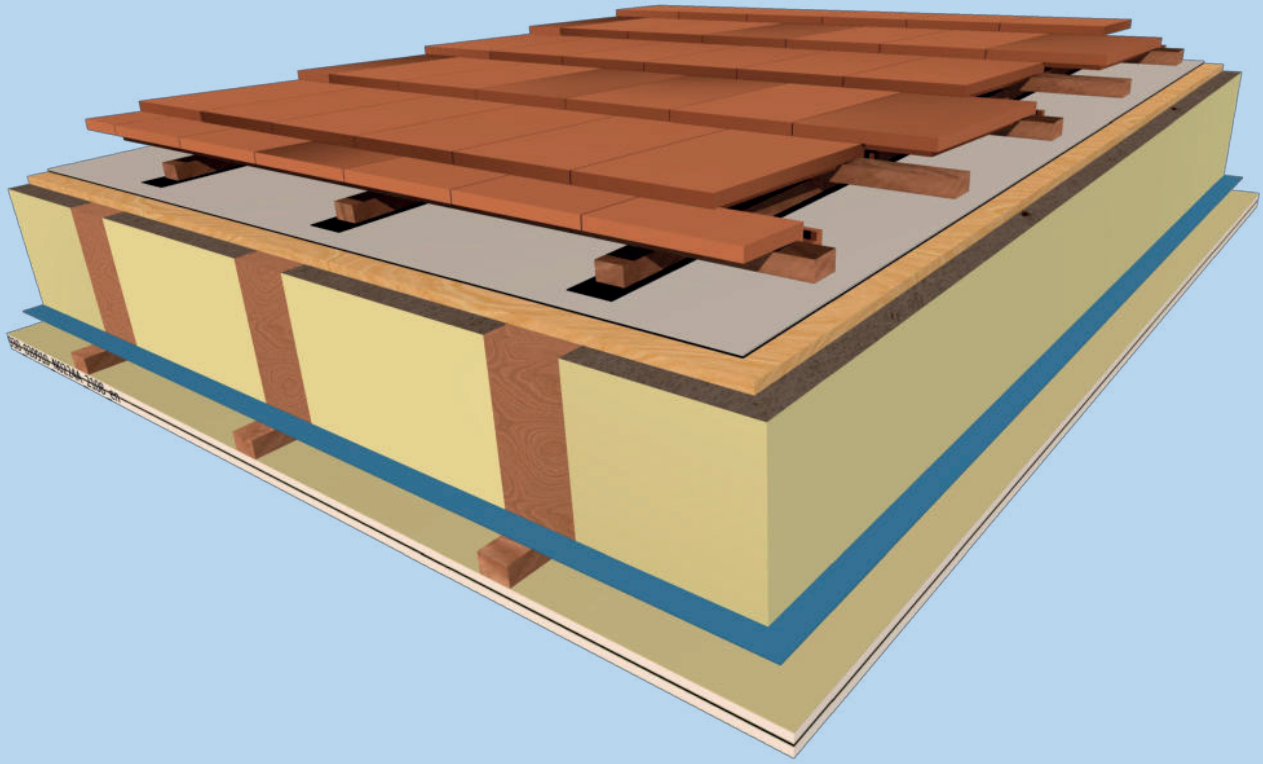
GENERAL

Pitched roofs are defined by the fact that they have a sloping roof surface of at least 5 ° and are usually executed with a covering material (e.g. brick, metal, etc.). In the Sika Roofing Business, we are focusing on the layer underneath the covering material, called the underlaying membrane. Additionally, to the membrane itself, we offer accessories, like tapes, flashings and vapour control layer.



1 Tiles
2 Batten
3 Counter batten
4 Nail sealing tape
5 Underlaying membrane
6 Wooden board
7 Thermal insulation / wooden structure
8 Rafter
9 Vapour control layer
10 Batten
11 Clading

WARM ROOF SYSTEM

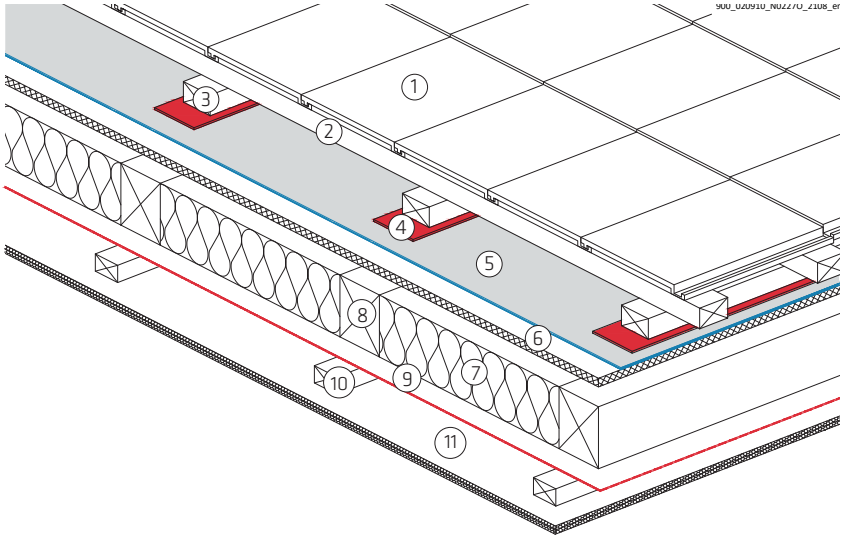


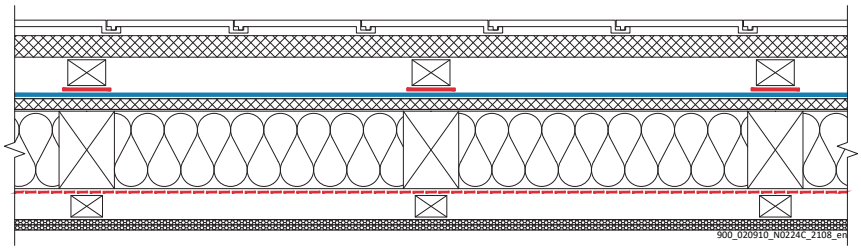
SYSTEM DESCRIPTION

Warm Roofs have got the thermal insulation and the rafters of the roof between the vapour control layer and the underlaying membrane. This build-up is very common in new constructions and is from the building physical perspective more critical and the underlaying membrane needs to be highly vapour open (low Sd value). Just like our SikaRoof® MTP-380 underlaying membrane.

