ROOFING HANDBOOK Sikaplan® PVC

INFORMATION FOR THE PLANNING AND INSTALLATION OF
Sikaplan® G / VG / U / SGmA / SGK AND SG

BUILDING TRUST

WORLDWIDE CONSTRUCTION AND INDUSTRY SOLUTIONS

Sika's history began in 1910 with the electrification of the Gotthard railway tunnels. The Swiss company founded by Kaspar Winkler played a decisive role in this momentous project. A revolutionary new waterproofing mortar was developed, marking the beginning of Sika's global reputation for high quality.

Today the Sika Group is a leading global manufacturer of construction chemical products and systems as well as industrial sealants and adhesives. The Group's core competencies – sealing, bonding, damping, reinforcing and protecting load-bearing structures – have been enabling a wide range of applications in the construction sector and in industrial production for over 100 years. The high-quality product range includes concrete admixtures, special mortars, sealants and adhesives, damping and reinforcing materials, floor coating systems, sealing membranes and corrosion protection products.

Sika annually produces a volume of roofing membrane that could cover the entire area of Manhattan.
More than 10,000 roofing contractors in over 85 countries are Sika-trained and certified, which ensures qualified installation.

All our customers – developers, building owners, architects, engineers, consultants and contractors – receive expert advice from our highly competent team. Building on a foundation of trust, we offer our experience and knowledge to provide recommendations and long-lasting solutions for any project you may have.

Roofing can be selected and designed to meet the specific technical requirements and budget of almost any roofing project. Our tailored solutions allow freedom of design and form, with no limitations on geometry or color, to meet the specific requirements of any type of roof.

STRATEGIC SUCCESS THROUGH GLOBAL PRESENCE

- With subsidiaries in over 100 countries, Sika offers local presence worldwide
- Sika operates over 300 production sites and sales locations
- Sika employs approx. 25'000 people worldwide
- The Sika umbrella brand covers some 980 Sika product trademarks

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PRODUCT OVERVIEW

MATERIAL AND MANUFACTURING

PRODUCTION PROCESS

Sikaplan® PVC roof waterproofing membranes are manufactured on extrusion and calendering production lines. This wide range of production possibilities opens unique flexibility and membrane choice for our clients – different colors, possibilities of membranes texturing for various purposes such as an embossed matt finish, which provides a safe nonslip surface, thicknesses and sheet widths, reinforcements and laminated felts.

Our production incorporates most efficient and proven technologies such as:

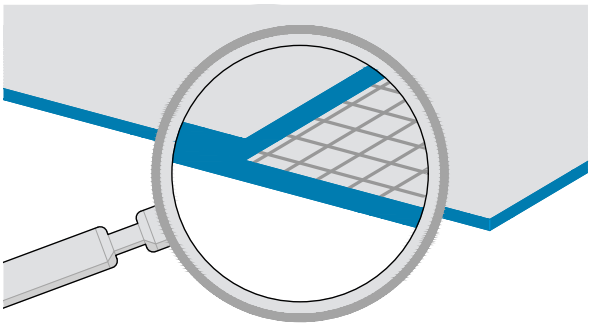
- **Calendering** – means to roll out with heat. Production line consists of several pairs of heated rollers that press the polymer compound into a sheet.
- **Extrusion** – a process by which a doughlike polymer compound is forced through a wide die by a slowly and continuously rotating screw, emerging as a continuous sheet.
- **Extrusion - coating** – a combination of extrusion and coating to a supporting layer.

QUALITY MANAGEMENT

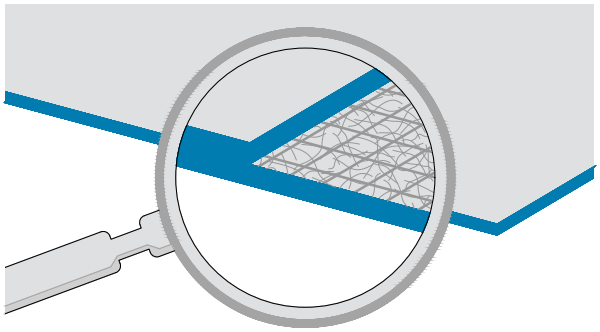
Sika roof waterproofing membranes are under permanent quality monitoring during manufacturing process. The monitoring also includes the controlling of incoming admixtures and materials during all stages of production up to the testing of produced membranes until shipped to the project site, complete recorded by ISO-9001 quality management, ISO 14001 environmental management and OHSAS 18001 occupational health and safety management system certification.
Beside the internal testing of our Sika roof waterproofing membranes, external quality control is provided by independent and governmental material test institutes.

Based on this reasons and our experience for decades, Sika provides waterproofing systems on highest technical level.

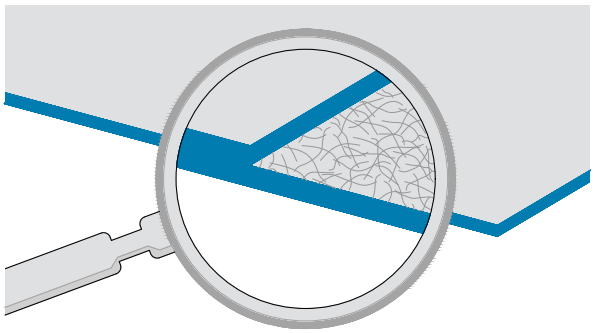
INLAYS AND FLEECE BACKINGS



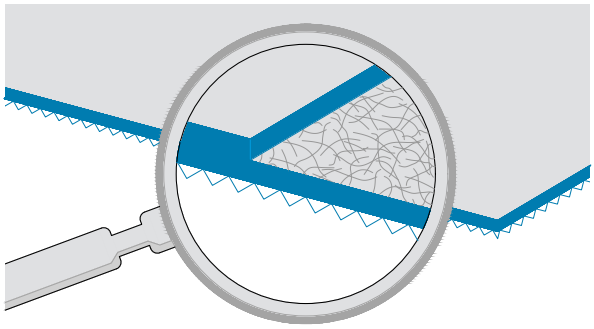
Sikaplan® G / VG
Sikaplan® G / VG have an inlay of polyester reinforcement mesh to increase resistance to wind uplift forces.



Sikaplan® U
Sikaplan® U has an inlay of polyester reinforcement mesh to increase resistance to wind uplift forces, and inlay of glass non woven for a high dimensional stability.



Sikaplan® SGmA / SG
Sikaplan® SGmA has inlay of glass non woven for a high dimensional stability.



Sikaplan® SGK
Sikaplan® SGK has inlay of glass non woven for a high dimensional stability, and a polyester fleece backing for fully surface adhesion.

G	with polyester mesh and glass non woven reinforcement
VG	with polyester mesh, glass non woven reinforcement and enhanced fire rating
U	with polyester mesh and glass non woven reinforcement
SGmA	with glass non woven reinforcement

SGK	with glass non woven reinforcement, fleece backed
SG	with glass non woven reinforcement
12 / 15 / 18 / 20 / 24	Membrane thickness (in tenths of mm)


PRAGOCLIMA
PRAGOCLIMA
PRAGOCLIMA
PRAGOCLIMA

CHEMICAL RESISTANCE

The chemical resistance of Sikaplan® PVC roof waterproofing membranes generally depends on concentration, temperature and duration of exposure.
The table below shows the resistance of Sikaplan® PVC roof waterproofing membranes to a range of substances at an ambient temperature of +20 °C. If exposed to certain substances mentioned below, discoloration or other surface changes may occur, but these have no influence on the waterproofing function (even in the long term). For example bitumen, lactic acid, bird droppings etc.

Contact your sales organisation for information on resistance to other substances and types of exposure you expect in your specific project.

Type	Assessment
Asphalt	○
Bird droppings	●
Bitumen	○
Carbon black	●
Common salt	●
Detergents	●
Diesel oil	○
Fats Animal / Vegetable	○
Ferrous residue	●
Fuel oil	○
Fungicide	●
Gasoline	○
Glycol	◐
Hydrochloric acid 5%	●
Insecticides	●
Kerosene	○
Lactic acid	◐
Lake water	●
Mineral oils (non-aromatic)	○
Motor oil	○
Soda lye 5%	●
Oils Animal / Vegetable	○
Paraffin	○
Paraffin oil	○
Petroleum	○

Type	Assessment
Plasticizers	○
Polystyrene	○
Polyurethan (Insulation)	●
Potash lye 5%	●
Red algae	●
Salt (without split)	●
Salt of – Aluminium – Ammonium – Calcium – Kalium – Potassium – Sodium	 ● ● ● ● ● ●
Sea water	●
Silicone oil	○
Soft soap	◐
Sulphuric acid 5%	●
Tar	○
Turpentine oil	○
Urea	●
Wax	○
Weed killer	●
Weed killer (aqueous)	●
Wood preservative – Water-based – Solvent-based	 ● ●[1)]

● Resistant ◐ Conditionally resistant
○ Non resistant

[1)] Paint needs to dry for at least 24 hours

PRODUCT OVERVIEW

Membrane type	Thickness	ROOF SYSTEMS				
		Mechanically fastened	Adhered	Green	Gravel ballasted	Utility
Sikaplan® G -12	1.20 mm	●				
Sikaplan® G -15	1.50 mm	●				
Sikaplan® G -18	1.80 mm	●				
Sikaplan® G -20	2.00 mm	●				
Sikaplan® G -24	2.40 mm	●				
Sikaplan® VG -12	1.20 mm	●				
Sikaplan® VG -15	1.50 mm	●				
Sikaplan® VG -18	1.80 mm	●				
Sikaplan® U-15	1.50 mm	●		●	●	●
Sikaplan® U-18	1.80 mm	●		●	●	●
Sikaplan® U-20	2.00 mm	●		●	●	●
Sikaplan® SGmA-15	1.50 mm			●	●	●
Sikaplan® SGmA-18	1.80 mm			●	●	●
Sikaplan® SGmA-20	2.00 mm			●	●	●
Sikaplan® SGK-12	1.20 mm		●			
Sikaplan® SGK-15	1.50 mm		●			
Sikaplan® SGK-18	1.80 mm		●			
Sikaplan® SG-15	1.50 mm	Membrane for detailing				
Sikaplan® SG-18	1.80 mm	Membrane for detailing				
Sikaplan® SG-20	1.50 mm	Membrane for detailing				
Sikaplan® D-15	1.50 mm	Homogeneous membrane for detailing				
Sikaplan® D-18	1.80 mm	Homogeneous membrane for detailing				
Sarnafil® G 465-15	1.50 mm	Partitioning / Connection sheet for joining polymer bitumen based roof waterproofing membranes to				

● Standard

Products according to CE Marking EN 13956

FM Factory Mutual – approval standard 4470

FLL Forschungsgesellschaft Landschaftsentwicklung Landschaftsbau e.v. – resistance to root penetration, according to EN 13948

BBA British Board of Agrément – approval inspection, testing certification

EPD Environmental Product Declaration – as per ISO 14025 and 15804

LEED Leadership in Energy & Environmental Design – green building rating system

		SUSTAINABILITY		PRODUCT CERTIFICATION		
Inverted	Upstands	EPD	LEED	FM	FLL	BBA
	●		●			●
	●	●	●	●		●
	●	●	●	●		
	●	●	●	●		
	●	●	●			
	●		●			
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		●	●	●		●
			●			
	●					
	●					
	●					
o Sikaplan® PVC						

EXTERNAL FIRE PERORMANCE MECHANICALLY FASTENED ROOFS

Thermal insulation	Glass fleece	Membrane thickness	BROOF T1			BROO	
			Sikaplan® G	Sikaplan® VG	Sikaplan® U	Sikaplan® G	Sikapla
EPS	yes	1.20 mm	●	●			●
	yes	1.50 mm	●	●	●		●
	yes	1.80 mm	●	●	●		●
	yes	2.00 mm	●		●		
	yes	2.40 mm	●				
PIR	no	1.20 mm	●	●			●
	no	1.50 mm	●	●	●		●
	no	1.80 mm	●	●	●		●
	no	2.00 mm	●		●		
	no	2.40 mm	●				
Mineralwool	no	1.20 mm	●	●			●
	no	1.50 mm	●	●	●		●
	no	1.80 mm	●	●	●		●
	no	2.00 mm	●		●		
	no	2.40 mm	●				
Wood	no	1.20 mm	●	●			●
	no	1.50 mm	●	●	●		●
	no	1.80 mm	●	●	●		●
	no	2.00 mm	●		●		
	no	2.40 mm	●				
Bitumen	no	1.20 mm	●	●			
	no	1.50 mm	●	●	●		
	no	1.80 mm	●	●	●		
	no	2.00 mm	●		●		
	no	2.40 mm	●				
Concrete	no	1.20 mm	●	●			●
	no	1.50 mm	●	●	●		●
	no	1.80 mm	●	●	●		●
	no	2.00 mm	●		●		
	no	2.40 mm	●				

Glass fleece min. 120 g/m²

OF T2		BROOF T3			BROOF T4		
an® VG	Sikaplan® U	Sikaplan® G	Sikaplan® VG	Sikaplan® U	Sikaplan® G	Sikaplan® VG	Sikaplan® U
●			●				
●			●				
●			●				
			●				
		●	●				
●		●	●				
●		●	●		●	●	
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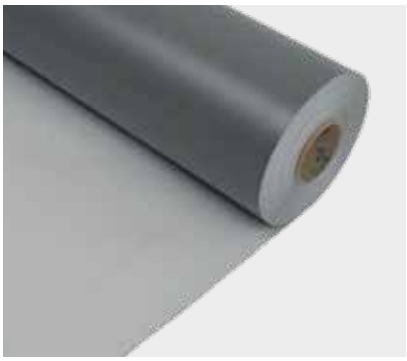
		●	●				
		●	●				

EXTERNAL FIRE PERFORMANCE ADHERED ROOFS

Thermal insulation	Membrane thickness	BROOF T1	BROOF T2	BROOF T3	BROOF T4
		Sikaplan® SGK			
EPS	1.20 mm	●		●	
	1.50 mm	●			
	1.80 mm				
PIR	1.20 mm	●		●	
	1.50 mm	●			●
	1.80 mm				
Mineralwool	1.20 mm	●			
	1.50 mm	●			
	1.80 mm				
Wood	1.20 mm	●		●	
	1.50 mm	●			●
	1.80 mm				
Bitumen	1.20 mm	●			
	1.50 mm	●			
	1.80 mm				
Concrete	1.20 mm	●		●	
	1.50 mm	●			
	1.80 mm				

PRODUCT PROPERTIES

Sikaplan® G



THIRD-PARTY VERIFIED EPD ISO 14025 and EN 15804 Institut Bauen und Umwelt e.V.

DESCRIPTION

Sikaplan® G is a polyester reinforced, multi-layer, synthetic roof waterproofing sheet based on polyvinyl chloride (PVC) containing ultraviolet light stabilisers and flame retardant according to EN 13956. Sikaplan® G is a hot air weldable roof waterproofing membrane formulated for direct exposure and designed to use in all global climatic conditions.

USES

Sikaplan® G may only be used by experienced professionals. Roof waterproofing membrane for:

- Mechanically fastened roofing systems

CHARACTERISCTICS / ADVANTAGES

- Resistant to UV exposure
- Resistant to permanent wind exposure
- Resistant to most common environmental influences
- Hot air weldable
- No open flame equipment required
- High water vapour permeability

APPEARANCE / COLOR

Surface:

- Matt

Top surface:

- Light grey (~ RAL 7047)
- Lead grey (~ RAL 7012)
- Pale green (~ RAL 6021)
- Traffic white (~ RAL 9016)

Bottom surface:

- Dark grey

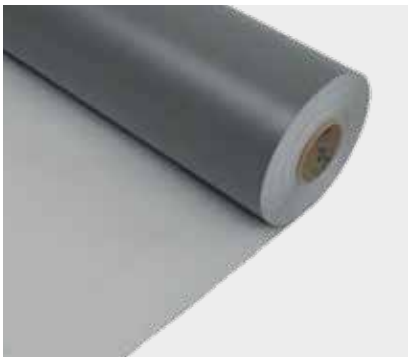
SYSTEM STRUCTURE

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

- Sikaplan® D unreinforced sheet for detailing
- Moulded corner pieces, prefabricated corners and pipe flashings
- Sikaplan® PVC Metal Sheet
- Sika® Trocal Cleaner-2000
- Sika® Trocal Cleaner L-100
- Sika® Trocal C-733 (Contact adhesive)

Wide range of accessories is available e.g. prefabricated parts, roof drains, scuppers, walkway pads and decor profiles.

Sikaplan® VG



DESCRIPTION

Sikaplan® VG is a polyester reinforced, multi-layer, synthetic roof waterproofing sheet based on polyvinyl chloride (PVC) containing ultraviolet light stabilisers and flame retardant according to EN 13956. Sikaplan® VG is a hot air weldable roof waterproofing membrane formulated for direct exposure and designed to use in all global climatic conditions.

USES

Sikaplan® VG may only be used by experienced professionals. Roof waterproofing membrane for:

- Mechanically fastened roofing systems

CHARACTERISTICS / ADVANTAGES

- Resistant to UV exposure
- Resistant to permanent wind exposure
- Resistant against impact load and hail
- High water vapour permeability
- Resistant to most common environmental influences
- Hot air weldable
- No open flame equipment required

APPEARANCE / COLOR

Surface

- Matt

Top surface:

- Light grey (~ RAL 7047)
- Lead grey (~ RAL 7012)

Bottom surface:

- Dark grey

SYSTEM STRUCTURE

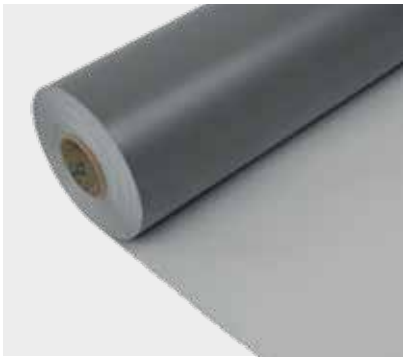
The following products must be considered for use depending on roof design:

- Sikaplan® D unreinforced sheet for detailing
- Moulded corner pieces, prefabricated corners and pipe flashings
- Sikaplan® PVC Metal Sheet
- Sika® Trocal Cleaner-2000
- Sika® Trocal Cleaner L-100
- Sika® Trocal C-733 (Contact adhesive)

Wide range of accessories is available e.g. prefabricated parts, roof drains, scuppers, walkway pads and decor profiles.

PRODUCT PROPERTIES

Sikaplan® U



THIRD-PARTY VERIFIED EPD ISO 14025 and EN 15804 Institut Bauen und Umwelt e.V.

DESCRIPTION

Sikaplan® U is a polyester reinforced multi-layer, synthetic roof waterproofing sheet based on polyvinyl chloride (PVC) containing ultraviolet light stabiliser and flame retarder with inlay of glass non-woven according to EN 13956. Sikaplan® U is a hot air weldable roof waterproofing membrane formulated for direct exposure and designed to use in all global climatic conditions.

USES

Sikaplan® U may only be used by experienced professionals. Roof waterproofing membrane for exposed roofs:

- Loose laid and mechanically fastened

Roof waterproofing membrane for roofs with ballast (e.g. gravel, concrete slabs, green roof (intensive, extensive), terraces with pedestrian traffic):

- Loose laid with ballasted
- Green roofs
- Utility roof

CHARACTERISCTICS / ADVANTAGES

- Resistant to UV exposure
- Resistant to permanent wind exposure
- Resistant to most common environmental influences
- Resistant to mechanical influences
- Resistant to micro-organisms
- Resistant to root penetration
- Hot air weldable, no open flame equipment required
- High water vapour permeability
- High dimensional stability due to glass fleece inlay
- Specially formulated for below grade applications, including plaza decks, planters, foundations, balconies, terraces and split slab application

APPEARANCE / COLOR

Surface:

- Structured

Top surface:

- Light grey (~ RAL 7047)

Bottom surface:

- Dark grey

SYSTEM STRUCTURE

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

- Sikaplan® D unreinforced sheet for detailing
- Sikaplan® SG or Sikaplan® G roofing sheet for exposed connections and flashings
- Moulded corner pieces, prefabricated corners and pipe flashings
- Sikaplan® PVC Metal Sheet
- Sika® Trocal Cleaner-2000
- Sika® Trocal Cleaner L-100
- Sika® Trocal C-733 (Contact adhesive)

Wide range of accessories is available e.g. prefabricated parts, roof drains, scuppers, walkway pads and decor profiles.

Sikaplan® SGmA

DESCRIPTION

Sikaplan® SGmA is a multi-layer, synthetic roof waterproofing sheet based on premium quality polyvinyl chloride (PVC) with inlay of glass non-woven according to EN 13956.

USES

Sikaplan® SGmA may only be used by experienced professionals. Roof waterproofing membrane for roofs with ballast (e.g. gravel, concrete slabs, green roof intensive, extensive), terraces with pedestrian traffic:

- Loose laid with ballast
- Green roofs
- Utility roofs

CHARACTERISCTICS / ADVANTAGES

- High dimensional stability due to glass fleece inlay
- High water vapour permeability
- Resistant to all common environmental influences
- Resistant to mechanical influences
- Resistant to micro-organisms
- Resistant to root penetration
- Hot air welding without use of open flames
- Specially formulated for below grade applications, including plaza decks, planters, foundations, balconies terraces and split slab applications.

APPEARANCE / COLOR

Surface:

- Slightly structured

Top surface:

- Beige

Bottom surface:

- Beige

SYSTEM STRUCTURE

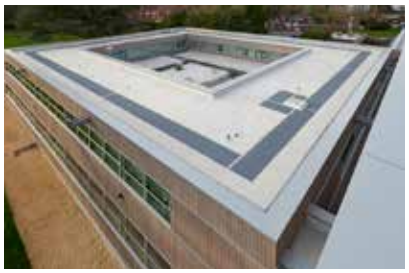
The following accessories shall be used:

- Sikaplan® D unreinforced sheet for detailing
- Sikaplan® SG or Sikaplan® G roofing sheet for exposed connections and flashings
- Moulded corner pieces, prefabricated corners and pipe flashings
- Sikaplan® PVC Metal Sheet
- Sika-Trocal® Cleaner-2000
- Sika-Trocal® Cleaner L-100
- Sika-Trocal® C-733 (Contact adhesive)

Wide range of acccessories is available e.g. prefabricated parts, roof drains and scuppers.

PRODUCT PROPERTIES

Sikaplan® SGK



DESCRIPTION

Sikaplan® SGK is a multi-layer, polyvinyl chloride, weldable, (PVC) roof waterproofing sheet membrane which is fully bonded using Sika-Trocal® C-300 adhesive. It contains an inlay of glass non-woven and polyester fleece backing according to EN 1395.

USES

Sikaplan® SGK may only be used by experienced professionals. Roof waterproofing membrane for:

- Fully bonded, exposed roofs

The product can be used on the following substrates:

- Bitumen sheet membranes: Slate, mineral granules, new and aged
- Concrete
- EPS: compressive strength ≥ 100 kPa (10 %), Density > 20 kg/m3
- Fibre cement boards
- Lightweight concrete
- Metal decking
- Mineral fibre boards (e.g. Bondrock MV)
- Oriented Strand Boards (OSB)
- Plywood panels
- PUR/PIR insulation boards, (e.g. Sikatherm® PIR GT, Kingspan TR 27)

CHARACTERISCTICS / ADVANTAGES

- Resistant to permanent UV exposure
- High dimensional stability from glass fleece inlay
- Water vapour permeable
- Resistant to many common environmental influences
- Hot air weldable
- No open flame equipment required
- Hot air welding without use of open flames

APPEARANCE / COLOR

Surface:

- Slightly structured

Top surface:

- Light grey (~ RAL 7047)
- Lead grey (~ RAL 7012))

Bottom surface:

- Dark grey

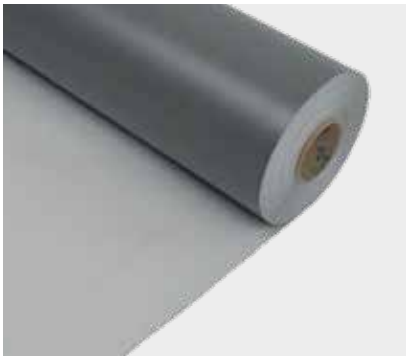
SYSTEM STRUCTURE

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

- Sikaplan® D unreinforced sheet for detailing
- Sikaplan® SG roofing sheet
- Moulded corner pieces, prefabricated corners and pipe flashings
- Sikaplan® PVC Metal Sheet
- Sika-Trocal® Cleaner-2000
- Sika-Trocal® Cleaner L-100
- Sika-Trocal® C-300 (PU adhesive for surface bonding)
- Sika-Trocal® C-733 (Contact adhesive)

Wide range of accessories is available e.g. prefabricated parts, roof drains, scuppers, walkway pads and decor profiles.

Sikaplan® SG



DESCRIPTION

Sikaplan® SG-15 is a multi-layer, synthetic roof waterproofing sheet based on premium quality polyvinyl chloride (PVC) with inlay of glass non-woven according to EN 13956.

USES

Sikaplan® SG may only be used by experienced professionals. Roof waterproofing membrane for exposed flat roofs:

- Loose laid and mechanically fastened – especially on concave roof structures
- Fully bonded junction areas with contact adhesive Sika-Trocal® C-733.
- Roof waterproofing membrane for exposed roof junction zones:
- Roof waterproofing for junctions and flashings, e.g.wall and parapet junctions, roof lights, etc., which are permanently exposed in installations of Sikaplan®
- Sikaplan® SGmA-types roof waterproofing systems with ballast
- Roof waterproofing for junctions and flashings in installations of Sikaplan® SGK types roof waterproofing systems

CHARACTERISCTICS / ADVANTAGES

- Resistant to permanent UV irradiation
- High dimensional stability due to glass fleece inlay
- High water vapour permeability
- Resistant to all common environmental influences
- Hot air welding without use of open flames

APPEARANCE / COLOR

Surface:

- Slightly structured

Top surface:

- Light grey (~ RAL 7047)
- Lead grey (~ RAL 7012)

Bottom surface:

- Dark grey

SYSTEM STRUCTURE

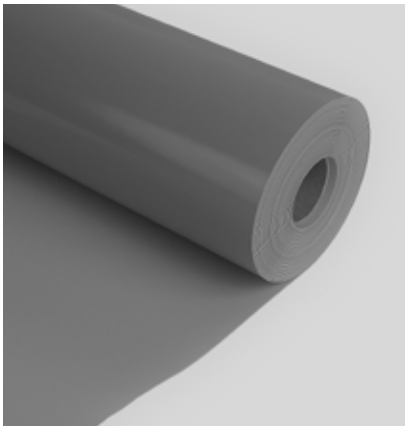
The following accessories shall be used:

- Sikaplan® D unreinforced sheet for detailing
- Moulded corner pieces, prefabricated corners and pipe flashings
- Sikaplan® PVC Metal Sheet
- Sika-Trocal® Cleaner-2000
- Sika-Trocal® Cleaner L-100
- Sika-Trocal® C-733 (Contact adhesive)

Wide range of acccessories is available e.g. prefabricated parts, roof drains and scuppers.

PARTITIONING / CONNECTION MEMBRANES

Sikaplan® D-15 / D-18



DESCRIPTION
Sikaplan® D is a polyvinyl (PVC), unreinforced, multi-layer, synthetic roof waterproofing detailing sheet.

USES
Detailing sheet for Sikaplan® PVC roof waterproofing membranes.

CHARACTERISTICS / ADVANTAGES
- Resistant to UV exposure
- Resistant to most common environmental influences
- Hot air weldable
- No open flame equipment required
- Good resistance to mechanical influences
- Excellent flexibility in cold temperatures

APPEARANCE / COLOR
Surface:
- Smooth

Top surface:
- Light grey (~ RAL 7047)
- Lead grey (~ RAL 7012)

Bottom surface:
- Light grey (~ RAL 7047)
- Lead grey (~ RAL 7012)

TECHNICAL INFORMATION
Length: 20.00 m
Width: 1.75 m
Thickness: 1.80 mm

Sarnafil® G 465-15

DESCRIPTION
Sarnafil® G 465-15 is a polyvinyl chloride (PVC) partitioning / connection sheet with a glass fibre reinforcing inlay.

USES
Sarnafil® G 465-15 may only be used by experienced professionals. As a partitioning / connection sheet for joining polymer bitumen based roof waterproofing membranes to Sikaplan® PVC roof waterproofing membranes.

CHARACTERISTICS / ADVANTAGES
- High dimensional stability from glass fleece inlay
- Hot-air weldable

APPEARANCE / COLOR
Surface:
- Smooth

Top surface:
- Yellow

Bottom surface:
- Yellow

TECHNICAL INFORMATION
Length: 20.00 m
Width: 0.50 m
Thickness: 1.50 mm

METAL SHEET / COIL

Sikaplan® Metal PVC

DESCRIPTION

Sikaplan® Metal PVC is a galvanised steel sheet laminated with 0,8 mm Sikaplan® Polyvinyl chloride (PVC) unreinforced roof waterproofing membrane.

USES

Production of profiles for perimeter flashing, junctions, fastening and anchorage:

- Sikaplan® PVC roof waterproofing membrane systems

CHARACTERISTICS / ADVANTAGES

- Resistant to UV exposure
- Can be cut and shaped either on site or in metal workshop
- Sikaplan® lamination is hot air weldable

APPEARANCE / COLOR

Surface:

- Smooth

Top surface:

- Light grey (~ RAL 7047)
- Lead grey (~ RAL 7012)

Bottom surface:

- Galvanised steel (quality DX51D Z275), additionally coated with grey lacquer

TECHNICAL INFORMATION

Sikaplan® Metal Sheet
Length: 2.00 m / 3.00 m
Width: 1.00 m / 1.00 m

Sikaplan® Metal Coil
Length: 300.00 m / 30.00 m
Width: 1.00 m / 1.00 m

Sikaplan® PVC lamination:	0.80 mm
Galvanised metal:	0.60 mm
Total thickness:	1.40 mm

CLEANERS

Sika-Trocal® Cleaner L 100

DESCRIPTION
Mixture of high volatile solvents.

USES
Cleaner to remove local contamination from Sikaplan® PVC roof waterproofing and waterproofing membrane seams and preparation of old Sikaplan® PVC membranes for welding applications.
Sika-Trocal® Cleaner L 100 is suitable for diluting Sika-Trocal® C 733 adhesive and degreasing metal sheets.

CHARACTERISTICS / ADVANTAGES
- Dissolves contamination of adhesive resin, mastic and bitumen
- Evaporates quickly
- Highly flammable
- The cleaner may be suitable to clean metal tools

Sika-Trocal® Cleaner L 2000

DESCRIPTION
Mixture of volatile solvents.

USES
Cleaner to remove local contamination from Sikaplan® PVC waterproofing membrane seams and preparation of old PVC membranes for hot air welding applications.
Cleaner to prepare seams of Sikaplan® PVC waterproofing membranes for hot air welding application. Not suitable to prepare PVC sheets for solvent welding application.
.

CHARACTERISTICS / ADVANTAGES
- Dissolves and emulsifies contamination of adhesive resins, mastic and bitumen
- Evaporates
- The cleaner may be suitable to clean metal tools

SOLVENT FREE CLEANERS

SikaRoof® Clean Set Detail

DESCRIPTION
SikaRoof® Clean Set Detail consists of various cleaning items.

USES
To clean small areas of polymeric membrane surfaces.

CHARACTERISTICS / ADVANTAGES
- Fast and easy to use
- Water-based cleaning liquid
- Economical usage

SikaRoof® Clean Pad Detail

DESCRIPTION
SikaRoof® Clean Pad Detail is a pad to clean polymeric roofing membranes.

USES
To clean polymeric membrane surfaces in combination with the SikaRoof® Clean Set Detail.

CHARACTERISTICS / ADVANTAGES
- Fast and easy to use

SikaRoof® Clean Agent

DESCRIPTION
The SikaRoof® Clean Agent is a mild alkaline cleaning agent for roof waterproofing membranes.

USES
To clean polymeric membrane surfaces in combination with the SikaRoof® Clean Set Detail and Area.

CHARACTERISTICS / ADVANTAGES
- Water-based
- Economical usage

SikaRoof® Clean Set Area

DESCRIPTION
The SikaRoof® Clean Set Area consists of various cleaning items.

USES
To clean polymeric membrane surfaces.

CHARACTERISTICS / ADVANTAGES
- Fast and easy to use

SikaRoof® Clean Pad Area

DESCRIPTION
The SikaRoof® Clean Pad Area is a pad to clean polymeric roofing membranes.

USES
To clean polymeric membrane surfaces in combination with the SikaRoof® Clean Set Area.

CHARACTERISTICS / ADVANTAGES
- Fast and easy to use

ADHESIVES, PRIMERS AND SEALANTS

Sika-Trocal® C-300

DESCRIPTION
Sika® Trocal C-300 is a 1-part, polyurethane based moisture curing adhesive.

USES
Partial bonding of Sikaplan® SGK roof waterproofing membranes to roof substrates.

CHARACTERISTICS / ADVANTAGES
- Adheres to smooth and rough, clean surfaces
- Application by pouring in strips and spreading by rubber spatula
- Fast setting time

Sika-Trocal® C-733

DESCRIPTION
Sika® Trocal C-733 is a 1-part, nitrile rubber based solvented contact adhesive.

USES
Sika® Trocal C-733 may only be used by experienced professionals.
Bonding Sikaplan® PVC roof waterproofing membranes to substrate at roof edges and junctions.

CHARACTERISTICS / ADVANTAGES
- Adheres to solid, rough and clean surfaces
- Application by brush or roller
- Final strength depends on climate during application

Sarnacol®-2116

DESCRIPTION
Sarnacol®-2116 is a water based 1-part synthetic resin based adhesive.

USES
Binder for binding gravel on horizontally applied Sarnafil® AT membranes (not for bonding).

SikaRoof® Board Adhesive

DESCRIPTION

SikaRoof® Board Adhesive is a polyurethane 1- part, fast curing, gun grade, foam adhesive that bonds insulation boards to various types of construction material substrates.

USES

Insulation board types:

- Extruded polystyrene boards (XPS)
- Expanded polystyrene boards (EPS)
- PUR / PIR boards
- Mineral fibre boards with sufficient compressive strength and appropriate type of bonding surface

CHARACTERISTICS / ADVANTAGES

- Easy, efficient and clean application with spray application gun
- One container covers an area of up to ~13 m^2
- Fast moisture curing for quick bonding
- Fire Behaviour B1 class (DIN 4102-1)
- Good adhesive tensile strength
- Adheres to solid, clean, dry or slightly moist surfaces
- HFC-free

SikaRoof® Multitape

DESCRIPTION

SikaRoof® Multitape is a single-sided adhesive tape. It has a FPO membrane layer and a butyl rubber adhesive layer.

USES

The Product bonds to a wide range of substrates:

- FPO waterproofing membrane
- PVC waterproofing membrane
- Metal
- Concrete
- Plywood
- Bitumen sanded or slated

The Product may only be used by experienced professionals.

CHARACTERISTICS / ADVANTAGES

- High tack and long-term adhesion
- Finger-lift release liner
- UV-resistant PP membrane layer
- Easy to apply with instant adhesion

APPEARANCE / COLOR

Color:

- Window grey (~ RAL 7040)
- White (~ RAL 9016)

TECHNICAL INFORMATION

Length: 15.00, 15.00 and 12.50 m
Width: 100, 170 and 250 mm
Thickness: Overall 1.70 mm

ADHESIVES, PRIMERS AND SEALANTS

Primer-110

DESCRIPTION
Primer-110 is a 1-part, ready to use, solvent-based,polymer primer for improving the adhesion propertieson absorbent substrates.

USES
Primer-110 may only be used by experienced professionals.
Primer for applying Sarnaplast®-2235 onto absorbent substrates / metals / Sikaplan® PVC.

CHARACTERISTICS / ADVANTAGES
- 1-part ready to use
- Easily applied by brush
- High adhesion to different structural decks and substrates

Sika® Primer-3 N

DESCRIPTION
Sika® Primer-3 N is a solvent-based, 1-component primer.

USES
Sika® Primer-3 N is designed for Sikaflex®, SikaHyflex®, SikaBond® and Sikasil® products used on porous substrates (e.g. concrete) and metals.

CHARACTERISTICS / ADVANTAGES
- Easy to apply
- Water repellent
- Short flash-off time

S-Sealing Tape 10/10

DESCRIPTION
S-Sealing Tape 10/10 is a polyurethane, single-sided adhesion soft foam sealing tape with acrylate dispersion impregnation.

USES
Placed between laminated metal sheet flashings and the substrate to prevent the penetration of wind driven water.

CHARACTERISTICS / ADVANTAGES
- Easily applied strip with integral adhesive and release liner
- Finger-lift release liner

APPEARANCE / COLOR
Color:
- Grey
- Black

TECHNICAL INFORMATION
Length: 25.00 m
Width: 10 mm
Thickness: 10 mm

Sarnaplast®-2235

DESCRIPTION

Sarnaplast®-2235 is a 1-part transparent elastomeric silicone sealant for sealing connection details on Sarnafil® flat roof systems.

USES

Sarnaplast®-2235 may only be used by experienced professionals.
A Sealant to seal:
- Flashing joints
- Expansion joints
- Perimeter flashings

CHARACTERISTICS / ADVANTAGES

- Resistant to UV exposure
- Application onto rough and smooth substrates
- Bonds to most construction materials
- Applied using standard sealant gun

Sikaflex®-11 FC+

DESCRIPTION

Sikaflex®-11 FC+ is a 1-part, multipurpose elastic adhesive and joint sealant with very good application properties which bonds and seals most construction material substrates. Internal and external use.

USES

An adhesive to bond construction components and materials such as:
- Concrete
- Masonry
- Reconstituted or cast stone
- Ceramic
- Wood
- Metal
- Glass
- A sealant to seal vertical and horizontal joints

CHARACTERISTICS / ADVANTAGES

- Movement capability of ±35 %
- Bonds well to defined substrates without surface pre-treatment
- Good mechanical and weathering resistance
- Very low emissions
- Adhesive-sealant with CE marking

RELEASED / APPROVED APPLICATIONS FOR SEALANTS

Materials / Substrates	Sikaflex®-11 FC+	Sarnaplast®-2235
Membranes and Metal Sheets		
Sikaplan® PVC membranes	Primer-110	Primer-110
Sikaplan® PVC Metal Sheet (Bottom surface)	Sika-Trocal® Cleaner L 100	Sika-Trocal® Cleaner L 100
Substrates		
Concrete, natural stone	Sika® Primer-3 N	Primer-110
Fibre cement	Sika® Primer-3 N	Primer-110
Copper	Sika® Primer-3 N	Sika-Trocal® Cleaner L 100
Titanium zinc	Sika® Activator-205	Sika-Trocal® Cleaner L 100
Steel	Sika® Activator-205	Sika-Trocal® Cleaner L 100
EPDM	Not compatible	Not compatible

ADHESIVES, PRIMERS AND SEALANTS

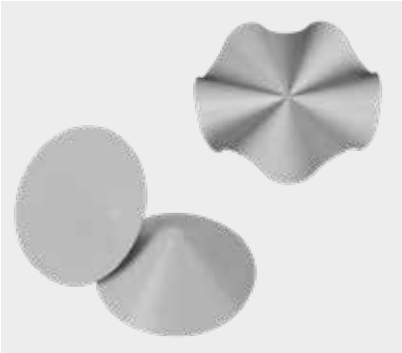
RELEASED / APPROVED APPLICATIONS FOR SEALING TAPES

Tape	Sarnavap® Tape F	Sarnatape®-20	SikaRoof® Multitape	S-Sealing Tape 10/10
Composition	**Butyl**		**Butyl / Polypropylene**	**Acryl**
Function	Taping lap splices of Sarnavap® Polyethylene vapour control layers	Taping of seams, connections and terminations	Bonding of various subtrates	Air tightness between metal sheets and substrates
Substrates / Materials				
Metals / Membranes				
Zinc	○	●	●	●
Titanium zinc	○	●	●	●
V2A	○	●	●	●
Copper	○	●	●	●
Sikaplan® PVC membranes (Top surface)	○	○	●	○
Sikaplan® PVC Metal Sheet (Bottom surface)	○	●	●	●
Other substrates				
Wood decks (OSB)	○	● Primer-130	● Primer-130 or -600	● Primer-130
Concrete	○	● Primer-130	● Primer-130 or -600	● Primer-130
Vapour- Control Layers / Barriers				
Sarnavap®-500 E	●	●	○	○
Sarnavap®-1000 E	●	●	○	○
Sarnavap®-2000 E	●	●	○	○

● Approved
○ Not approved / not applicable

PREFABRICATED PRODUCTS

SikaRoof® Corner PVC 90° / CI and WA



DESCRIPTION
SikaRoof® Corner PVC 90° / CI and WA are based on PVC manufactured by injection moulding.

USES
Prefabricated corners for Sikaplan® PVC flat roof systems.

CHARACTERISTICS / ADVANTAGES
- Resistant to UV exposure
- Ease of application
- Hot air weldable

APPEARANCE / COLOR
Surface:
- Smooth

Top surface:
- Light grey (~ RAL 7047)
- Lead grey (~ RAL 7012)
- Other colors on request

SikaRoof® Corner PVC 90° / I and A

DESCRIPTION
SikaRoof® Corner PVC 90° / I and A are based on PVC manufactured by injection moulding.

USES
Prefabricated corners for Sikaplan® PVC flat roof systems.

CHARACTERISTICS / ADVANTAGES
- Resistant to UV exposure
- Ease of application
- Hot air weldable

APPEARANCE / COLOR
Surface:
- Smooth

Top surface:
- Light grey (~ RAL 7047)
- Lead grey (~ RAL 7012)
- Traffic white (~ RAL 9016)
- Other colors on request

S-Pipe Flashing PVC

DESCRIPTION
S-Pipe Flashing PVC is a prefabricated pipe / vent flashing, based on a polyvinyl chloride (PVC) multi-layer, roof waterproofing membrane containing ultraviolet light stabilisers and flame retarders.

USES
Pipe / vent flashing on Sikaplan® PVC flat roof systems.

CHARACTERISTICS / ADVANTAGES
- Resistant to UV exposure
- Ease of application
- Hot air weldable

APPEARANCE / COLOR
Surface:
- Smooth

Top surface:
- Light grey (~ RAL 7047)
- Window grey (~ RAL 7040)
- Lead grey (~ RAL 7012)
- Copper patina
- Copper brown (~ RAL 8004)
- Traffic white (~ RAL 9016)
- Other colors on request

PREFABRICATED PRODUCTS

S-Post Flashing PVC

DESCRIPTION

S-Post Flashing PVC is a prefabricated roof post flashing, based on a polyvinyl chloride (PVC) multi-layer, roof waterproofing membrane containing ultraviolet light stabilisers and flame retarders.