BUILD-UP

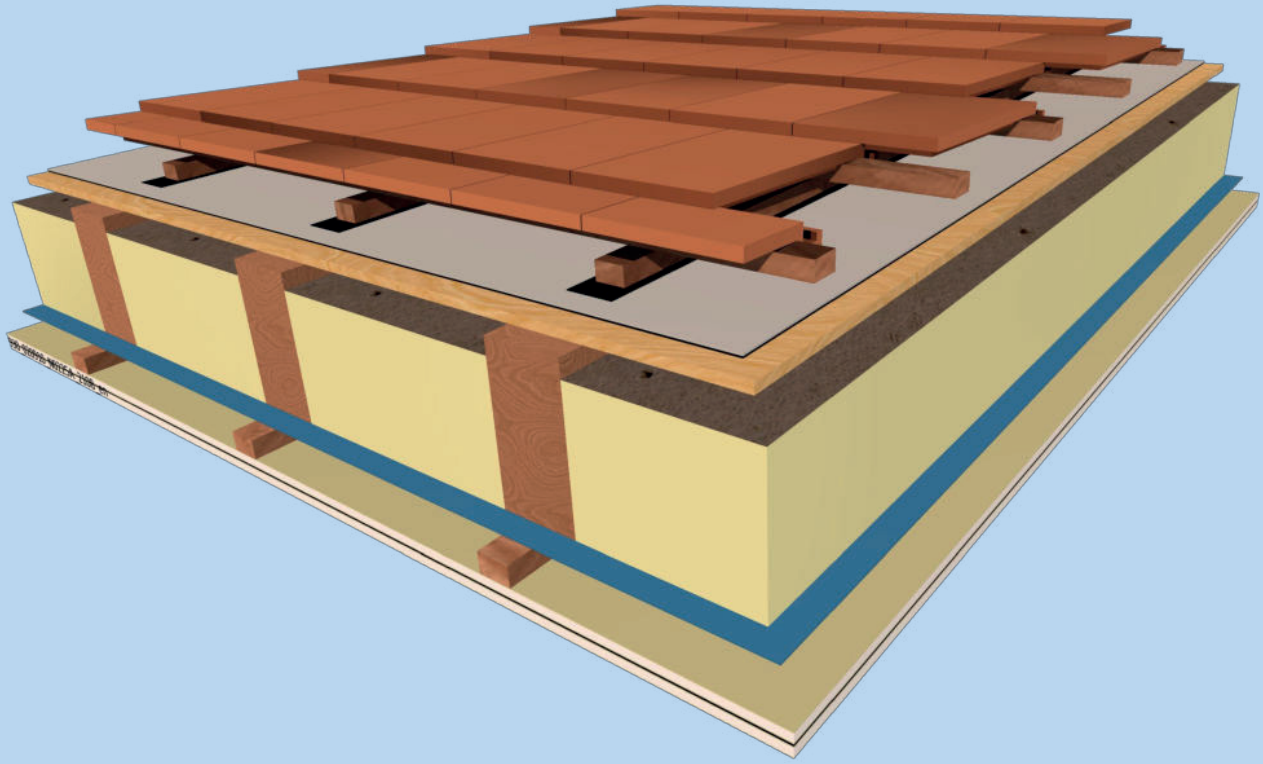
1 Tiles
2 Batten
3 Counter batten
4 Nail sealing tape
5 SikaRoof® MTP-380 underlaying membrane
6 Wooden board
7 Thermal insulation / wooden structure
8 Rafter
9 Vapour control layer
10 Batten
11 Cladding





ADVANTAGES / DISADVANTAGES	CHARACTERISTICS
■ Easy to use in new constructions ■ Underlaying membrane can be prefabricated ■ Good ventilation of the roof, without cooling down of the thermal insulation ■ Building physical calculations are not needed with vapour open underlaying membranes (Sd < 1 m) ■ No continuous thermal insulation layer (rafters are not insulating as good as thermal insulation)	■ If a living room is underneath the roof, there will be some sort of cladding on the inside ■ Vapour control layer on the Inside of the rafters ■ Thermal insulation between and on the whole height of the rafters ■ Can be built with or without a wooden board (6) ■ Nail sealing tape to be installed underneath the counter battens ■ Ventilation of the roof construction between tiles and underlaying membrane

COLD ROOF SYSTEM



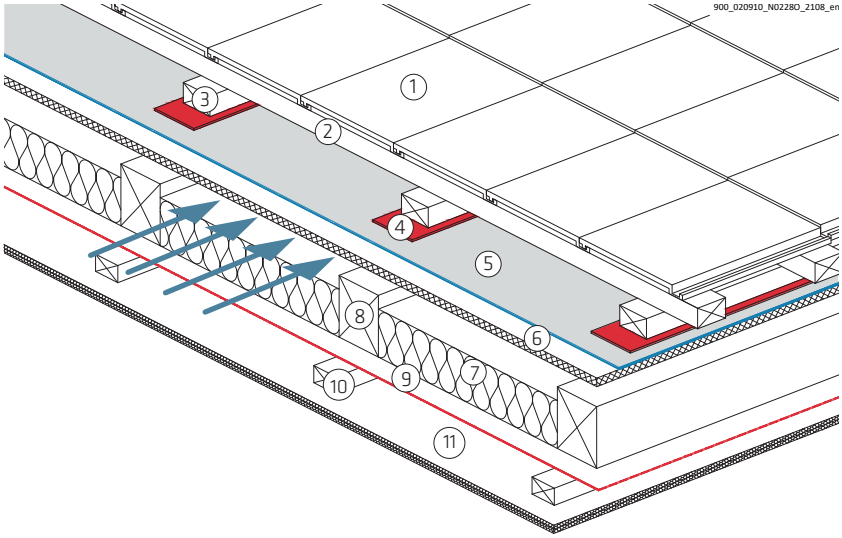
SYSTEM DESCRIPTION

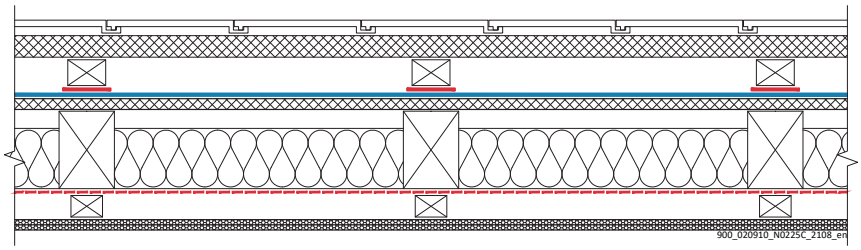
Cold Roofs have the thermal insulation also between the rafters but have a ventilation area directly underneath the underlaying membrane. This build-up is not seen very often anymore, because the insulation performance is lower compare with the other build-ups. The big advantage is that the moisture can escape from the build-up and cannot harm the system. In this case you can use both types of underlaying membranes; the SikaRoof® MTP-380 or Sarnafil® S 352 Tex underlaying membrane.

BUILD-UP

1 Tiles
2 Batten
3 Counter batten
4 Nail sealing tape
5 SikaRoof® MTP-380 or Sarnafil® S 352 Tex underlaying membrane
6 Wooden board
7 Thermal insulation
8 Rafter
9 Vapour control layer
10 Batten
11 Clading

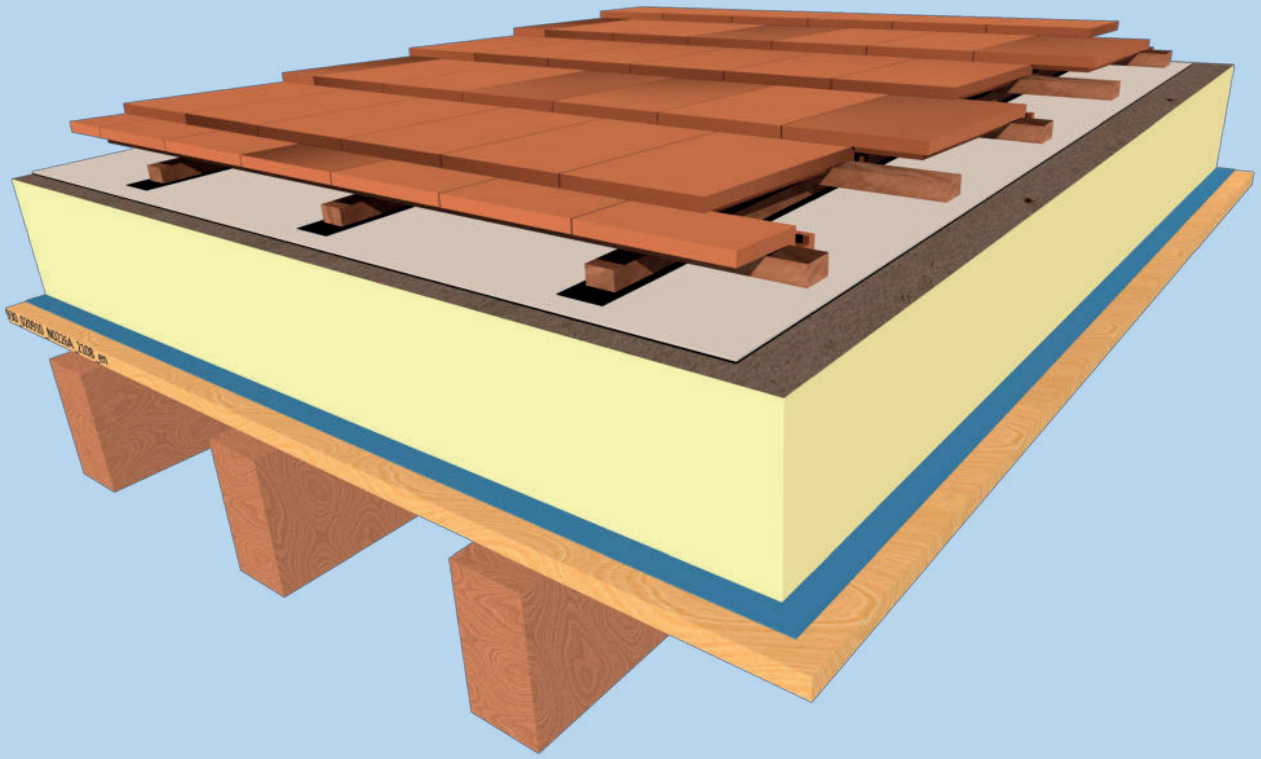
Ventilation





ADVANTAGES / DISADVANTAGES	CHARACTERISTICS
■ Underlaying membranes with higher Sd values can be used ■ Thermal insulation cools down => less energy efficient	■ Build-up like warm roof system ■ Nail sealing tape to be installed underneath the counter battens ■ Between thermal insulation (7) and wooden board (6) there is a gap for additional ventilation