USES

Post flashing on Sikaplan® PVC flat roof systems.

CHARACTERISTICS / ADVANTAGES

- Resistant to UV exposure
- Ease and safe application
- Hot air weldable

APPEARANCE / COLOR

Surface:
- Smooth

Top surface:
- Light grey (~ RAL 7047)
- Window grey (~ RAL 7040)
- Lead grey (~ RAL 7012)
- Copper patina
- Copper brown (~ RAL 8004)
- Traffic white (~ RAL 9016)
- Other colors on request

S-Lightning Conductor Flashing PVC

DESCRIPTION

S-Lightning Conductor Flashing PVC is a polyvinyl chloride (PVC) prefabricated injection moulded lightning conductor flashing with fitted integrated heat shrink sleeve.

USES

S-Lightning Conductor Flashing PVC is used on Sikaplan® PVC flat roof systems.

CHARACTERISTICS / ADVANTAGES

- Resistant to UV exposure
- Ease of application
- Hot air weldable

APPEARANCE / COLOR

Surface:
- Smooth

Top surface:
- Light grey (~ RAL 7047)
- Traffic white (~ RAL 9016)
- Other colors on request

TECHNICAL INFORMATION

Diameter base plate:	160 mm
Inside pipe diameter conical:	11.00 – 15.00 mm
Height:	250 mm
Thickness:	2.00 mm

S-Lightning Conductor Circus PVC

DESCRIPTION
S-Lightning Conductor Circus PVC is a polyvinyl chloride (PVC) disc of waterproofing membrane containing a glass non-woven inlay and ultraviolet light stabilisers.

USES
This product may only be used by experienced professionals.
Connects S-Lightning Conductor Clips and S-Lightning Conductor Clips V2A to Sikaplan® PVC roof waterproofing membranes.

CHARACTERISTICS / ADVANTAGES
- Resistant to UV exposure
- Hot air weldable

APPEARANCE / COLOR
Surface:
- Matt

Top surface:
- Light grey (~ RAL 7047)
- Dark grey
- Other colors on request

TECHNICAL INFORMATION
Diameter: 200 mm
Centre hole diameter: 23 mm
Thickness: 1.50 mm

S-Lightning Conductor Clip

DESCRIPTION
S-Lightning Conductor Clip is a polyamide / nylon support base which is used for securing lightning conductor cables to Sikaplan® roof waterproofing membranes.

USES
This product may only be used by experienced professionals:
- Lightning conductor clip for flat roofs with conductor cable diameters in the range of 8 mm to 10 mm

CHARACTERISTICS / ADVANTAGES
- Resistant to UV exposure
- Suitable for Sikaplan® PVC flat roof systems

APPEARANCE / COLOR
Top surface:
- Grey

TECHNICAL INFORMATION
Base plate: Ø 110 mm
Height: 45 mm

S-Lightning Conductor Clip V2A

DESCRIPTION
S-Lightning Conductor Clip V2A is a stainless steel clip on a polyamide / nylon support base which is used for securing lightning conductor cables to Sikaplan® roof waterproofing membranes.

USES
This product may only be used by experienced professionals:
- Lightning conductor clip for flat roofs with conductor cable diameters in the range of 8 mm to 10 mm

CHARACTERISTICS / ADVANTAGES
- Resistant to UV exposure
- Suitable for Sikaplan® PVC flat roof systems

APPEARANCE / COLOR
Top surface:
- Grey

TECHNICAL INFORMATION
Base plate: Ø 110 mm
Height: 40 mm

ROOF DRAINAGE

S-Gully set PVC

DESCRIPTION

S-Gully set PVC is a prefabricated rigid PVC rainwater outlet for flat roofs used with Sikaplan® PVC roof waterproofing membranes. It is also available with a combined heating system.

USES

The S-Gully set PVC may only be used by experienced professionals. Rainwater outlet for use with Sikaplan® PVC roof waterproofing membranes.

CHARACTERISTICS / ADVANTAGES

- Resistant to UV exposure
- Membrane can be welded directly to the base plate
- Hot air weldable
- Vapour control layer can be connected to the base plate to form an airtight seal

APPEARANCE / COLOR

Surface:
- Smooth

Color:
- Light grey (~ RAL 7047)

S-Gully PVC

DESCRIPTION

S-Gully PVC is a prefabricated PVC injection moulded rainwater outlet for flat roofs used with Sikaplan® PVC roof waterproofing membranes which can be heat welded onto the drain. Also available with a combined heating system

USES

The S-Gully PVC may only be used by experienced professionals. Rainwater outlet for use with Sikaplan® PVC roof waterproofing membranes.

CHARACTERISTICS / ADVANTAGES

- Resistant to UV exposure
- Membrane can be welded directly to the base plate
- Hot air weldable
- Vapour control layer can be connected to the base plate to form an airtight seal

APPEARANCE / COLOR

Surface:
- Smooth

Color:
- Light grey (~ RAL 7047)

TECHNICAL INFORMATION

Electrical connection:
Main Voltage: 230 V
Connected load: 15 Watt

S-Drain PVC

DESCRIPTION

S-Drain PVC is a PVC prefabricated injection moulded rainwater outlet for flat roofs used with Sikaplan® PVC roof waterproofing membranes which can be heat welded onto the drain.

USES

S-Drain PVC may only be used by experienced professionals. Rainwater outlet for use with Sikaplan® PVC roof waterproofing membranes.

CHARACTERISTICS / ADVANTAGES

- Resistant to UV exposure
- Membrane can be welded directly to the base plate
- Ease of application
- Hot air weldable
- Vapour control layer can be connected to the base plate to form an airtight seal

APPEARANCE / COLOR

Surface:
- Smooth

Top surface:
- Light grey (~ RAL 7047)

S-Leafguard round

DESCRIPTION

S-Leafguard round is a prefabricated Polypropylene (PP) basket with fixing wing nut.

USES

This product may only be used by experienced professionals:
- The S-Leafguard round is used as a gravel and leaf protection for S-Drain PVC in flat roofs

CHARACTERISTICS / ADVANTAGES

- Resistant to UV exposure
- Ease of application

APPEARANCE / COLOR

Surface:
- Smooth

TECHNICAL INFORMATION

Basket outside diameter: 237 mm
Basket height: 82 mm

S-Duoseal Couplings

DESCRIPTION

The S-Duoseal Couplings is made of ethylene propylene diene monomer rubber (EPDM) by injection moulding procedure.

USES

The S-Duoseal Couplings is used with S-Drain PVC.
- It provides an economic method of solving the problem of sealing a new S-Drain PVC into an existing roof drain during a roof refurbishment.

CHARACTERISTICS / ADVANTAGES

- Ease of application
- Secure and durable backflow seal
- Each S-Duoseal Couplings fits a wide range of sizes

ROOF DRAINAGE

S-Overflow PVC square

DESCRIPTION

S-Overflow PVC square is a prefabricated rigid PVC overflow outlet for flat roofs.

USES

This product may only be used by experienced professionals. Overflow outlet through flat roof parapets for use with Sikaplan® PVC roof waterproofing membranes.

CHARACTERISTICS / ADVANTAGES

- Resistant to UV exposure
- Membrane can be welded directly to the base plate
- Hot air weldable

APPEARANCE / COLOR

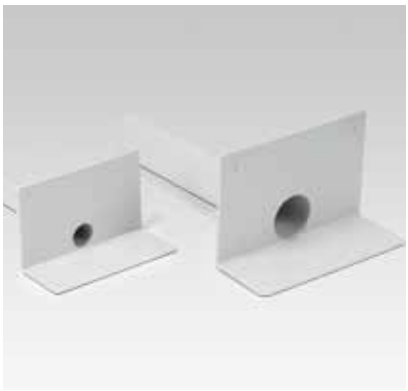
Surface:

- Smooth

Top surface:

- Light grey (~ RAL 7047)

S-Scupper PVC round



DESCRIPTION

S-Scupper PVC round is a rigid PVC prefabricated injection moulded rainwater outlet for flat roofs used with Sikaplan® PVC roof waterproofing membranes which can be heat welded onto the drain.

USES

Rainwater outlet through the parapet for use with Sikaplan® PVC roof waterproofing membranes.

CHARACTERISTICS / ADVANTAGES

- Resistant to UV exposure
- Membrane can be welded directly to the base plate
- Ease of application
- Hot air weldable

APPEARANCE / COLOR

Surface:

- Smooth

Top surface:

- Light grey (~ RAL 7047)

Gravel Frame with adjustable put on frame

DESCRIPTION
Gravel Frame with adjustable put on frame is a stainless steel gravel frame with adjustable insert (put on frame) for ballasted terraces.

USES
Gravel protection for roof drains in ballasted flat roof systems.

CHARACTERISTICS / ADVANTAGES
- Adjustable height: 50 – 80 mm
- Ease of application over gulley

APPEARANCE / COLOR
Surface:
- Smooth

Top surface:
- Stainless steel

TECHNICAL INFORMATION
Dimensions: 200 × 200 × 50 – 80 mm
Thickness: 1.00 mm

Perforated strainer

DESCRIPTION
Perforated strainer is a prefabricated, stainless steel, strainer for ballasted roof drainage systems.

USES
This product may only be used by experienced professionals:
- Perforated strainer for the Gravel Frame with adjustable frame insert (put on frame)

CHARACTERISTICS / ADVANTAGES
- Easily placed into gulley frame

APPEARANCE / COLOR
Surface:
- Smooth

Color:
- Stainless steel

TECHNICAL INFORMATION
Dimensions: 195 × 195 × 20 mm
Thickness: 1.00 mm

SikaRoof® Drain inspection chamber

DESCRIPTION
SikaRoof® Drain inspection chamber is a high density fibre reinforced concrete inspection chamber for accessing drains on green roofs.

USES
SikaRoof® Drain inspection chamber may only be used by experienced professionals:
- Accessing drains on green roofs

CHARACTERISTICS / ADVANTAGES
- Easy to install
- Insulated lid

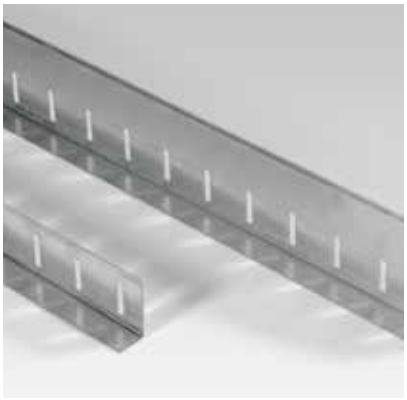
APPEARANCE / COLOR
Surface:
- Smooth

Top surface:
- Brown

TECHNICAL INFORMATION
Frame: 350 mm × 350 mm × 120 mm
Thickness: 10 mm
Lid insulation: 20 mm XPS board

ANCILLARY COMPONENTS

S-Gravelstop Profile



DESCRIPTION

S-Gravelstop Profile is a perforated stainless steel gravel stop profile for ballasted flat roofs.

USES

Gravel stop at roof perimeters in ballasted roofing systems or other ballast free roof areas:

- Separation profile between different types of roof ballast

CHARACTERISTICS / ADVANTAGES

- Stainless Steel
- Suitable for PVC ballasted roofing systems

APPEARANCE / COLOR

Surface:

- Smooth

Top surface:

- Stainless steel

TECHNICAL INFORMATION

Height: 60 / 100 mm
Length: 3000 mm
Width: 30 mm

S-Gravel stop Bracket PVC

DESCRIPTION

The S-Gravel stop Bracket PVC is a prefabricated bracket to fasten the S-Gravelstop Profile to Sikaplan® PVC roof waterproofing membranes by heat welding and without penetrating the membrane
.

USES

S-Gravel stop Bracket PVC may only be used by experienced professionals. Fastening the S-Gravelstop Profile to Sikaplan® PVC roof waterproofing membranes with slopes of < 5°.

CHARACTERISTICS / ADVANTAGES

- PVC membrane on corrosion resistant stainless steel bracket
- Suitable for ballasted roofing systems
- Easy application without penetrating the membrane
- Hot air weldable without use of open flames

APPEARANCE / COLOR

Top surface:
Membrane:

- Light grey

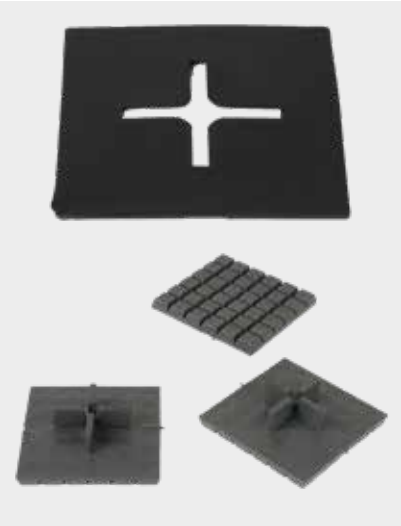
Top surface:
Bracket:

- Stainless steel

TECHNICAL INFORMATION

Outside Bracket / Inside Bracket
Length: 150 mm / 120 mm
Width: 140 mm / 140 mm
Height: 120 mm / 120 mm

Paving support Pad / levelling shim



DESCRIPTION
Paving support Pad / levelling shim is a prefabricated high density polyethylene (HD-PE) paving support pad manufactured by injection moulding. It enables the correct positioning of paving slabs and provides water drainage between and underneath the slabs.

USES
Paving support Pad / levelling shim may only be used by experienced professionals:
- Placement of paving slabs on flat roofs, plaza decks, balconies, verandas, courtyards, terraces etc.

CHARACTERISTICS / ADVANTAGES
- Ease of application
- Resistant to UV exposure
- Correctly positions paving slabs
- Securely holds paving slabs in place
- Uniform spacing between paving slabs
- Very good water drainage between slabs and below the paving level
- Paving not fixed, allowing slabs to be removed easily

APPEARANCE / COLOR
Top surface:
- Black

TECHNICAL INFORMATION
Paving support pad 1/20 with cross:
Joints

Length × width:	105 ×105 mm
Thickness:	9.50 mm
Height of lug:	20 mm
Thickness of lug:	5.00 mm
Length of cross lug:	58.50 mm

Paving levelling shim

Length × width:	106 × 106 mm
Thickness:	2.00 mm

SikaRoof® Cable Duct-110

DESCRIPTION
SikaRoof® Cable Duct-110 is a PE-HD prefabricated pipe bend with sliding socket and protection lid.

USES
This product may only be used by experienced professionals:
- Provides a watertight cable bushing detail on exposed roofs

CHARACTERISTICS / ADVANTAGES
- Constructed of durable PE-HD
- Proven waterproofing detail
- Easily connected over roof penetration

APPEARANCE / COLOR
Top surface:
Pipe bend with sliding socket:
- Black

TECHNICAL INFORMATION
Dimension pipe diameter: 110 mm

WALKWAYS

Sarnafil® Walkway Pad PVC

DESCRIPTION

Sarnafil® Walkway Pad PVC is made of high quality PVC from new Sarnafil® factory waste roofing membrane by injection moulding procedure.

USES

Sarnafil® Walkway Pad PVC is used to provide a durable slip resisting walkway for roof maintenance or access on any Sikaplan® PVC roofing waterproofing system.

CHARACTERISTICS / ADVANTAGES

- Resistant to permanent UV irradiation
- Outstanding slip resistant surface
- Hot air welding without use of open flames

Rainwater drainage from beneath the Sarnafil® Walkway Pad PVC is provided by a network of moulded channels.

APPEARANCE / COLOR

Surface:

- Chevron pattern with an alternating rib height of the embossing

Top surface:

- Dark grey

TECHNICAL INFORMATION

Length: 600 mm
Width: 600 mm without welding tabs
Thickness: 9.30 mm Including 3/5 mm non slip chevron pattern embossing

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Sikaplan® Walkway-20

DESCRIPTION

Sikaplan® Walkway-20 is a protection sheet made of polyvinyl chloride (PVC) containing ultraviolet light stabilisers and flame retardants

USES

Protection sheet on installed flat Sikaplan® roofing waterproofing membranes without ballast as a walkway for roof maintenance.

CHARACTERISTICS / ADVANTAGES

- Applicable for exposed roofing
- Easy and safe application
- Hot air weldable

APPEARANCE / COLOR

Surface:

- Texturised

Top surface:

- Slate grey (~ RAL 7015)
- Brick red (~ RAL 8004)

Border:

- Dark grey

TECHNICAL INFORMATION

Length: 10.00 m
Width: 1.00 m
Thickness: 2.00 mm (incl. embossing)
0.40 (depth of embossing)

FASTENING PRODUCTS

Sarnafast® Washer KTL

DESCRIPTION
Zinc plated steel washer with diamond-shaped reinforcement and specially stamped barbs for the mechanical fastening of roof waterproofing membranes.

USES
Mechanically fastened roof waterproofing membranes by Sarnafast® spot fastening in overlaps and / or intermediate spot fastening in combination with Sarnafast® Fastener SBF-6.0 on all decks. Only for fastening roof waterproofing membranes over compressible thermal insulation (not for use on hard substrates).

CHARACTERISTICS / ADVANTAGES
- Lightweight
- Resistance against common environmental influences
- Easy application in use with recommended setting tools
- Recyclable

TECHNICAL INFORMATION
Dimension: 82 × 40 mm
Hole diameter: 7.00 mm
Thickness: 1.00 mm
Corrosion resistance:
15 cycles according to Kesternich

Sarnafast® Washer KT

DESCRIPTION
Zinc plated steel washer with diamond-shaped reinforcement and specially stamped barbs for the mechanical fastening of roof waterproofing membranes.

USES
Mechanically fastened roof waterproofing membranes by Sarnafast® spot fastening in overlaps and / or intermediate spot fastening in combination with Sarnafast® Fastener SF-4.8 into corrugated steel and plywood / OSB decks. Only for fastening roof waterproofing membranes over compressible thermal insulation (not for use on hard substrates).

CHARACTERISTICS / ADVANTAGES
- Lightweight
- Resistance against common environmental influences
- Easy application in use with recommended setting tools
- Recyclable

TECHNICAL INFORMATION
Dimension: 82 × 40 mm
Hole diameter: 4.90 mm
Thickness: 1.00 mm
Corrosion resistance:
15 cycles according to Kesternich

Sarnafast® Washer IF/IG-C

DESCRIPTION
Zinc plated steel washer for the mechanical fastening of roof waterproofing membranes.

USES
Mechanically fastened roof waterproofing membranes by Sarnafast® spot fastening in overlaps and / or intermediate spot fastening in combination with Sarnafast® Fastener SF-4.8 into corrugated steel and plywood / OSB decks or Sarnafast® Fastener SBF-6.0 on all decks. Also for fastening roof waterproofing membranes over hard substrates.

CHARACTERISTICS / ADVANTAGES
- Lightweight
- Resistance against common environmental influences
- Easy application in use with recommended setting tools
- Recyclable

TECHNICAL INFORMATION
Dimension: 82 × 40 mm
Hole diameter: 7.00 mm
Thickness: 1.00 mm
Corrosion resistance:
15 cycles according to Kesternich

Sarnafast® Insulation Washer DTL

DESCRIPTION
Zinc plated steel washer for the mechanically fastening of thermal insulation.

USES
Mechanically fastened thermal insulation in combination with Sarnafast® Fastener SBF-6.0 on all decks.

CHARACTERISTICS / ADVANTAGES
- Lightweight
- Resistance against common environmental influences
- Easy application in use with recommended setting tools
- Recyclable

TECHNICAL INFORMATION
Dimension: 70 × 70 mm
Hole diameter: 7.00 mm
Thickness: 1.00 mm
Corrosion resistance:
15 cycles according to Kesternich

Sarnafast® Insulation Washer DT

DESCRIPTION
Zinc plated steel washer for the mechanically fastening of thermal insulation..

USES
Mechanically fastened thermal insulation in combination with Sarnafast® Fastener SF-4.8 into corrugated steel and plywood / OSB decks.

CHARACTERISTICS / ADVANTAGES
- Lightweight
- Resistance against common environmental influences
- Easy application in use with recommended setting tools
- Recyclable

TECHNICAL INFORMATION
Dimension: 70 x 70 mm
Hole diameter: 4.90 mm
Thickness: 1.00 mm
Corrosion resistance:
15 cycles according to Kesternich

FASTENING PRODUCTS

Sarnafast® Tube SFT-50

DESCRIPTION
Polyamide tube (PA 6) with teeths for the mechanical fastening of roof waterproofing membranes and thermal insulation.

USES
Mechanically fastened roof waterproofing membranes by Sarnafast® spot fastening in overlaps and / or intermediate spot fastening in combination with Sarnafast® Fastener SBF-6.0 on all decks. Only for fastening roof waterproofing membranes over compressible thermal insulation (not for use on hard substrates). Further for the mechanical fastening of thermal insulation boards.

CHARACTERISTICS / ADVANTAGES
- Lightweight
- Resistance against common environmental influences
- Easy application in use with recommended setting tools
- Recyclable

TECHNICAL INFORMATION

Diameter:	50 mm (at collar)
Available lengths:	40 – 230 mm
Hole diameter:	12.40 mm

Sarnabar® Tube SBT-20

DESCRIPTION
Polyamide tube (PA 6) for induction welding.

USES
Tubes for induction welding system in combination with SikaRoof® Induction Welding Disc PVC 16.0 and and Sarnafast® Fastener SBF-6.0 on all decks.

CHARACTERISTICS / ADVANTAGES
- High resistance against mecanical inputs
- Lightweight
- Resistance against common environmental influences
- Easy application in use with recommended setting tools
- Recycable

TECHNICAL INFORMATION

Diameter:	20 mm (at collar)
Hole diameter:	12.40 mm
Available lengths:	40 – 400 mm

Sarnafast® Fastener SBF-6.0

DESCRIPTION
Hardened carbon steel fastener.

USES
Fastener in combination with Sarnafast® Washer KTL, IF/G-C, Sarnafast® Insulation Washer DTL, Sarnafast® Tube SFT-50, SikaRoof® Induction Welding Disc PVC 6.8 and SikaRoof® Induction Welding Disc PVC 16.0 with Sarnabar® Tube SBT-20 into corrugated steel, concrete and plywood / OSB decks.

CHARACTERISTICS / ADVANTAGES
- Resistance against common environmental influences
- Easy application in use qith recommended setting tools
- Self drilling fastener, no pre-drilling for steel and plywood / OSB applications
- Chrome VI-free
- Recycable

TECHNICAL INFORMATION
Diameter: 6.00 mm
Head diameter: 9.80 mm
Available lengths: 35 – 300 mm
Torx T25
Corrosion resistance:
15 cycles according to Kesternich

Sarnafast® Fastener SF-4.8

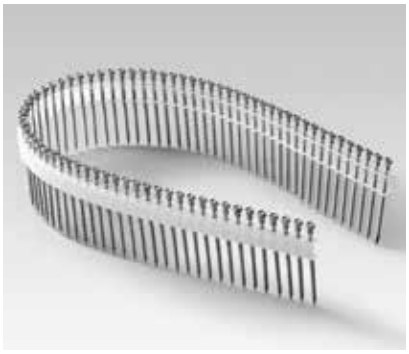
DESCRIPTION
Hardened carbon steel fastener.

USES
Fastener in combination with Sarnafast® Washer KT, IF/IG-C and Sarnafast® Insulation Washer DT into corrugated steel and plywood / OSB decks.

CHARACTERISTICS / ADVANTAGES
- Tread-fast solution
- Lightweight
- Resistance against common eviron-mental influences
- Easy application in use with recommended setting tools
- Self-drilling fastener, no pre-drilling for steel application
- Chrome VI-free
- Recycable

TECHNICAL INFORMATION
Diameter: 4.80 mm
Head diameter: 8.00 mm
Available lengths: 60 – 300 mm
80 – 300 mm
(magazine loaded)
Drive:
Hexagon head srew 8.00 mm
Corrosion resistance:
15 cycles according to Kesternich

Sarnafast® Fastener SF-M 4.8



Also available in magazine loaded version Sarnafast Fastener SF-M 4.8 with automated setting tool.

FASTENING PRODUCTS – INDUCTION WELDING

SikaRoof® Induction Welding Disc PVC 6.8

description
Zinc plated steel fastening discs with a pink coloured hot melt adhesive coating for induction welding with Sikaplan® G, VG or U roof waterproofing membranes.

USES
Mechanically field fastening of Sikaplan® G, VG or U roof waterproofing membranes on thermal insulation or hard substrates by induction welding to the membrane in combination with Sarnafast® Fastener SBF 6.0 on all decks.

CHARACTERISTICS / ADVANTAGES
- Lightweight
- Resistant against all common environmental influences
- Ease of application in use with recommended tools and equipment
- Corrosion resistant
- Recyclable

TECHNICAL INFORMATION
Dimension: 80 mm
Hole diameter: 6.80 mm
Steel thickness: 0.80 mm
Corrosion resistance:
15 cycles according to Kesternich

SikaRoof® Induction Welding Disc PVC 16.0

DESCRIPTION
Zinc plated steel fastening discs with a pink coloured hot melt adhesive coating for induction welding with Sikaplan® G, VG or U roof waterproofing membranes.

USES
Mechanically field fastening of Sikaplan® G, VG or U roof waterproofing membranes only over compressible thermal insulation (not for use on hard substrates) by induction welding to the membrane in combination with Sarnafast® Fastener SBF 6.0 and Sarnabar® Tube SBT-20 on all decks.

CHARACTERISTICS / ADVANTAGES
- Lightweight
- Resistant against all common environmental influences
- Ease of application in use with recommended tools and equipment
- Corrosion resistant
- Recyclable

TECHNICAL INFORMATION
Dimension: 80 mm
Hole diameter: 15.20 mm
Steel thickness: 0.80 mm
Corrosion resistance:
15 cycles according to Kesternich

SikaRoof® Induction Cardboard Pad

DESCRIPTION
Cardboard pad.

USES
SikaRoof® Induction Cardboard Pad must be used on top of EPS / XPS thermal insulation directly placed under SikaRoof® Induction Welding Disc PVC 6.8 or 16.0. Preventing the thermal insulation from melting during the induction welding process.

isoweld® 3000

USES

User-friendly and ergonomic stand-up induction welding tool for use with the SikaRoof® field fastening system for induction welding of the Sikaplan® G, VG or U roof waterproofing membranes to the SikaRoof® Induction Welding Disc PVC 6.8 or 16.0. Integrated safety and security features, such as search and control functions, temperature and power compensation, quick and simple calibration process, ensuring proper and correct welds.

Hand inductor FI-H

USES

Hand inductor welding tool for use with the SikaRoof® field fastening system for welding Sikaplan® G, VG or U roof waterproofing membranes to the SikaRoof® Induction Welding Disc PVC 6.8 or 16.0 in narrow and tight roof spaces and on vertical areas.

Magnets FI-Magnet

USES

Magnetic heatsink for use with the SikaRoof® field fastening system. Positioned on the Sikaplan® G, VG or U roof waterproofing membrane over the SikaRoof® Induction Welding Disc PVC 6.8 or 16.0 to apply pressure and to dissipate heat.

Extension rods included for working in an up-right position. The length of the rod can be reduced for better access in tight areas.

FASTENING PRODUCTS – COMBINATIONS

SPOT- / INTERMEDIATE AND PERIMETER FASTENING SYSTEMS

	Metal Faster	
Deck type	**Corrugated steel deck**	
Insulation fastening	Sarnafast® Insulation Washer DT Sarnafast® Fastener SF-4.8	Sarnafast® Insulation Washer DTL Sarnafast® Fastener SBF-6.0
Membrane fastening on soft substrates	Sarnafast® Washer KT Sarnafast® Fastener SF-4.8	Sarnafast® Washer KTL Sarnafast® Fastener SBF-6.0
Membrane fastening on hard substrates	Sarnafast® Washer IF/IG-C Sarnafast® Fastener SF-4.8	Sarnafast® Washer IF/IG-C Sarnafast® Fastener SBF-6.0
Perimeter fastening on soft substrates	Sarnafast® Washer KT Sarnafast® Fastener SF-4.8	Sarnafast® Washer KTL Sarnafast® Fastener SBF-6.0
Perimeter fastening on hard substrates	Sarnafast® Washer IF/IG-C Sarnafast® Fastener SF-4.8	Sarnafast® Washer IF/IG-C Sarnafast® Fastener SBF-6.0
	Tube Faster	
Insulation fastening	Sarnafast® Tube SFT-50 Sarnafast® Fastener SBF-6.0	
Membrane fastening	Sarnafast® Tube SFT-50 Sarnafast® Fastener SBF-6.0	
Perimeter fastening	Sarnafast® Tube SFT-50 Sarnafast® Fastener SBF-6.0	

INDUCTION WELDING SYSTEMS

	Metal Faster
Deck type	**Corrugated steel deck**
Insulation and membrane fastening	SikaRoof® Induction Welding Disc PVC 6.8 Sarnafast® Fastener SBF-6.0
Perimeter fastening with induction welding	SikaRoof® Induction Welding Disc PVC 6.8 Sarnafast® Fastener SBF-6.0
Perimeter fastening with spot fastening	Sarnafast ®Washer KTL Sarnafast® Fastener SBF-6.0
	Tube Faster
Insulation and membrane fastening	SikaRoof® Induction Welding Disc PVC 16.0 Sarnabar® Tube SBT-20 Sarnafast® Fastener SBF-6.0
Perimeter fastening with induction welding	SikaRoof® Induction Welding Disc PVC 16.0 Sarnabar® Tube SBT-20 Sarnafast® Fastener SBF-6.0
Perimeter fastening with spot fastening	Sarnafast® Tube SFT-50 Sarnafast® Fastener SBF-6.0

ning Systems		
Concrete deck	**Plywood / OSB deck**	
Sarnafast® Insulation Washer DTL Sarnafast® Fastener SBF-6.0	Sarnafast® Insulation Washer DT Sarnafast® Fastener SF-4.8	Sarnafast® Insulation Washer DTL Sarnafast® Fastener SBF-6.0
Sarnafast® Washer KTL Sarnafast® Fastener SBF-6.0	Sarnafast® Washer KT Sarnafast® Fastener SF-4.8	Sarnafast® Washer KTL Sarnafast® Fastener SBF-6.0
Sarnafast® Washer IF/IG-C Sarnafast® Fastener SBF-6.0	Sarnafast® Washer IF/IG-C Sarnafast® Fastener SF-4.8	Sarnafast® Washer IF/IG-C Sarnafast® Fastener SBF-6.0
Sarnafast® Washer KTL Sarnafast® Fastener SBF-6.0	Sarnafast® Washer KT Sarnafast® Fastener SF-4.8	Sarnafast® Washer KTL Sarnafast® Fastener SBF-6.0
Sarnafast® Washer IF/IG-C Sarnafast® Fastener SBF-6.0	Sarnafast® Washer IF/IG-C Sarnafast® Fastener SF-4.8	Sarnafast® Washer IF/IG-C Sarnafast® Fastener SBF-6.0
ning Systems		
Sarnafast® Tube SFT-50 Sarnafast® Fastener SBF-6.0	Sarnafast® Tube SFT-50 Sarnafast® Fastener SBF-6.0	
Sarnafast® Tube SFT-50 Sarnafast® Fastener SBF-6.0	Sarnafast® Tube SFT-50 Sarnafast® Fastener SBF-6.0	
Sarnafast® Tube SFT-50 Sarnafast® Fastener SBF-6.0	Sarnafast® Tube SFT-50 Sarnafast® Fastener SBF-6.0	

ning Systems	
Concrete deck	**Plywood / OSB deck**
SikaRoof® Induction Welding Disc PVC 6.8 Sarnafast® Fastener SBF-6.0	SikaRoof® Induction Welding Disc PVC 6.8 Sarnafast® Fastener SBF-6.0
SikaRoof® Induction Welding Disc PVC 6.8 Sarnafast® Fastener SBF-6.0	SikaRoof® Induction Welding Disc PVC 6.8 Sarnafast® Fastener SBF-6.0
Sarnafast® Washer KTL Sarnafast® Fastener SBF-6.0	Sarnafast® Washer KTL Sarnafast® Fastener SBF-6.0
ning Systems	
SikaRoof® Induction Welding Disc PVC 16.0 Sarnabar® Tube SBT-20 Sarnafast® Fastener SBF-6.0	SikaRoof® Induction Welding Disc PVC 16.0 Sarnabar® Tube SBT-20 Sarnafast® Fastener SBF-6.0
SikaRoof® Induction Welding Disc PVC 16.0 Sarnabar® Tube SBT-20 Sarnafast® Fastener SBF-6.0	SikaRoof® Induction Welding Disc PVC 16.0 Sarnabar® Tube SBT-20 Sarnafast® Fastener SBF-6.0
Sarnafast® Tube SFT-50 Sarnafast® Fastener SBF-6.0	Sarnafast® Tube SFT-50 Sarnafast® Fastener SBF-6.0

FASTENING PRODUCTS – TOOLS

SETTING- AND INSTALLATION TOOLS FOR FASTENING PRODUCTS

	Product	Uses
		For the automated setting of magazine loaded Sarnafast® Fastener SF-M 4.8
	IF240-B	Automated setting tool for the fast and economic installation of fasteners and washers. For belted fasteners Sarnafast® Fastener SF-M 4.8 with washers Sarnafast® Washer IF/IG-C, KT and Sarnafast® Insulation Washer DT.
BITS AND ACCESSORIES FOR FASTENING PRODUCTS		**For the installation of Sarnafast® Fastener SBF-6.0 and Sarnafast® Fastener SF-4.8 inside Sarnabar® Tube SBT-20 or Sarnafast® Tube SFT-50**
	T25-32-M6	Insert bit with T25 drive
	ZA1/4"-M6-300 / -750	Drive bar for installation of fasteners and tubes, length 300 and 750 mm
	ZA1/4"-M6-EXT100	Drive bar extension, length 100 mm
	ZH-12-RING	Adapter to hold Sarnabar® Tube SBT-20 and Sarnafast® Tube SFT-50 onto drive bar
	ZA 1/4"-DL	Helps to prevent pull-over failures and acts as a depth stop for pre-assembled tube / fastener combinations
	E320-1/4"-25	Socket for fastener with HEX 8 head
	E320-1/4"-25-M6	Connecting piece between E320 socket and drive bar
		For the manual installation of Sarnafast® Fastener SBF-6.0 with T25 drive
	T25-25-HEX1/4"	Insert bit with T25 drive and HEX shaft
	Bit holder ZA1/4"	Bit holder for bits with HEX shaft
		For the manual installation of Sarnafast® Fastener SF-4.8 with HEX 8 head
	E380-3/8"-34	Socket for fastener with HEX 8 head, for manual fastener installation
	ZA1/4"	Drive bar for socket, for manual fastener installation

DRILL BITS FOR FASTENING PRODUCTS

	Product	Uses
	SDS-4,8	SDS drill bits – available in different lengths
	SDS-5,0	
	SDS-5,2	
	SDS-6,3	
		For the use in combination with Sarnabar® Tube SBT-20 and Sarnafast® Tube SFT-50 on concrete
	ZVK-4,8 × 100 × 160	Conus drill bits for combination with ZAK drill extension
	ZVK-5,0 × 55 × 115	
	ZVK-5,0 × 100 × 160	
	ZVK-5,2 × 100 × 160	
	ZVK-4,8 × 100 × 165-STOP	Conus drill bits with stop function for combination with ZAK drill extension
	ZVK-5,0 × 25 × 90-STOP	
	ZVK-5,0 × 35 × 100-STOP	
	ZVK-5,0 × 45 × 110-STOP	
	ZVK-5,0 × 55 × 120-STOP	
	ZVK-5,2 × 25 × 90-STOP	
	ZVK-5,2 × 35 × 100-STOP	
	ZVK-5,2 × 45 × 110-STOP	
	ZVK-5,2 × 100 × 165-STOP	
	ZAK-500 / -750 / -1000	Drill extension for ZVK conus drill bits, length 500, 750 and 1000 mm
		For the use in combination with Sarnabar® Tube SBT-20, 15 mm hole
	ZAK-14-500	Drill extension for ZVK-14 conus drill bits with 14 mm outer diameter, length 500 mm
	ZVK-14-5,0 × 100 × 135	Conus drill bit for combination with ZAK-14 drill extension with 14 mm outer diameter
	ZVK-14-5,0 × 45 × 80-STOP	Conus drill bit with stop function for combination with ZAK-14 drill extension with 14 mm outer diameter

PRODUCT OVERVIEW FELTS AND GLASS FLEECE

	S-Felt A-300	Sikaplan® W Felt 500 PP	S-Felt S-800	S-Felt T-300	S-Glass Fleece-120	S-Felt VS-140	S-Felt GK-400
Function	Levelling- and Protection Layer	Levelling- and Protection Layer	Levelling- and Protection Layer	Separation-, Levelling- and Protection Layer	Separation- and Fire Protection Layer	Filter Layer	Protection- and Slip Layer
Properties							
Base material	Polypropylene (PP)	Polypropylene (PP)	Polypropylene (PP)	Polyester (PES)	Glass fibre	Polypropylene (PP)	Polypropylene with PE film (PP / PE
Weight (g/m²)	300	500	800	300	120	140	400
Roll size (m)	2 × 50	2 × 25	2 × 25	2 × 50	2 × 100	2 × 50	2 × 50
Resistance							
UV irradiation				●			
Bitumen	●	●	●	●	●	●	●
Alkaline solutions (ph 12)	●	●	●	○		●	●
Heat (+60 °C)	●	●	●	●	●	●	●
Practical Application							
Bitumen new or aged	○	●	●	●●			○
PVC aged	●	●	●	●			●
Concrete	●	●	●				●
Inverted Roof System with XPS							
Filter Layer						●●	
Protection- and Slip Layer							●●

●● Most suitable
● Suitable
○ Conditionally suitable

LEVELLING- AND PROTECTION LAYERS

S-Felt A-300

DESCRIPTION
S-Felt A-300 is a levelling- and protection layer made of polypropylene (PP).

USES
Levelling layer between Sikaplan® PVC membranes and rough surfaces.

CHARACTERISTICS / ADVANTAGES
- Bitumen resistant
- Easily applied

APPEARANCE / COLOR
Surface:
- Structured

Color:
- Multi-colored

Weight:
- 300 g/m²

Sikaplan® W Felt 500 PP

DESCRIPTION
Sikaplan® W Felt 500 PP is a levelling- and protection layer made of polypropylene non woven fabric.

USES
Levelling layer between Sikaplan® PVC membranes and rough surfaces.

CHARACTERISTICS / ADVANTAGES
- Bitumen resistant
- Easily applied

APPEARANCE / COLOR
Surface:
- Structured

Color:
- Multi-colored

Weight:
- 500 g/m²

S-Felt S-800

DESCRIPTION
S-Felt S-800 is a levelling- and protection layer made of polypropylene (PP).

USES
Levelling layer between Sikaplan® PVC membranes and rough surfaces.

CHARACTERISTICS / ADVANTAGES
- Bitumen resistant
- Easily applied

APPEARANCE / COLOR
Surface:
- Structured

Color:
- Multi-colored

Weight:
- 800 g/m²

SEPARATION-, LEVELLING- AND PROTECTION LAYER

S-Felt T-300

DESCRIPTION

S-Felt T-300 is a separation-, levelling- and protection layer made of polyester (PES).

USES

S-Felt T-300 is used as a separation and levelling layer between Sikaplan® PVC membranes and incompatible substrates. S-Felt T-300 can also be used as a protection layer between Sikaplan® PVC membranes and any protective topping or pavement.

CHARACTERISTICS / ADVANTAGES

- Bitumen resistant
- Non decaying
- Suitable for mechanical fastening (drill proved)
- Recyclable

APPEARANCE / COLOR

Surface:

- Structured

Color:

- White

SEPARATION- AND FIRE PROTECTION LAYER

S-Glass Fleece-120

DESCRIPTION
S-Glass Fleece-120 is a glass fibre separation- and fire protection layer.

USES
Separation and fire protection layer between Sikaplan®PVC membranes and EPS / XPS insulation.

CHARACTERISTICS / ADVANTAGES
- Easily applied

APPEARANCE / COLOR
Surface:
- Structured

Color:
- White

FILTER LAYER

S-Felt VS-140

DESCRIPTION

S-Felt VS-140 is a filter layer made of polypropylene (PP)

USES

Filter layer in inverted roofs systems to prevent small particles from penetrating gaps and voids in the thermal insulation layer.

CHARACTERISTICS / ADVANTAGES

- Bitumen resistant
- Alkali resistant (pH 11,6)
- Ease of application

APPEARANCE / COLOR

Surface:

- Structured

Color:

- Grey

PROTECTION- AND SLIP LAYER

S-Felt GK-400

DESCRIPTION

S-Felt GK-400 is a protection and slip layer made of polypropylene (PP) with a polyethylene (PE) coating on one side.

USES

Protection- and slip layer beneath paving or poured cementitious toppings.

CHARACTERISTICS / ADVANTAGES

- Bitumen resistant
- Acids resistant (pH 2,4)
- Easily applied

APPEARANCE / COLOR

Surface:

- Structured and smooth

Color:

- Multi-colored / black

PROTECTION-, DRAINAGE- AND FILTER LAYERS

Aquadrain 550

DESCRIPTION
Aquadrain 550 is made of mechanically strengthened Polypropylene (PP) fibres.

USES
Aquadrain 550 is used as drainage, water retention and protection layer for extensive and intensive green roof systems with a minimal slope of 1.50%.

CHARACTERISTICS / ADVANTAGES
- 3 in 1 product (drainage, water retention and protection)
- Suitable for extensive and intensive green roofs with slopes of minimum 1.50%
- Ease of application
- Non decaying
- Not UV stable

APPEARANCE / COLOR
Surface:
- Structured

Color:
- Brown

SikaRoof® Drainage Layer 20L2F

DESCRIPTION
SikaRoof® Drainage Layer 20L2F comprises of a threedimensional composite polymer drainage core connected to a fleece filter (PP) on both sides.

USES
SikaRoof® Drainage Layer 20L2F may only be used by experienced professionals:
- It is used as a drainage, filter and protection layer for flat roof extensive and intensive green roof systems

CHARACTERISTICS / ADVANTAGES
- 3 in 1 product (drainage, protection and filter layer)

APPEARANCE / COLOR
Color:
Drainage core
- Black

Filter fleece
- Light grey

TECHNOLOGY OVERVIEW THERMAL INSULATIONS

INTRODUCTION

Thermal insulation is one of the key construction elements, creating comfortable environment inside the building by protecting it from the heat and the cold.