ON TOP THERMAL INSULATION ROOF SYSTEM

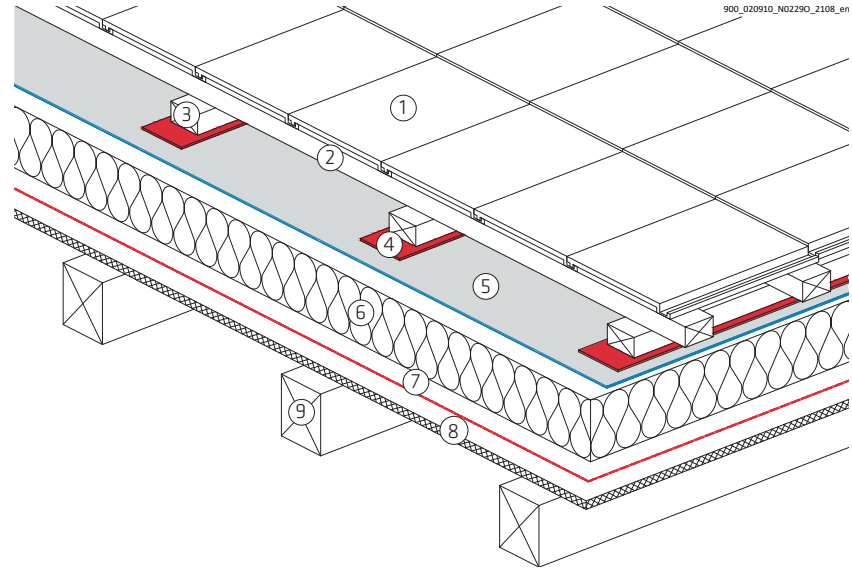


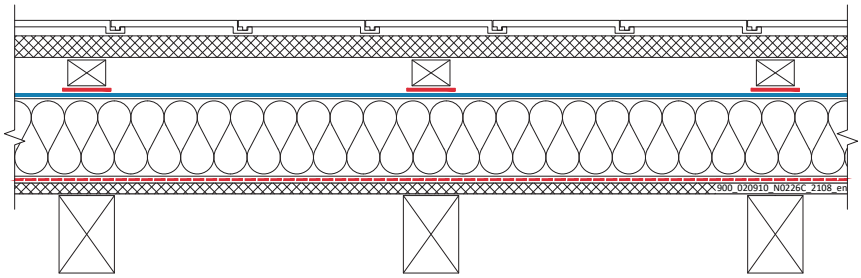
SYSTEM DESCRIPTION

On Top Thermal Insulation Roofs have no rafters between the vapour control layer and underlaying membrane, but have the whole insulation package above the rafters. Therefore the build-up is similar to a flat roof build-up. If you use the right vapour control layer, you can use both types of underlaying membranes; the SikaRoof® MTP-380 or Sarnafil® S 352 Tex underlaying membrane.

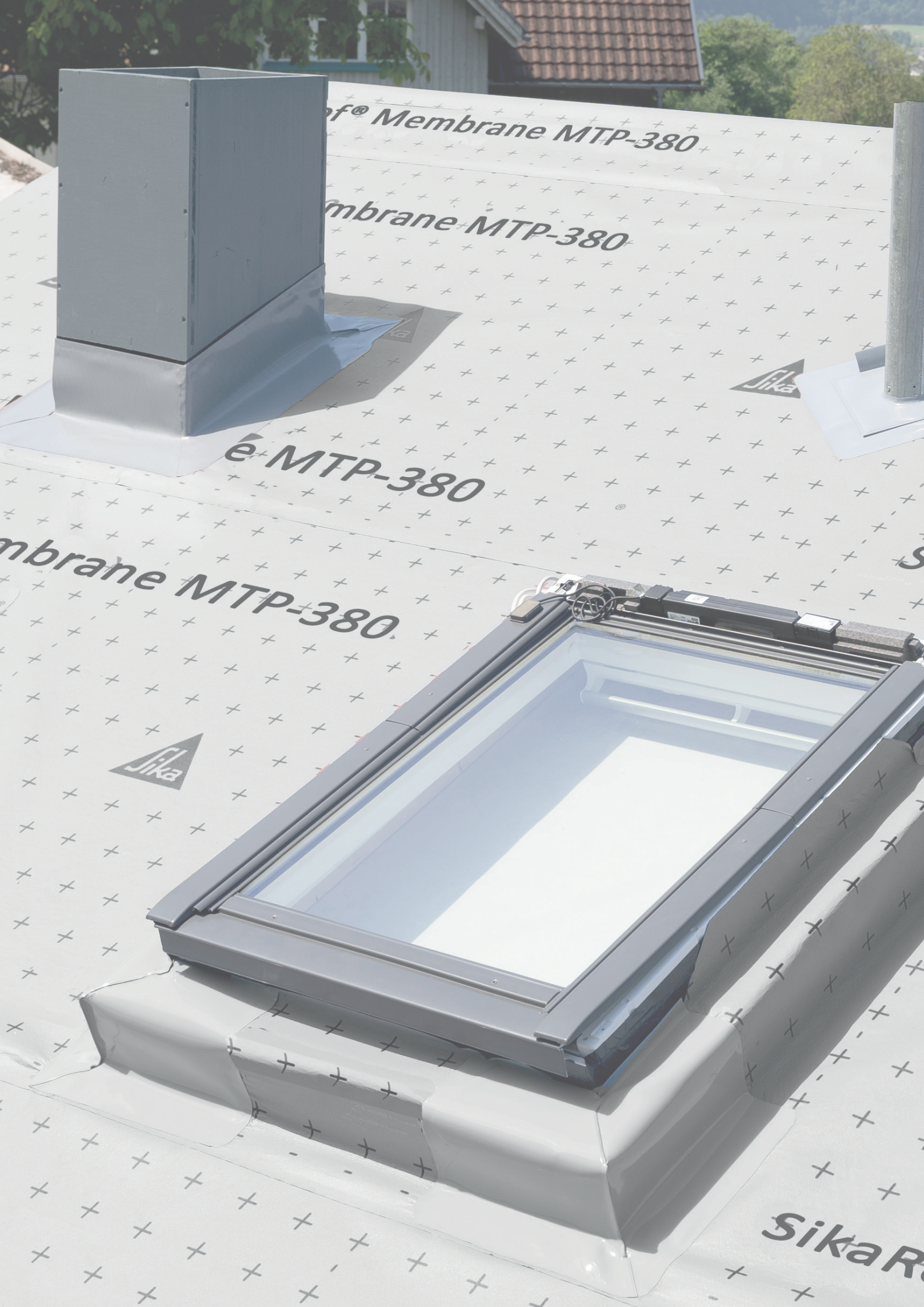
BUILD-UP

1 Tiles
2 Batten
3 Conter batten
4 Nail sealing tape
5 SikaRoof® MTP-380 or Sarnafil® S 352 Tex underlaying membrane
6 Thermal insulation / rafters
7 Vapour control layer
8 Cladding
9 Rafter





ADVANTAGES / DISADVANTAGES	CHARACTERISTICS
■ Easy to use for renovations ■ Underlaying membranes with higher Sd values can be installed if the right materials are used ■ Good ventilation of the roof construction, without cooling down of the thermal insulation	■ Inside you can see the rafters (Chalet Style) ■ All layers are over the rafters ■ Nail sealing tape to be installed underneath the counter battens ■ Ventilation of the roof construction between tiles and underlaying membrane


f® Membrane MTP-380
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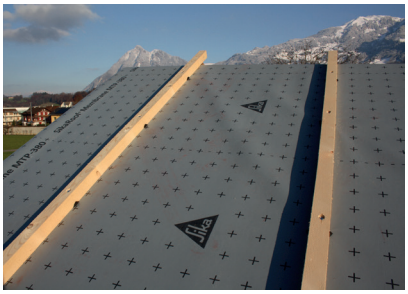
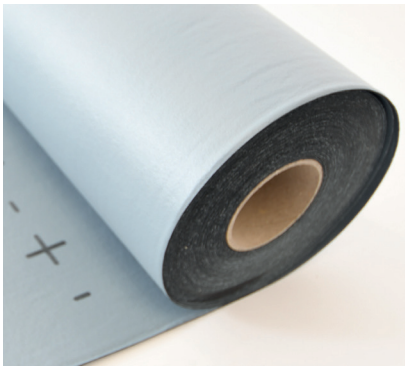
PRODUCT INFORMATION

SikaRoof® / Sarnafil® PITCHED ROOF MEMBRANES AND CORRESPONDING SYSTEM ACCESSORIES

PRODUCT PROPERTIES

SikaRoof® Membrane MTP-380





DESCRIPTION

SikaRoof® Membrane MTP-380 is a 3-layer thermoplastic polyurethane (TPU) underlay pitched roofing membrane.