The importance of thermal insulation has increased recently a lot due to continuously changing insulation standards worldwide, which put higher and higher demands to thermal resistance of building structures to reduce energy losses for heating or cooling. The main coefficient used for evaluation of such thermal characteristics is U-Value, which represents the energy transmission (loss) per 1 m^2 K of the building structure.

Insulation types used in flat roofing systems should have not only high thermal characteristics but sufficient mechanical properties as well to be able to withstand loads, which occur in various roof systems (like snow loads, limited pedestrian traffic for maintenance reasons, ballast, moisture in inverted roof build up, etc.) and to match specific fire requirements.

This section presents most common insulation types for this application and their suitability to Sika flat roof waterproofing systems. Properties of specific insulation products on the market may vary from listed general characteristics.

Product portfolio of Sika incorporates some of these insulation product types. For specific product information please refer to respective product brochures and data sheets.

PRODUCT TECHNOLOGIE – MAIN TECHNOLOGIES

PIR / PUR

PIR / PUR is a rigid polyisocianurate foam produced in a chemical process (exothermic chemical reaction) made by mixing MDI, polyols, blowing agents (usually pentan gas) and other additives. The products are known for one of the lowest thermal conductivities.
Majority of PIR / PUR boards for flat roofing applications have facers. It can be aluminium or glass tissue or paper. Facers prevent outgassing effect.

CHARACTERISTICS / ADVANTAGES
- Excellent thermal characteristics
- Low weight
- Ideal for adhered applications
- High compression strength

EPS

EPS (Expanded Polystyrene) is a plastic styrol foam made in physical process when polystyrene granules are expanded with vapour and then pressed together at high temperature to form blocks.
This is one of the most cost efficient insulations, which gained through that popularity on various local markets. In some countries it has a limited use on exposed roofs due to fire regulations, but majority of standard ballasted applications are done with this insulation.

CHARACTERISTICS / ADVANTAGES
- Cost efficient
- Low weight
- Ideal for gravel ballasted applications
- High compression strength

Mineralwool

Mineral (stone) wool is a traditional building insulant known for it's incombustible properties.
The mineralwool products are generally produced out of basalt in an physical process – basalt is heated up to 1500 °C till it gets into liquid state, then fibres are formatted with air pressure and organic binders are added to better hold these fibers together.
Mineralwool products for standard flat roofing applications are single or dual density rigid boards with mechanical and compression strength roperties sufficient for intended application.

CHARACTERISTICS / ADVANTAGES
- Non combustible
- Excellent acoustical properties
- Dimensionally stable

XPS

XPS (Extruded Polystyrene) is a plastic styrol foam produced with extrusion process. The polystyrene granules are mixed with the blowing agent (CO_2 or Freon) and then extruded.
XPS has very high compression strength and very low water absorption and these unique advantages determine it's most common applications – utility decks with high loads and inverted roofs (when thermal insulation is placed above waterproofing layer).

CHARACTERISTICS / ADVANTAGES
- Very high compression strength
- No or very low water absorption
- Low weight
- Ideal for inverted applications and utility decks with high loads (car traffic)

TECHNOLOGY OVERVIEW THERMAL INSULATIONS

PRODUCT TECHNOLOGY – SPECIALITIES

Coverboard

Coverboards for roofing applications are usually non-structural, glass-mat faced, moisture-resistant, treated gypsum or cementitious core panels. This treated gypsum or cementitious core is an integral part of the inorganic glass mat surfacing on both sides. Such boards are installed to create rigid roofing surface and to bring additional thermal resistance to the roofing structure as well.

CHARACTERISTICS / ADVANTAGES
- Very high compression strength
- Excellent fire ratings

Cellular Glass

Cellular glass is manufactured primarily from sand, limestone, and soda ash. (recycled glass could also be used). These ingredients are melted into molten glass, which is cooled and crushed into a fine powder. The powdered glass is poured into molds and heated that causes the particles to adhere to one another. Next, a small amount of finely ground carbon-black is added, and the material is heated in a “cellulation” process. Here, the carbon reacts with oxygen, creating carbon dioxide, which forms the insulating bubbles in the foamglas.

CHARACTERISTICS / ADVANTAGES
- No water absorption
- High resistance to fire, non combustible
- High compression strength

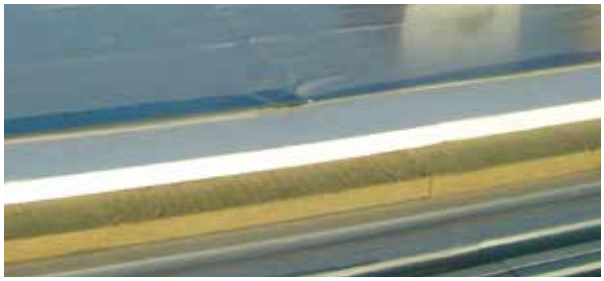
High Density Board

The high density board is a flat roof overlay board for use in combination with PIR / PUR boards. It provides added protection to the insulation below in areas of excessive traffic and high loadings.
In addition to its compressive performance, high density board exhibits excellent dimensional stability, ideal in flat roofs which experience intense thermal cycling between cold winter temperatures and extremely hot summers.

CHARACTERISTICS / ADVANTAGES
- High compressive strength
- Excellent dimensional stability

PRODUCT TECHNOLOGY – COMBINATIONS

EPS combined with Mineralwool



As an example EPS can be combined with Mineralwool, which can on one hand improve fire characteristics (compared to pure EPS build-up), provide higher compression strength and on other hand bring some additional cost efficiency.

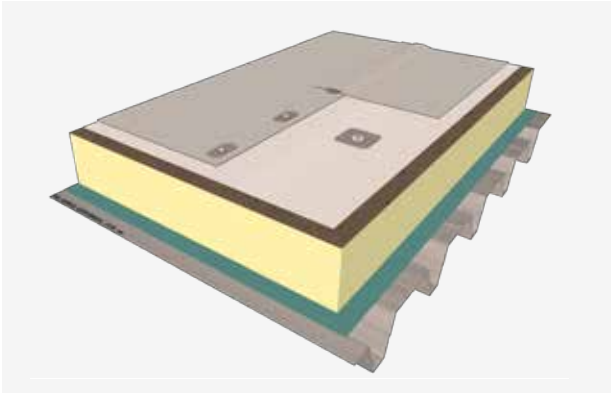
Numerous combinations of several insulation types can be Installed together in a single roof build-up to reach:

- Desired thermal values
- Higher compression strengths
- Extended fire characteristics
- Economical properties, etc.

CHARACTERISTICS / ADVANTAGES

- Combining strengths of various insulation types
- Improving acoustics
- Customized thermal insulation build up to special customer needs in case desired technical values or cost efficiency can not be reached with one product group

U-VALUES FOR ROOF BUILD-UP ON STEEL DECK (W/m²·K)



- Sikaplan® G roof waterproofing membrane
- Thermal insulation
- Sarnavap® vapour control layer
- Steel deck 1.00 mm

	80 mm	100 mm	120 mm	140 mm	160 mm	180 mm	200 mm	220 mm	240 mm	260 mm
PIR / PUR Aluminium 0.023 W/(m·K)	0.28	0.22	0.19	0.16	0.14	0.13	0.11	0.10	0.09	0.09
PIR / PUR Glass Tissue 0.028 W/(m·K)	0.33	0.27	0.23	0.19	0.17	0.15	0.14	0.12	0.11	0.11
EPS Graphite 0.029 W/(m·K)	0.34	0.28	0.23	0.20	0.18	0.16	0.14	0.13	0.12	0.11
EPS Standard 0.037 W/(m·K)	0.43	0.35	0.29	0.25	0.22	0.20	0.18	0.16	0.15	0.14
XPS HCFC Blown 0.029 W/(m·K)	0.34	0.28	0.23	0.20	0.18	0.16	0.14	0.13	0.12	0.11
XPS CO_2 Blown 0.037 W/(m·K)	0.43	0.35	0.29	0.25	0.22	0.20	0.18	0.16	0.15	0.14
Mineral Wool 0.040 W/(m·K)	0.47	0.38	0.32	0.27	0.24	0.22	0.19	0.18	0.16	0.15

Typical values (depending on supplier)

TECHNOLOGY OVERVIEW THERMAL INSULATIONS

COMPATIBILITY OF MAIN THERMAL INSULATION TYPES TO SIKA ROOFING SYSTEMS

Material types	Mechanically fastened	Adhered	Gravel ballasted	Green and Utility	Inverted	Metal roof refurbishment
PIR / PUR	**Compatible**	**Compatible**	**Compatible**	**Limited compatibility**	**Not compatible**	**Compatible**
		Glass tissue, paper or aluminium faced boards shall be used.		Due to higher compression loads affecting thermal insulation.		Additional flute filler may be required depending on the metal profile.
Mineralwool	**Compatible**	**Compatible**	**Limited compatibility**	**Very limited compatibility**	**Not compatible**	**Compatible**
		Only special mineralwool boards with facings shall be used in order to provide good bond without extreme adhesive consumption.	Due to higher compression loads on thermal insulation. Every project needs an evaluation.	Due to higher compression loads on thermal insulation. Every project needs an evaluation.		Additional flute filler may be required depending on the metal profile.
EPS	**Compatible**	**Compatible**	**Compatible**	**Limited compatibility**	**Not compatible**	**Compatible**
	A separation layer need to be installed between thermal insulation an Sikaplan® PVC membranes					
	A separation layer shall be applied in case of special fire requirements.			Due to higher compression loads affecting thermal insulation. Every project needs an evaluation.		Additional flute filler may be required depending on the metal profile. A separation layer shall be applied in case of special fire requirements.
XPS	**Compatible**	**Compatible**	**Compatible**	**Compatible**	**Compatible**	**Compatible**
	A separation layer need to be installed between thermal insulation and Sikaplan® PVC membranes					
	A separation layer shall be applied in case of special fire requirements.					Additional flute filler may be required depending on the metal profile. A separation layer shall be applied in case of special fire requirements.
Coverboard	**Compatible**	**Compatible**	**Compatible**	**Compatible**	**Compatible**	**Compatible**

Note: Every project needs an evaluation.

MAIN VALUES THERMAL INSULATION

	PIR / PUR	Mineralwool	EPS	XPS
Thermal conductivity	Aluminium faced boards λ_d 0.022 – 0.025 W/(m·K) Glass tissue faced boards λ_d 0.024 – 0.030 W/(m·K)	λ_d 0.038 – 0.040 W/(m·K)	EPS with graphite λ_d 0.029 – 0.031 W/(m·K) Standard EPS λ_d 0.034 – 0.038 W/(m·K)	Standard boards, HCFC blown λ_d 0.029 – 0.034 W/(m·K) CO_2 blown XPS boards λ_d 0.035 – 0.037 W/(m·K)
Compression strength	**100 – 150 kPa** It is sufficient for flat exposed applications and ballasted applications without heavy loads.	**40 – 60 kPa** It is sufficient for flat exposed applications without heavy pedestrian load.	**100 – 250 kPa** It is sufficient for flat exposed applications and most of ballasted applications.	**200 – 700 kPa** It is sufficient for utility decks with car traffic.
Resistance to water absorption	Boards have high resistance to moisture absorbtion, but they still can not be used in inverted roofs.	Boards have limited resistance to moisture absorbtion.	Boards have high resistance to moisture absorbtion, but they still can not be used in inverted roofs.	Zero water absorption, can be used in inverted roofing applications.
Weight	**30 to 40 kg/m³**	**110 to 200 kg/m³** Most common density of the boards for flat roofing applications is around 150 kg/m³.	**20 to 30 kg/m³**	**25 to 40 kg/m³**
Dimensional stability / average shrinking rates	Up to 1% in average	0%	up to 2% in average	up to 2% in average
Availability of tapered Insulation	**Available** Can be either cut out of the block in production or can also be produced as a ready board with a pitch.	**Available** Can be either cut on site or in production process. Cutting mineral wool on site releases fibers which may irritate.	**Available** Is usually cut out of insulation block by heated wire in production or on the site.	**Available** Harder to cut than expanded polystyrene boards. Usually prefabricated in production.

TECHNOLOGY OVERVIEW THERMAL INSULATIONS

BEHAVIOUR IN FIRE

EUROPEAN FIRE CLASSIFICATION		
Product Classification	**System Classification**	
Reaction to Fire according to EN 13501-1 Single product is tested to its behaviour in fire, smoke production, heat emissions, etc.	**External Fire Exposure according to EN 13501-5** External fire exposure tests behaviour of roofing system with various slopes and various wind speeds to external fire influence (fire in on top of the roofing surface).	**Fire Resistance of Structures according to EN 13501-2** Fire Resistance test represents how long the structure can resist fire without loosing ist structural abilities, entegrity and insulation characteristics. Fire is applied from underneath the roofing structure.

PRODUCT CLASSIFICATION – REACTION TO FIRE ACCORDING TO EN 13501-1			
Class	**Description**	**Main characteristics**	**Related testing procedures**
A1	Non combustible, Do not contribute to fire growth in any phase of fire including fully developed fire.	Increase of temperature ≤ 30 °C, and weight loss ≤ 50%, and no sustained flaming	EN ISO 1182 and
		Combustion heat ≤ 2.0 MJ/kg	EN ISO 1716
A2	Gives no significant contribution to fire growth and fire load in a fully developed fire.	Increase of temperature ≤ 5 0 °C, and Weight Loss ≤ 50%, and Sustained flaming ≤ 20 s	EN ISO 1182 or
		Combustion Heat ≤ 3.0 MJ/kg	EN ISO 1716 and
		Heat release rate ≤ 120 W/s, lateral flame spread < specimen edges Total heat release within 600 s ≤ 7.5 MJ	EN 13823
B	Do not lead to flashover situation, however they will contribute to a fully developed fire.	Heat release rate ≤ 120 W/s, lateral flame spread < specimen edges Total heat release within 600 s ≤ 7.5 MJ	EN 13823 and
		Spread of flame ≤ 150 mm within 60 s	EN ISO 11925-2 Exposure to fire 30 s
C	Shows limited fire spread during exposure to fire of single burning item, may lead to flashover situation, but only in the second part of the reference test, i.e. after more than 10 minutes.	Heat release rate ≤ 250 W/s, lateral flame spread < specimen edges Total heat release within 600 s ≤ 15 MJ	EN 13823 and
		Spread of flame ≤ 150 mm within 60 s	EN ISO 11925-2 Exposure to fire 30 s
D	Can withstand small flame for certain time without significant fire spread, may lead to flashover situation in the first part of the reference test, i.e. within 10 minutes, but not before 2 minutes.	Heat release rate ≤ 750 W/s	EN 13823 and
		Spread of flame ≤ 150 mm within 60 s	EN ISO 11925-2 Exposure to fire 30 s
E	Are able to withstand small fire for a short time without significant spread of flame, may lead to flashover within 2 minutes.	Spread of flame ≤ 150 mm within 20 s	EN ISO 11925-2 Exposure to fire 15 s
F	Products which can not be classified under A-E classes.	No performance determined	

MATERIALS OF CLASSES A2 TO D ARE TESTED FOR SMOKE EMISSIONS		
s1	**s2**	**s3**
Smoke development rate ≤ 30 m^2/s2 Total smoke propagation in 600 s ≤ 50 m^2	Smoke development rate ≤180 m^2/s2 Total smoke propagation in 600 s ≤ 200 m^2	Products which does not fulfil s1 and s2

MATERIALS OF CLASSES A2 TO D ARE ALSO TESTED FOR BURNING DROPLETS		
d0	**d1**	**d2**
No droplets within 600 s	Droplets burn for less than 10 s within 600 s	Products which does not fulfil d0 and d1

PIR / PUR	Mineralwool	EPS	XPS
Class E according to EN 13501-1	Class A1 according to EN 13501-1	Class E according to EN 13501-1	Class E according to EN 13501-1
The boards are classified as combustible, but they do not spread the flame, do not melt in fire and are self-extinguishing. The short temperature resistance is 250 °C and long temperature resistance 90 °C.	The boards are classified as incombustible.	The boards are classified as combustible, they melt during fire, but products are self-extinguishing. The short temperature resistance is 80 – 90 °C.	The boards are classified as combustible, they melt during fire, but products are self-extinguishing. The short temperature resistance is 70 – 90 °C.

SYSTEM CLASSIFICATION – EXTERNAL FIRE EXPOSURE EN 13501-5				
Four basic tests can be done to evaluate exernal fire behaviour of the roof				
	Test 1	**Test 2**	**Test 3**	**Test 4**
Testing pitch	15 °/ 45 °	30 °	5 °/ 30 °	0 °/ 45 °
Apply to following roof pitches	< 20 °/ ≥ 20 °	All pitches	< 10 °/ ≥ 10 ° and < 70 °	< 10 °/ ≥ 10 °
Fire	●	●	●	●
Wind		●	●	●
Radiant heat			●	●
2 stage test				●

● Approved

THERMAL INSULATION PRODUCTS

Sikatherm® PIR GT

DESCRIPTION
Sikatherm® PIR GT is an insulation board for flat roofing. It is faced on both sides with a coated glass tissue bonded to the insulation core and produces a tough, durable, light weight insulation board.

USES
Thermal insulation underneath Sikaplan® PVC roof waterproofing membranes.

CHARACTERISTICS / ADVANTAGES
- Produced with a blowing agent with zero Ozone Depletion Potential (ODP)
- Low thermal conductivity
- Ideal for new construction and refurbishment
- High compressive strength
- Light weight and low load on the roofing structure

Sikatherm® PIR AL

DESCRIPTION
Sikatherm® PIR AL is an insulation board for flat roofing. It is faced on both sides with an aluminium composite foil bonded to the insulation core and produces a tough, durable, light weight insulation board.

USES
Thermal insulation underneath Sikaplan® PVC roof waterproofing membranes.

CHARACTERISTICS / ADVANTAGES
- Produced with a blowing agent with zero Ozone Depletion Potential (ODP)
- Ideal for new construction and refurbishment
- High compressive strength
- Light weight and low load on the roofing structure

Sikatherm® EPS

DESCRIPTION
Sikatherm® EPS are boards of expanded polystyrene with high thermal insulating properties, which remain unaffected in time.

USES
Thermal insulation underneath Sikaplan® PVC roof waterproofing membranes. A separation layer need to be installed between thermal insulation and Sikaplan® PVC membranes.

CHARACTERISTICS / ADVANTAGES
- Homogeneity of the physical and mechanical characteristics of the product and therefore isotopical behaviour
- Stability against tension, distortion, break, degradation and ageing
- Ideal for new constructions and refurbishment projects
- Lightweight, applying thus low load on the roofing structure
- 100% recyclable

Sikatherm® XPS

DESCRIPTION
Sikatherm® XPS is a rigid extruded polystyrene insulation board with self-extinguishing properties that can be used as part of Sika roof waterproofing systems.

USES
Thermal insulation underneath and above Sikaplan® PVC roof waterproofing membranes. A separation layer need to be installed between thermal insulation and Sikaplan® PVC membranes.

CHARACTERISTICS / ADVANTAGES
- Very low thermal conductivity
- Ideal for new constructions and refurbishment projects
- High compression strength
- Lightweight and low load on the roofing structure
- Withstands freeze / thaw cycles
- Closed cell structure, which minimizes water absorption

PRODUCT OVERVIEW VAPOUR-CONTROL LAYERS / BARRIERS

BASICS

Moisture in today's buildings can be a source of continuous problems if not tackled professionally. This applies equally, to both new and existing buildings, particularly those that house high-tech- electronics, machinery and computer equipment, or which have moisture sensitive finishes or contents that need to be protected against condensation and its consequences.

The function of a vapour- control layer / barrier is firstly to avoid moisture build up in the fabric or structure of a building, where it could find its way into the insulation and reduce its thermal efficiency, or cause damage to other building elements. In addition to this, the vapour- control layer / barrier also serves to help secure the air tightness of the building.

	Sarnavap® -500 E	Sarnavap® -1000 E	Sarnavap® -2000 E	Sarnavap® -5000 E SA FR	Sarnavap® -5000 E SA	Sikavap -5000 E SK AL	SikaShield® VB E71 PE SA 3 kg/m²	SikaShield® VB P21 T 3 mm*
FM		●	●	●				
Properties								
Base material	Polyethylene (PE-LD)	Polyethylene (PE-LD)	Polyethylene (PE-LD / HD)	Aluminium / Polymer Bitumen	Aluminium / Polymer Bitumen	Aluminium / Hot Melt	SBS Modified Bitumen	APP Modified Bitumen
Color	White	Light blue	Green	Aluminium / PET film	Aluminium / PET film	Aluminium / PET film	Black	Black
Roll size (m)	5 × 25	5 × 25	4 × 25	1.08 / 1.38 × 40	1.08 × 30	1.50 x 50	1 x 10	1 x 10
Weight (g/m²)	145	195	230	400	650	135	3000	
Reaction to fire	Class E	Class E	Class E	Class E	Class E	Class E	Class E	Class E
Diffusion resistance factor μ	> 600'000	> 900'000	> 1'300'000	> 3'000'000	> 3'000'000	> 2'500'000	> 2'500'000	> 2'500'000
Diffusion equivalent air layer Sd (m)	≥ 100	≥ 200	≥ 300	≥ 1'800	≥ 1'800	≥ 1500	≥ 1500	≥ 1500
Moisture vapour transmission (g/m²/24 h)	< 1.5	< 0.8	< 0.3	< 0.04	< 0.04	< 0.06	< 0.06	< 0.06
Vapour resistance (M Ns/g)	> 450	> 900	> 1'450	> 9'000	> 9'000	> 7'500	> 7'500	> 7'500
Application								
High humidity			●	●	●	●	●	●
Moderate humidity	●	●	●	●	●	●	●	●
Low humidity	●	●	●	●	●	●	●	●
Vapour control layer	●	●	●	●	●	●	●	●
Vapour barrier				●	●	●	●	●
Accessories								
Sarnavap® Tape F	● Primer-130	● Primer-130	● Primer-130					
Sarnatape® 20	● Primer-130	● Primer-130	● Primer-130					
Primer-600					●		●	
Sika® Igolflex® P-01								●
Sika® Igolflex® P-10								●

● Achived / Used with

* Product representing SikaShield® bituminous vapour barrier range

products according to CE Marking EN 13984
Sarnavap®-5000 E according to EN 13970

TYPE OF APPLICATION VAPOUR-CONTROL LAYERS / BARRIERS

	Type of Application Vapour- Control Layers / Barriers		
Roof System / Substrate	**Loose laid**	**Self adhered**	**Hot applied**
Mechanically fastened on steel or wood deck	Sarnavap®-500 E Sarnavap®-1000 E* Sarnavap®-2000 E	Sarnavap®-5000 E SA Sarnavap®-5000 E SA FR Sikavap-5000 E SK AL SikaShield® VB E71 PE SA 3 kg/m²	O
On concrete deck	O	SikaShield® VB E71 PE SA 3 kg/m²	SikaShield® VB P41 S 3 mm* SikaShield® VB P21 T 3 mm SikaShield® VB P42 S 3 mm
Adhered on steel or wood deck	O	Sarnavap®-5000 E SA	O

O not recommended

* Product to be indicated as possible option within the chapter STANDARD DETAILS in this Roofing Handbook

Positioning and type of vapour- control layer / barrier in accordance with local climate conditions, type of building and regulations and must be confirmed by building physicist.

VAPOUR CONTROL LAYERS

Sarnavap®-500 E

DESCRIPTION

Sarnavap®-500 E is an unsupported vapour control layer based on Polyethylen (PE).

USES

- Vapour control layer is applied over most common substrates. Substrates should be smooth, dry and strong enough to support foot traffic
- Sarnavap®-500 E vapour control layer is used for flat roofs (only for PVC roof systems)

CHARACTERISTICS / ADVANTAGES

- Ease and speed of installation
- Stays flexible at low temperatures
- Non-decaying
- Constant vapour diffusion resistance
- Recyclable

APPEARANCE / COLOR

Surface:
- Smooth, PE-LD foil

Color:
- White

Sarnavap®-1000 E

DESCRIPTION

Sarnavap®-1000 E is an unsupported vapour control layer based on Polyethylen (PE).

USES

- Vapour control layer is applied over most common substrates. Substrates should be smooth, dry and strong enough to support foot traffic
- Sarnavap®-1000 E vapour control layer is used for flat roofs

CHARACTERISTICS / ADVANTAGES

- Ease and speed of installation
- Stays flexible at low temperatures
- Non-decaying
- Constant vapour diffusion resistance
- Recyclable

APPEARANCE / COLOR

Surface:
- Smooth, PE-LD foil

Color:
- Light blue

Sarnavap®-2000 E

DESCRIPTION

Sarnavap®-2000 E is an unsupported vapour control layer based on Polyethylene (PE).

USES

- Vapour control layer is applied over most common substrates. Substrates should be smooth, dry and strong enough to support foot traffic
- Sarnavap®-2000 E vapour control layer is used for flat roofs

CHARACTERISTICS / ADVANTAGES

- Ease and speed of installation
- Stays flexible at low temperatures
- Constant vapour diffusion resistance

APPEARANCE / COLOR

Surface:
- Smooth, PE-LD / HD foil

Color:
- Green

VAPOUR BARRIERS

Sarnavap®-5000 E SA FR

DESCRIPTION

Sarnavap®-5000 E SA FR is a self-adhesive, multilayered, fire reduced, vapour barrier manufactured from polymer modified bitumen with a glass-fibre matt reinforcement and an aluminium foil top layer.

USES

Sarnavap®-5000 E SA FR may only be used by experienced professionals:

- As a vapour barrier over metal decks in combination with mechanically fastened roof assembly.
- Temporary waterproofing layer for up to 4 weeks
- Not approved for fully adhered roof systems

CHARACTERISTICS / ADVANTAGES

- Ease and speed of installation from self-adhesive properties
- Temporary waterproof top layer for up to 4 weeks, without the requirement for additional weight / ballast and / or mechanical fastenings
- Good adhesion / bonding strength leading to an air tight roof construction
- Good tear resistance to foot traffic during roof build up activities
- High water vapour resistance makes it suitable in
- combination with all types of membranes
- Can be bonded onto inclined or vertical surfaces
- Complies with the requirements of DIN 18234

APPEARANCE / COLOR

Surface:

- Aluminium foil with PET film

Sarnavap®-5000 E SA

DESCRIPTION

Sarnavap®-5000 E SA is a multi-layered, self-adhesive vapour barrier manufactured from polymer modified bitumen with a glass-fibre matt reinforcement and an aluminium foil top layer.

USES

Sarnavap®-5000 E SA may only be used by experienced professionals:

- As a vapour barrier over most common roof deck types:
- Metal
- Plywood panels, timber boards, oriented strand board (OSB)
- Temporary waterproofing layer for up to 4 weeks

CHARACTERISTICS / ADVANTAGES

- Ease and speed of installation from self-adhesive properties
- Can be used in a fully adhered roof build-up. No additional fasteners required for securing the thermal insulation boards to the structural deck
- Temporary waterproof top layer for up to 4 weeks, without the requirement for additional weight / ballast and / or mechanical fastenings
- High self adhesion strength allows high wind design loads from 2,4 kN/m² to 2,8 kN/m²
- Provides an air tight layer
- High tear resistance to foot traffic during roof build up activities
- High water vapour resistance makes it suitable in combination with all types of membranes
- Accommodates a wide range of roof system, deck types and substrate combinations
- Can be bonded onto flashings, inclined or vertical surfaces

APPEARANCE / COLOR

Surface:

- Aluminium foil with PET film

VAPOUR BARRIERS

Sikavap-5000 E SK AL

DESCRIPTION

Sikavap-5000 E SK AL is a self-adhesive, multi-layered, vapour barrier manufactured with a glass-fibre mat reinforcement and an aluminium foil top layer. The bottom layer consists of a hot melt adhesive with a release liner.

USES

The Product is used as a:

- Vapour barrier over metal and wooden decks in combination with mechanically fastened roof construction
- Temporary waterproofing layer for up to 4 weeks.

Please note:

- The Product may only be used by experienced professionals
- The Product may only be used in combination with a mechanically fastened roof assembly
- Do not use as a permanent waterroof layer
- Not approved for fully adhered roof systems

CHARACTERISTICS / ADVANTAGES

- High water vapour resistance makes it suitable in combination with all types of membranes
- Temporary waterproofing layer without the need for additional weight, ballast or mechanical fastenings
- Good adhesion strength leading to an air tight roof construction
- Fast and easy installation using self-adhesive properties
- Good tear resistance to foot traffic during roof build-up activities
- Can be bonded onto different types of substrates

APPEARANCE / COLOR

Surface:

- Aluminum foil with PET film

SikaShield® VB E71 PE SA 3 kg/m²

DESCRIPTION

SikaShield® VB E71 PE SA 3 kg/m² is an SBS modified bituminous self-adhesive vapour barrier with a weight of 3 kg/m² and flexible at -25 °C. It is reinforced with aluminium foil and a dimensionally stable non-woven polyester inlay to provide an excellent barrier to the passage of the vapour. The top surface is covered with a polyethylene foil to bond the insulation panels with molten bitumen or by mechanical fixation. The underside has a removable liner over the adhesive compound for easy application.

USES

- The Product is used as a waterproofing membrane for:
- Flat and sloped roofs
- High humidity roof spaces (+20 °C ≤ 80% RH)

CHARACTERISTICS / ADVANTAGES

- Flame-free application
- Highly flexible in cold temperatures
- Good adhesion in cold temperatures

High durability

- Fast and easy installation

APPEARANCE / COLOR

Surface:

- Polyethylene foil

SikaShield® VB P21 T 3 mm

DESCRIPTION

SikaShield® VB P21 T 3 mm is an APP modified bituminous roofing vapour barrier with a thickness of 3 mm and flexible at -0 °C. It is reinforced with aluminium foil and a dimensionally stable non-woven
polyester inlay to provide an excellent barrier to the passage of the vapour. The top surface is covered with talc to bond the insulation panels with molten bitumen or by mechanical fixation. The underside of the product has a burn-off film for easy torch-application.

USES

The Product is used as a waterproofing membrane for:

- Flat and sloping roofs
- High humidity roof spaces (+20 °C ≤ 80% RH)

CHARACTERISTICS / ADVANTAGES

- Easy to install by torching method
- Good durability
- High resistance to water vapour movement

APPEARANCE / COLOR

Surface:

- Talc

Bottom surface:

- Polyethylene foil

VAPOUR- CONTROL LAYERS / BARRIERS ACCESSORIES

Sarnavap® Tape F

DESCRIPTION
Sarnavap® Tape F is a butyl rubber, double-sided adhesion sealing tape with a controlled stretch range.

USES
This product may only be used by experienced professionals:
- Taping lap splices in Sarnavap® vapour control layers (polyethylene) based material and for attaching Sarnavap® vapour control layers to smooth surfaces.

CHARACTERISTICS / ADVANTAGES
- Finger-lift release liner
- Controlled adhesive stretch range
- High durability
- Used only at airtight level

APPEARANCE / COLOR
Appearance:
- Smooth flat profile

Color:
- Black

TECHNICAL INFORMATION
Length: 40.00 m
Width: 15 mm
Thickness: 1.00 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 Sikaplan® PVC roof waterproofing 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

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 professionals:
- 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 substrates

Primer-600

DESCRIPTION
Primer-600 is a synthetic rubber and resin based 1- part ready to use primer for improving the adhesion properties of specific Sikaplan® PVC roof waterproofing membranes.

USES
A primer for applying self-adhesive technologies onto various substrates:
- Sarnavap®-5000 E SA

CHARACTERISTICS / ADVANTAGES
- Proven performance over decades
- Easily applied
- Flame free application
- High adhesion to different structural deck types and substrates
- 1-part ready to use
- Increased adhesion for the specific membrane types
- Applied by brush or roller

Sika® Igolflex® P-01 / P-10

Sika® Igolflex® P-01

DESCRIPTION
Sika® Igolflex® P-01 is a 1-part, polymer modified, ready to use bitumen emulsion.

USES
Primer for bitumen thick coatings and bituminous sheet membranes to improve the adhesion and substrate consolidation of:
- Concrete
- Mortar
- Masonry

CHARACTERISTICS / ADVANTAGES
- Non-flammable
- Quick drying time
- Ready to use
- Good penetrating ability into porous substrates
- Applied by brush, roller or airless spray
- Can be applied on slightly damp surfaces

Sika® Igolflex® P-10

DESCRIPTION
Sika® Igolflex® P-10 is a 1-part solvent-based ready to use bituminous primer.

USES
Primer for bitumen thick coatings and bituminous sheet membranes to improve the adhesion and substrate consolidation of:
- Concrete
- Mortar
- Masonry
- Improves the adhesion to:
- Wood
- Metal

CHARACTERISTICS / ADVANTAGES
- Quick drying time
- Good adhesion
- Good penetrating ability into porous substrates
- Applied by brush, roller or airless spray
- Can be applied on slightly damp surfaces
- Ready to use

ANCHOR SYSTEM

INTRODUCTION

The prefabricated roof connection point SikaRoof® Anchor-W 230 PVC is a universal connection point for fixing roof mounted products to exposed Sikaplan® PVC flat roof systems.

SikaRoof® Anchor-W 230 PVC

DESCRIPTION

SikaRoof® Anchor-W 230 PVC is a manufactured preformed accessory providing a secure watertight connection directly between the roof substructure / roof deck and waterproofing membrane.

USES

SikaRoof® Anchor-W 230 PVC may only be used by experienced professionals.
Universal connection point for fixing roof mounted products to exposed Sikaplan® PVC roof waterproofing membranes.

CHARACTERISTICS / ADVANTAGES

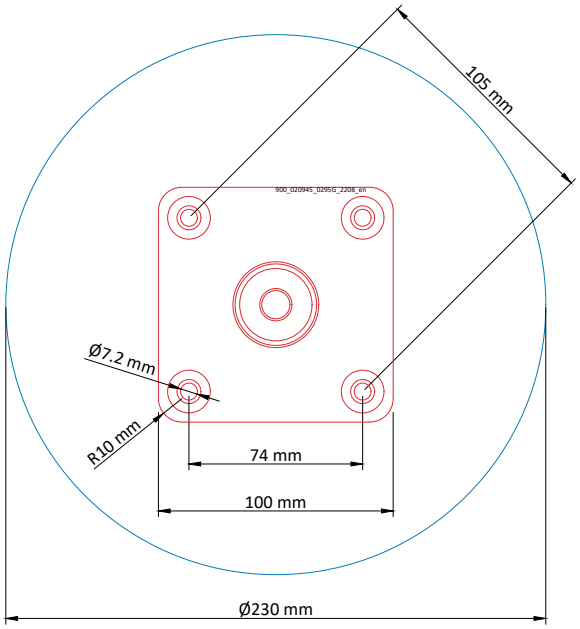
- Provides a secure watertight anchor to the roof deck
- Resistant to UV radiation
- Heat weldable Adaptable for different substrates and mounting requirements
- Removes the wind load off the membrane and onto the structural deck

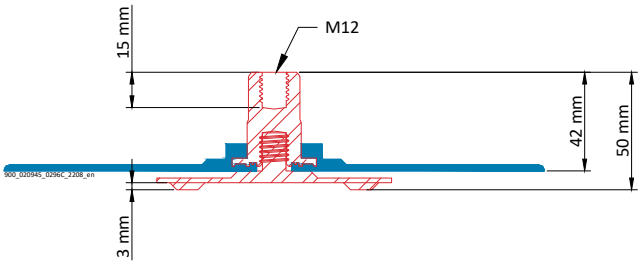
APPEARANCE / COLOR

Top surface:
Membrane:
- White
- Light grey

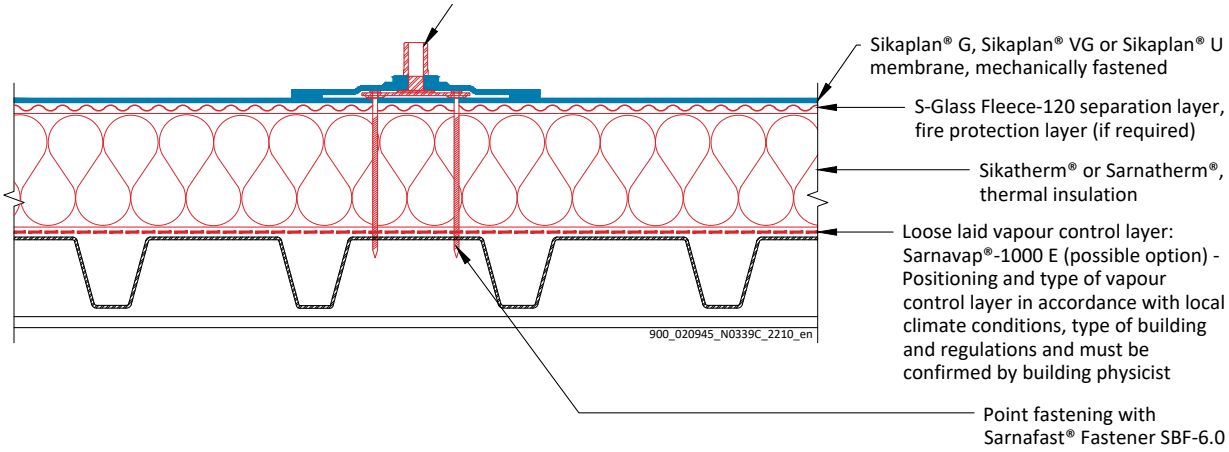
Washer:
- Stainless steel

TECHNICAL INFORMATION





TYPICAL APPLICATION



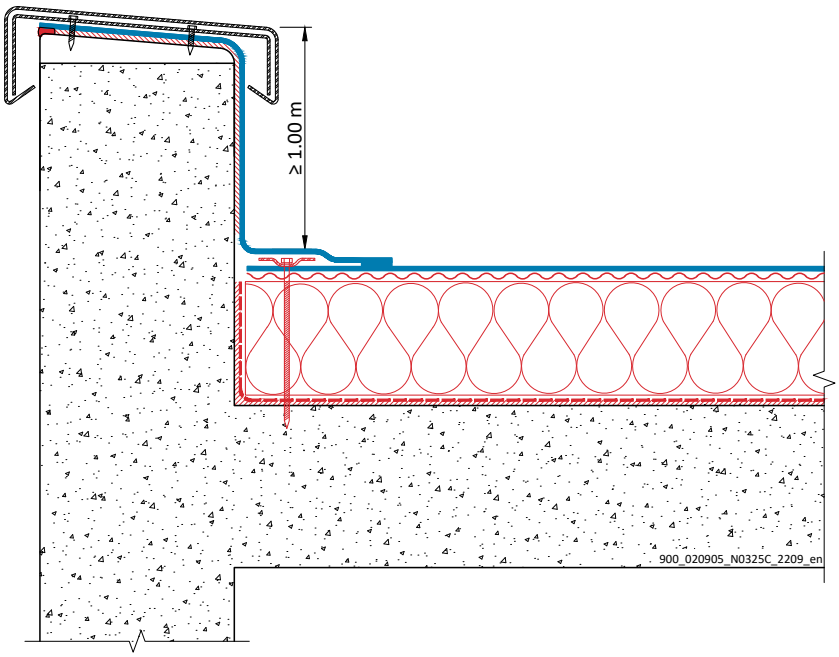
SYSTEM OVERVIEW
FALL ARREST SYSTEMS

INTRODUCTION

Working on roof areas is considered to be one of the most dangerous activities on a construction site for both new and refurbishment projects. It can also be necessary to carry out essential maintenance or repair works on flat roofs during bad weather conditions, including for example: the removal of drain blockages, repairing dome lights and removing snow accumulation.
All flat roof working activities are situations with a high risk of roof falls, where the danger can be either, falling at the flat roof edge or actually falling through openings or the roof itself. These potential hazard combinations should already be respected and considered during the design and planning phase of a project.

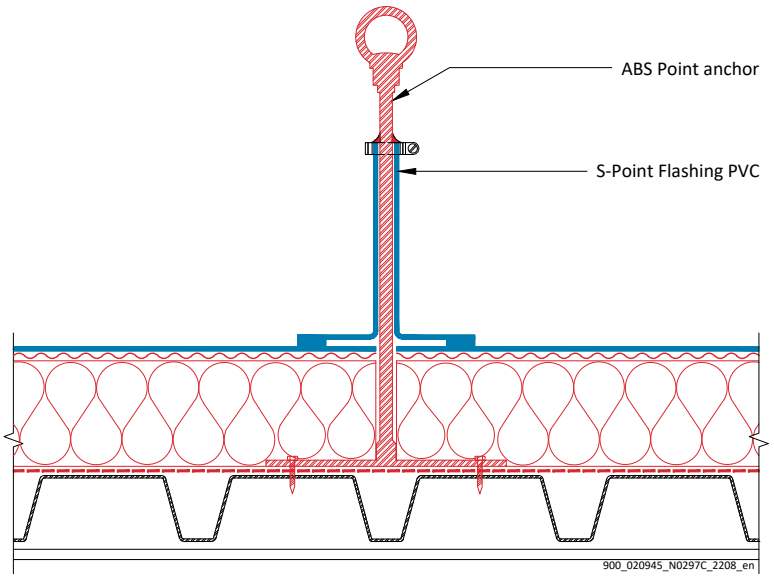
Where the building structrue or situation (e.g. with parapets, handrails etc.) cannot prevent a roof fall – a fall back system needs to be designed according to the following basic principles:

If the parapet height is < 1.00 m – the flat roof area needs to be equipped with a fall arrest system.



SINGLE POINT FALL ARREST ANCHOR

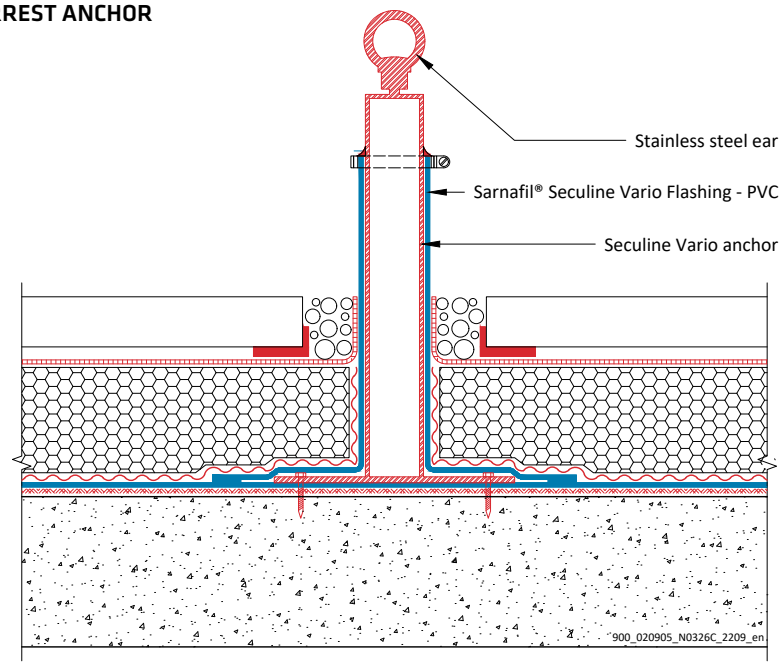
ABS Point is used to provide permanent single point fall arrest anchor point.