USES

SikaRoof® Membrane MTP-380 may only be used by experienced professionals.
Underlay roofing membrane for:

- Roof construction with insulation between or over rafters
- Roofs that meet or exceed the minimum allowable pitch (at least ≥ 5°)*
- Roofs with large areas and complex geometry

*Local requirements may apply

CHARACTERISCTICS / ADVANTAGES

- Hot air weldable
- 3-layer membrane
- High mechanical strength
- Reaction to fire class E
- High water vapour permeability
- Good resistance to water penetration
- Can be pre-welded offsite to produce custom size sheets
- Temporary resistant to weathering exposure (up to 3 months)
- Slip resistant
- Available in 3.00 and 1.50 m width

APPEARANCE / COLOR

Surface:

- Non-slip surface

Top surface:

- Light grey

SYSTEM STRUCTURE

The following products must be considered for use depending on roof design:

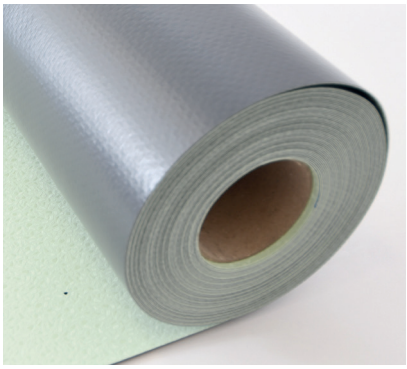
- SikaRoof® MTP Detail Membrane
- SikaRoof® MTP Chimney Corner
- SikaRoof® MTP LUX Window Corner 85/110
- SikaRoof® MTP Universal Pipe Flashing
- SikaRoof® Tape 60 Weld

TECHNICAL INFORMATION

Weight:	380 g/m²
Sd Value:	0.60 m (vapour open)
Width:	3.00 or 1.50 m

FOR ALL TYPES OF PITCHED ROOF SYSTEMS

Sarnafil® S 352 TEX



DESCRIPTION

Sarnafil® S 352 TEX is multi-layer poly-vinylchlorid (PVC) underlay pitched roofing membrane with a polyester inlay.

USES

- Sarnafil® S 352 TEX may only be used by experienced professionals. Underlay roofing membrane for:
- Roof construction with insulation between or over rafters
- For demanding building physic projects like ice rinks and cold storage ware-houses

CHARACTERISCTICS / ADVANTAGES

- Slip resistant
- High durability
- Temporary resistant to weathering exposure (up to 6 months)
- High mechanical strength
- High dimensional stability
- Exellent hot welding performance

APPEARANCE / COLOR

Surface:
- Non-slip surface

Top surface:
- White green

Bottom surface:
- Dark green

Please check color policy

SYSTEM STRUCTURE

The following products must be consid-ered for use depending on roof design:
- Sarnafil® G 410-15 EL Detail Membrane
- Sarnafil® Vent Pipe Flashing TEX

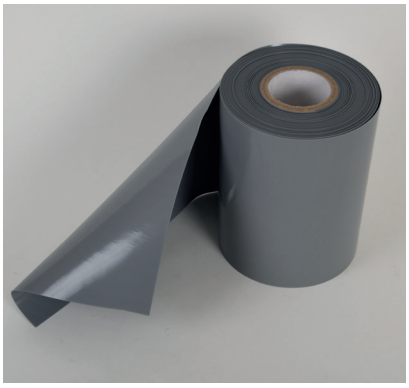
TECHNICAL INFORMATION

Weight:	1100 g/m^2
Sd Value:	19.00 m (not vapour open)
Width:	2.00 m

JUST FOR COLD- AND ON TOP THERMAL INSULATION ROOF SYSTEMS

DETAILING MEMBRANE

SikaRoof® MTP Detail Membrane



DESCRIPTION

SikaRoof® MTP Detail Membrane is a roof waterproofing sheet based on thermoplastic polyurethane (TPU). The sheet is part of the SikaRoof® MTP pitched roof membrane system.

USES

SikaRoof® MTP Detail Membrane may only be used by experienced professionals.
Detailing sheet for the SikaRoof® MTP pitched roof membrane systems:

- Chimneys
- Dormers
- Eaves

CHARACTERISTICS / ADVANTAGES

- Hot welded
- Easy to apply

APPEARANCE / COLOR

Surface:

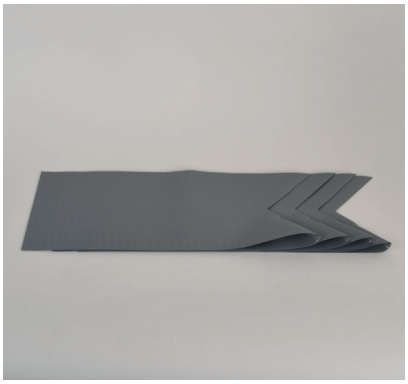
- Smooth

Top surface:

- Grey

CHIMNEY DETAILING

SikaRoof® MTP Chimney Corner



DESCRIPTION

SikaRoof® MTP Chimney Corner is a prefabricated, chimney corner for sealing around chimneys based on thermoplastic polyurethane (TPU). The corner is part of the SikaRoof® MTP pitched roof membrane system.

USES

SikaRoof® MTP Chimney Corner may only be used by experienced professionals.

- Sealing chimney penetrations for the SikaRoof® MTP pitched roof membrane systems.

CHARACTERISTICS / ADVANTAGES

- Hot welded
- Easy to apply

APPEARANCE / COLOR

Surface:

- Smooth

Top surface:

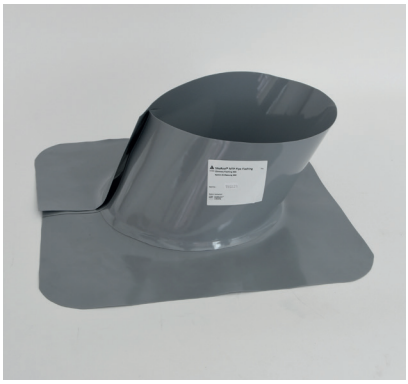
- Grey

SYSTEM STRUCTURE

The following products must be considered for use depending on roof design:

- SikaRoof® Membrane MTP-380
- SikaRoof® MTP Detail Membrane
- SikaRoof® MTP Chimney Flashing
- SikaRoof® MTP LUX Window Corner
- SikaRoof® MTP Universal Pipe Flashing
- SikaRoof® Tape 60 Weld

SikaRoof® MTP Chimney Flashing



DESCRIPTION

SikaRoof® MTP Chimney Flashing Round is a prefabricated, chimney flashing for sealing around chimneys and is based on thermoplastic polyurethane (TPU). The corners are part of the SikaRoof® MTP pitched roof membrane system.

USES

SikaRoof® MTP Chimney Flashing Round may only be used by experienced professionals.

- Sealing chimney penetrations for the SikaRoof® MTP pitched roof membrane systems.

CHARACTERISTICS / ADVANTAGES

- Hot welded
- Easy to apply
- Three different sizes available

APPEARANCE / COLOR

Surface:

- Smooth

Top surface:

- Grey

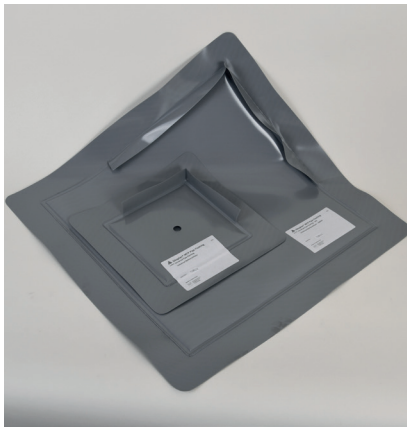
SYSTEM STRUCTURE

The following products must be considered for use depending on roof design:

- SikaRoof® Membrane MTP-380
- SikaRoof® MTP Detail Membrane
- SikaRoof® MTP Chimney Corner
- SikaRoof® MTP LUX Window Corner
- SikaRoof® MTP Universal Pipe Flashing
- SikaRoof® Tape 60 Weld

PIPE DETAILING

SikaRoof® MTP Universal Pipe Flashing



DESCRIPTION
SikaRoof® MTP Universal Pipe flashing is a prefabricated pipe / vent flashing based on thermoplastic polyurethane (TPU). The flashing is part of the SikaRoof® MTP pitched roof membrane system.

USES
SikaRoof® MTP Universal Pipe flashing may only be used by experienced professionals.
- Sealing pipe / vent penetrations for the SikaRoof® MTP pitched roof membrane systems.

CHARACTERISTICS / ADVANTAGES
- Hot welded
- Easy to apply
- Two different sizes available

APPEARANCE / COLOR
Surface:
- Smooth

Top surface:
- Grey

SYSTEM STRUCTURE
The following products must be considered for use depending on roof design:
- SikaRoof® Membrane MTP-380
- SikaRoof® MTP Detail Membrane
- SikaRoof® MTP Chimney Corner and Flashing
- SikaRoof® MTP LUX Window Corner
- SikaRoof® Tape 60 Weld

SikaRoof® MTP Pipe Flashing

DESCRIPTION
SikaRoof® MTP Pipe Flashing is a prefabricated pipe / vent flashing based on thermoplastic polyurethane (TPU). The flashing is part of the SikaRoof® MTP pitched roof membrane system.

USES
SikaRoof® MTP Pipe Flashing may only be used by experienced professionals.
- Sealing pipe / vent penetrations for the SikaRoof® MTP pitched roof membrane systems

CHARACTERISTICS / ADVANTAGES
- Hot welded
- Easy to apply
- Two different sizes available

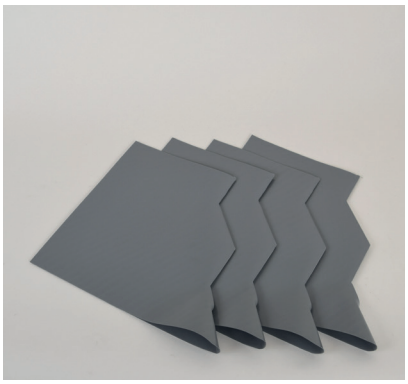
APPEARANCE / COLOR
Surface:
- Smooth

Top surface:
- Grey

SYSTEM STRUCTURE
The following products must be considered for use depending on roof design:
- SikaRoof® Membrane MTP-380
- SikaRoof® MTP Detail Membrane
- SikaRoof® MTP Chimney Corner and Flashing
- SikaRoof® MTP LUX Window Corner
- SikaRoof® MTP Universal Pipe Flashing
- SikaRoof® Tape 60 Weld

WINDOW DETAILING

SikaRoof® MTP LUX Window Corner



DESCRIPTION

SikaRoof® MTP LUX Window Corner is a prefabricated, window corner for sealing around roof windows based on thermoplastic polyurethane (TPU). The corner is part of the SikaRoof® MTP pitched roof membrane system.

USES

SikaRoof® MTP LUX Window Corner may only be used by experienced professionals.

- Sealing window penetrations for the SikaRoof® MTP pitched roof membrane systems.