CABLE SYSTEM OR SINGLE POINT FALL ARREST ANCHOR

Non thermal insulated

Seculine® Vario anchor with Sarnafil® Seculine Vario Flashing - PVC and stainless steel ear is used to provide permanent single point fall arrest anchor point.
Furthermore it can be used for permanent stainless steel cable system.



FALL ARREST SYSTEM PRODUCTS

ABS Point

DESCRIPTION
The ABS Point is made of stainless steel. ABS Points are used as single attachment points in flat roofs.

USES
All ABS Point components are used as permanent fall protection systems in the Sikaplan® PVC flat roof system. There are different combinations and possibilities in the application. The ABS Point is used as a single attachment point for a maximum of three persons.

CHARACTERISTICS / ADVANTAGES
- Simple assembly for new buildings and refurbishments
- All components are made of stainless steel
- High-quality fall protection system
- Extensive accessories

APPEARANCE / COLOR
Top surface:
- Silver

Seculine® Vario Anchor

DESCRIPTION
The Seculine® Vario Anchor is made of stainless steel.

USES
Permanent single point fall arrest anchor point. Furthermore it can be used for permanent stainless steel cable system.

CHARACTERISTICS / ADVANTAGES
- Simple assembly for new buildings and refurbishments
- All components are made of stainless steel
- High-quality fall protection system
- Extensive accessories

APPEARANCE / COLOR
Top surface:
- Silver

S-Point Flashing PVC

DESCRIPTION
S-Point Flashing PVC is a prefabricated injection moulded roof point flashing based on polyvinyl chloride (PVC) with fitted integrated heat shrink sleeve.

USES
Point flashing on Sikaplan® PVC flat roof systems.

CHARACTERISTICS / ADVANTAGES
- Resistant to UV exposure
- Easy and safe application
- Heat weldable
- Fitted integrated heat shrink sleeve

APPEARANCE / COLOR
Surface:
- Smooth

Top surface:
- Light grey (~ RAL 7047)
- Lead grey (~ RAL 7011)
- Other colors on request

TECHNICAL INFORMATION
Inside pipe conical diameter:
17 mm, 21 mm

Diameter base plate:	180 mm
Height:	250 / 300 mm
Thickness:	2.00 mm

Sarnafil® Seculine Vario Flashing - PVC

DESCRIPTION
Sarnafil® Seculine Vario Flashing - PVC is a prefabricated roof post flashing based on a PVC waterproofing membrane which is fitted integrated heat shrink sleeve.

USES
Post flashing for Seculine Vario fall arrest system on Sikaplan® PVC flat roof systems.

CHARACTERISTICS / ADVANTAGES
- Resistant to UV exposure
- Easy and safe application
- Heat weldable
- Fitted integrated heat shrink sleeve

APPEARANCE / COLOR
Surface:
- Smooth

Top surface:
- Light grey (~ RAL 7047)
- Lead grey (~ RAL 7011)
- Other colors on request

TECHNICAL INFORMATION

Inside diameter:	51 mm
Height:	250 mm
Base plate diameter:	180 mm
Length heat shrink sleeve:	80 mm
Thickness:	1.50 mm

FALL ARREST SYSTEM PRODUCTS

Seculine® VARIO ANCILLARY PRODUCTS

Stainless Steel Ear

USES
To screw on the Seculine® Vario Fall Arrest Post.

Intermediate Holder

USES
To screw on the Seculine® Vario Fall Arrest Post. Traversable Intermediate Holder for permanent Stainless Steel Cable System.

End Holder

USES
To screw on the Seculine® Vario Fall Arrest Post. End Holder with one cable clip for permanent Stainless Steel Cable System.

End Holder Straight

USES
To screw on the Seculine® Vario Fall Arrest Post. End Holder straight with two cable clip for permanent Stainless Steel Cable System.

Corner Diverter Universal

USES
To screw on the Seculine® Vario Fall Arrest Post. Traversable Corner Diverter for permanent Stainless Steel Cable System.

End Lock 90°

USES
To screw on the Seculine® Vario Fall Arrest Post. End Holder 90° with two cable clip for permanent Stainless Steel Cable System.

Stainless Steel Cable

USES
For permanent Seculine® Vario Cable System.

Runner Element

USES
Enables traversable gliding over the Intermediate Holder and Corner Diverter in the permanent Stainless Steel Cable System.

APPLICATION TOOLS

Varimat V2

DESCRIPTION
With the innovative Varimat V2 welding machine, Sikaplan® PVC roof waterproofing membranes are welded quickly and economically. The automatic welder can be easily operated by one person thanks to the adjustable guide handle. The machine is also equipped with optimal ergonomics, easy handling and the "e-Drive" operating unit: The digital display not only shows the temperature control, but stores the welding parameters to ensure optimal welding seams, even after breaks or over days.

USES
Overlap welding of Sikaplan® PVC roof waterproofing membranes. Can also be used in areas close to edges and on uneven surfaces.

CHARACTERISTICS / ADVANTAGES
- Process reliability: Machine cuts out if undervoltage is too high
- Patented spherical roller compensates unevenness
- Guide bar for ergonomic handling
- Maintenance free blower means lower service costs
- User-friendly display with “e-Drive” (press and turn control) to recall preset and saved welding settings
- Constant drive with regulated electronics

Sika Membrane slitter

DESCRIPTION
The Sika Membrane slitter is generally made of galvanized steel and aluminium.

USES
The Sika Membrane slitter is a tool to cut membrane strips on job site.

CHARACTERISTICS / ADVANTAGES
- Easy and safe to use
- Enables to cut membranes strips custom-fit on job site
- Enables to cut the strip to the desired width around the parapet perimeter
- Can even be used on already applied membranes without damage due to a special protector device
- Tool can be used in upright ergonomic position

Spray Application Gun

USES
Spray gun to be used for the application of SikaRoof® Board Adhesive, polyurethane 1- part, foam adhesive.

SYSTEM PRODUCT
SikaRoof® Board Adhesive

Leister Triac AT / ST

DESCRIPTION
Hand welding tool for welding membranes.

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

APPLICATION TOOLS

SPARE PARTS FOR LEISTER HAND WELDING TOOL

	Product	Uses
	Wide slot nozzle – 20 mm, 15° angled	Standard welding nozzle for details
	Wide slot nozzle – 20 mm, 60° angled - horizontal	Welding nozzle for difficult accessible detail parts
	Wide slot nozzle – 20 mm, 75° angled - vertical	Welding nozzle for difficult accessible detail parts
	Wide slot nozzle – 40 mm, 15° angled	Standard welding nozzle for straight welds
	Tubular nozzle – 5 mm diameter, 15° angled	Suitable for speed welding nozzle
	Pressure roller with ball bearings – 28 mm / PTFE	Pressure roller in the hot welding process
	Pressure roller with ball bearings – 28 mm / PTFE	Pressure roller in the hot welding process
	Pressure roller with ball bearings – 6 mm (brass)	Pressure roller in the hot welding process
	Chamfer tool	Chamfering tool along transverse joints of hot welded membranes
	Chamfer tool sharpener	For the sharpening of chamfer tool

APPLICATION INSTRUCTIONS

BASICS

BASICS	The basis for the application of Sikaplan® PVC roof waterproofing membranes beside the Roof Handbook Sikaplan® PVC are the application manual for Sikaplan® PVC and the latest versions of product data sheets. In addition to that the product information, the standard details and the inputs regarding mechanically fastened and ballasted roof systems.
DELIVERY / PACKAGING / STORAGE	Sikaplan® PVC roof waterproofing membranes will be delivered in rolls – individually wrapped and palletized. Building site storage of membranes horizontally, on palettes and protected against humidity, dirt, dust and exposure.
MEMBRANE CUTTING	Cut Sikaplan® PVC roof waterproofing membrane with a scissor, knife or Sika® Membrane slitter. Please take also notice of the range of available strips in our delivery program.
SUBSTRUCTURE / FIRE PROTECTION	Depending on the roof system adjustment with the subconstruction need to take place. Your Sika roofing specialist can support you perfectly. Sikaplan® PVC roof waterproofing systems are resistant and therefore approved against spreading of fire on roofs without protective or covering layers. Fire protection requirements of specific country need to be considered.
ROOF SLOPE	Generally a roof slope of 1.5% is required - periodically ponding water does not harm the membrane.
SUPPORT LAYER	A support layer need to be installed above trapezoidal metal deck constructions. This can either be thermal insulation with sufficient compression strength or plain metal sheet.
VAPOUR- CONTROL LAYER / BARRIER	The type of vapour- control layer / barrier to be chosen depends on the roof build-up and boundary conditions (indoor and outdoor clima). In case of not airtight sub – constructions (wood planking, trapezoidal metal sheets, prefabricated elements etc.), vapour- control layer / barrier need also take over the function of airtight layer.
THERMAL INSULATION LAYER	Depending on the roof system to be chosen, thermal insulation layer will be loosely laid, mechanically fastened or adhered. Guidelines of thermal insulation producer need to be followed. Thermal insulation plates applied in staggered bond pattern.
SEPARATION- / LEVELLING LAYER	If needed separation- / levelling layer installed based on the chosen roof build-up.
REFURBISHMENTS	Existing roof must be assessed carefully before a suitable refurbishment proposal can be prepared. Visual inspection of the buried roof layers should be made by opening the roof or taking core samples. The design should consider the following: ■ Condition of the roofing membrane and all flashing details ■ Building regulations ■ Whether the thermal insulation is dry ■ Whether the vapour control layer functions adequately ■ Whether the roof structure can support the design loads ■ Whether roof drainage is sufficient ■ Whether adjacent construction is sound or requires work Sika Roofing guidelines and application instructions for new roofs also apply to refurbishment work. If only certain parts of the roof are to be refurbished, it is advisable to consider separating the new areas from the old areas by installing area dividers or waterstops. This will prevent any leaks in the old roof from affecting the performance of the new roof.

GENERAL Sikaplan® MEMBRANE WELDING

Sikaplan® PVC membranes will be homogenous joined by thermal welding process. Sikaplan® PVC membranes must be prepared for welding. During installation and in case of repair, different cleaning and seam preparation procedures may apply. Sikaplan® membranes must be overlapped by 80 mm for the loose laid roof system whilst 120 mm for the mechanically fastened system. Regarding detailing we refer to application manual Sikaplan® PVC and the width range of prefarbricated parts to be offered.

Welding tools

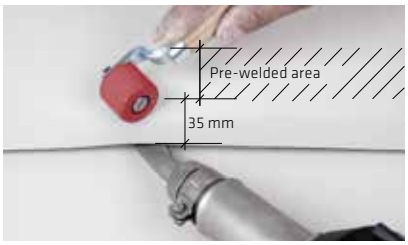
Only Sika recommended welding tools should be used. Sikaplan® PVC roof waterproofing membranes will be hot welded, either with hand welder or automatic welding machine.

Test welding

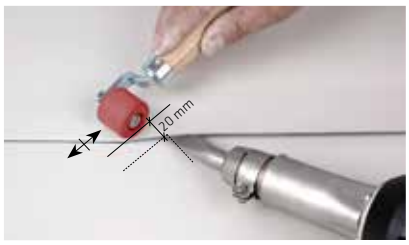
Before welding the actual roof membrane, a test weld must be carried out to check the settings of the hand welder and / or the automatic welding machine. The test weld must be also carried out to check local site conditions during a working day.

Hand welding carried out in three steps

1. Spot weld overlap area must be clean and dry.

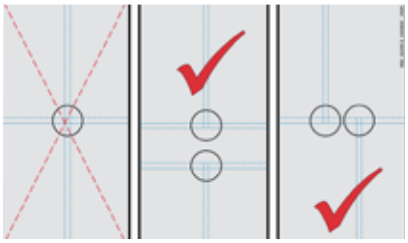


2. Pre-weld the rear overlap area that a 35 mm opening remains.



3. Final weld the 35 mm opening area. Roll the pressure roller fully across the seam.

T- and cross joints



Welds at transverse joints. By proper arrangement of Sikaplan® PVC, all seams can be reduced to straight welded seams and transverse joint (T-joint). Cross joints are to be avoided.

To achieve proper welding, all transverse joints of all Sikaplan® PVC thickness, for manual and automatic welding have to be chamfered.

Weld the membrane over the chamfered area.

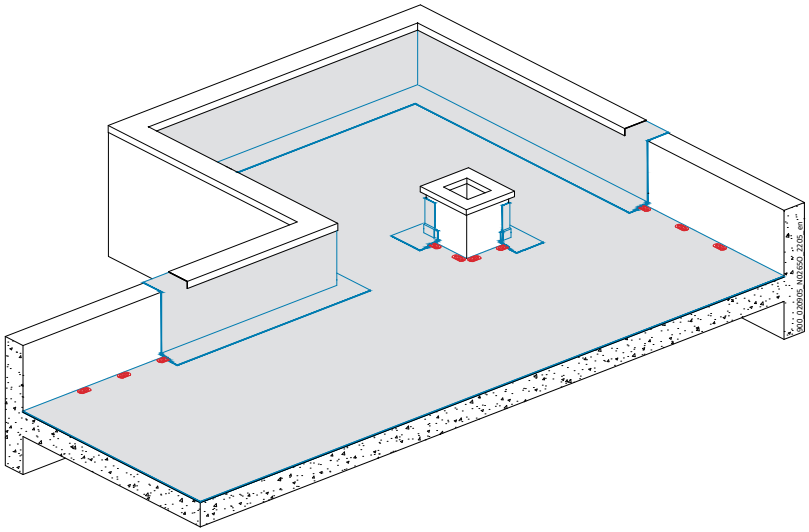
Seam check after welding

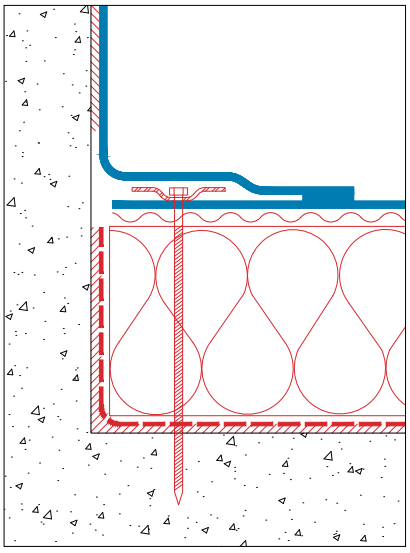
All seams must be checked after they have completely cooled by contractor according to Sikaplan® PVC application manual.

BASICS

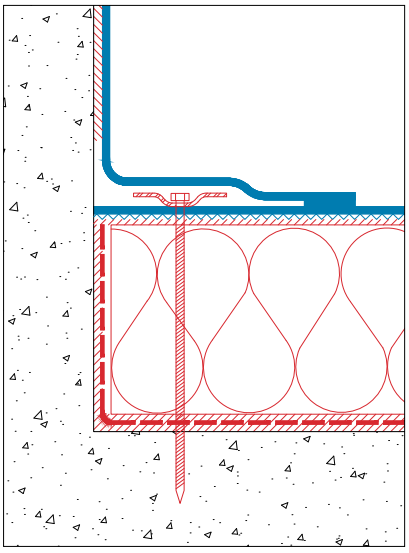
PERIMETER SECUREMENT

At all upstands and penetrations wider than 50 cm Sikaplan® PVC membrane must be secured with Sarnafast® Washers and Fasteners either to the horizontal or vertical surface. The number and type of fasteners per linear meter depend on the substrate and the windload (mechanically fastened system). At least four fasteners per meter must be used.





Mechanically fastened and ballasted roof systems



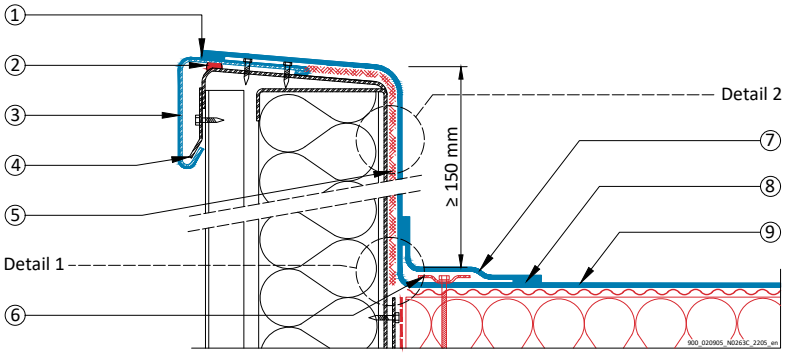
Adhered roof systems

Substrate	Insulation thickness				
	≤ 160 mm	160 - 200 mm	201 - 240 mm	241 - 400 mm	≥ 400 mm
All substrates	4 fasteners / m[1]	5 fasteners / m[1]	6 fasteners / m[1]	7 tubes / m[1]	special design measures to be taken
excl. aerated concrete	4 tubes / m[1]	5 tubes / m[1]	6 tubes / m[1]	7 tubes / m[1]	
Aerated concrete	5 fasteners / m[1]	6 fasteners / m[1] and 8 fasteners in the corner zone	special design measures to be taken	special design measures to be taken	special design measures to be taken
	5 tubes / m[1]	6 tubes / m[1] and 8 tubes in the corner zone	special design measures to be taken	special design measures to be taken	

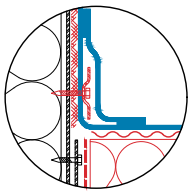
PERIMETER FLASHING

Mechanically fastened

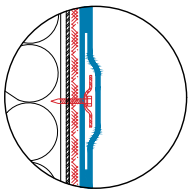
A levelling layer must be installed between Sikaplan® PVC membrane and rough or uneven substrates. Screw the Sarnafast® perimeter securement over the Sikaplan® PVC membrane at the base of the upstand, either to the vertical or horizontal surface. The number of fasteners per linear meter depend on the substrate and the windload.



Detail 1
Sarnafast® perimeter securement vertical (alternative)



Detail 2
Additional fastening for parapet height > 800 mm

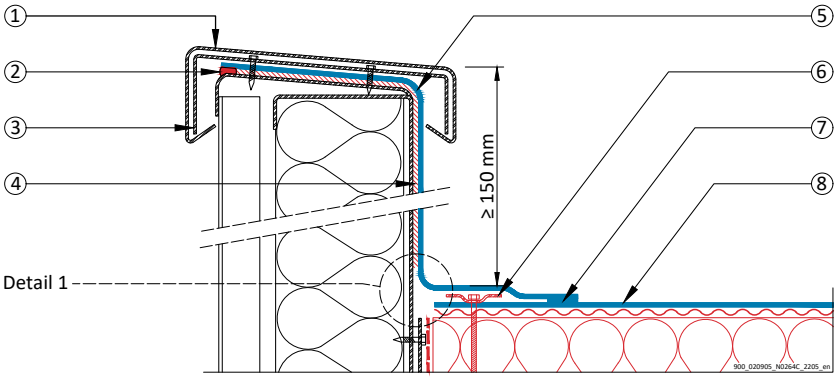


1 Hot-air weld
2 Sarnafil® S-Sealing Tape 10/10 (if required)
3 Sikaplan® Metal PVC
4 Metal clip
5 Appropriate S-Felt levelling layer (if required)
6 Sarnafast® Washers and Fasteners
7 Sikaplan® PVC membrane cover strip
8 Hot-air weld
9 Sikaplan® PVC membrane

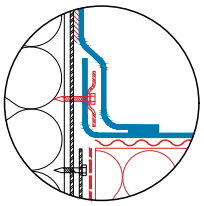
PERIMETER FLASHING

Fully adhered with self adhered membrane

Perimeter flashings are formed using strips of Sikaplan® PVC membrane. The flashing strips are to be fully adhered with Sika® Trocal C-733 adhesive to the substrate and welded to the field sheet. The substrate must be free of ridges, and the flashing must be attached with a good adhesive bond. Form corners, mitres and curved details on site or weld prefabricated Sikaplan® PVC pieces to the membrane..



Detail 1
Sarnafast® perimeter
securement vertical (alternative)

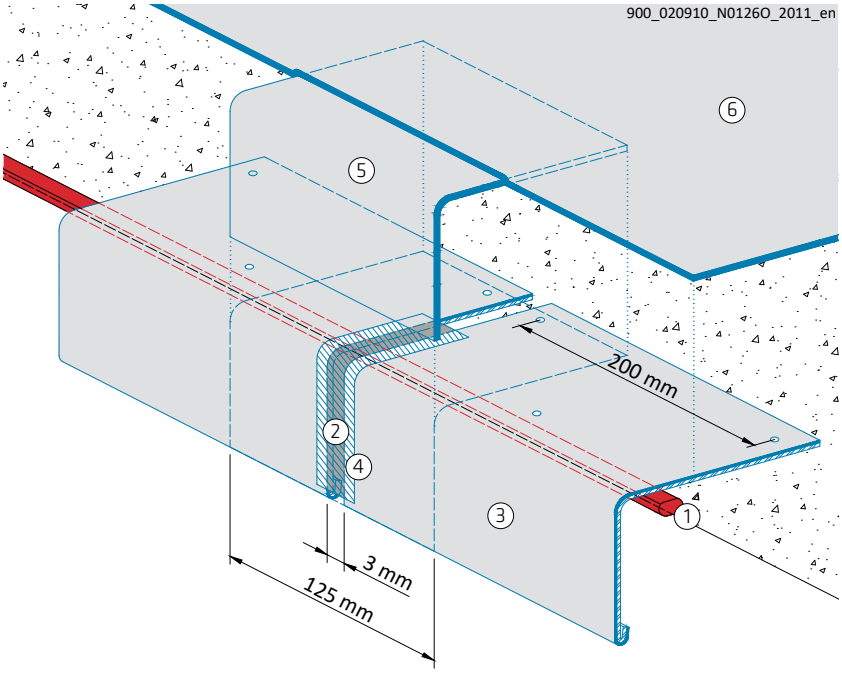


1 Metal capping
2 Sarnafil® S-Sealing Tape 10/10 (if required)
3 Metal clip
4 Sika® Trocal C-7733 adhesive
5 Sikaplan® PVC membrane adhered
6 Sarnafast® Washers and Fasteners
7 Hot-air weld
8 Sikaplan® PVC membrane

PERIMETER FLASHING

Roof Trim

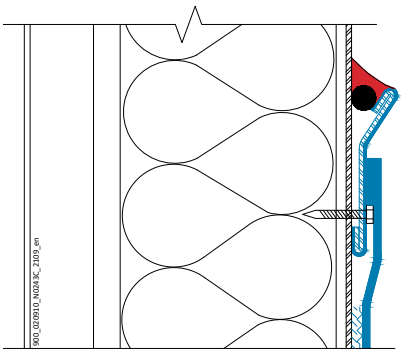
Sarnafil® S-Sealing Tape 10/10 should be placed between the Sikaplan® Metal PVC flashing and the substrate to prevent penetration of wind-driven water.



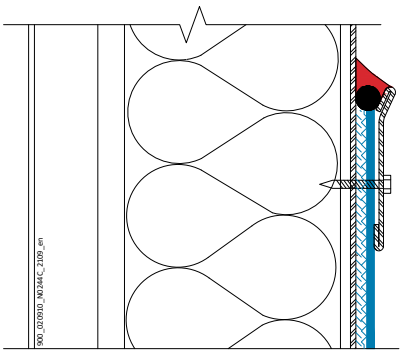
1 Sarnafil® S-Sealing Tape 10/10
2 Connection plate
3 Sikaplan® Metal PVC
4 Tape to avoid full weld
5 Sikaplan® PVC - 125 mm strip
6 Sikaplan® PVC membrane

UPSTAND FLASHING

To achieve good adhesion, apply primer to both surfaces (metal counter flashing or sheet, and masonry or plaster). At the top metal counter flashing or sheet, always install closed-cell material as backing rod before applying the Sarnaplast®-2235 or Sikaflex®-11 FC sealant.



Sikaplan® Metal PVC



Counter flashing

DETAILING WITH Sikalastic®-625 N

REFURBISHMENT

Detailing utilizing Sikalastic® systems is an exceptionally efficient method of protecting difficult details in combination with Sikaplan® PVC membrane by using Sikalastic®-625 N first layer (base coat) in combination with Sika® Reemat Premium or Sika® Glass Fibre Fleece Premium embedded and Sikalastic®-625 N second layer (top coat).

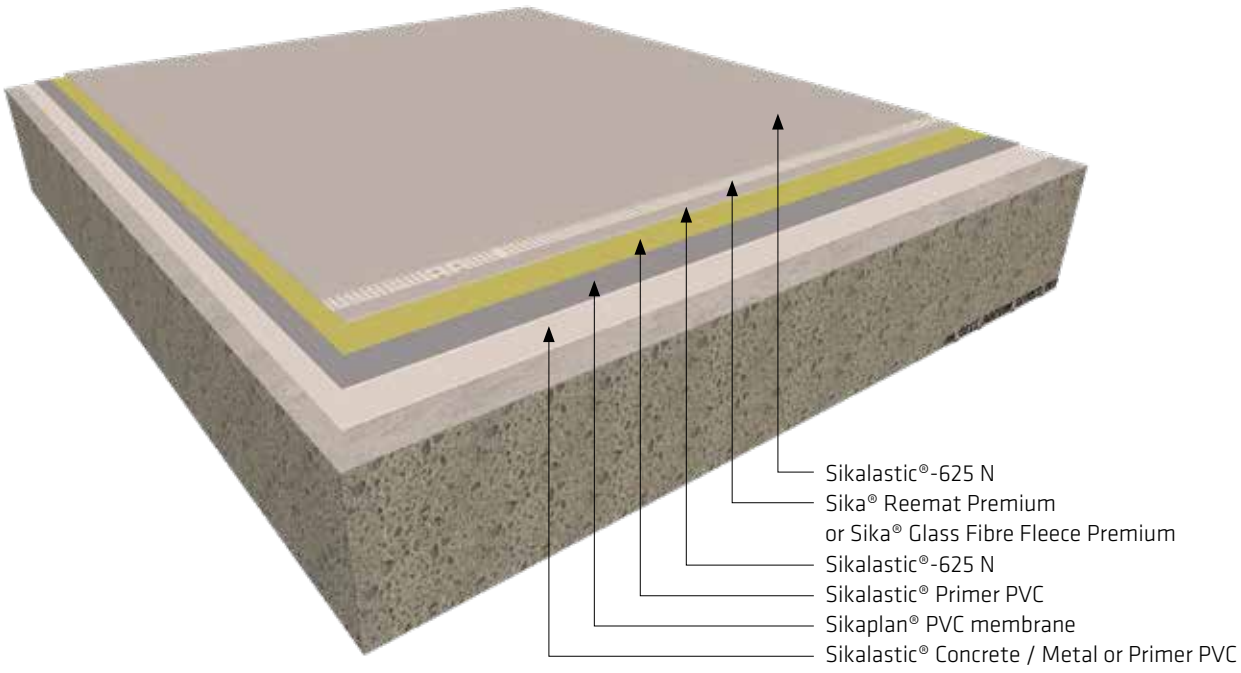
Sikalastic®systems, composed of Sikalastic®-625 N base coat and Sikalastic®-625 N top coat and, is the next generation of Sikalastic® LAM Systems for roofing and balcony / terraces applications, with reduced VOC content, using the Sika patented i-Cure® hardener for lower odor development during, as well as after, the curing process.
One of the main issues facing the use of liquids in various refurbishment situations still relates to the odor emitted during and for a short period after application.

Sikalastic ® systems is using unique products made of the Sika patented i-Cure hardener technology, which has been developed specifically for use in highly sensitive site areas, such as hospitals, schools, food and pharma industry, etc.
Sikalastic®-625 N is a membrane from the Sikalastic® range that cures to provide completely seamless waterproof protection which is followed by the application of the Sikalastic®-625 N to complete the joint-less, low odor, liquid applied roofing system. Its liquid application means it can be easily applied to all complex detail areas, and because it is completely cold applied there is no requirement for any heat or naked flame on the roof.

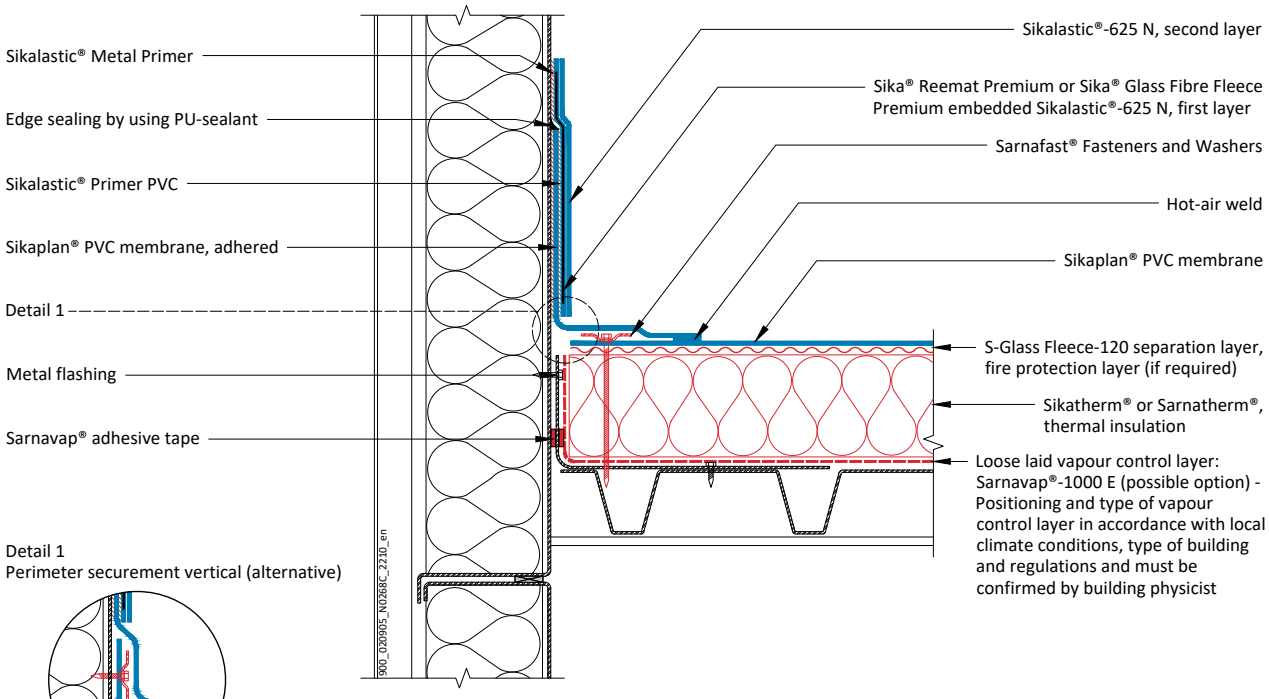
- Sika patented i-Cure technology
- One component products – no mixing, easy and ready to use
- UV resistant – Highly reflective (~RAL 9016) and resistant to yellowing
- Cold applied base coat and top coat – requires no heat or flame
- Seamless roof waterproofing membrane
- Base coat compatible with Sika® Reemat Premium or Sika® Glass Fibre Fleece Premium easy to detail
- Fast curing products – free from resin damage almost immediately on application
- High elastic and crack-bridging – retains flexibility even at low temperatures
- Easily re-coated when needed – no stripping required
- Good adhesion to most substrates with the suitable primer
- Vapour permeable – allows substrate to breathe
- Strong resistance to common atmospheric chemicals

Powered by i-Cure® Technology

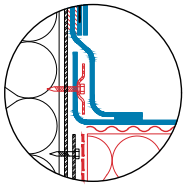
SYSTEM DESCRIPTION - BUILD-UP ON Sarnafil® AT AND Sikaplan® PVC membrane



UPSTAND – METAL WALL ELEMENT

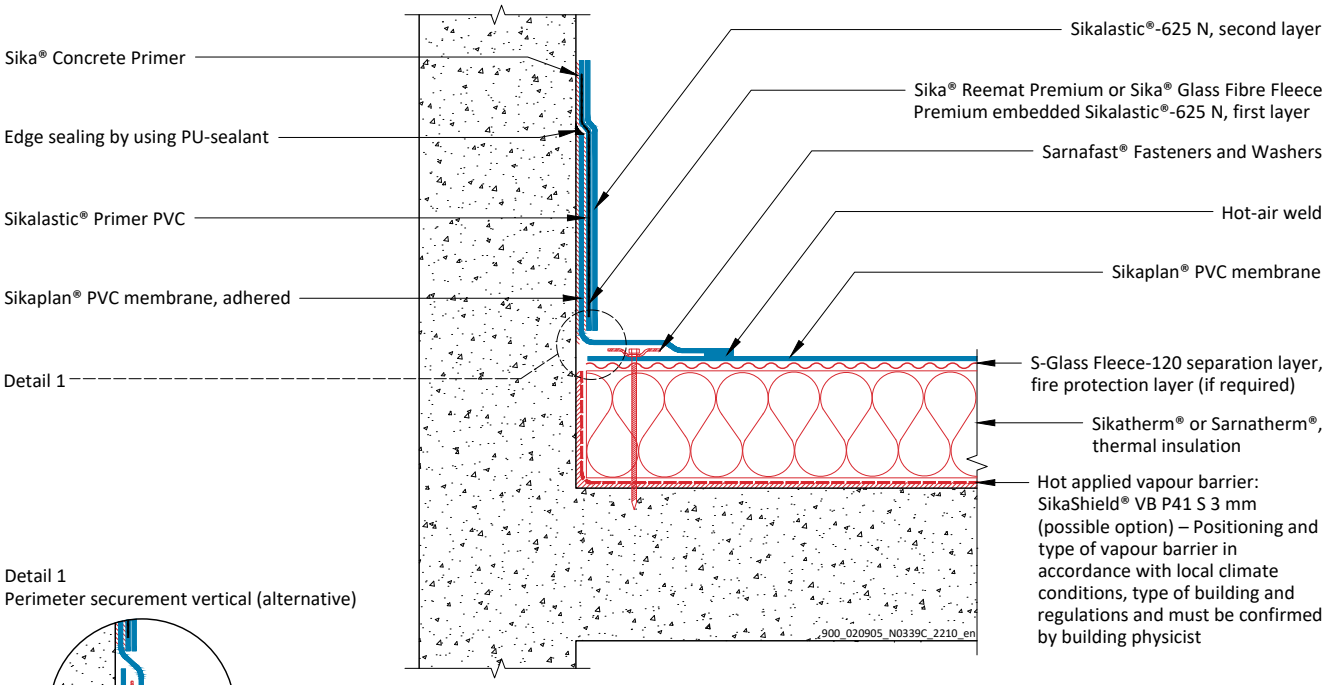


Detail 1
Perimeter securement vertical (alternative)

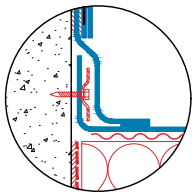


DETAILING WITH Sikalastic®-625 N

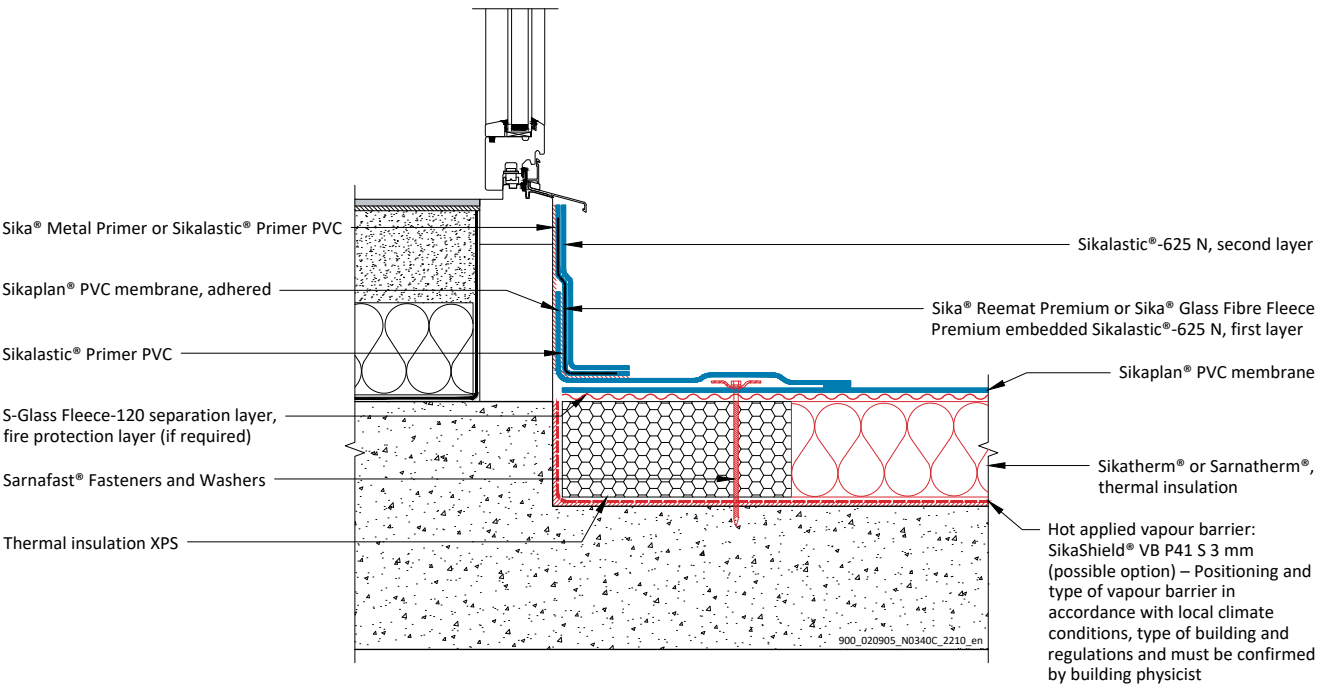
UPSTAND – CONCRETE WALL



Detail 1
Perimeter securement vertical (alternative)



UPSTAND – WINDOW DOOR FRAME



Sikalastic®-625 N PRODUCTS

Sikalastic®-625 N

DESCRIPTION

Sikalastic®-625 N is a 1-part polyurethane, reinforced, cold-applied liquid membrane. It provides a flexible, seamless waterproofing solution using Sika's unique i-Cure technology.

USES

Designed for the following waterproofing applications:
Roof waterproofing for new construction and refurbishment projects

- Unreinforced waterproofing system for profiled metal roofs
- Reinforced waterproofing of flat and pitched roof structures, communal walkways, podium decks and roof terraces exposed to pedestrian traffic
- Waterproofing structures with numerous details such as penetrations, drains, roof lights and complex geometry
- Waterproofing existing substrates of concrete, bituminous felt and coatings, brick, stone, asbestos cement, metal, wood, unglazed ceramic tiles
- For exterior use only
- Sikalastic®-625 N may only be used by experienced professionals

CHARACTERISTICS / ADVANTAGES

- 1-Part ready to use
- Low maintenance
- Seamless
- Easy and quick application by brush, roller or spray
- Suitable for trafficable areas
- Vapour permeable
- Good UV resistance and colour stability
- Retains flexibility at low temperatures
- Cold applied – requires no heat or flame
- Moisture triggered technology develops early rain resistance
- Good elastic properties
- Low temperature application > +2 °C

COLOR

Note: Applied colors selected from color charts will be approximate, for color matching; apply color sample and confirm selected color under real lighting conditions.

- Slate grey (~ RAL 7015)
- Light grey (~ RAL 7035)

Accessory product – no declaration under EN 13956.

Sika® Reemat Premium or Sika® Glass Fibre Fleece Premium

DESCRIPTION

Sika® Reemat Premium or Sika® Glass Fibre Fleece Premium is a glass fibre reinforcement mat for use with Sikalastic® Liquid Applied Membrane (LAM) roofing systems.

USES

Reinforcement for Sikalastic® Liquid Applied Membrane (LAM) roofing systems.

CHARACTERISTICS / ADVANTAGES

- Easy and quick application
- Easy to adjust to complicated details
- Ensures the correct thickness of the base coat
- Improves crack-bridging properties of the system
- Improves mechanical properties of the system

TECHNICAL INFORMATION

Sika® Reemat Premium
Length: 90.00 m
Width: 0.30 and 1.25 m
Weight: 225 g/m²

Sika® Glas Fibre Fleece Premium
Length: 50.00 mm
Width: 0.15, 0.20, 0.25 and 1.00 m
Weight: 225 g/m²

APPEARANCE / COLOR

Composition random glass fibre strand matting in white

Sikalastic®-625 N PRODUCTS

Sikalastic® Metal Primer

DESCRIPTION

Sikalastic® Metal Primer is a two-component, anticorrosive primer for exposed metal substrates and blocking primer over bituminous felts and coatings.

USES

Versatile and anti-corrosive primer on metal substrates for use with:

- Sikalastic® Liquid Applied Membrane (LAM) roofing systems. Barrier against migration of volatile bitumen or plasticizer migration

CHARACTERISTICS / ADVANTAGES

- Fast curing, overcoat possible after 6 hours
- Corrosion protection in industrial and marine environments
- Easy application by brush or roller
- Enhances adhesion to a broad range of metallic substrates
- Protects against migration of volatile bitumen or plasticizers

Sika® Concrete Primer

DESCRIPTION

Sika® Concrete Primer is a 2-part, polyurea / polyurethane-hybrid primer for cementitious substrates. The rapid curing performance allows overcoating of Sikalastic® Liquid Applied Membrane (LAM) roofing systems after 30 minutes.

USES

Primer on cementitious substrates for use with exterior applications of:

- Sikalastic® Liquid Applied Membrane (LAM) roofing systems

CHARACTERISTICS / ADVANTAGES

- Very good bond strength to substrate
- Reduces the likelihood of outgassing from susceptible substrates
- Helps to stabilise substrates
- Easy to apply
- Can be filled with quartz sand and used as a scratchcoat

Sikalastic® Primer PVC

DESCRIPTION

Sikalastic® Primer PVC is a one-component, clear red polyurethane primer for consistent and durable adhesion between Sikalastic® Liquid Applied Membrane (LAM) roofing systems and PVC substrates.

USES

Sikalastic® Primer PVC may only be used by experienced professionals. Primer for detailing works with Sikalastic® Liquid Applied Membrane. Suitable substrates, new installations (less than 3 years old).

CHARACTERISTICS / ADVANTAGES

- One-component – easy and ready to use
- Enhance adhesion to PVC substrates
- Fast curing – overcoating possible after max 2 hours

Sika®Joint Tape SA

DESCRIPTION
Self-adhering polymeric rubberized tape with plastic release liner on underside and woven polyester faceron top side. Enhances the strength and durability of Sikalastic® roofing and waterproofing membranes at joints and angle changes.

USES
- Reinforcement of joints between cover boards on insulation
- Reinforcement of joints between plywood deck panels
- Reinforcement of joints and seams in metal roofing
- Stripping of metal flanges to structural deck

CHARACTERISTICS / ADVANTAGES
- Self-adhering, no primer required for most applications
- Fleece facer allows positive resin / coating bond
- Stretches with membrane to accomodate thermal and structural movement
- Imparts additional strength and durability
- Conforms to substrate contours and flashing conditions

TECHNICAL INFORMATION
Length: 15.40 m
Width: 76.2 and 152.4 mm
Thickness: 0.77 mm

APPEARANCE / COLOR
Off-white fleece top surface, black bottom surface

Sika® Flexitape Heavy

DESCRIPTION
Sika® Flexitape Heavy is a flexible knitted polyamide used as localised reinforcement with Sikalastic® Liquid Applied Membrane systems. Unlike conventional scrims, it is readily capable of stretching within the membrane to accommodate a high degree of thermal and structural movement.

USES
- Localised reinforcement for Sikalastic® systems used over joints or cracks liable to movement and for bridging gaps between substrates
- Localised reinforcement used in the construction of expansion joints
- For new construction and refurbishment projects

CHARACTERISTICS / ADVANTAGES
- Easy and quick application
- Follows surface contours and is easy to adjust to complicated details
- Enhance the crack-bridging properties of the system
- Enhance mechanical properties of the system

TECHNICAL INFORMATION
Length: 50.00 m
Width: 75 and 150 mm

APPEARANCE / COLOR
White

Sikalastic® Flexistrip

DESCRIPTION
Sikalastic® Flexistrip is a preformed strip sealant réel on a paper release liner for use with Sikalastic® membrane systems.

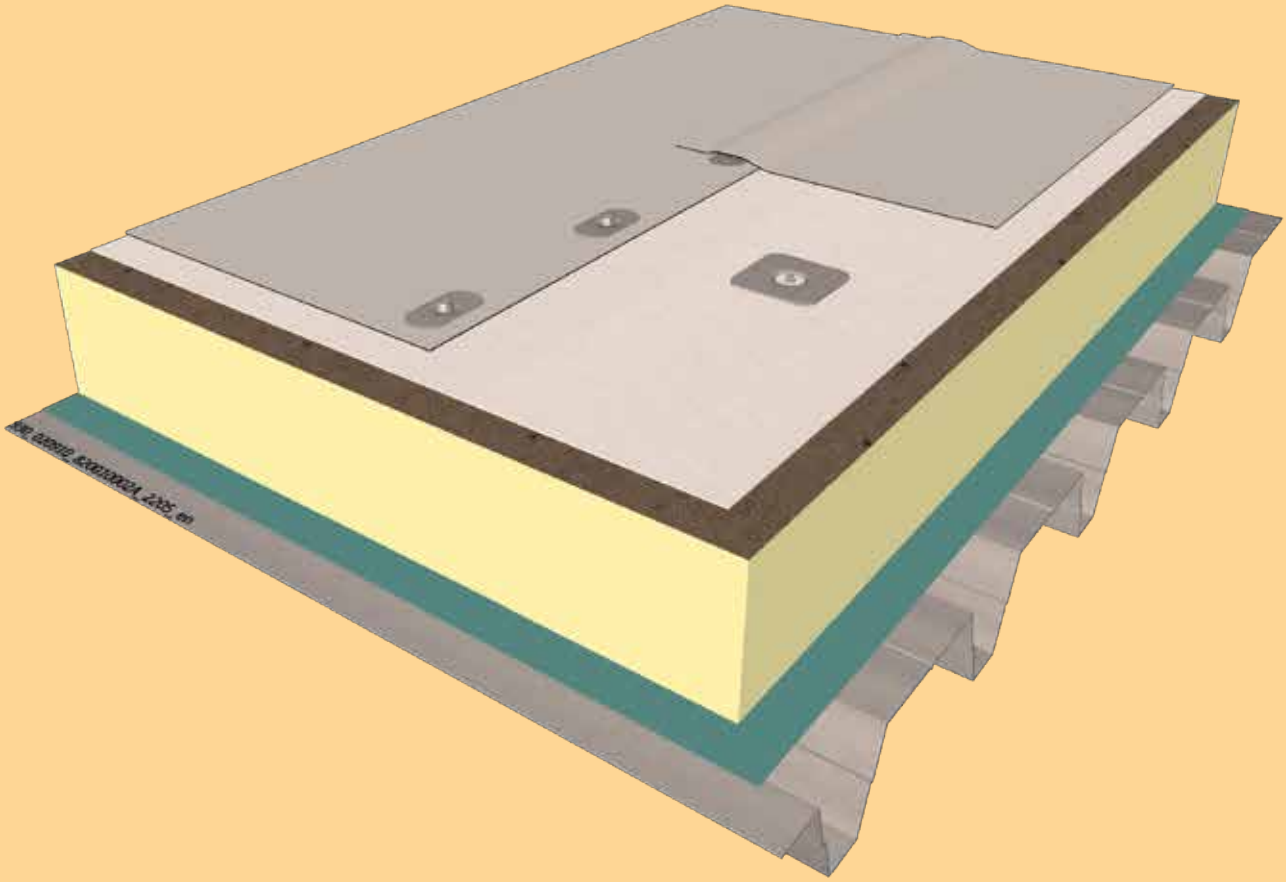
USES
Localised bond breaker for Sikalastic® systems used over bolt heads or butt joints of metal sheets liable to movement. For new construction and refurbishment projects.

CHARACTERISTICS / ADVANTAGES
- Easy and quick application
- Self-adhearing

TECHNICAL INFORMATION
Length: 15.00 m
Width: 50 mm

APPEARANCE / COLOR
Off-white

MECHANICALLY FASTENED ROOF SYSTEM – SPOT FASTENING

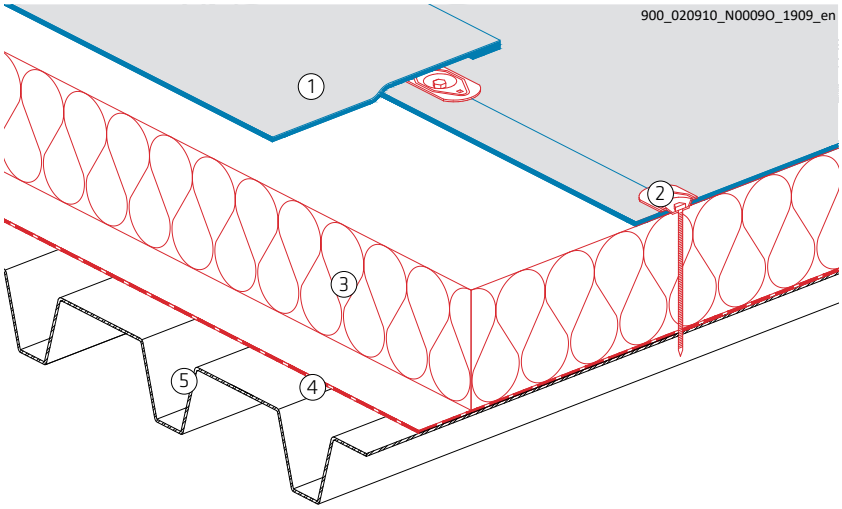


SYSTEM DESCRIPTION

Exposed roofs with Sikaplan® G, VG or U roof waterproofing membranes can be mechanically fastened using the Sarnafast® Spot Fastening System. These lightweight system meets all the requirements for modern flat roofing.

CHARACTERISTICS / ADVANTAGES

- Mechanically fastened roofs are the most cost efficient for exposed roofing applications
- The fastest installation speed is achieved with mechanically fastening
- Sikaplan® G, VG or U roof waterproofing membranes have special polyester reinforcement, enabling high wind load resistance
- Installation is almost not weather dependent



1 Sikaplan® G, VG or U membrane
2 Sarnafast® spot fastening system
3 Thermal insulation
4 Vapour- control layer / barrier
5 Roof deck

SYSTEM DESCRIPTION

Fire separation- / Protection layer

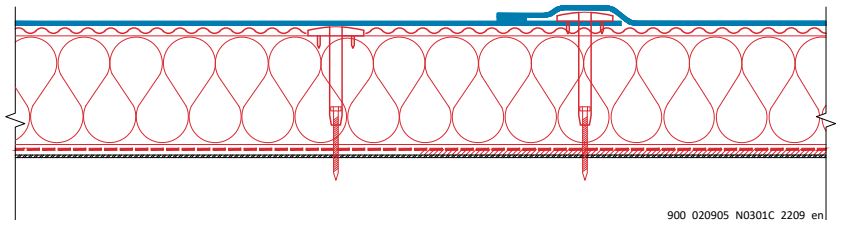
A separation- / fire protection layer S-Glass Fleece 120 g/m² to be installed above thermal insulation where it is required by fire regulation!

Thermal insulation fastening

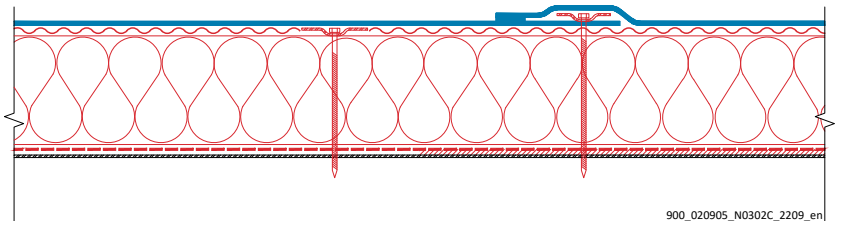
Before the Sikaplan® G, VG or U roof waterproofing membrane is installed, the insulation boards must be secured to the roof deck using appropriate Sarnafast® fasteners and insulation washers. The number of fasteners must meet local regulations and building codes. The minimum is one fastener per insulation board or one fastener per m².

Types of spot fastening systems

Sarnafast®
Tube Spot Fastening System
using polyamide tubes

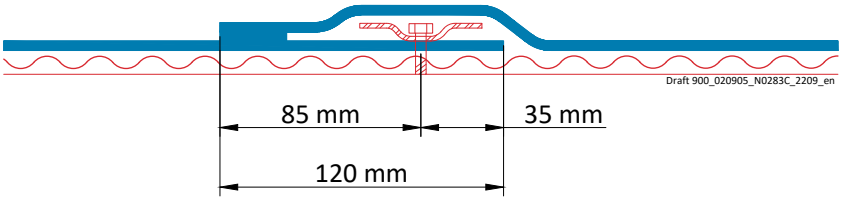


Sarnafast®
Spot Fastening System
using metal washers

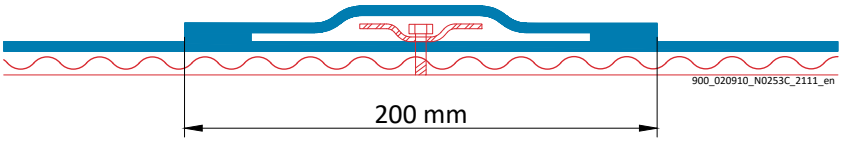


MECHANICALLY FASTENED ROOF SYSTEM – SPOT FASTENING

Application of spot fastening systems
Sikaplan® G, VG or U are fastened using Sarnafast® fasteners and washers / tubes along the marked line 35 mm from the edge of the membrane.



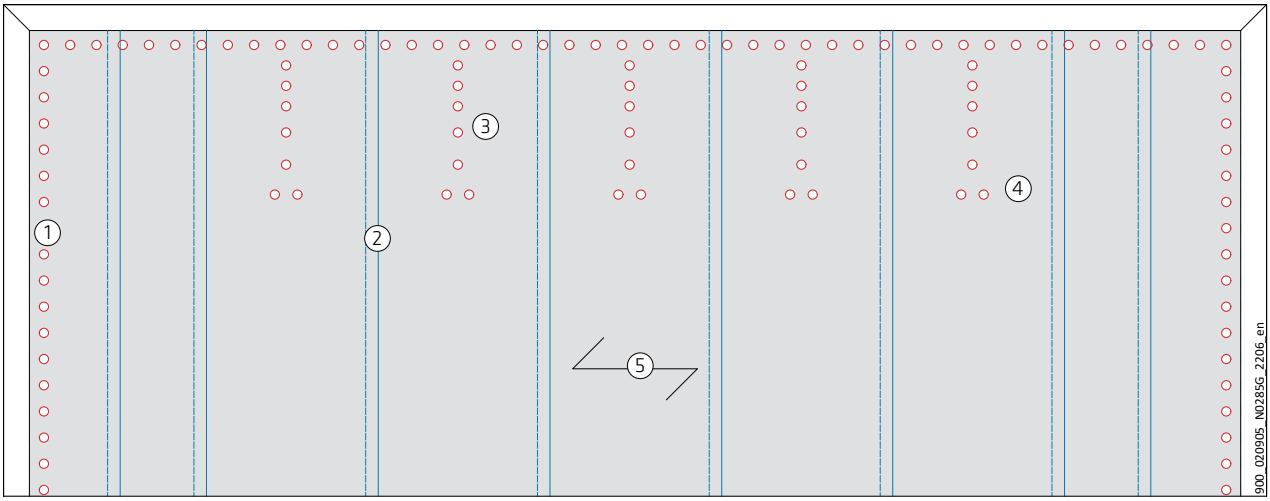
Where additional fastening is required, Sarnafast® fasteners and washers / tubes are installed through the roof waterproofing membrane (intermediate fastening). Cover the rows of Sarnafast® fastening system with a 200 mm wide membrane cover strip and weld both sides.



Planning and layout
The spacing and numbers of fasteners and washers depend on the following:

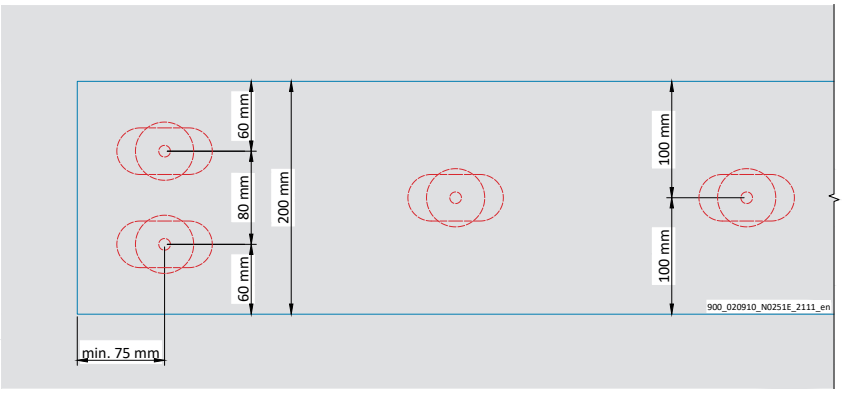
- Building regulations and standards
- Wind uplift forces
- Elongation limit of the roof waterproofing membrane
- Pullout strength of the fasteners
- Available points of attachments to the deck
- Type and quality of roof deck

Sika determines the fastening pattern and calculates the fastener spacing depending on the substrate and the design load of the relevant fastener for the local situation of project (Wind Load Calculation page).

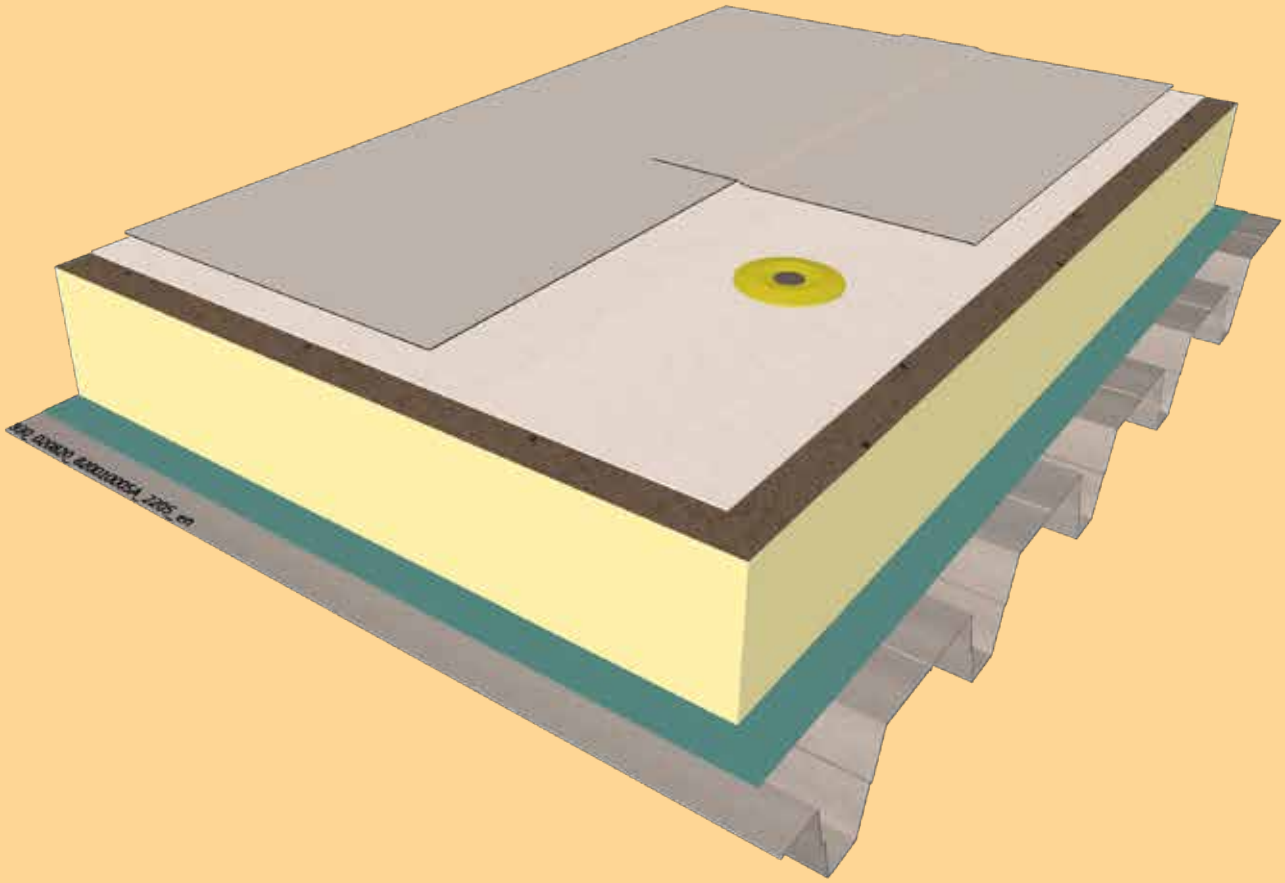


1 Sarnafast® perimeter securement
2 Sarnafast® spot fastening system along the edge of roof waterproofing membrane
3 Sarnafast® spot fastening system with cover strip
4 Row termination with two Sarnafast® fasteners and washers / tubes
5 Direction of metal deck ribs

Row termination of intermediate fastening with two Sarnafast® fasteners and washers / tubes and 200 mm wide cover strip.



MECHANICALLY FASTENED ROOF SYSTEM – INDUCTION WELDING



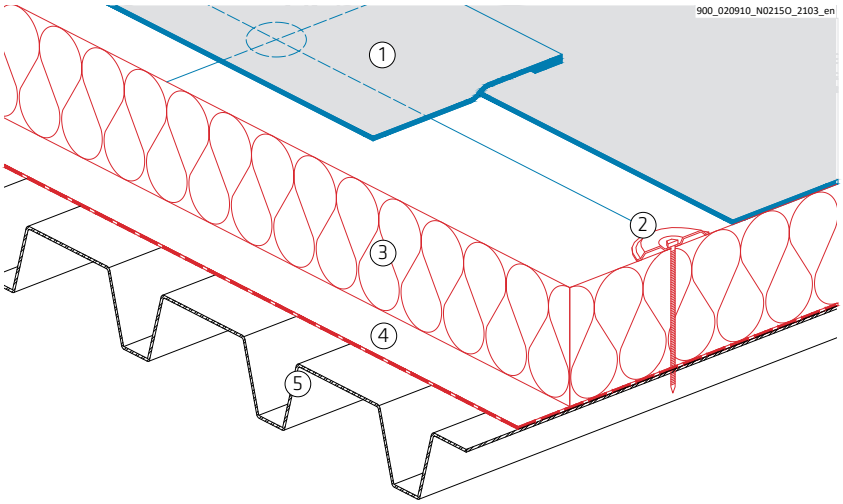
SYSTEM DESCRIPTION

Exposed roofs with Sikaplan® G, VG or U roof waterproofing membranes can be mechanically fastened using SikaRoof® Induction Welding System. These field fastening system uses induction technology and offers a non-penetrating solution.

CHARACTERISTICS / ADVANTAGES

(In addition to the classic spot fastening system)

- No thermal insulation fastener required
- Fastening independent of membrane joints
- Only one membrane width required



1 Sikaplan® G, VG or U membrane
2 SikaRoof® induction welding system
3 Thermal insulation
4 Vapour- control layer / barrier
5 Roof deck

SYSTEM DESCRIPTION

Thermal insulation or deck fastening

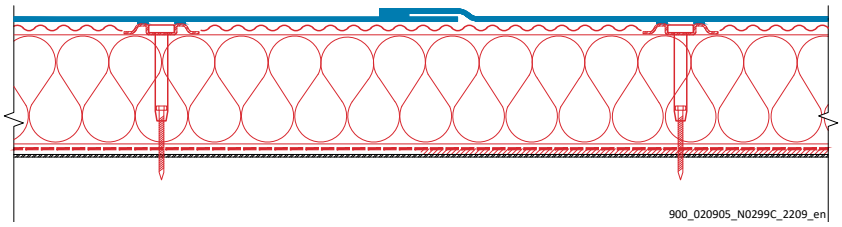
Before the Sikaplan® G, VG or U roof waterproofing membrane is installed, SikaRoof® Induction Welding System will be fixed into the insulation boards or directly to the roof deck according to the fasting layout.

Fire separation- / Protection layer

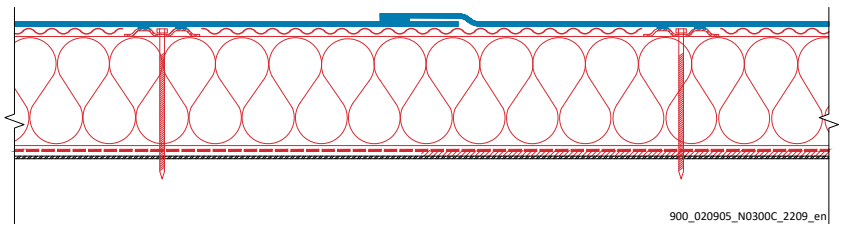
A separation- / fire protection layer S-Glass Fleece 120 g/m² to be installed above thermal insulation where it is required by fire regulation.

Types of induction welding systems

SikaRoof® Tube Induction Welding System using polyamide tubes in combinaton with metal discs

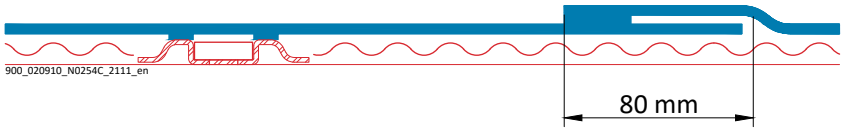


SikaRoof® Induction Welding System using metal discs



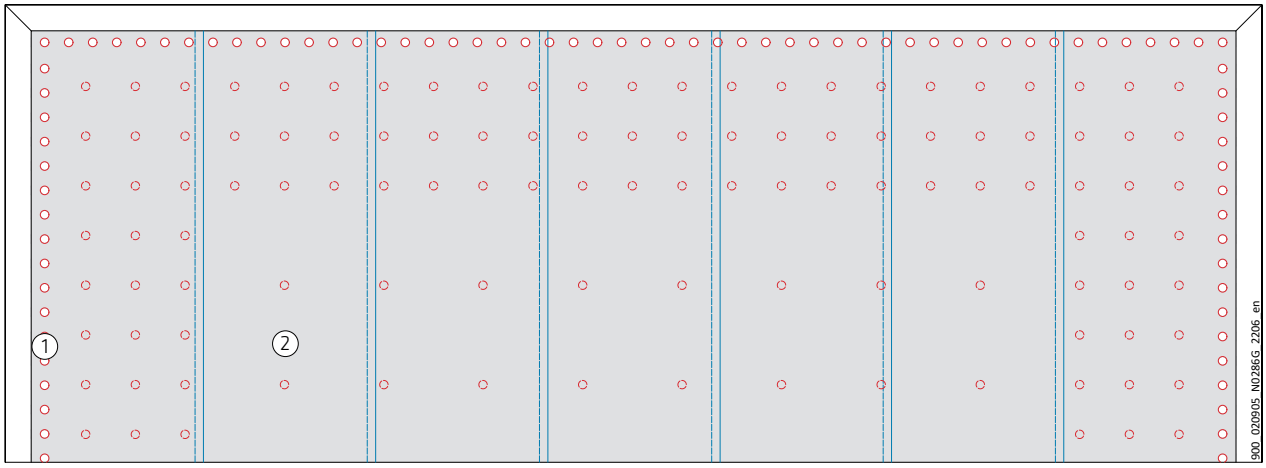
MECHANICALLY FASTENED ROOF SYSTEM – INDUCTION WELDING

Application of induction welding system
Sikaplan® G, VG or U are fastened using Sarnafast® fastener and SikaRoof® induction welding discs with or without Sarnabar® tubes. Membrane must be overlapped by 80 mm and hot welded.

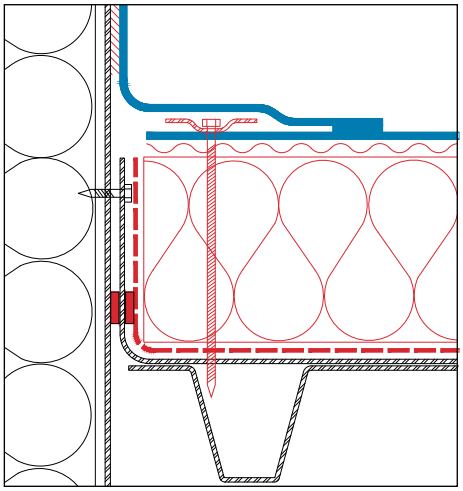


Planning and layout
The spacing and numbers of fasteners and washers depend on the following:
- Building regulations and standards
- Wind uplift forces
- Elongation limit oft he roof waterproofing membrane
- Pullout strength oft he fasteners
- Available points of attachments to the deck
- Type and quality of roof deck

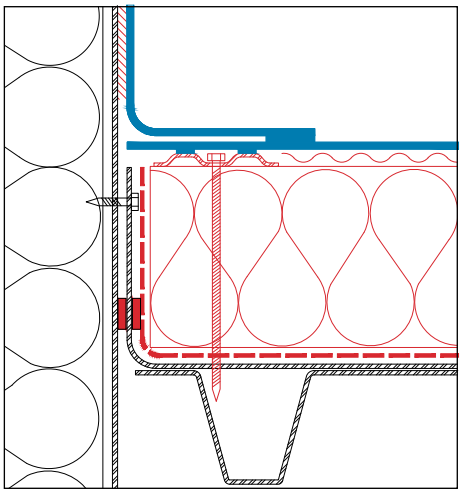
Sika determines the fastening pattern and calculates the fastener spacing depending on the substrate and the design load of the relevant fastener for the local situation of project (Wind Load Calculation page).



1 Sarnafast® or SikaRoof® induction welding perimeter securement
2 Induction welding system

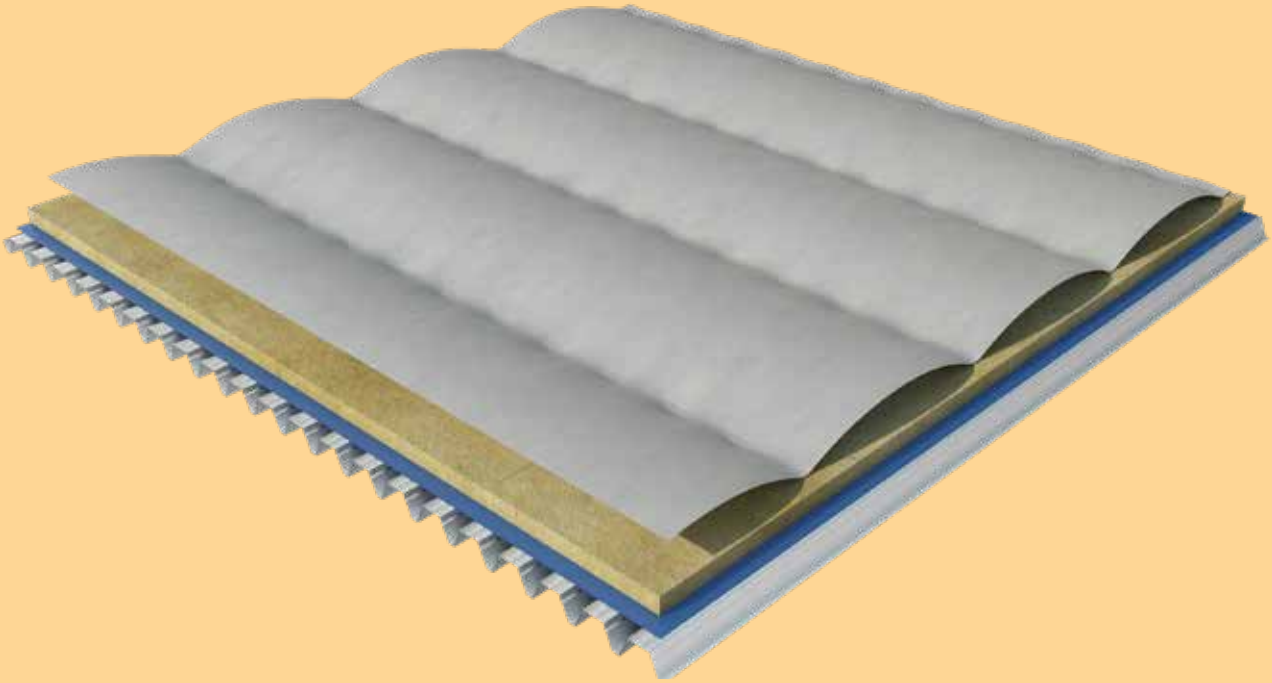


Sarnafast® perimeter securement

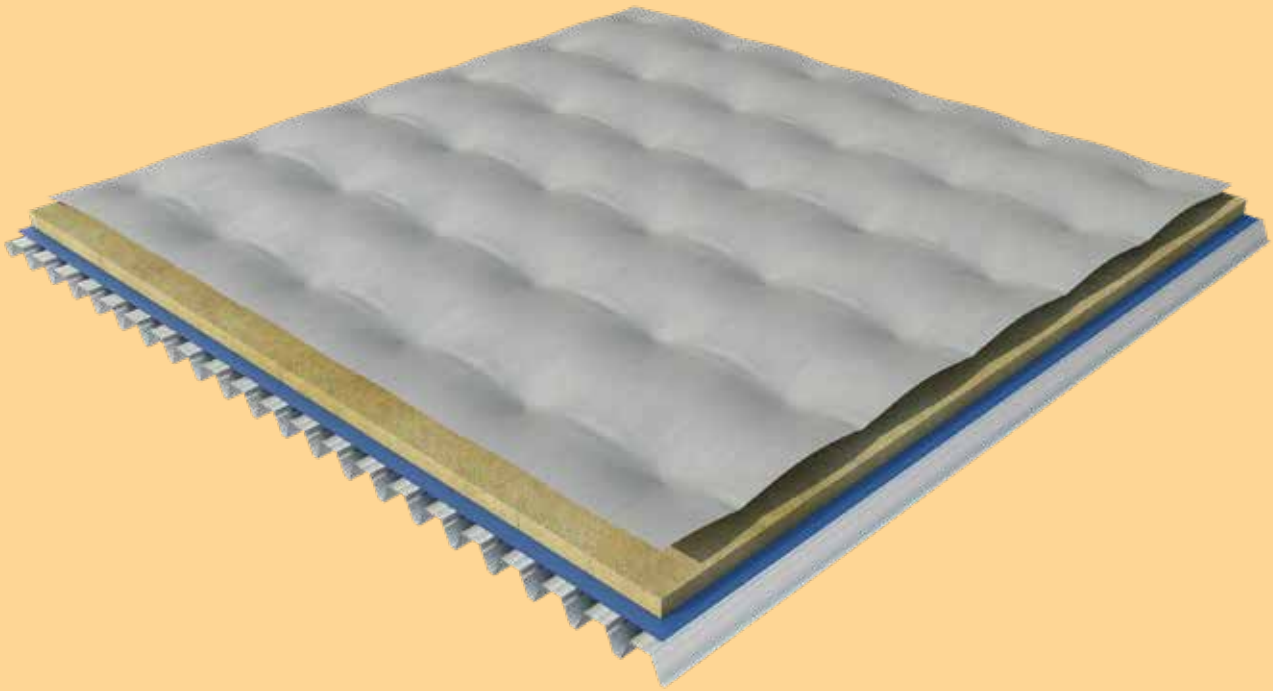


SikaRoof® induction welding perimeter securement

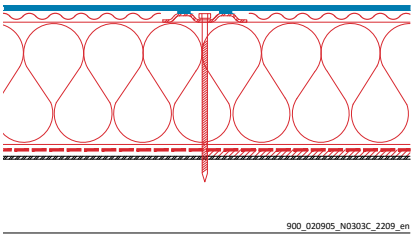
MECHANICALLY FASTENED ROOF SYSTEMS – GENERAL



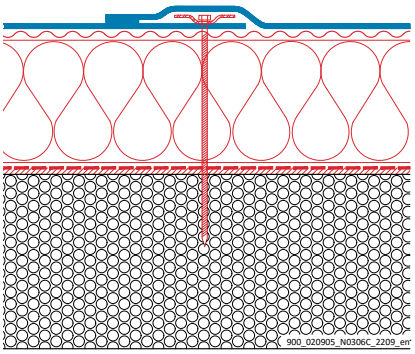
Sarnafast® Spot Fastening System



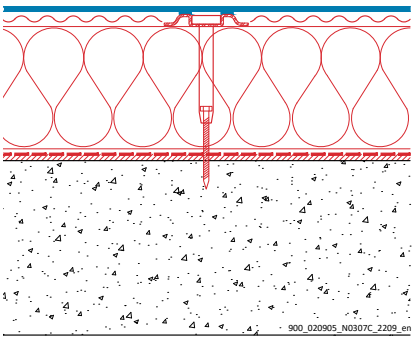
SikaRoof® Induction Welding System



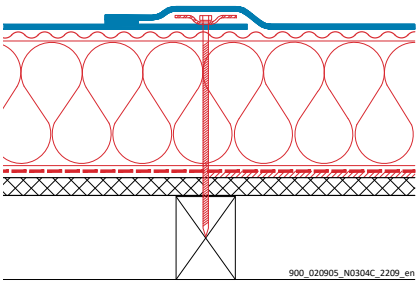
Steel decks
The deck must be galvanized steel with a minimum thickness of 0.63 mm, yield strength of minimum S280 according EN 10147 or equal. The suitability of the deck must be verified by an architect, structural engineer or other qualified specialist. Orient rows of bars and fasteners perpendicular to the direction of the deck ribbing. The fasteners are self-tapping in decks up to 1.25 mm thick. Thicker decks might require pilot holes. All fasteners must penetrate the top flange of the deck. All fasteners used must be approved by Sika Roofing.



Aerated concrete decks (Cellular, Gas or Lightweight)
All roofing applications over concrete decks require an on-site pullout test. Conduct the test immediately after setting the fastener in order to confirm fastener performance.
Heed the following:
- All fasteners used must be approved by Sika Roofing
- Do not alter the perforation of the bars
- Install fasteners using an electric dynamometric screw driver



Reinforced, precast or pre-stressed concrete decks
Concrete quality must be at least C20/25.



Wood decks
Approved fasteners must be used for fastening roofing to wood decks.

The selection of fastener depends on these factors:
- Quality and thickness of the wood
- Embedment depth and pullout strength
- Type of wood preservative used

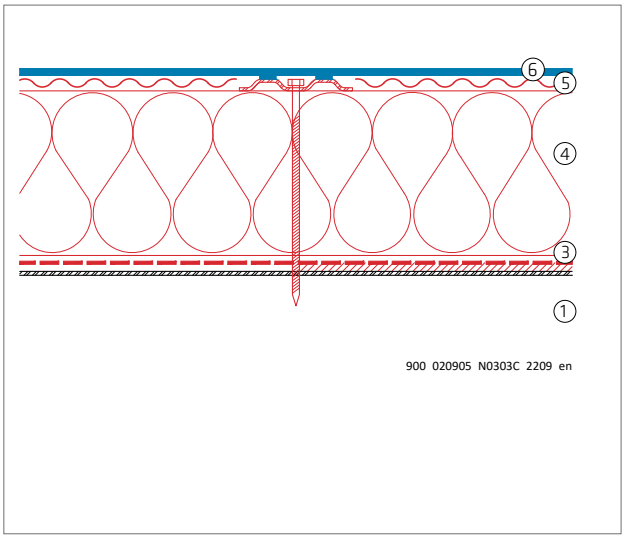
Mechanical fastening on wood decks
Material mechanical minimum attachment thickness:
- Plywood / OSB ≥ 22 mm
- Wood planking ≥ 24 mm
- Chipboard not allowed

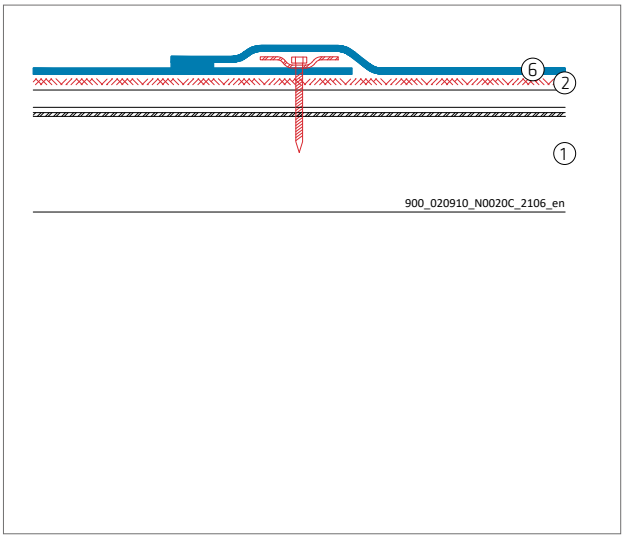
Plywood decks
Observe local codes and standards regarding application, fastening and fire protection.