CHARACTERISTICS / ADVANTAGES

- Hot welded
- Easy to apply

APPEARANCE / COLOR

Surface:

- Smooth

Top surface:

- Grey

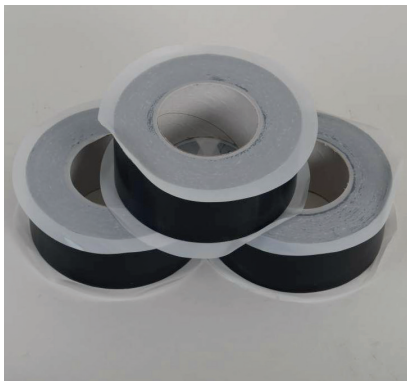
SYSTEM STRUCTURE

The following products must be considered for use depending on roof design:

- SikaRoof® Membrane MTP-380
- SikaRoof® MTP Detail Membrane
- SikaRoof® MTP Chimney Corner and Flashing
- SikaRoof® MTP Universal Pipe Flashing
- SikaRoof® Tape 60 Weld

TAPE DETAILING

SikaRoof® Tape 60 Weld



DESCRIPTION

SikaRoof® Tape 60 Weld is a highly adhesive tape which enables connections between SikaRoof® MTP roof membranes and flashings / pitched roof membranes to be hot air welded to different substrates. The tape is bonded onto the substrate and the membrane is welded onto the tape.

USES

Connecting SikaRoof® MTP roof membranes by hot air welding to different substrates such as:

- Metal
- Wood
- Brick
- Concrete

CHARACTERISTICS / ADVANTAGES

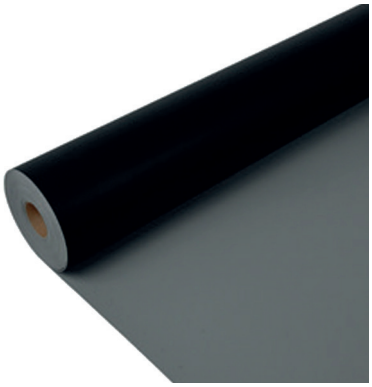
- Fast application
- Easily applied
- Hot air weldable
- Strong and durable connection
- Provides a watertight and airtight connection
- Resistant to UV exposure
- No wrinkles after two months of outdoor exposure

TECHNICAL INFORMATION

Length:	25.00 m
Width :	60 mm

MEMBRANE AND PIPE DETAILING

Sarnafil® G 410-15 EL Detail Membrane



DESCRIPTION
Sarnafil® G 410-15 EL is a PVC, multi-layer, lacquered, matt finish, weldable sheet membrane for roof waterproofing. Contains a glass fibre reinforcing inlay, ultra-violet light stabilisers and flame retardants to provide a low maintenance and durable membrane.

USES
Sarnafil® G 410-15 EL may only be used by experienced professionals. Detail sheet for the Sarnafil® S 352 TEX pitched roof membrane systems.

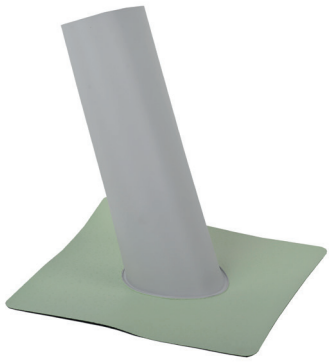
CHARACTERISTICS / ADVANTAGES
- Hot welded

APPEARANCE / COLOR
Surface:
- Smooth

Top surface:
- Different colors available

SYSTEM STRUCTURE
The following products must be considered for use depending on roof design:
- Sarnafil® S 352 TEX
- Sarnafil® Vent Pipe Flashing TEX

Sarnafil® Vent Pipe Flashing TEX



DESCRIPTION
Sarnafil®Vent Pipe Flashing TEX is a prefabricated pipe / vent flashing based on polyvinyl chloride (PVC). The flashing is part of the Sarnafil®pitched roof membrane system.

CHARACTERISTICS / ADVANTAGES
- Easy to apply
- Three different sizes available

APPEARANCE / COLOR
Surface:
- Smooth

Top surface:
- Light grey / white green

SYSTEM STRUCTURE
The following products must be considered for use depending on roof design:
- Sarnafil® S 352 TEX
- Sarnafil® G 410-15 EL Detail Membrane

VAPOUR CONTROL LAYER / TAPES

Sarnavap®-1000 R

DESCRIPTION
Sarnavap®-1000 R is an unsupported vapour control layer based on Polyethylene (PE) with a slip resistant surface.

USES
Pitched roof construction with insulation above the rafters.

CHARACTERISTICS / ADVANTAGES
- Ease and speed of installation
- Slip resistant surface
- Stays flexible at low temperatures

APPEARANCE / COLOR
Surface:
- Slip resistant

Top surface color:
- Light blue

TECHNICAL INFORMATION
Length: 40.00 m
Width: 15 mm
Thickness: 1 mm

Sarnatape®-20

DESCRIPTION
Sarnatape®-20 is a butyl rubber, double-sided adhesion sealing tape with a controlled stretch range.

USES
Sarnatape®-20 may only be used by experienced professionals:
- Applied at airtight level for taping of seams, connections, terminations and detailing of pitched roof membranes and Sarnavap® vapour control layers (polyethylene).

CHARACTERISTICS / ADVANTAGES
- Finger-lift release liner
- Controlled adhesive stretch range
- High durability
- Good adhesion

APPEARANCE / COLOR
Appearance:
- Smooth flat profile

Adhesive:
- Anthracite

TECHNICAL INFORMATION
Length: 20.00 m
Width: 20 mm
Thickness: 1.50 mm

Sarnatape®-60

DESCRIPTION
Sarnatape®-60 is a polyethylene reinforced fabric waterproof tape which is elastic and pliable. One side is coated in an acrylic resin adhesive which provides high durable adhesion.

USES
Sarnatape®-60 may only be used by experienced professionals:
- Taping of seams, connections, terminations and detailing of pitched roof membranes and Sarnavap® vapour control layers (polyethylene).

CHARACTERISTICS / ADVANTAGES
- High tack and long-term adhesion
- Contains no halogen or heavy-metal compounds
- Good durability

APPEARANCE / COLOR
- White

TECHNICAL INFORMATION
Length: 25.00 m
Width: 60 mm
Thickness: Overall 0.34 mm

NAIL SEALING / PRIMER

Nail Sealing Tape and Patches

DESCRIPTION

Nail Sealing Tape / Patches are based on EPDM foam with a self adhesive based acrylic dispersion adhesive and silicon-ized polyethylene liner.

USES

To seal penetrations of the counter battens elements such as fastener or nails into the underlaying membrane.

CHARACTERISTICS / ADVANTAGES

- Easy to apply
- Self adhesive
- Three different sizes available

TECHNICAL INFORMATION

Patches

- Dimension: 60 x 60 or 80 x 80 mm
- Thickness: 9 mm

Tape

- Witdh: 60 mm
- Length: 10.00 m
- Thickness: 9 mm

Primer-130

DESCRIPTION

Primer-130 is a 1-part, ready to use, solvent-based primer for improving the adhesion properties of porous substrates before applying Sarnatape.