Board decks
- Boards should be tongue and grooved
- Only wood treated with aqueous, salt-based preservative may be used
- Sika Roofing accepts no liability for damage to the roof waterproofing membrane caused by insect infestation

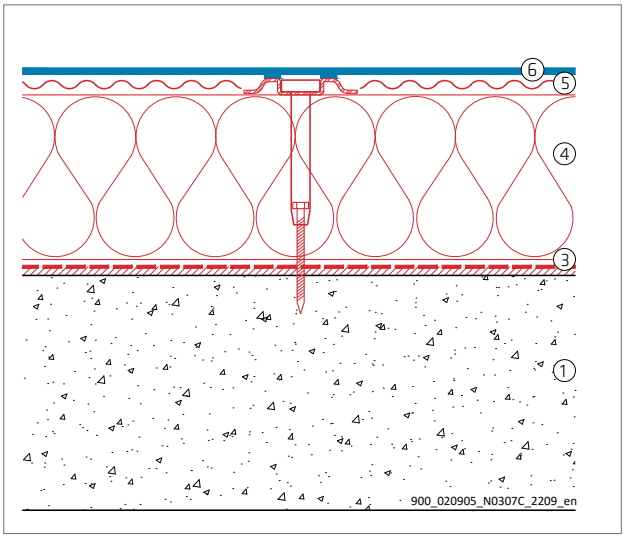
MECHANICALLY FASTENED ROOF SYSTEMS – GENERAL

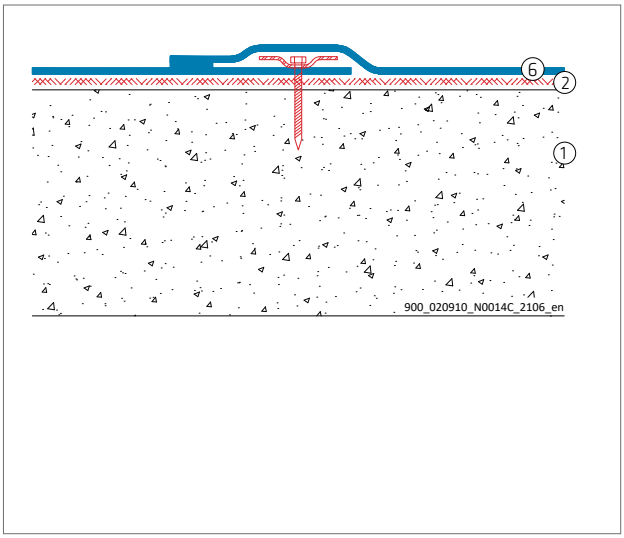
Steel



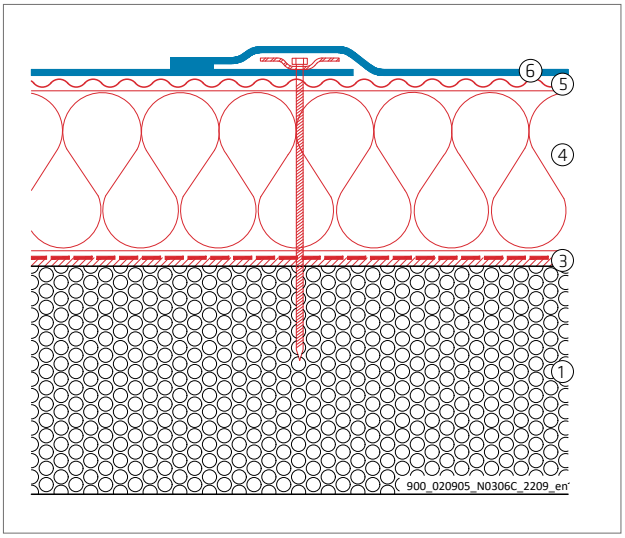


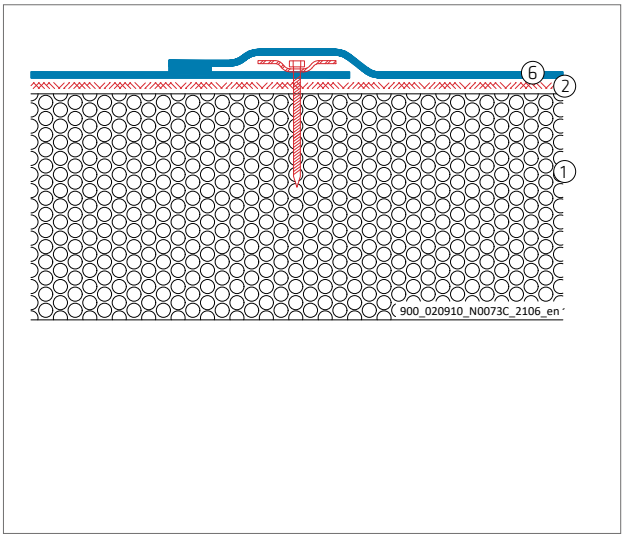
Reinforced concrete



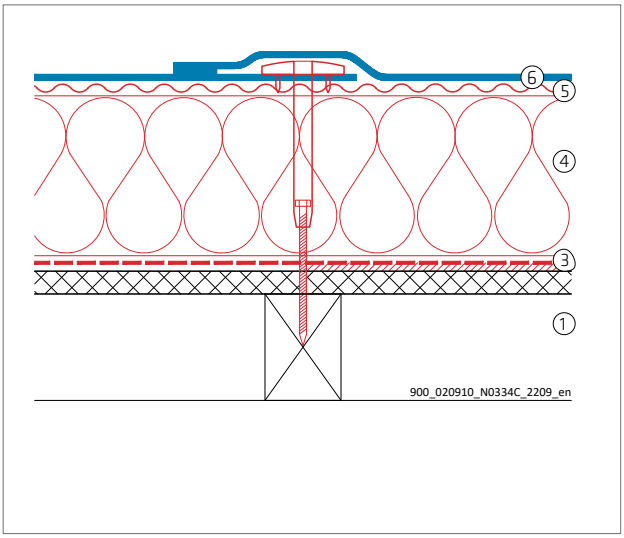


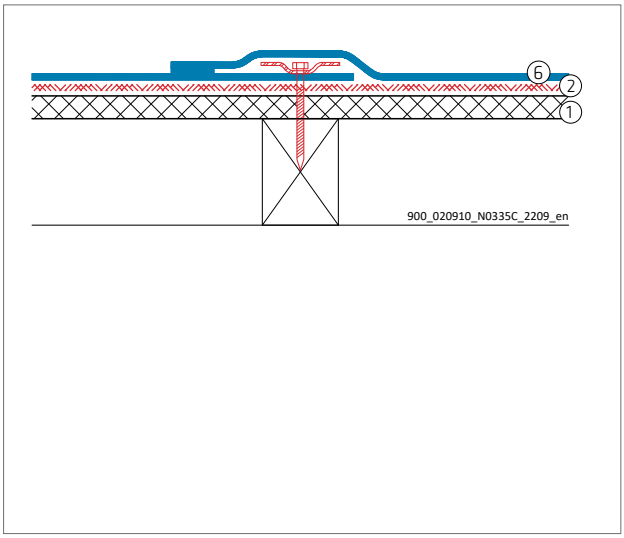
Aerated concrete





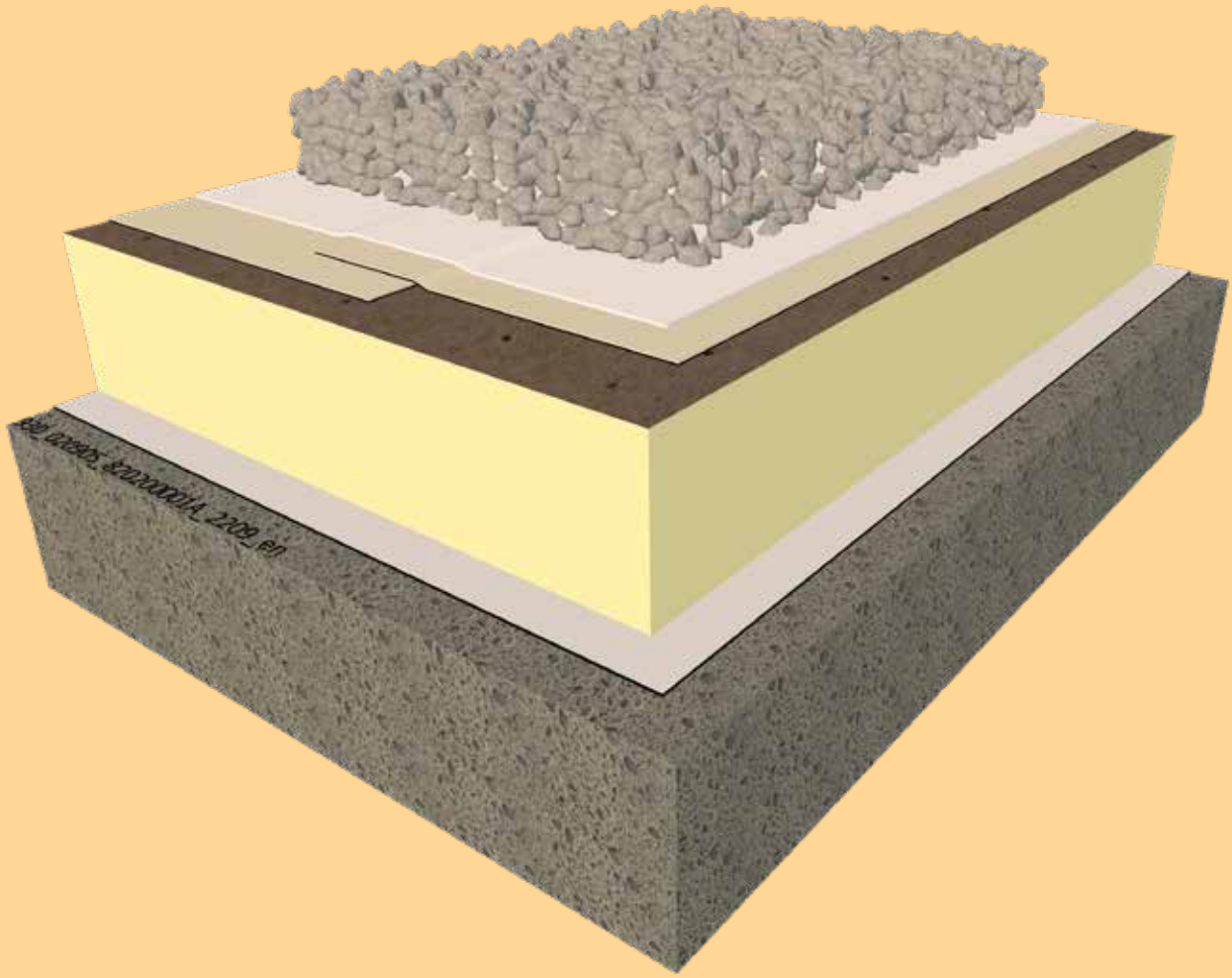
Wood





Layer No.	Function	Material	Attachment
1	Roof deck	Steel Reinforced concrete Aerated concrete Wood	
2	Levelling- and protection layer (if required)	S-Felt A-300 Sikaplan® W Felt 500 PP S-Felt S-800	Loose laid Loose laid Loose laid
3	Vapour- control layer / barrier **on steel and wood decks**	Sarnavap®-500 E Sarnavap®-1000 E Sarnavap®-2000 E Sarnavap®-5000 E SA FR Sarnavap®-5000 E SA Sikavap-5000 E SK AL SikaShield® VB E71 PE SA 3 kg/m²	Loose laid Loose laid Loose laid Self adhered Self adhered Self adhered Self adhered
	Vapour barrier **on reinforced and aerated concrete decks**	SikaShield® VB E71 PE SA 3 kg/m² SikaShield® VB P41 S 3 mm SikaShield® VB P21 T 3 mm SikaShield® VB P42 S 3 mm	Self adhered Hot applied Hot applied Hot applied
4	Thermal insulation		Mechanically fastened
5	Separation- and fire protection layer (if required)	S-Glass Fleece 120	Loose laid
6	Roof waterproofing membrane	Sikaplan® G, VG or U	Mechanically fastened

GRAVEL BALLASTED ROOF SYSTEM

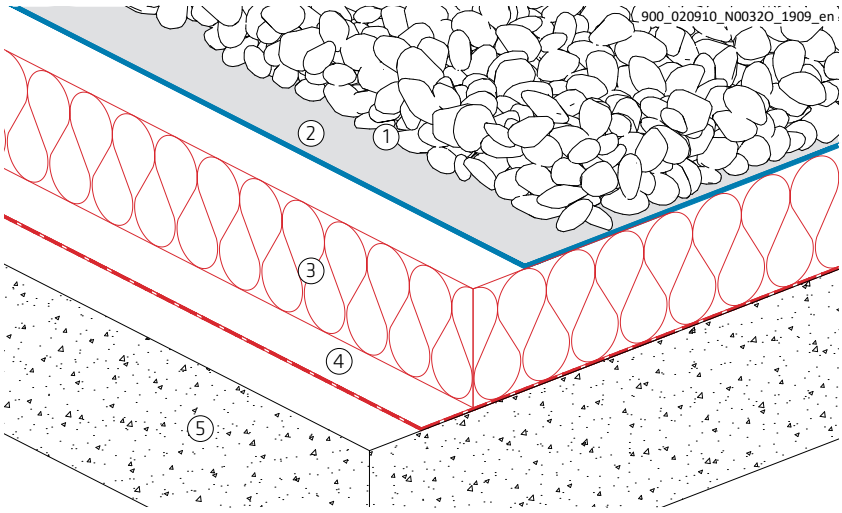


SYSTEM DESCRIPTION

In gravel ballasted roof systems, the Sikaplan® U or SGmA roof waterproofing membrane is covered and ballasted against wind uplift and other exposures with a layer of gravel. Conventional gravel ballasted roofs have been established in most markets for many years and are suitable on most flat roofs and bearing structures.

CHARACTERISTICS / ADVANTAGES

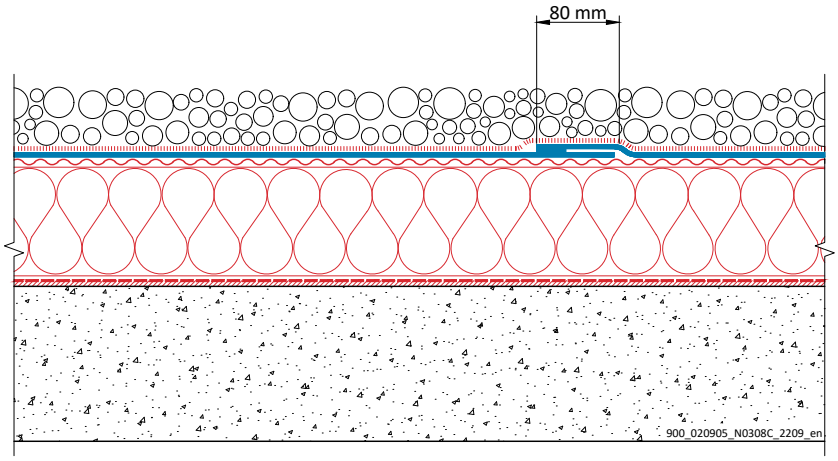
- Fast and easy installation
- No penetration of the roof deck
- Easy to maintain, low maintenance costs
- Protection of the roof waterproofing membrane against environmental exposure and mechanical damage
- The noncombustible properties of the gravel contribute significant to the fire resistance of the whole roof. The gravel also prevents flames from spreading across the roof surface



1 Gravel ballast
2 Sikaplan® U or SGmA membrane
3 Thermal insulation
4 Vapour barrier
5 Roof deck

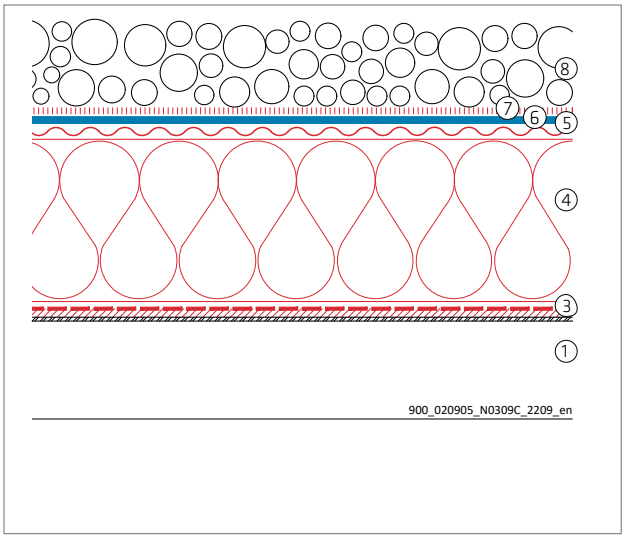
SYSTEM DESCRIPTION

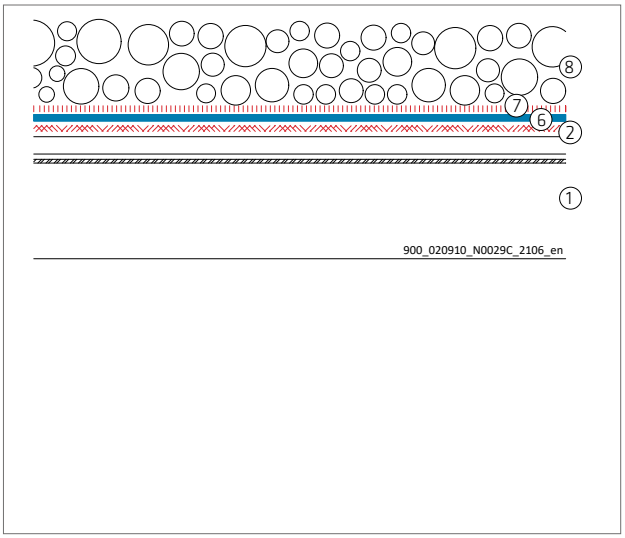
- The build-up is ballasted with well-rounded and washed gravel 16/32 mm of at least 50 mm and 80 kg/m², securing the roof waterproofing membrane against wind uplift
- If crushed gravel is used, a protection layer is required on top of the roof waterproofing membrane
- Sikaplan® U or SGmA roof waterproofing membrane and other roof components, including thermal insulation, are loosely laid



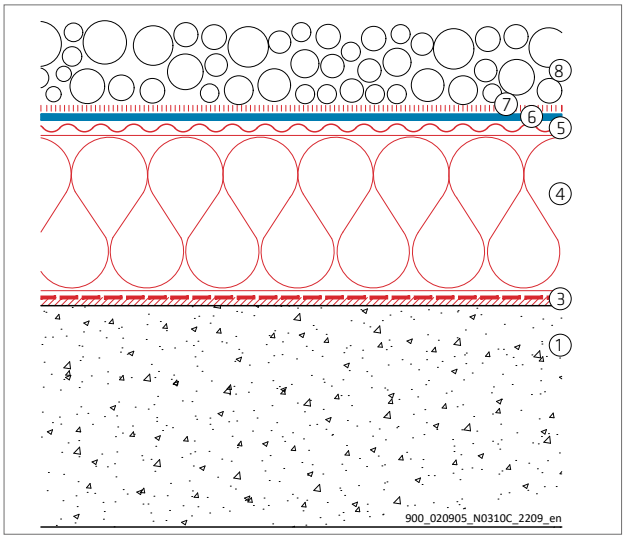
GRAVEL BALLASTED ROOF SYSTEM

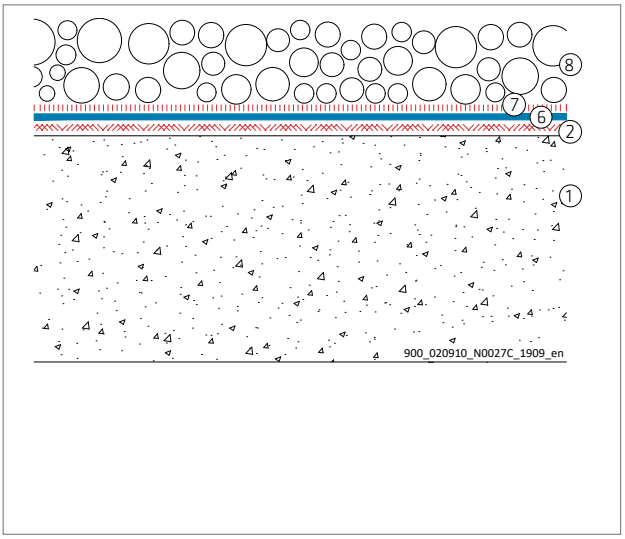
Steel



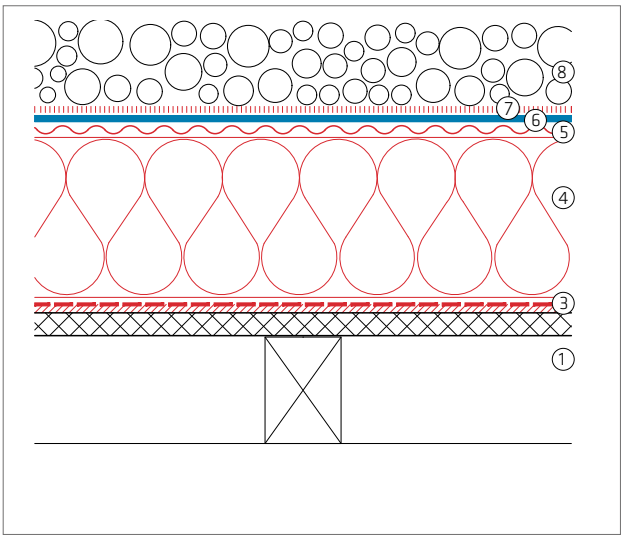


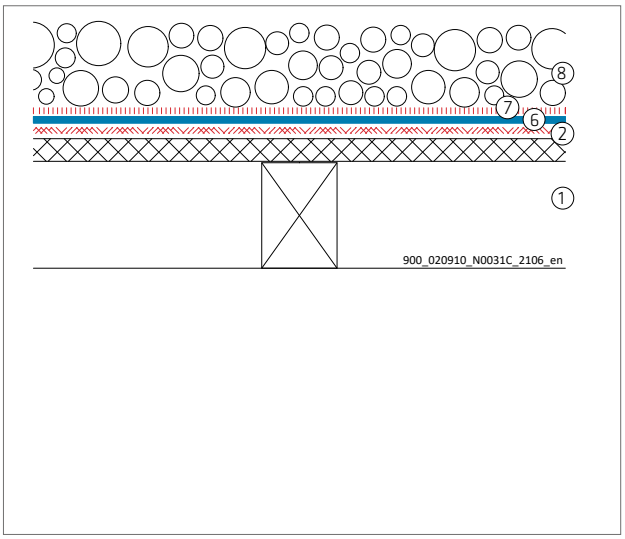
Reinforced concrete





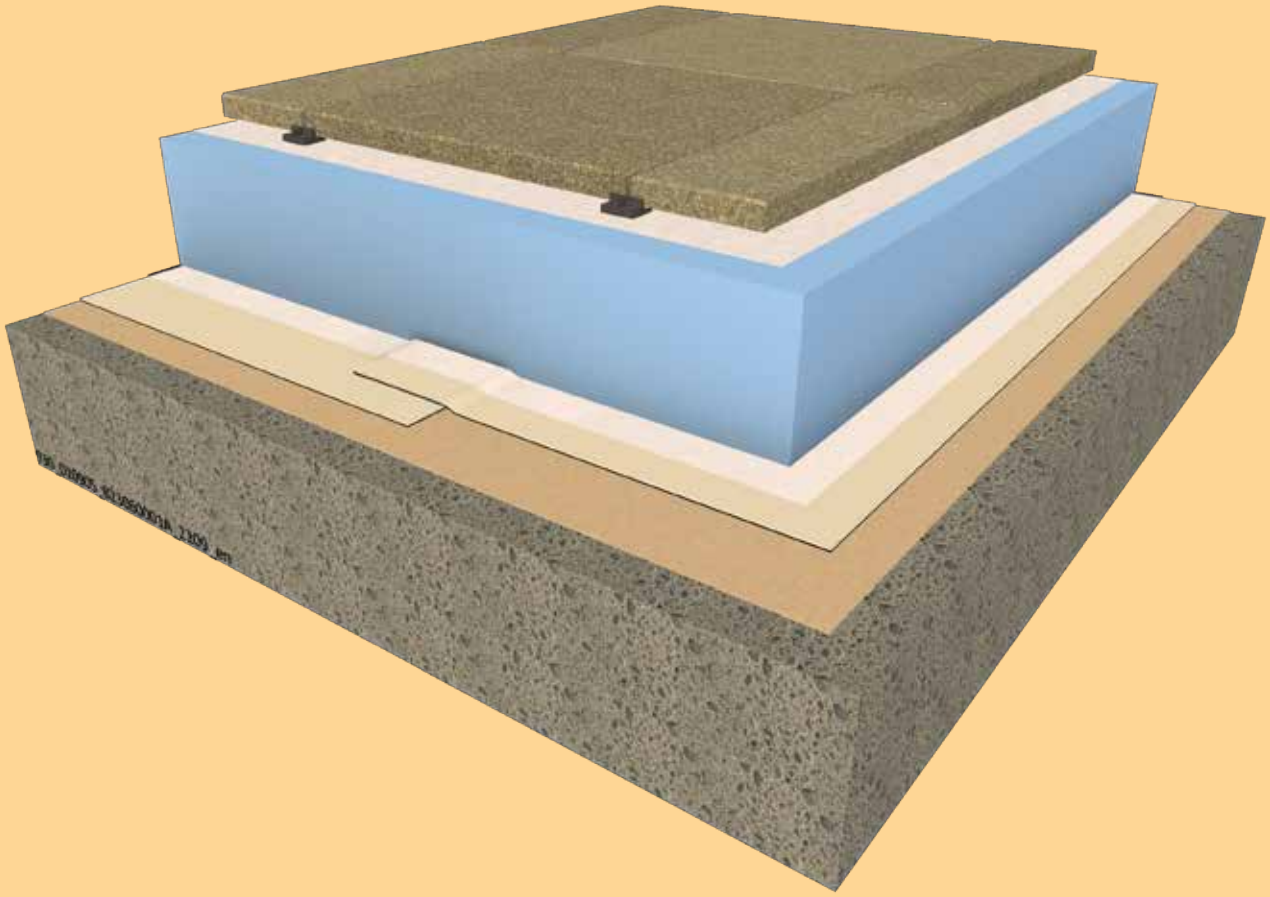
Wood





Layer No.	Function	Material	Attachment
1	Roof deck	Steel Reinforced concrete Wood	
2	Levelling- and protection layer (if required)	S-Felt A-300 Sikaplan® W Felt 500 PP S-Felt S-800	Loose laid Loose laid Loose laid
3	Vapour barrier **on steel and wood decks**	Sarnavap®-5000 E SA FR Sarnavap®-5000 E SA Sikavap-5000 E SK AL SikaShield® VB E71 PE SA 3 kg/m²	Self adhered Self adhered Self adhered Self adhered
	Vapour barrier **on reinforced concrete decks**	SikaShield® VB E71 PE SA 3 kg/m² SikaShield® VB P41 S 3 mm SikaShield® VB P21 T 3 mm SikaShield® VB P42 S 3 mm	
4	Thermal insulation		Loose laid
5	Separation layer (if required)	S-Glass Fleece 120	Loose laid
6	Roof waterproofing membrane	Sikaplan® U or SGmA	Loose laid
7	Protection layer (if required)	S-Felt A-300 Sikaplan® W Felt 500 PP S-Felt S-800 S-Felt T-300	Loose laid Loose laid Loose laid Loose laid
8	Ballast	Gravel	Loose laid

INVERTED ROOF SYSTEM

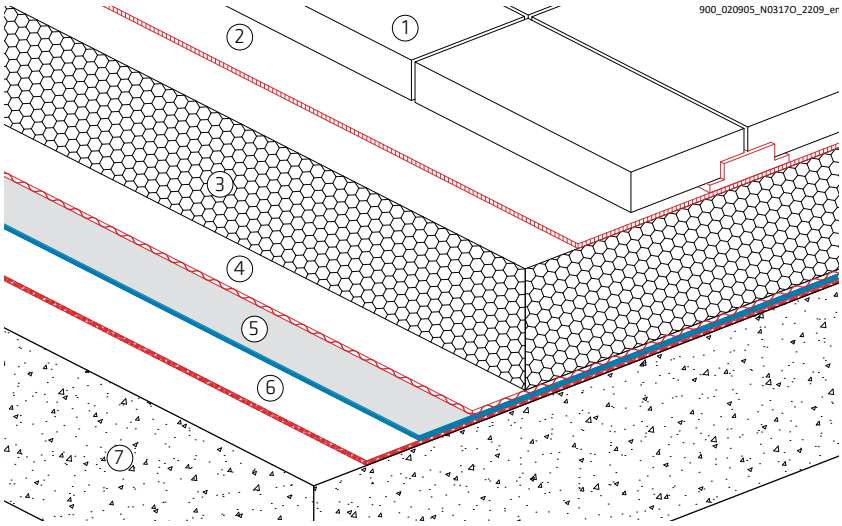


SYSTEM DESCRIPTION

In this type of construction the principal thermal insulation material is applied on top of the Sikaplan® U or SGmA roof waterproofing membrane so that the complete roof construction including roof covering is kept at warm temperatures during the winter months and at moderate temperatures during the summer months; the system is also referred to as a “protected membrane”, or “upside down” roof.

CHARACTERISTICS / ADVANTAGES

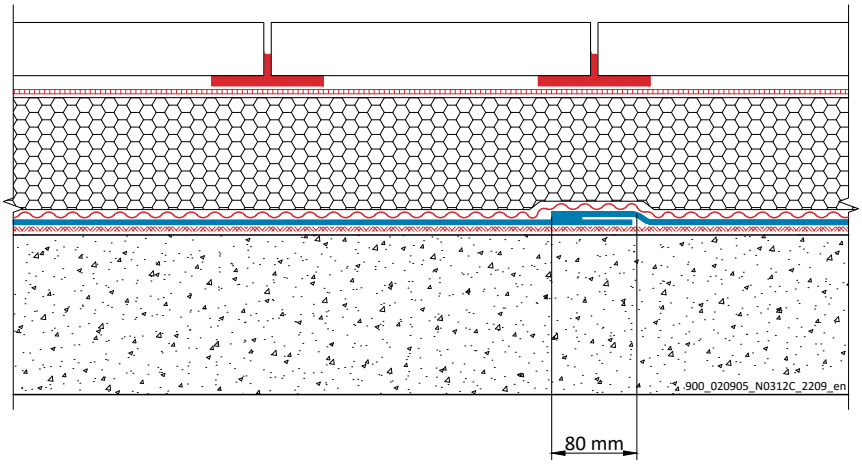
- Fast and easy installation
- No penetration of the roof deck
- Additional protection of the roof waterproofing membrane
- High fire resistance



1 Ballast
2 Filter layer
3 Thermal insulation XPS
4 Separation layer
5 Sikaplan® U or SGmA
6 Levelling- and protection layer
7 Roof deck

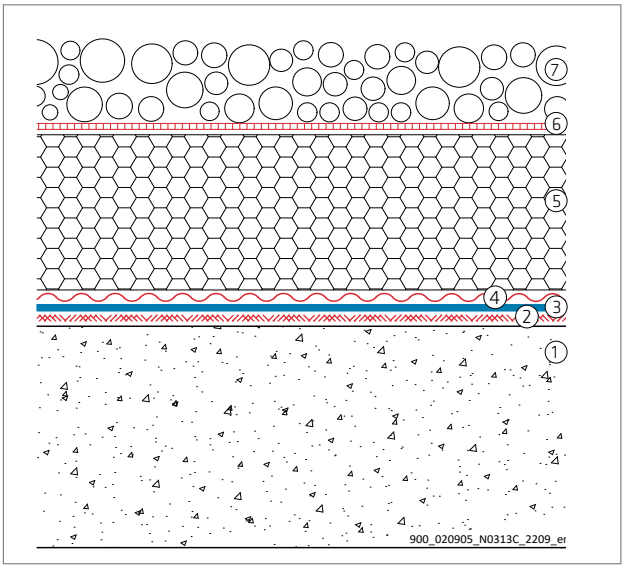
SYSTEM DESCRIPTION

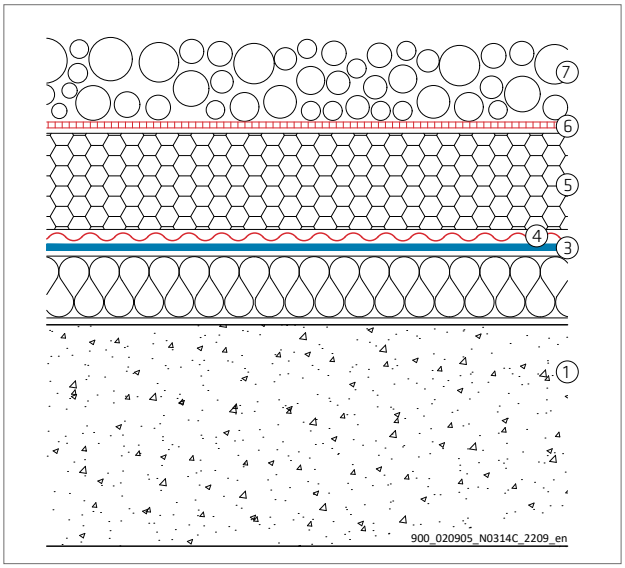
- The build-up is ballasted with gravel, pavings or green roof securing the thermal insulation against wind uplift
- The filter layer prevents small particles from penetrating gaps and voids into thermal insulation
- Sikaplan® U or SGmA roof waterproofing membrane and other roof components, including thermal insulation, are loosely laid

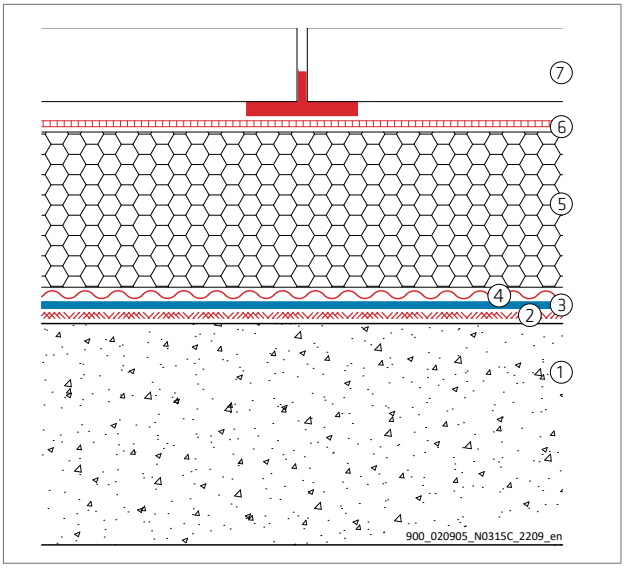


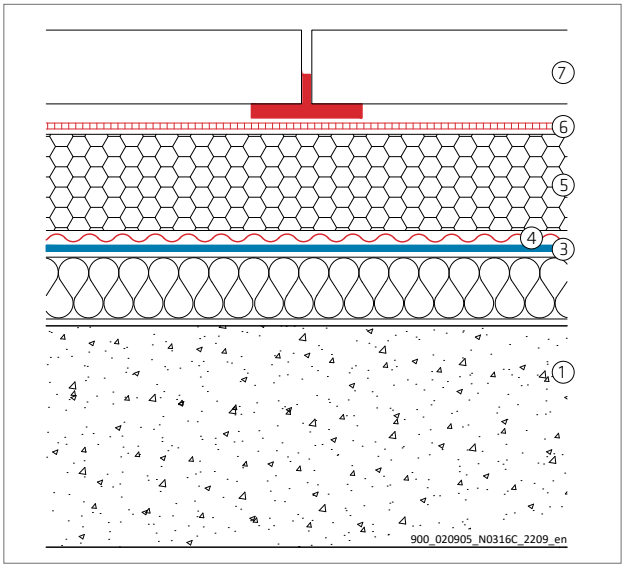
INVERTED ROOF SYSTEM

Reinforced concrete



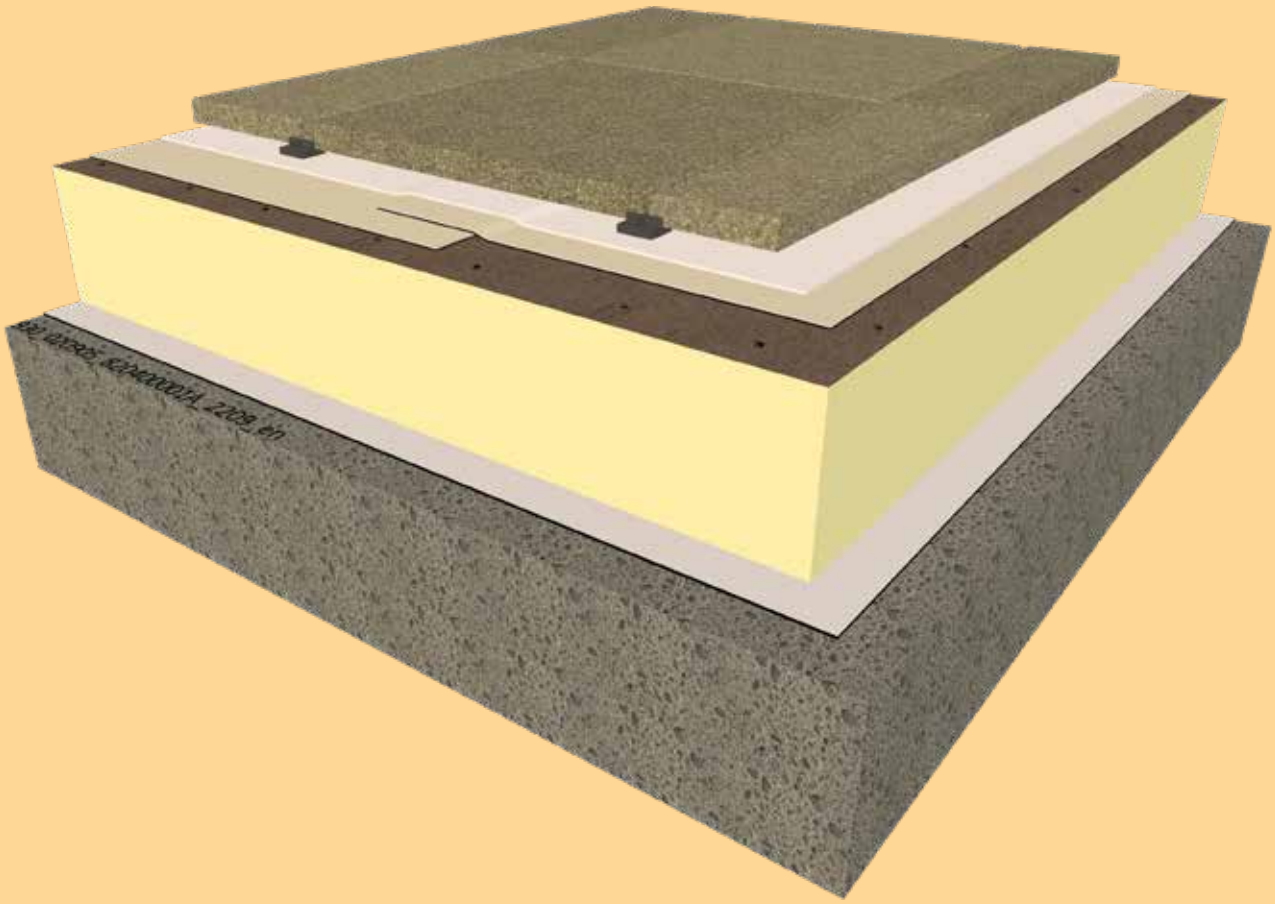






Layer No.	Function	Material	Attachment
1	Roof deck	Reinforced concrete	
2	Levelling- and protection layer (if required)	S-Felt A-300 Sikaplan® W Felt 500 PP S-Felt S-800	Loose laid Loose laid Loose laid
3	Roof waterproofing membrane	Sikaplan® U or SGmA	Loose laid
4	Separation layer (if required)	S-Glass Fleece 120	Loose laid
5	Thermal insulation		Loose laid
6	Filter layer	S-Felt VS-140	Loose laid
7	Ballast	Gravel Paving slabs	Loose laid Loose laid

UTILITY ROOF SYSTEM

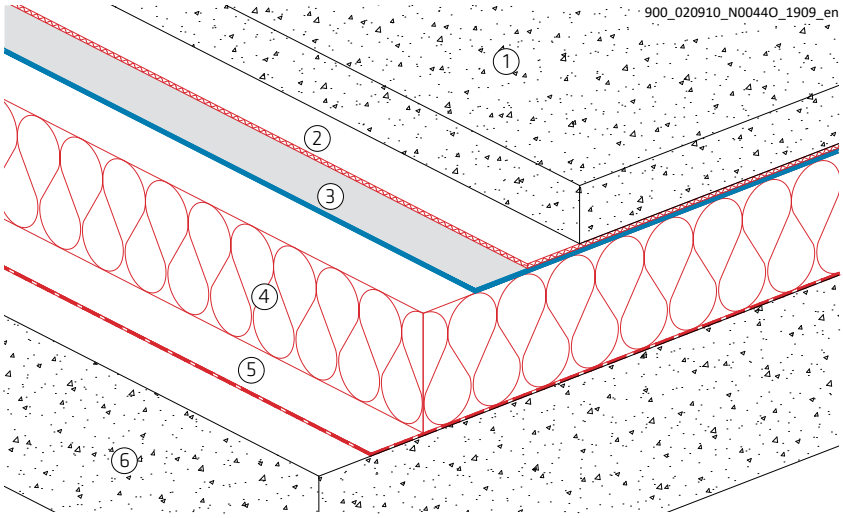


SYSTEM DESCRIPTION

Create more utilized space and bring additional value to the building. Further on that they generate an increased return on investment by using the roof for a car park, restaurant area or any other viable purpose or facility.

CHARACTERISTICS / ADVANTAGES

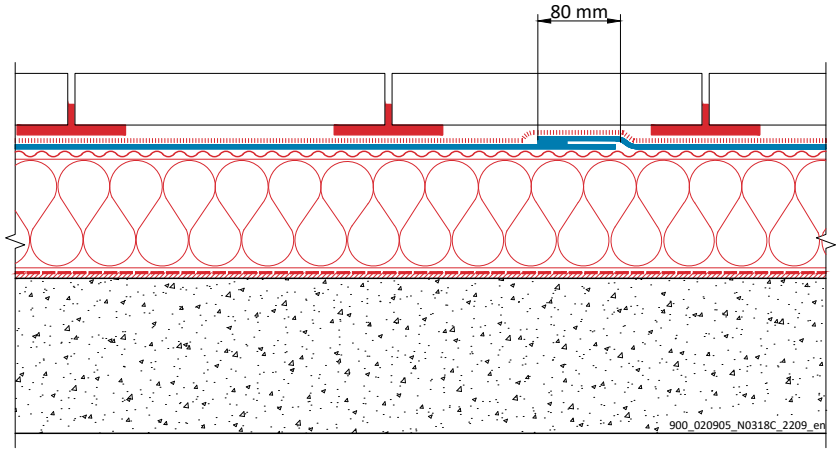
- The roof waterproofing membrane is protected against any aggressive environmental exposure and mechanical damage
- The natural non – combustible properties of the paved wearing surface contribute significantly to the fire resistance of the whole roof



1 Paving slabs / concrete
2 Protection- and slip layer
3 Sikaplan® U or SGmA membrane
4 Thermal insulation
5 Vapour barrier
6 Roof deck

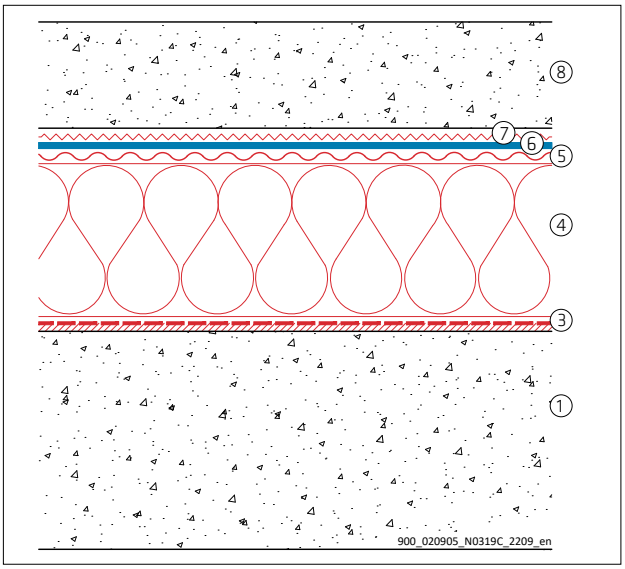
SYSTEM DESCRIPTION

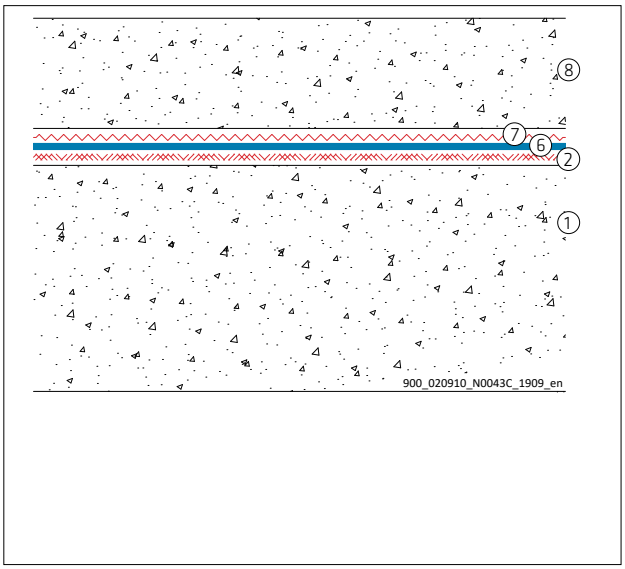
- The build-up is ballasted with pavings or concrete slab securing the thermal insulation against wind uplift
- Slip- and protection layer to be laid above roof waterproofing membrane in case of concrete slab on top
- Sikaplan® U or SGmA roof waterproofing membrane and other roof components, including thermal insulation, are loosely laid

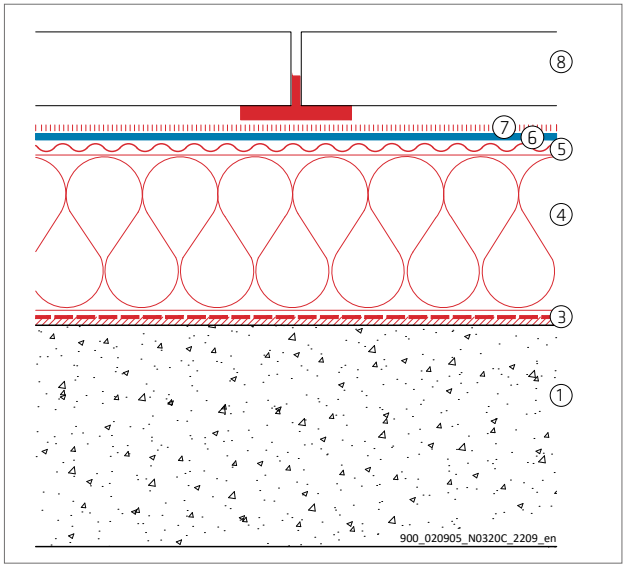


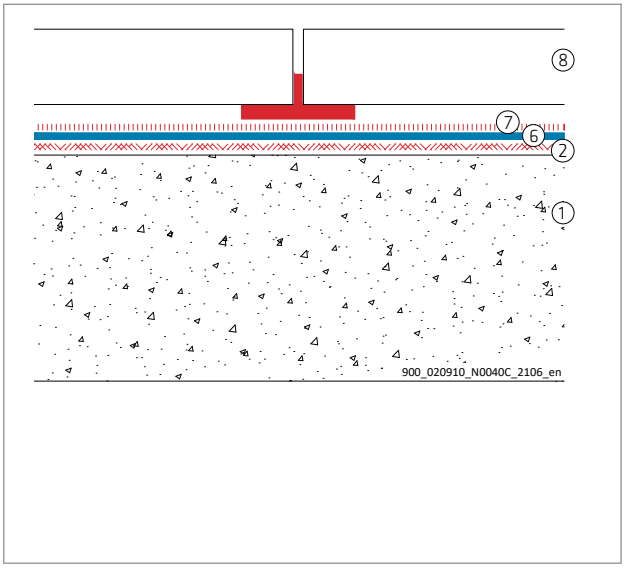
UTILITY ROOF SYSTEM

Reinforced concrete









Layer No.	Function	Material	Attachment
1	Roof deck	Reinforced concrete	
2	Levelling- and protection layer (if required)	S-Felt A-300 Sikaplan® W Felt 500 PP S-Felt S-800	Loose laid Loose laid Loose laid
3	Vapour barrier	SikaShield® VB E71 PE SA 3 kg/m² SikaShield® VB P41 S 3 mm SikaShield® VB P21 T 3 mm SikaShield® VB P42 S 3 mm	Self adhered Hot applied Hot applied Hot applied
4	Thermal insulation		Loose laid
5	Separation layer (if required)	S-Glass Fleece 120	Loose laid
6	Roof waterproofing membrane	Sikaplan® U or SGmA	Loose laid
7	Protection- and slip layer **in case of concrete deck above**	S-Felt GK-400	Loose laid
	Protection layer (if required) **in case of paving slabs above**	S-Felt A-300 Sikaplan® W Felt 500 PP S-Felt S-800 S-Felt T-300	Loose laid Loose laid Loose laid Loose laid
8	Ballast	Concrete Paving slabs	Loose laid

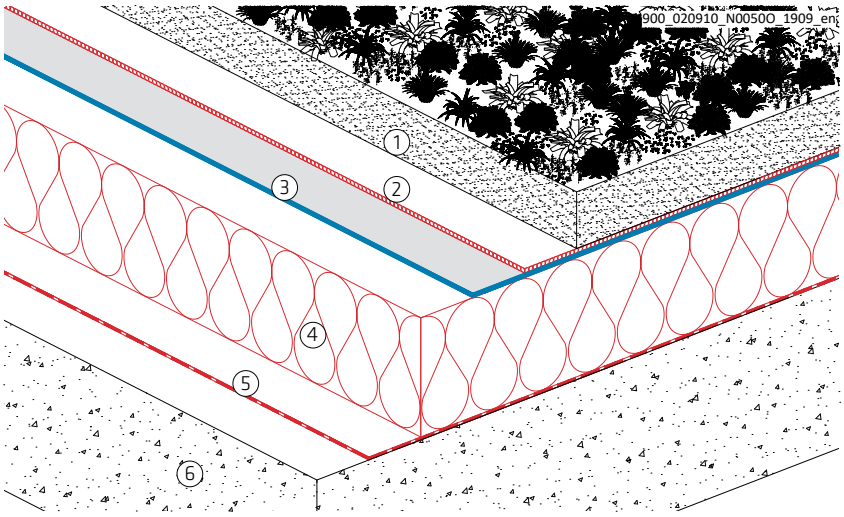
GREEN ROOF SYSTEM

SYSTEM DESCRIPTION

In so called “Green Roofs” soil, or a suitable plant growing medium, is built-up and planted with selected vegetation over the roof waterproofing membrane. Green roofs can therefore make a significant contribution and present practical solutions in the quest for sustainability, increased biodiversity and quality of life.

CHARACTERISTICS / ADVANTAGES

- Reducing heat island effect in cities
- Enhancing the aesthetics of the building
- Improved thermal performance of the building
- A natural environment on the roof with natural Co_2 absorption



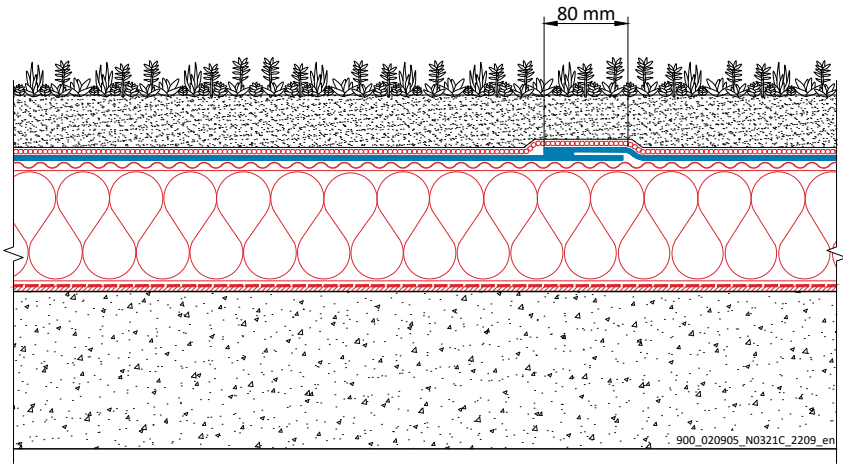
1 Green roof
2 Drainage-, filter- and protection layer
3 Sikaplan® U or SGmA membrane
4 Thermal insulation
5 Vapour barrier
6 Roof deck

SYSTEM DESCRIPTION

Green roof systems are classified as:

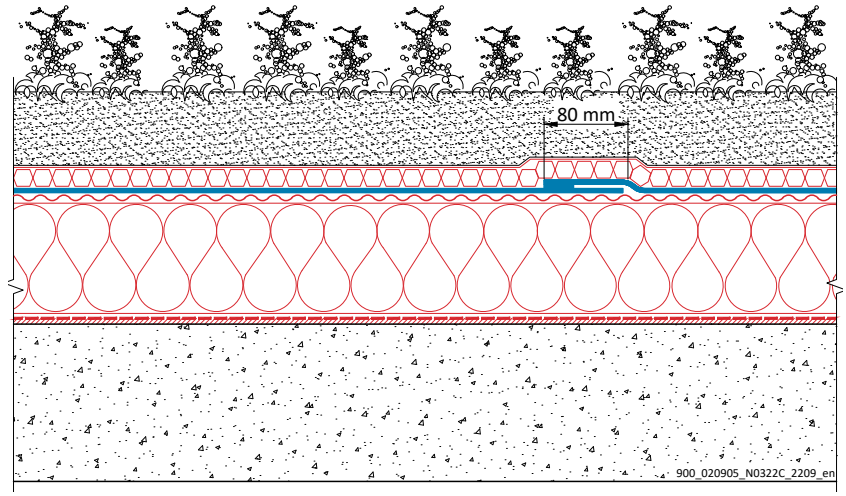
Extensive

Have a shallow growing medium with small plants and require low maintenance. Soil with plants 50 – 150 mm thick and 50 – 170 kg/m^2. Minimum slope of 1.50%.



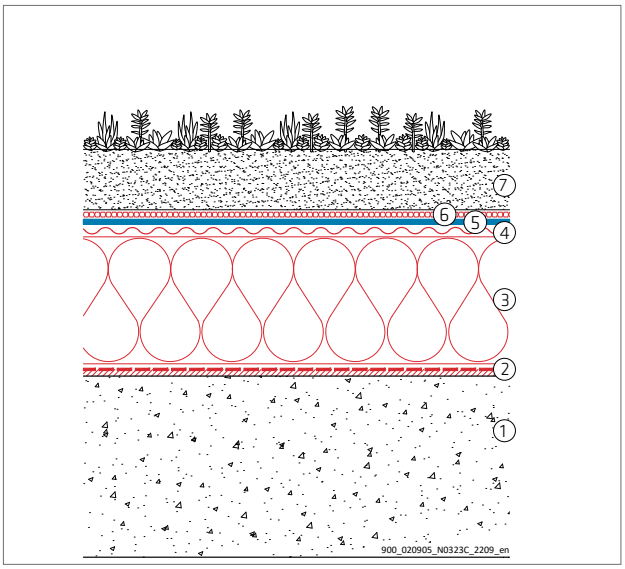
Intensive

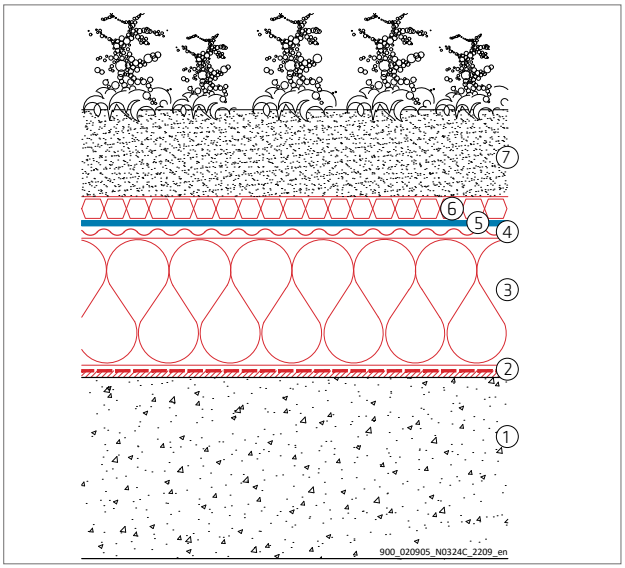
Have a thicker soil layer with additional drainage for planting larger plants, bushes and small trees, thus creating roof gardens. Soil with plants minimum 150 mm thick and 170 kg/m^2. Suitable for roof systems without slope.



GREEN ROOF SYSTEM

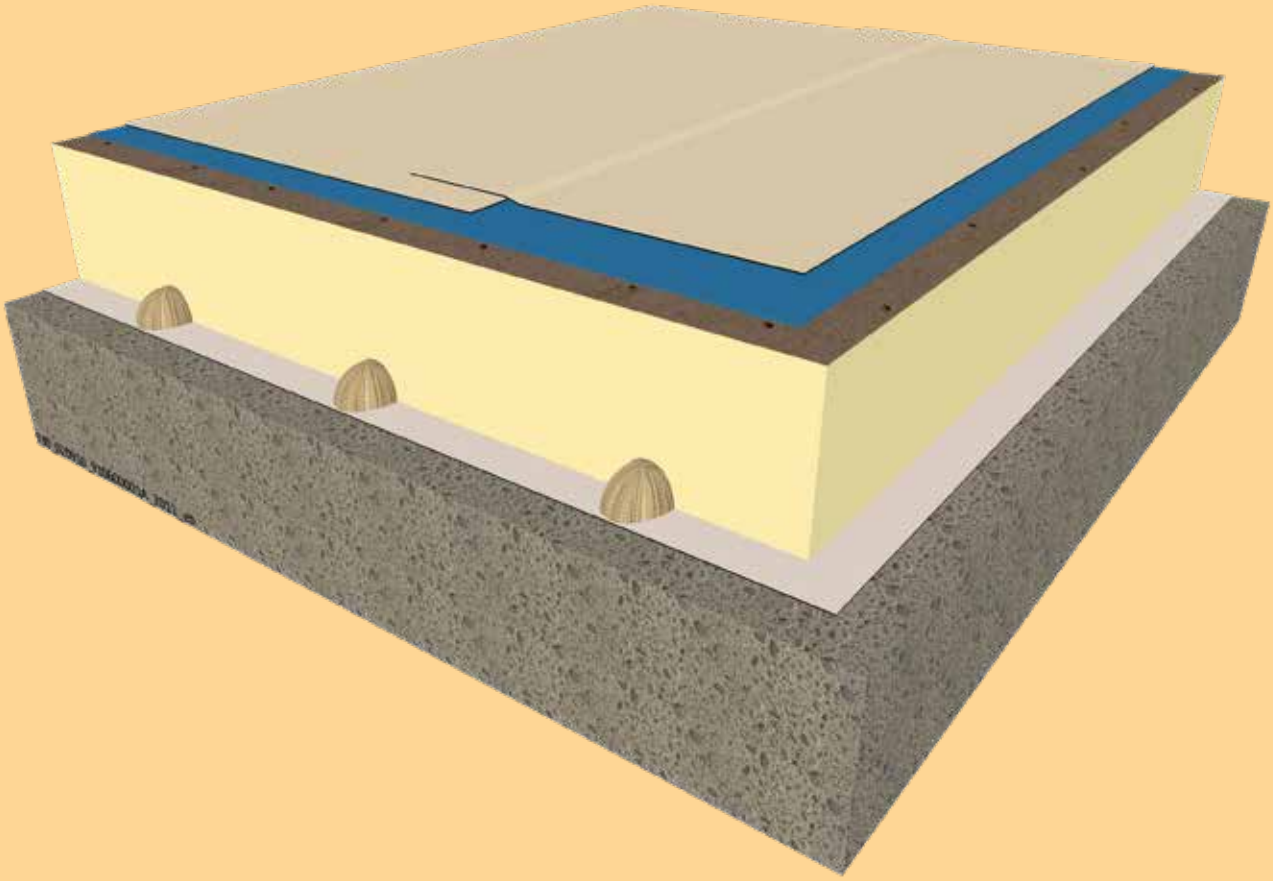
Reinforced concrete





Layer No.	Function	Material	Attachment
1	Roof deck	Reinforced concrete	
2	Vapour barrier	SikaShield® VB E71 PE SA 3 kg/m² SikaShield® VB P41 S 3 mm SikaShield® VB P21 T 3 mm SikaShield® VB P42 S 3 mm	Self adhered Hot applied Hot applied Hot applied
3	Thermal insulation		Loose laid
4	Separation layer (if required)	S-Glass Fleece 120	Loose laid
5	Roof waterproofing membrane	Sikaplan® U or SGmA	Loose laid
6	Protection-, drainage- and filter layer **Extensive green roof system**	Aquadrain 550	Loose laid
	Protection-, drainage- and filter layer I**ntensive green roof system**	SikaRoof® Drainage Layer 20L2F	Loose laid
7	Ballast	Green roof	Loose laid

ADHERED ROOF SYSTEM

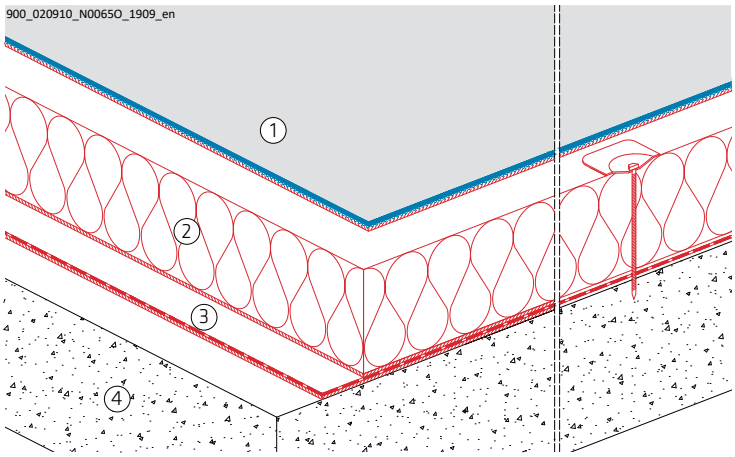


SYSTEM DESCRIPTION

This system is designed to fulfil the highest aesthetic requirements! The membranes can be adhered to flat, curved or sloped roof of practically any shape and configuration.

CHARACTERISTICS / ADVANTAGES

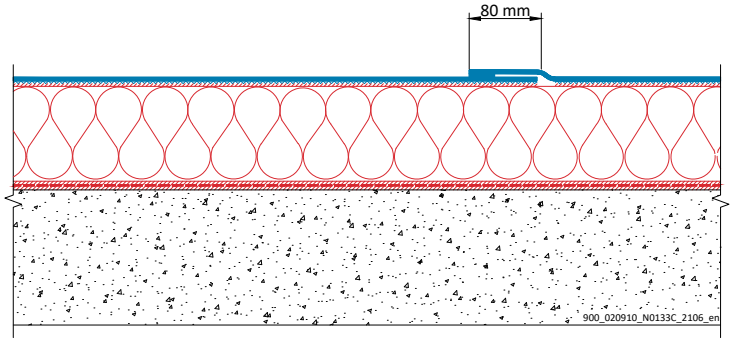
- No penetrations of the roof deck are required
- Very low noise emissions during installation
- Easy refurbishment of existing bitumen roofs



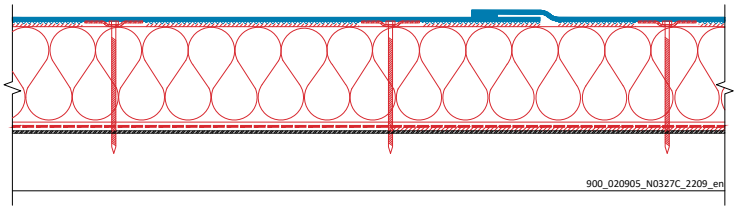
1 Sikaplan® SGK membrane, adhered
2 Thermal insulation, adhered or mechanically fastened
3 Vapour control layer, adhered or loosely laid
4 Roof deck

SYSTEM DESCRIPTION

Build-up fully adhered
Roof waterproofing membrane adhered with adhesive or self adhered membrane to the substrate underneath.
All other layers to be adhered to each other.

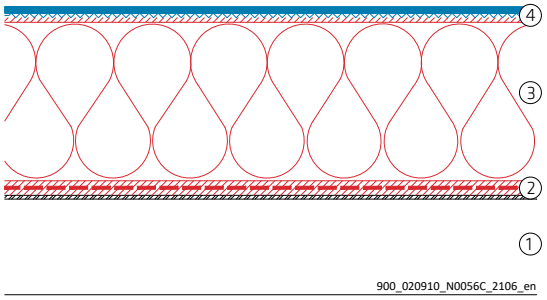


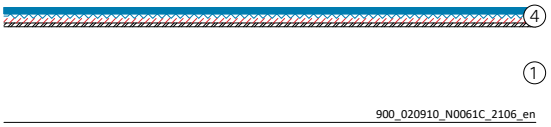
Build-up adhered roof waterproofing membrane combined with mechanically fastened system
Vapour control layer loose laid and mechanically fasten of thermal insulation onto roof deck.



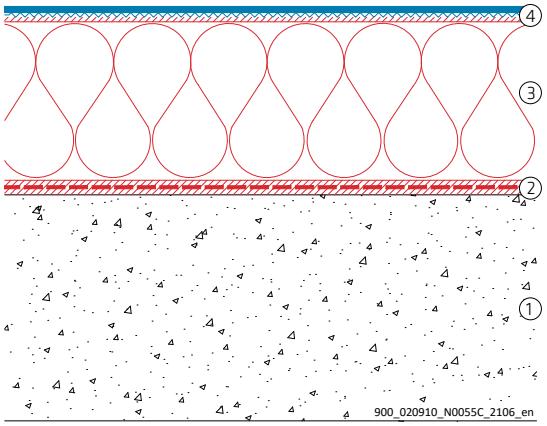
ADHERED ROOF SYSTEM

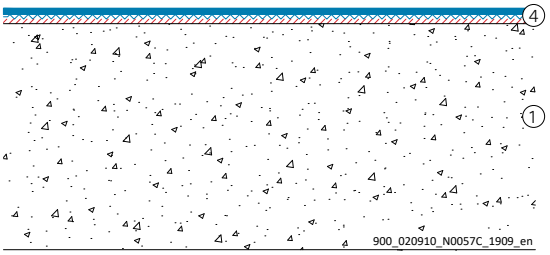
Steel



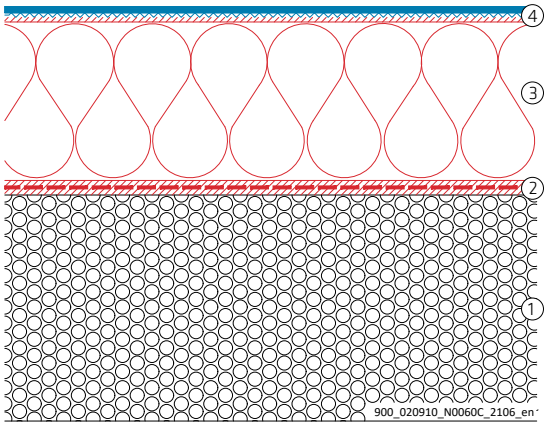


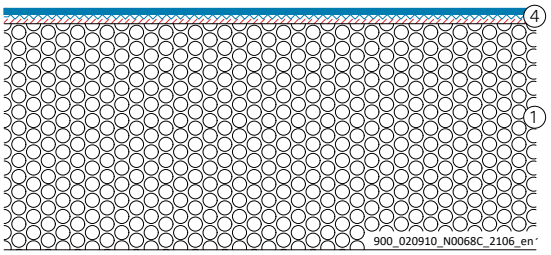
Reinforced concrete



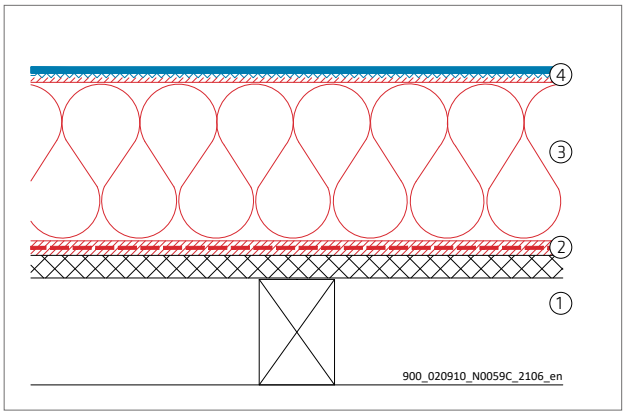


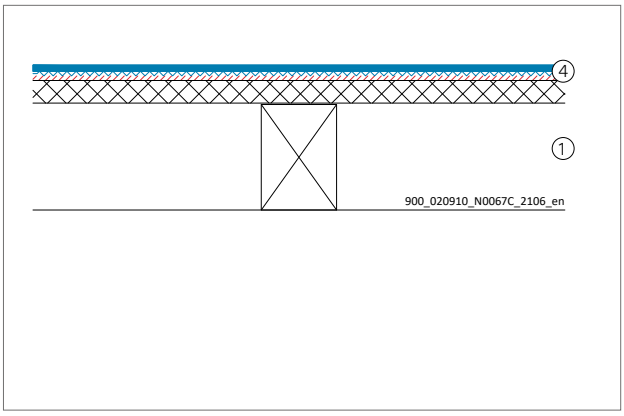
Adhered concrete



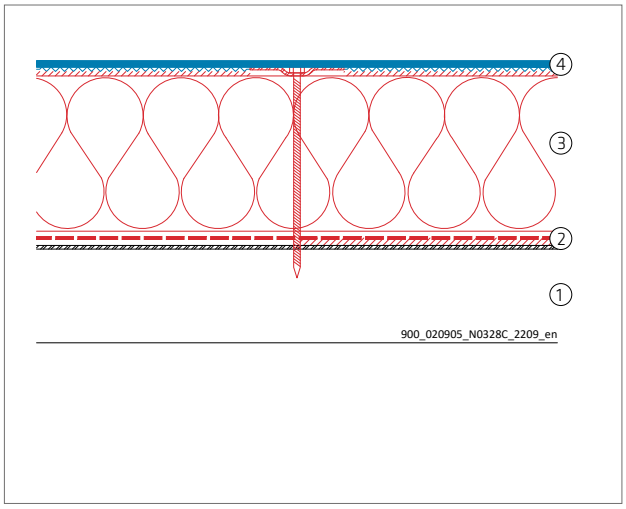


Wood

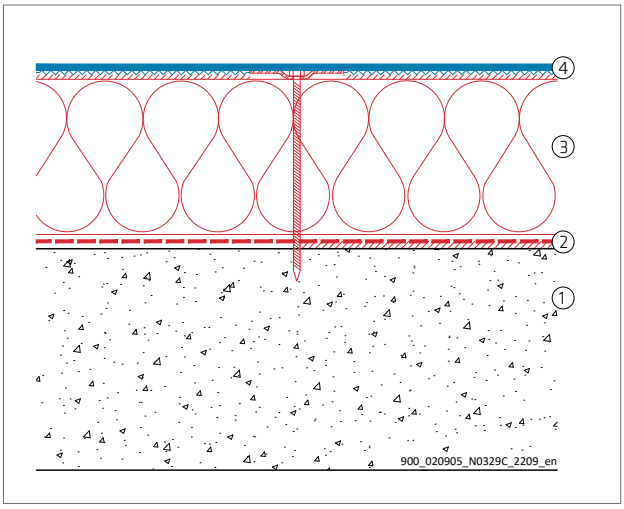




Steel



Reinforced concrete



Layer No.	Function	Material	Attachment
1	Roof deck	Steel Reinforced concrete Aerated concrete Wood	
2	Vapour barrier **on steel and wood decks**	Sarnavap®-500 E* Sarnavap®-1000 E* Sarnavap®-2000 E* Sarnavap®-5000 E SA FR* Sarnavap®-5000 E SA Sikavap-5000 E SK AL* SikaShield® VB E71 PE SA 3 kg/m²*	Loose laid Loose laid Loose laid Self adhered Self adhered Self adhered Self adhered
	Vapour barrier **on reinforced and aerated concrete decks**	SikaShield® VB E71 PE SA 3 kg/m²* SikaShield® VB P41 S 3 mm SikaShield® VB P21 T 3 mm SikaShield® VB P42 S 3 mm*	Self adhered Hot applied Hot applied Hot applied
3	Thermal insulation		Adhered Mechanically fastened
4	Roof waterproofing membrane	Sikaplan® SGK	Adhered

* Not approved for fully adhered systems

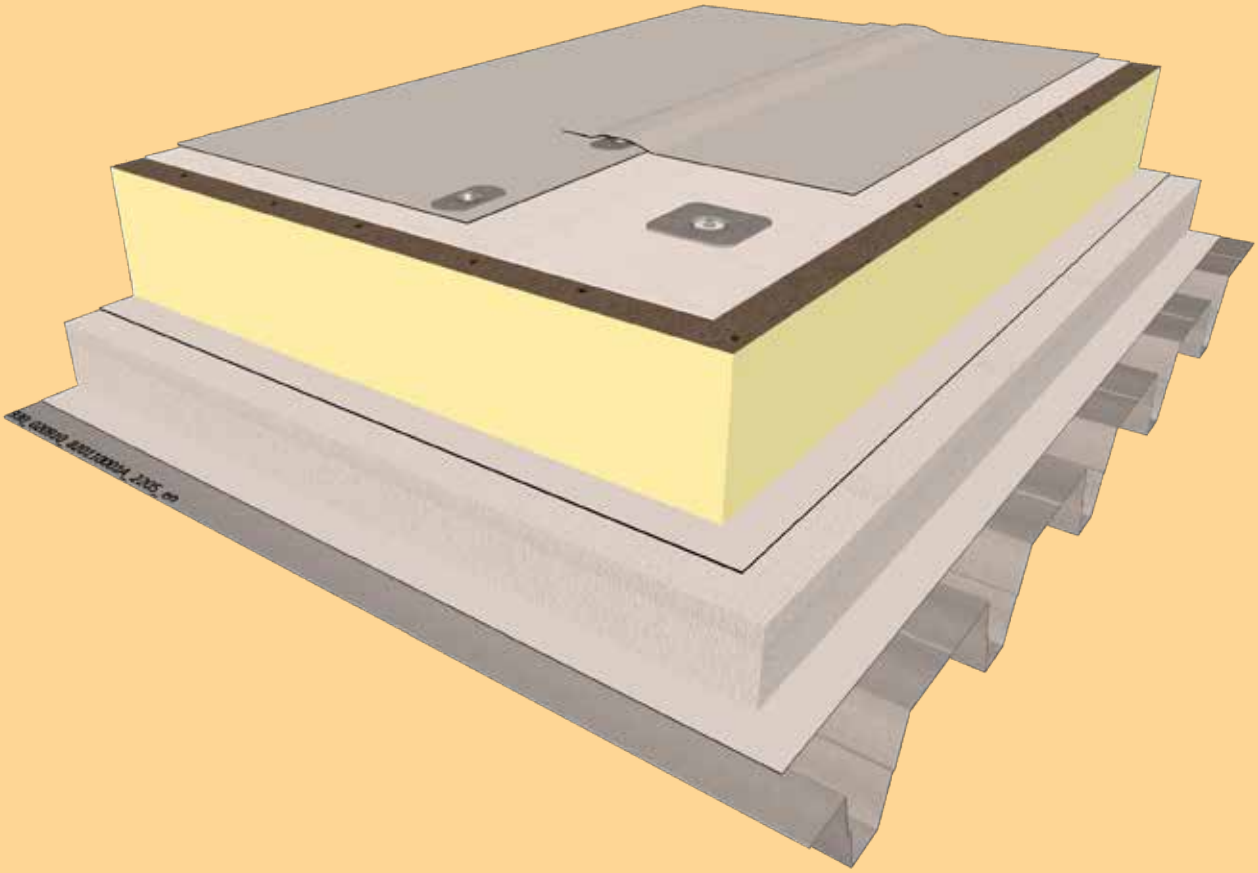
ADHERED ROOF SYSTEM

		Sika® C-300	Sika® C-733	Sikaplan® SGK	SikaRoof® Board Adhesive
Membranes	Sikaplan® SG		●		
	Sikaplan® SGK	●			
Application	Fully Adhered	●	●	●	
	Insulation Adhesive				●
Area	Flat			●	●
	Sloped	●		●	●
	Detailing / Upstands		●		
Substrates	Concrete	●	●	●	●
	Metal / Steel	●	●	●	●
	Wood (e.g. OSB, Plywood)	●	●	●	●
	Metal Composite Panel	●		●	●
	Bitumen – slated or sanded	●	●	●	●
	Polyester, hard and soft PVC		●		
	EPS / XPS	●		●	●
	Coverboards	●	●	●	●
	Mineralwool – with sufficient facer	●	●	●	●
	PIR – with glass tissue facer	●	●	●	●
	PIR – with aluminium composite facer	●	●	●	●
VOC Free					

● Approved

APPLICATION INSTRUCTIONS

ROOF REFURBISHMENT



SYSTEM DESCRIPTION

Roofs have limited lifespan. Old or inadequate roofs should be refurbished before the building suffers deterioration or damage.

Sika Roofing Systems are ideally suited for refurbishment work.

Your local sales organisation can provide all the necessary technical support.

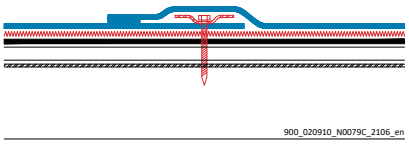
Refurbishment of existing roof constructions becoming more and more common and Sika has various systems for all kind of substrates.

- Bitumen Roofs
- Metal Roofs
- Singly-ply Synthetic Roofs EPDM, PVC, FPO

For the selection of the right refurbishment system, a specific project survey and assessment has to be undertaken.
Please contact the Technical Services Department of your local Sika company for assistance.
All roof build-up's shall be reviewed by a building physicist.

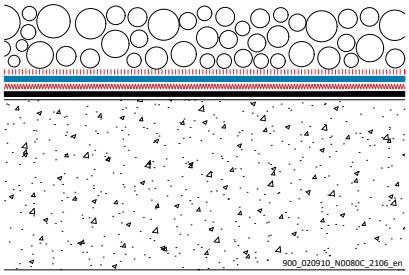
OVERLAYING OR REPLACING EXISTING SYNTHETIC OR BITUMINOUS ROOFING WITHOUT THERMAL INSULATION UPGRADE

MECHANICALLY FASTENED ROOF SYSTEM



- Sikaplan® G, VG or U membrane, mechanically fastened
- S-Felt T-300, separation layer
- Existing synthetic or bituminous roofing

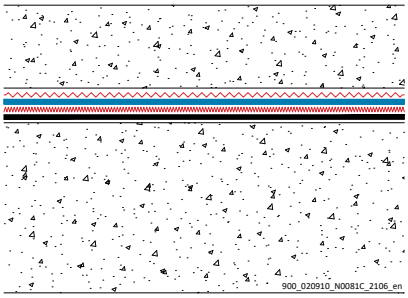
GRAVEL BALLASTED ROOF SYSTEM



- Gravel ballast
- Protection layer, if required
- Sikaplan® G, VG or U membrane, loose laid
- S-Felt T-300, separation layer
- Existing synthetic or bituminous roofing

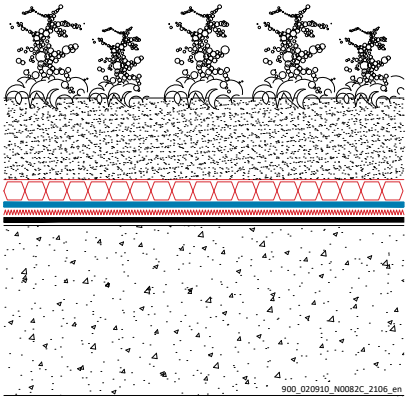
ROOF REFURBISHMENT

UTILITY ROOF SYSTEM



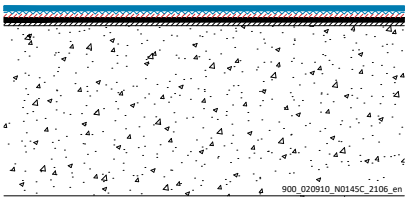
- Concrete slab
- S-Felt GK-400, slip- and protection layer
- Sikaplan® U or SGmA membrane, loose laid
- S-Felt T-300, separation layer
- Existing synthetic or bituminous roofing

GREEN ROOF SYSTEM



- Green roof (extensive or intensive)
- Aquadrain-550 (extensive) or SikaRoof® Drainage Layer 20L2F (intensive), drainage, filter- and protection layer
- Sikaplan® U or SGmA membrane, loose laid
- S-Felt T-300, separation layer
- Existing synthetic or bituminous roofing

ADHERED ROOF SYSTEM



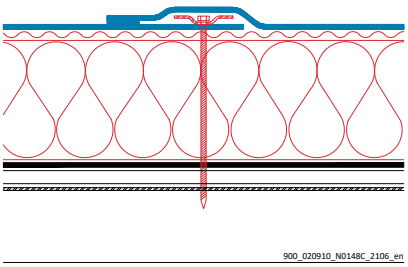
- Sikaplan® SGK, adhered
- Sika® Trocal C-733, adhesive
- Bituminous roofing

Above synthetic roofing membrane specific project approval by Sika Technical Department needed.

Note: In general, it is recommended to remove the existing synthetic or bituminous roofing before installing a new membrane.

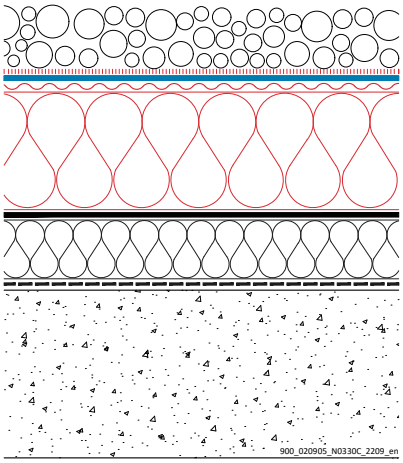
OVERLAYING OR REPLACING EXISTING SYNTHETIC OR BITUMINOUS ROOFING WITH THERMAL INSULATION UPGRADE

MECHANICALLY FASTENED ROOF SYSTEM



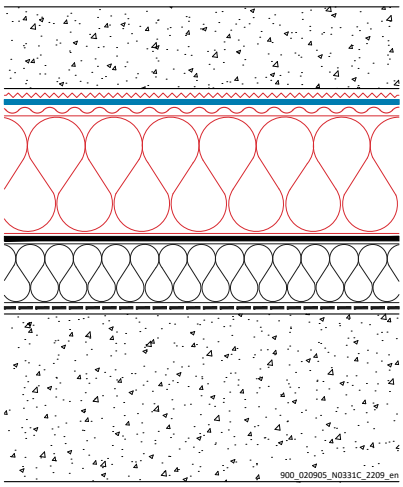
- Sikaplan® G, VG or U membrane, mechanically fastened
- S-Glass Fleece-120, separation layer, if required
- New thermal Insulation, mechanically fastened
- Existing synthetic or bituminous roofing

GRAVEL BALLASTED ROOF SYSTEM



- Gravel ballast
- Protection layer, if required
- Sikaplan® U or SGmA membrane, loose laid
- S-Glass Fleece-120, separation layer, if required
- New / additional thermal Insulation, loose laid
- Existing synthetic or bituminous roofing

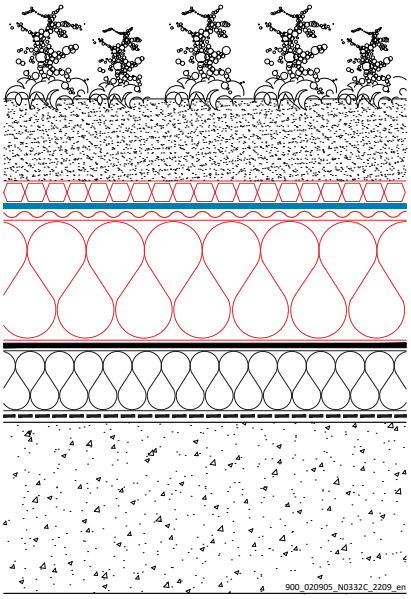
UTILITY ROOF SYSTEM



- Concrete Slab
- S-Felt GK 400, slip- and protection layer
- Sikaplan® U or SGmA membrane, loose laid
- S-Glass Fleece-120, separation layer, if required
- New / additional thermal Insulation, loose laid
- Existing synthetic or bituminous roofing

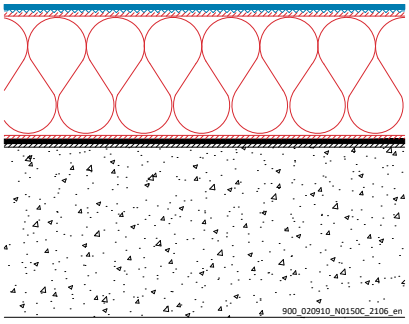
ROOF REFURBISHMENT

GREEN ROOF SYSTEM



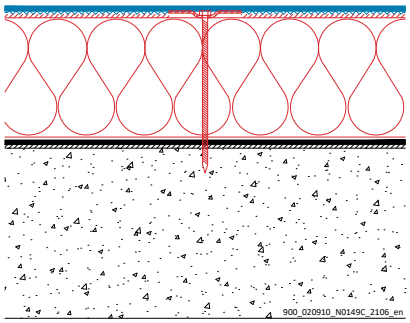
- Green Roof (extensive or intensive)
- Aquadrain-550 (extensive) or SikaRoof® Drainage Layer 20L2F (intensive), drainage, filter- and protection layer
- Sikaplan® U or SGmA membrane, loose laid
- S-Glass Fleece-120, separation layer, if required
- New / additional thermal Insulation, loose laid
- Existing synthetic or bituminous roofing

ADHERED ROOF SYSTEM – EXISTING BITUMINOUS ROOFING



- Sikaplan SGK, adhered
- Sika® Trocal C-733, adhesive
- New thermal Insulation, adhered
- SikaRoof® Board Adhesive, adhesive
- Existing bituminous roofing

ADHERED ROOF SYSTEM – EXISTING SYNTHETIC ROOFING



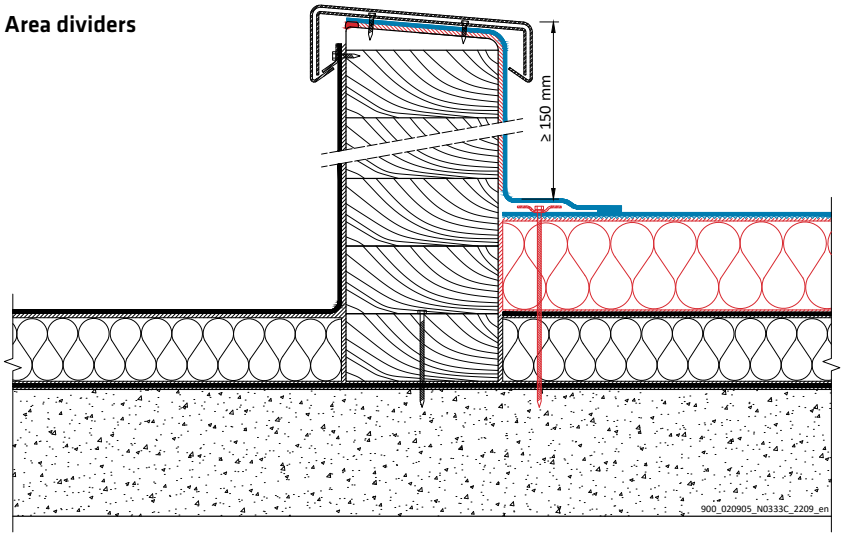
- Sikaplan® SGK, adhered
- Sika® Trocal C-733, adhesive
- New thermal Insulation, mechanically fastened
- Existing synthetic roofing

Note: In general, it is recommended to remove the existing synthetic or bituminous roofing before installing a new membrane.