USES

Primer-130 may only be used by experienced professional:

- Substrate primer for Sarnatape® butyl rubber adhesive tape

CHARACTERISTICS / ADVANTAGES

- 1-part ready to use
- Easily applied by brush
- Good adhesion to different structural decks and substrate

APPLICATION TOOLS

Sarnamatic®-681

DESCRIPTION
The Sarnamatic®-681 must only be used for the hot air welding of synthetic polymer based sheet waterproofing membrane seams. The Sarnamatic®-681 is equipped with a microcontroller that controls the welding parameters.
All of the necessary instructions and technical details are also included in the operating manual which is supplied and delivered in every Sarnamatic®-681 package. Since we pursue a policy of continuous product improvement, we reserve the right to modify the Sarnamatic®-681 without prior notification.

USES
The Sarnamatic®-681 is suitable for the welding of all Sika Sarnafil® synthetic waterproofing membranes.
When used on a sloping roof the machine must be secured and guided at all times. The maximum inclination of slopes suitable for its use are:
- Max. 25° when welding in the direction of the roofing slope
- Max. 15° when welding perpendicular to the roofing slope
- The Sarnamatic®-681 can be operated with a singlephase power supply of 230 VAC, or a 3-phase 400 VAC supply. By using the 'Conversion Kit', which is available on request, the Sarnamatic®-681 can be converted from 230 VAC to 400 VAC, or from 400 VAC to 230 VAC.

CHARACTERISTICS / ADVANTAGES
The Sarnamatic®-681 welding machine is suitable for use on horizontal and sloped roofs with a suitably supported, solid and even surface substrates.

Leister Triac AT / ST

DESCRIPTION
Hand welding tool for welding membranes.

USES
For the hand welding of Sarnafil® roof waterproofing in the overlapping of details and straight welds.

DESCRIPTION
Wide slot nozzle – 20 mm, 15° angled

USES
Standard welding nozzle for details

DESCRIPTION
Pressure roller with ball bearings – 28 mm / PTFE

USES
Pressure roller in the hot welding process

DESCRIPTION
Pressure roller with ball bearings – 28 mm / PTFE

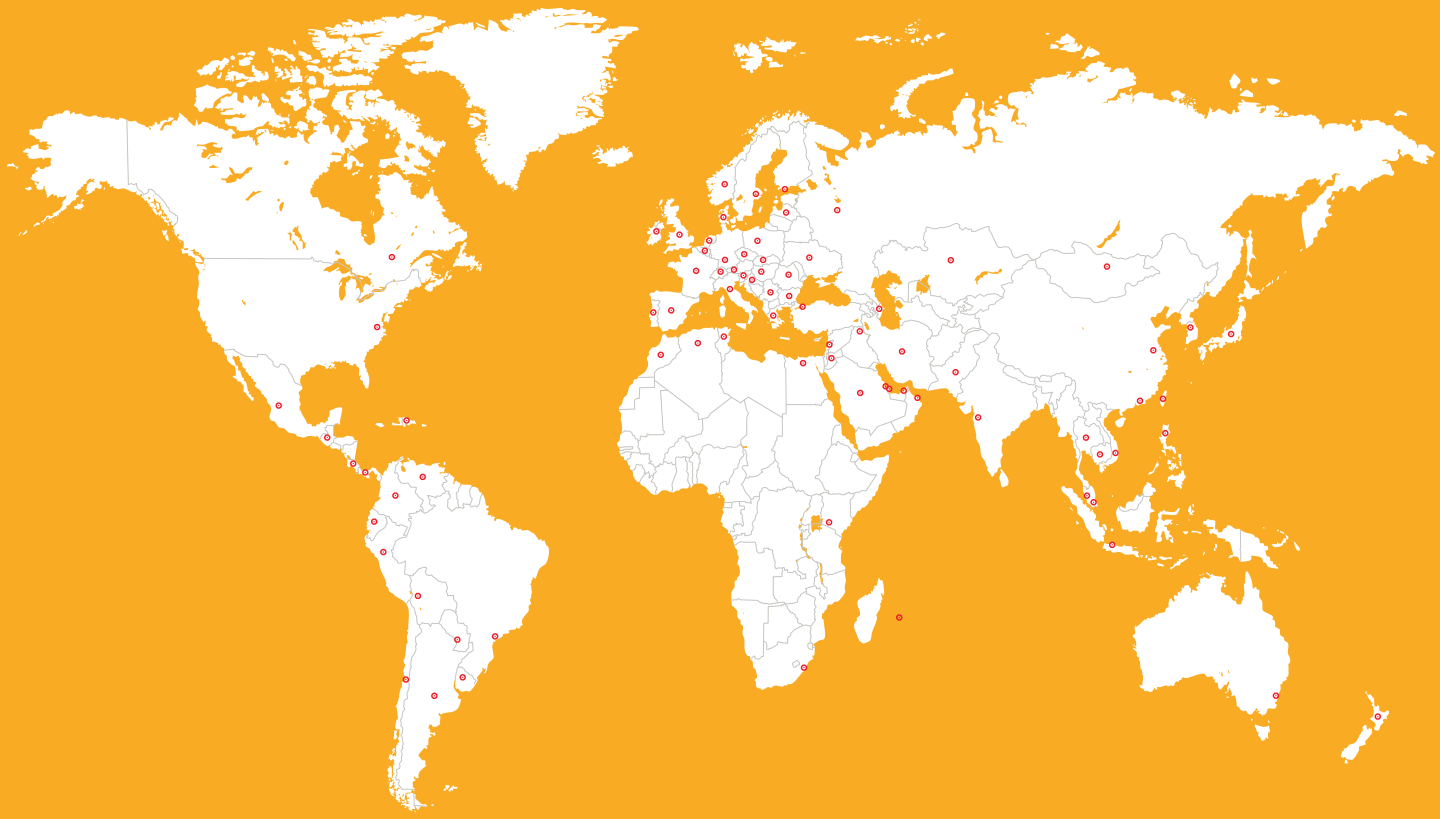
USES
Pressure roller in the hot welding process


HH
work wear

Disclaimer

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

GLOBAL BUT LOCAL PARTNERSHIP



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