SYNTHETIC / BITUMINOUS ROOFING SYSTEMS

Direct contact between Sikaplan® PVC roof waterproofing membranes and other roofing systems must be avoided.

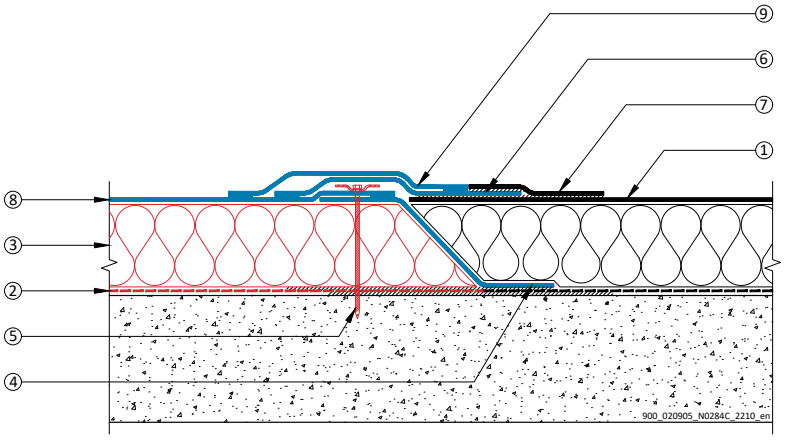
Area dividers



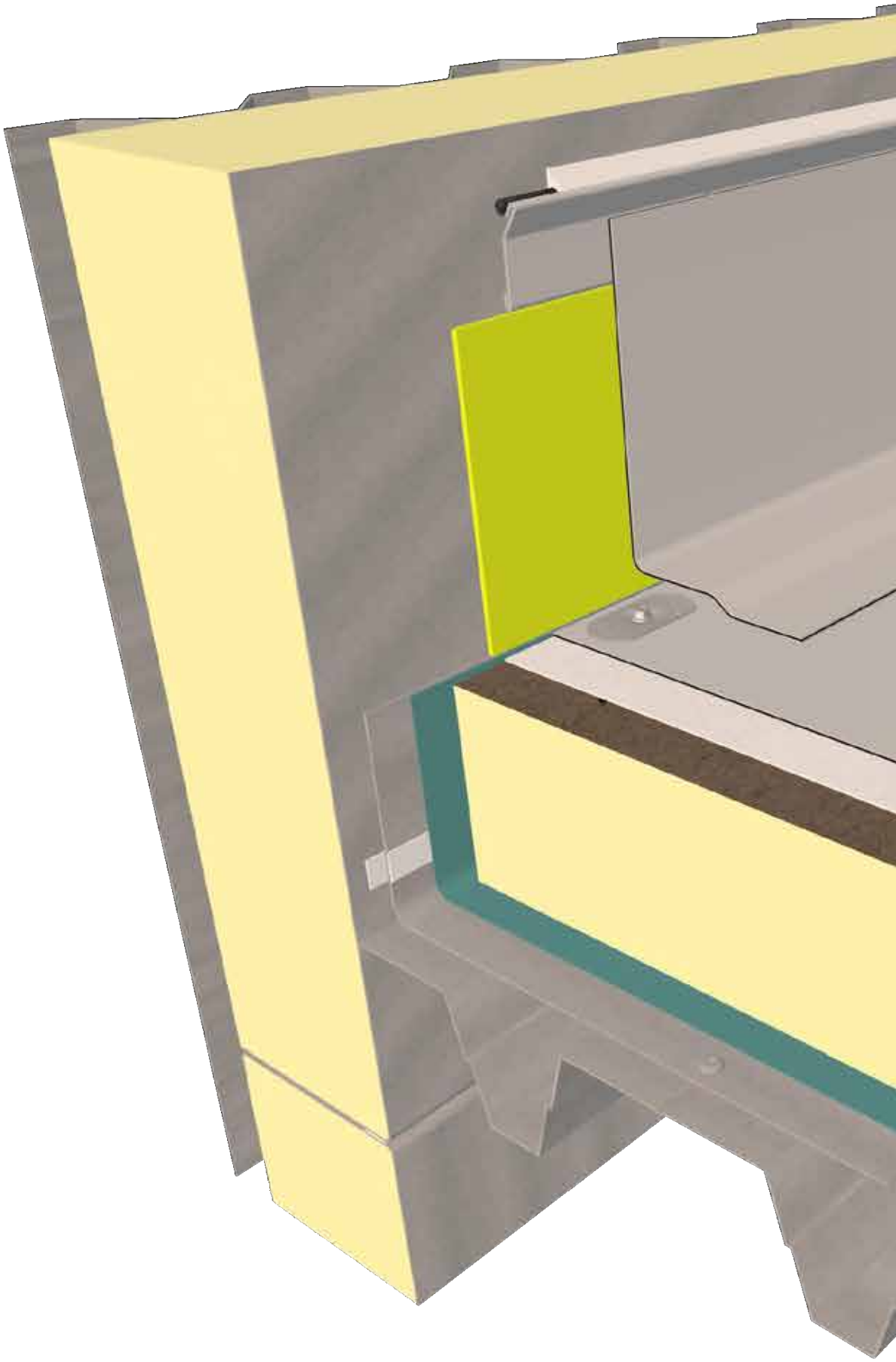
BITUMINOUS ROOFING SYSTEM

Transition to bituminous roofs should be achieved using construction such as raised kerbs or area dividers.
If such details are not possible, a Sarnafil® G 465 strip can be used for the transition between Sikaplan® PVC roof waterproofing membranes and the bituminous roof. Roof waterproofing membranes in the transition area must be mechanically fastened. This will prevent any damage or water infiltration that might occur in the old roof area from affecting the new area.

Transition to bituminous roofing system



1 Old bituminous roof
2 New vapour control layer (bituminous membrane), adhered in the transition area
3 New thermal insulation
4 Sarnafil® G 465-15 strip fully adhered to the old bituminous vapour control layer
5 Sarnafast® Washers and Fasteners
6 Sarnafil® G 465-15 strip adhered with hot bitumen to old bituminous roof and hot-air welded to new Sikaplan® PVC membrane
7 Bituminous cover strip adhered to the Sarnafil G 465-15 strip and to old bituminous roof
8 Sikaplan® PVC roof waterproofing membrane
9 Sikaplan® PVC membrane cover strip

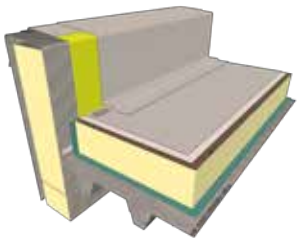


STANDARD DETAILS

DIFFERENT SOLUTIONS AND VARIANTS

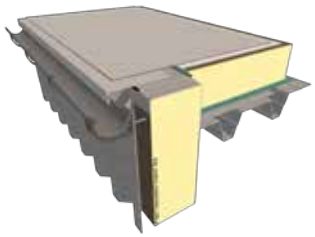
OVERVIEW

PARAPET



Mechanically Fastened Roof System
Gravel Ballasted Roof System
Inverted Roof System
Utility Roof System
Green Roof System (Extenisve / Intensive)
Adhered Roof System

ROOF EDGE TERMINATION WITH GUTTER



Mechanically Fastened Roof System
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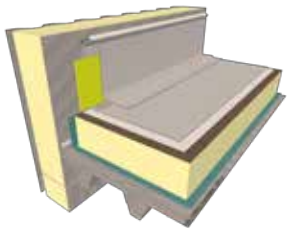
Adhered Roof System

UPSTAND



Mechanically Fastened Roof System
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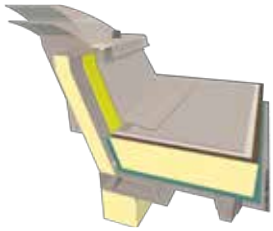
SKYLIGHT



Mechanically Fastened Roof System
Gravel Ballasted Roof System
Inverted Roof System
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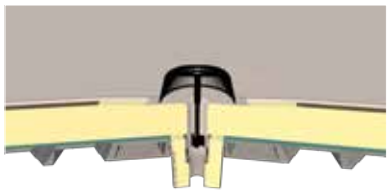
Adhered Roof System

ROOF DRAIN (OUTLET)



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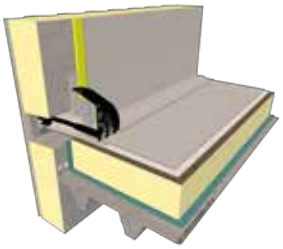
SCUPPER



Mechanically Fastened Roof System
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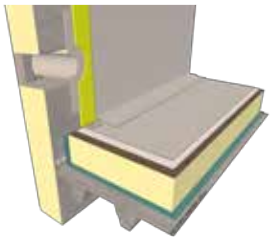
Green Roof System (Extenisve / Intensive)
Adhered Roof System

Legend
Color of products

Roof waterproofing products	Sika delivery program
Accessory products	Sika delivery program
Other construction products	Different suppliers

OVERFLOW



Mechanically Fastened Roof System
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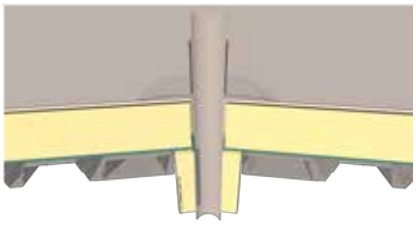
Green Roof System (Extenisve / Intensive)
Adhered Roof System

VENT PIPE / POST



Mechanically Fastened Roof System
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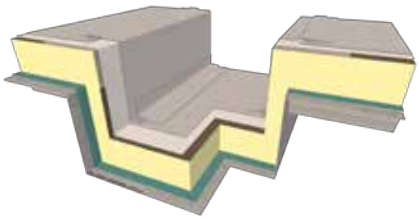
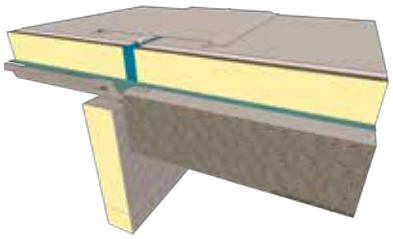
Green Roof System (Extenisve / Intensive)
Adhered Roof System

GUTTER



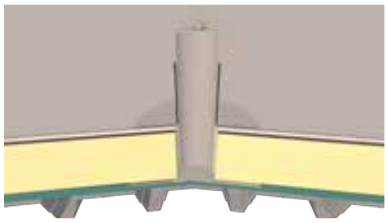
Mechanically Fastened Roof System
Adhered Roof System

MOVEMENT JOINT



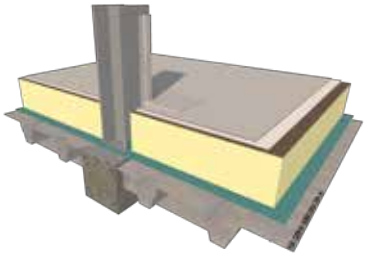
Mechanically Fastened Roof System
Gravel Ballasted Roof System
Inverted Roof System
Adhered Roof System

FALL ARREST ANCHOR



Mechanically Fastened Roof System
Gravel Ballasted Roof System
Inverted Roof System
Utility Roof System
Green Roof System (Extenisve / Intensive)
Adhered Roof System

**PENETRATION –
DOUBLE T STEEL BEAM**



Mechanically Fastened Roof System
Gravel Ballasted Roof System
Inverted Roof System
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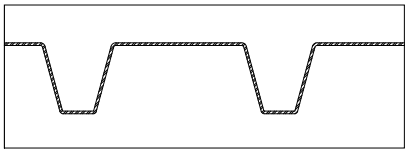
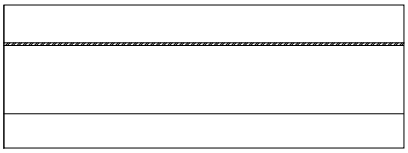
Green Roof System (Extenisve / Intensive)
Adhered Roof System

LAYER DESCRIPTION

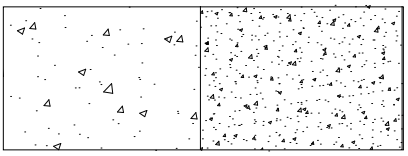
SUBSTRATES

Steel Deck

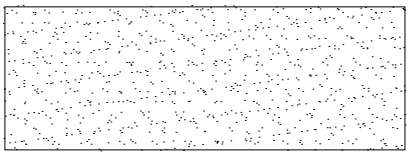




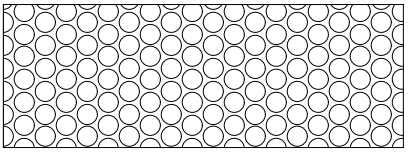
Concrete / Prefabricated



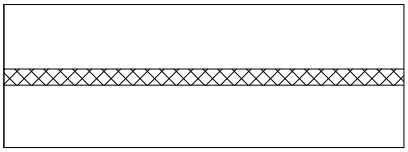
Cementitious Mortar



Aerated Concrete

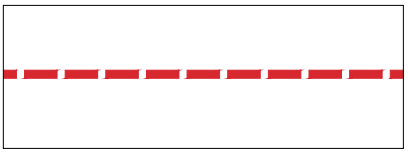


Wood Deck

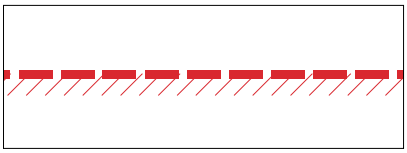


VAPOUR CONTROL LAYER / BARRIER

Vapour Control Layer

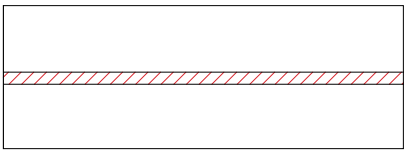


Vapour Barrier



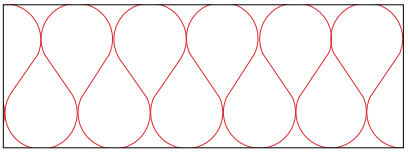
ADHESIVE

Adhesive

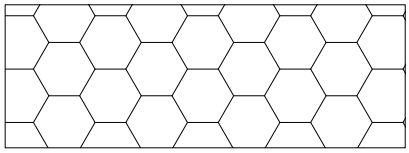


THERMAL INSULATION

Thermal Insulation

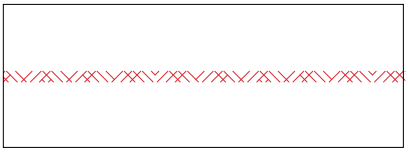


Extrudet Polystyrene (XPS)

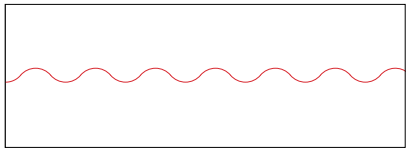


INTERMEDIATE LAYERS

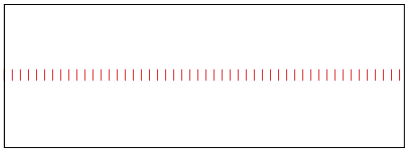
Levelling- and Protection Layer



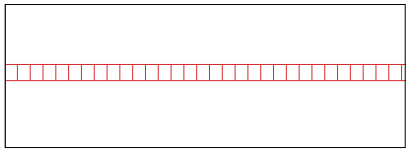
Separation- and Fire Protection Layer



Protection Layer

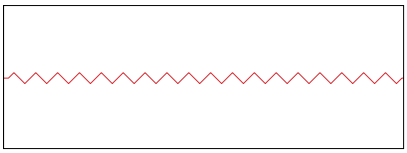


Filter Layer

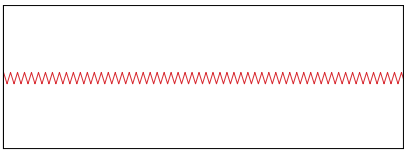


INTERMEDIATE LAYERS

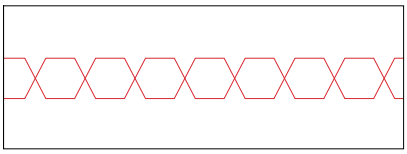
Slip- and Protection Layer



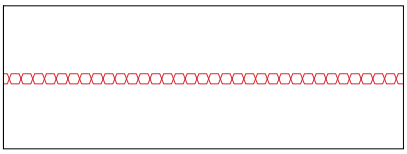
Separation-, Levelling- and Protection Layer



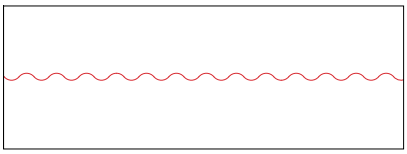
Protection., Drainage and Filter Layer



Protection-. Drainage and Filter Layer



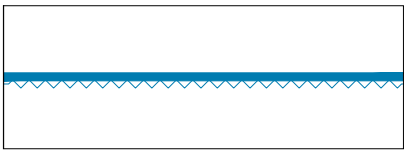
Roof Control System Layer



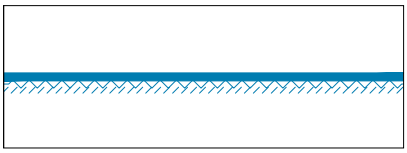
ROOF WATERPROOFING

Membrane

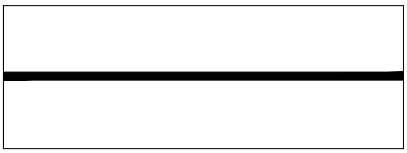
Membrane with Felt Backing



Membrane with Felt Backing and Self Adhesive

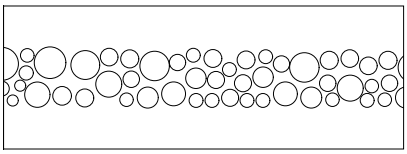


Existing Membrane

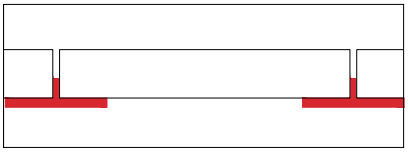


BALLAST

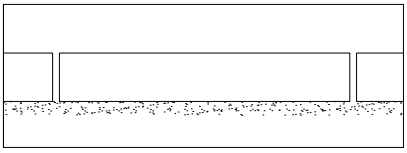
Gravel



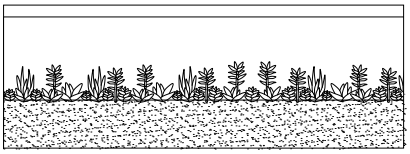
Paving with Support Pads



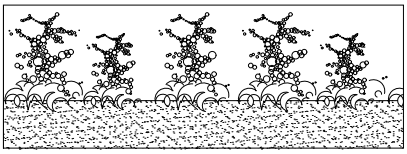
Paving on Screed



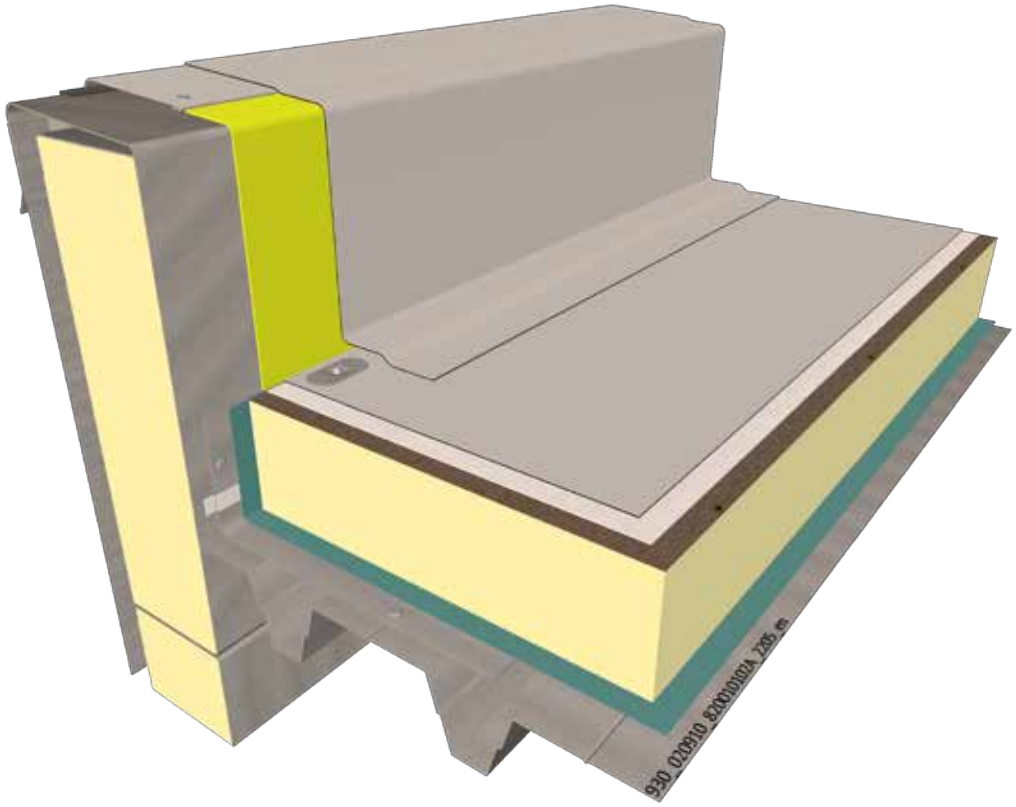
Green Roof Extensive



Green Roof Intensive



PARAPET



PLANNING INFORMATION

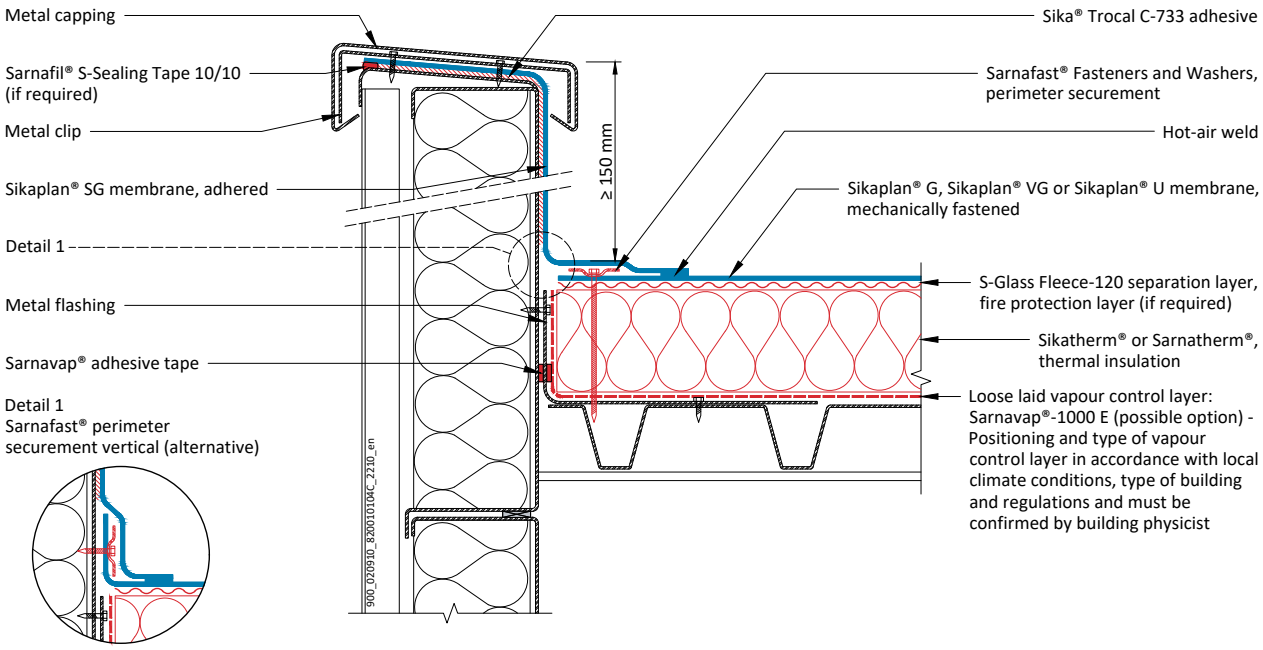
Perimeter flashings are formed using strips of Sikaplan® PVC membrane. The flashing strips are to be fully adhered with Sika® Trocal C-733 adhesive to the substrate and welded to the field sheet. The substrate must be free of ridges, and the flashing must be attached with a good adhesive bond.

A counter flashing should be installed on utility roof systems to protect the membrane.

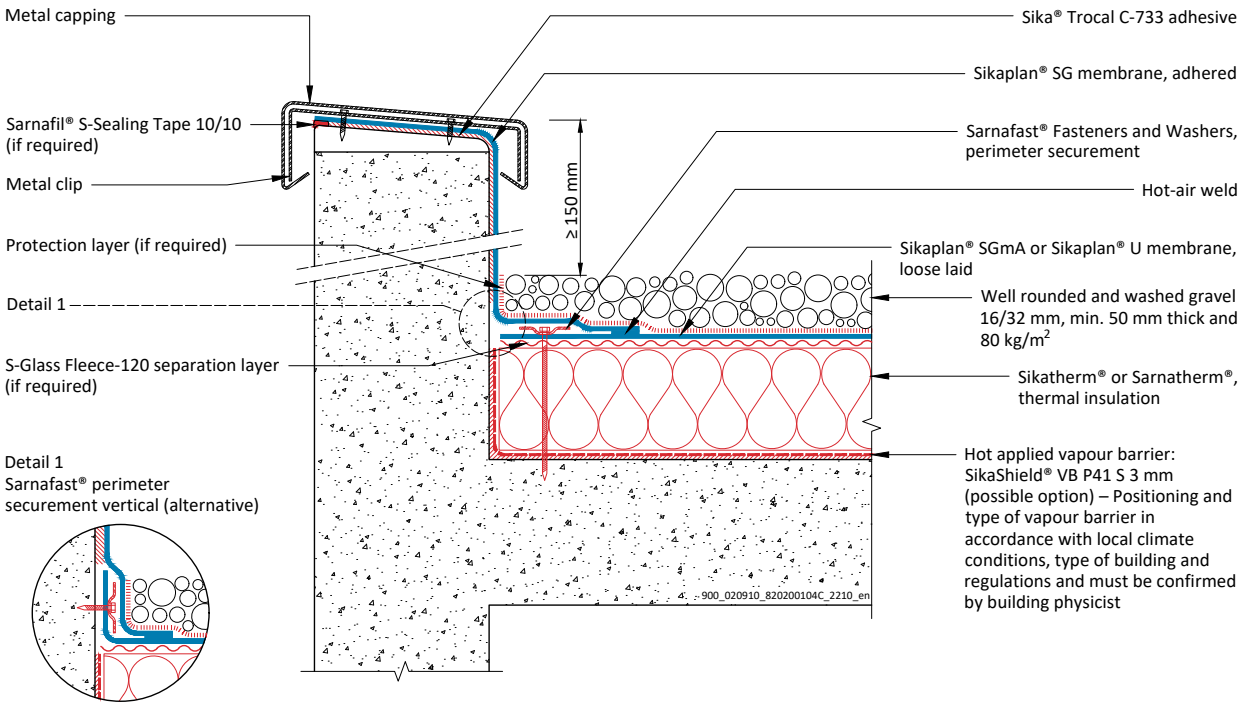
The fully adhered flashing strips will be covered with mechanically fastened metal clip and metal capping or hot welded to mechanically fastened Sikaplan® Metal PVC.

At all upstands and penetrations wider than 50 cm Sikaplan® PVC membrane must be secured with Sarnafast® either to the horizontal or vertical surface.

001.01.04 - Metal Capping - Adhered on Metal Parapet Element - Mechanically Fastened Roof System

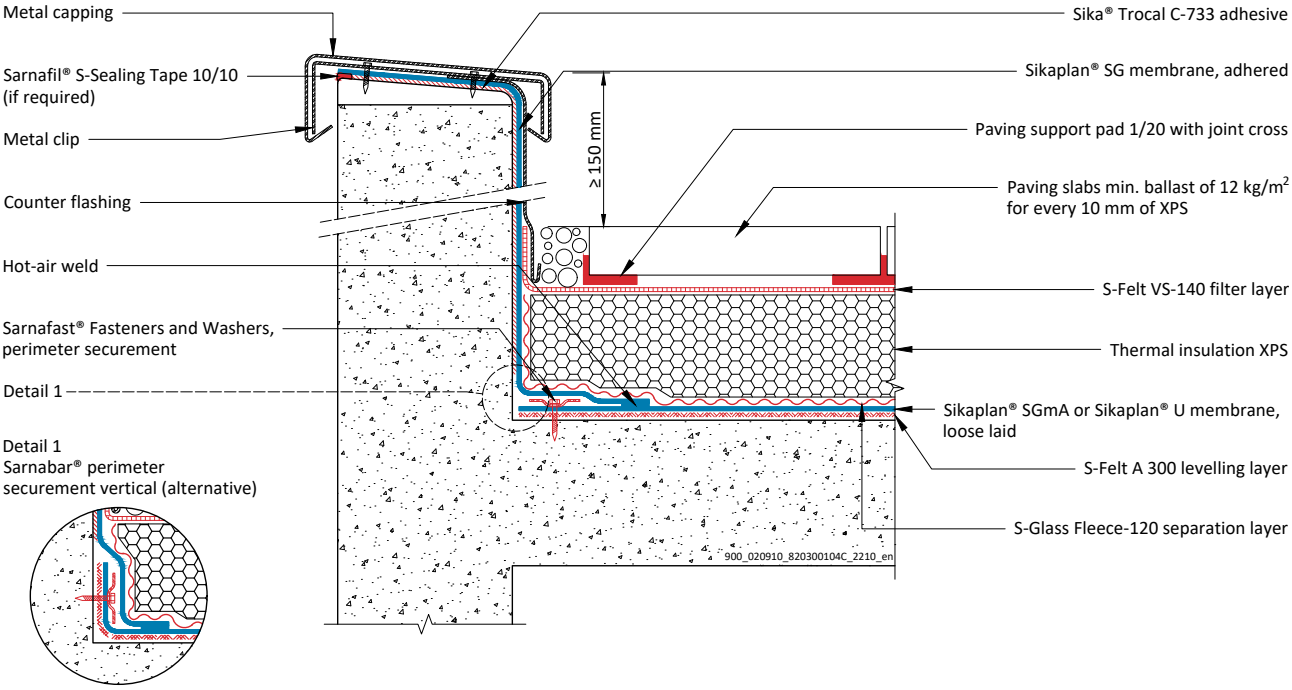


020.01.04 - Metal Capping - Adhered on Concrete Parapet - Gravel Ballasted Roof System

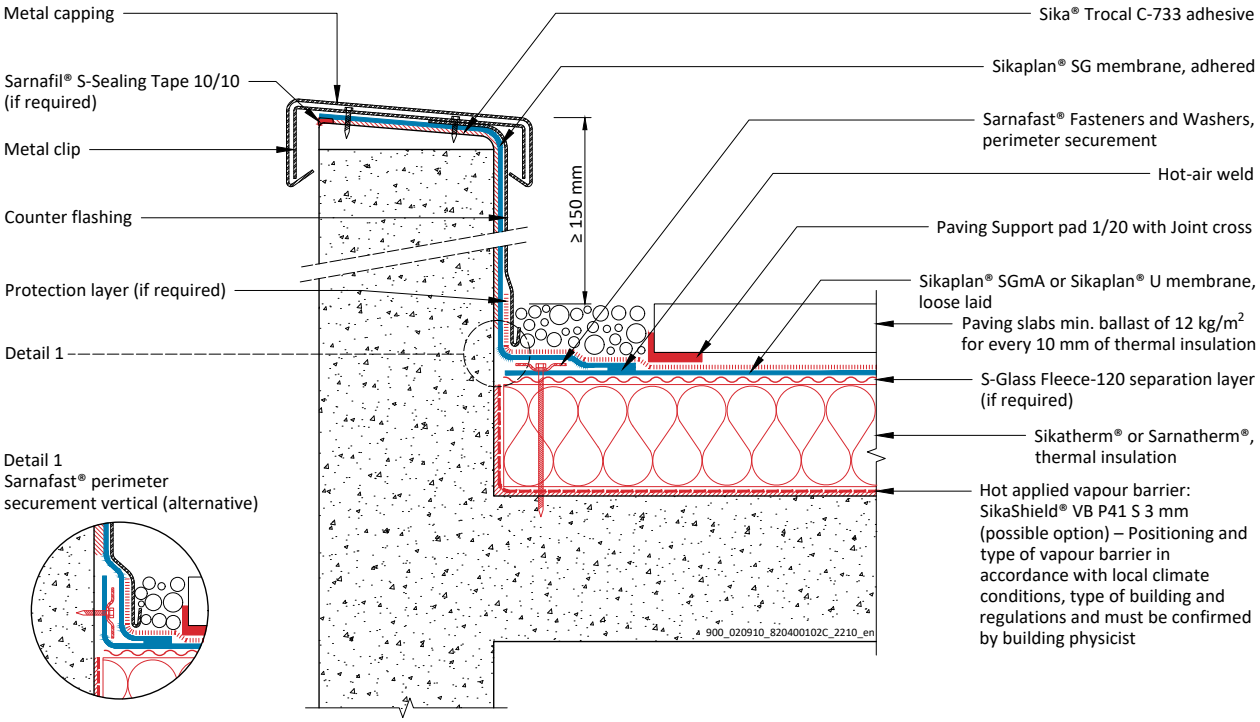


PARAPET

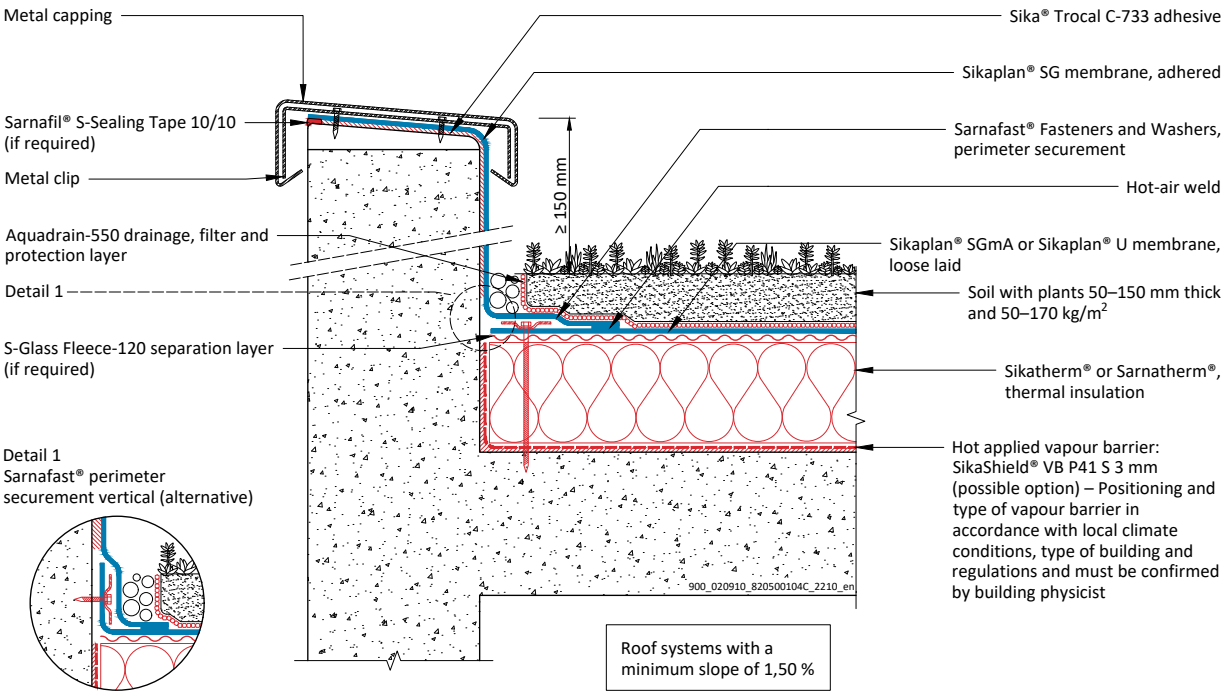
030.01.04 – Metal Capping – Adhered on Concrete Parapet – Inverted Roof System



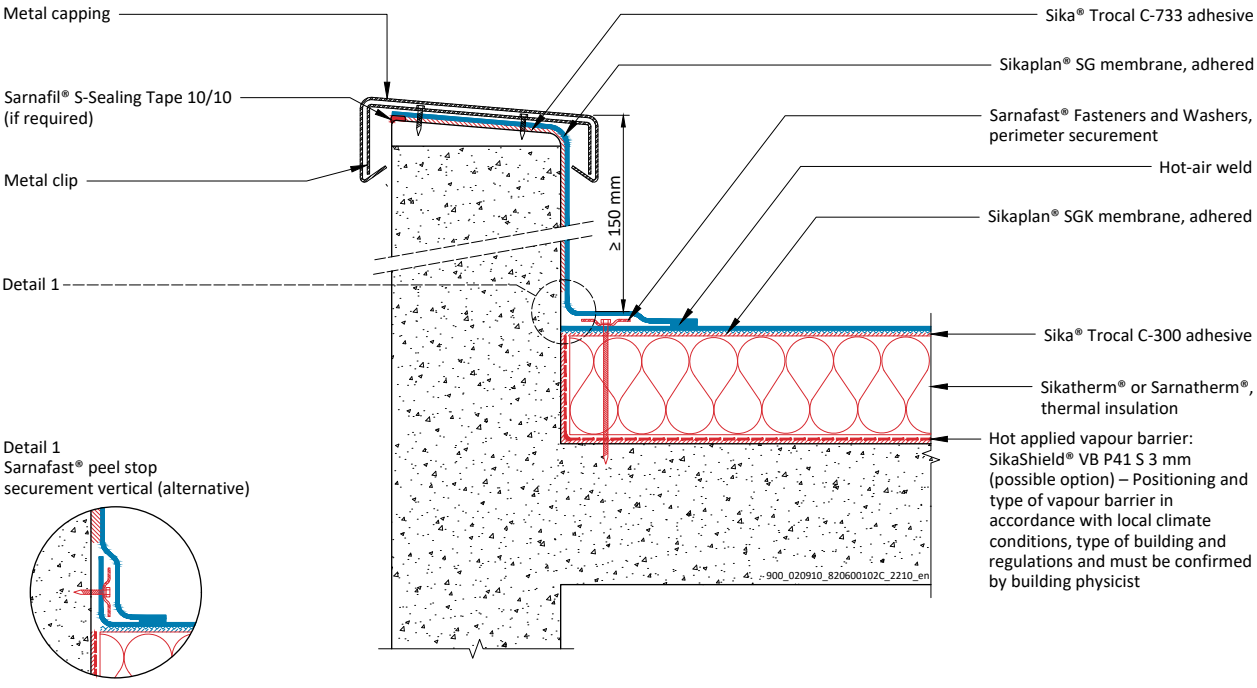
040.01.02 – Metal Capping – Adhered on Concrete Parapet – Utility Roof System



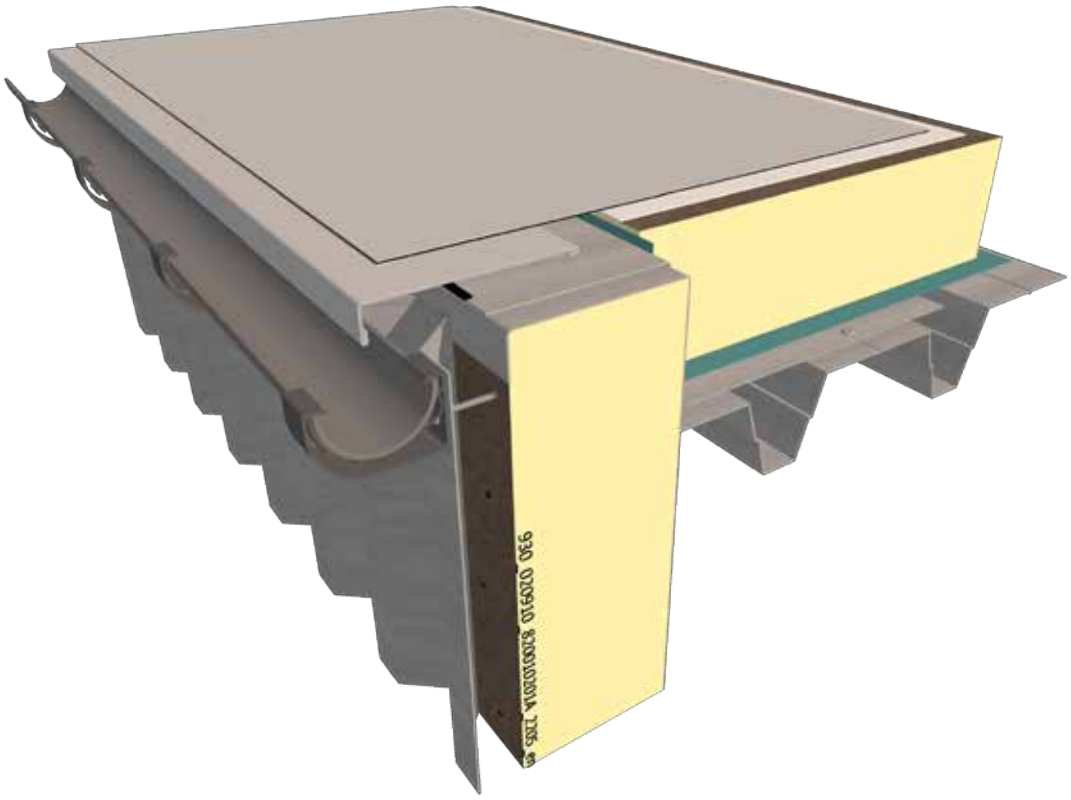
050.01.04 – Metal Capping – Adhered on Concrete Parapet – Green Roof System (Extensive / Intensive)



060.01.02 - Metal Capping - Adhered on Concrete Parapet - Adhered Roof System



ROOF EDGE TERMINATION WITH GUTTER

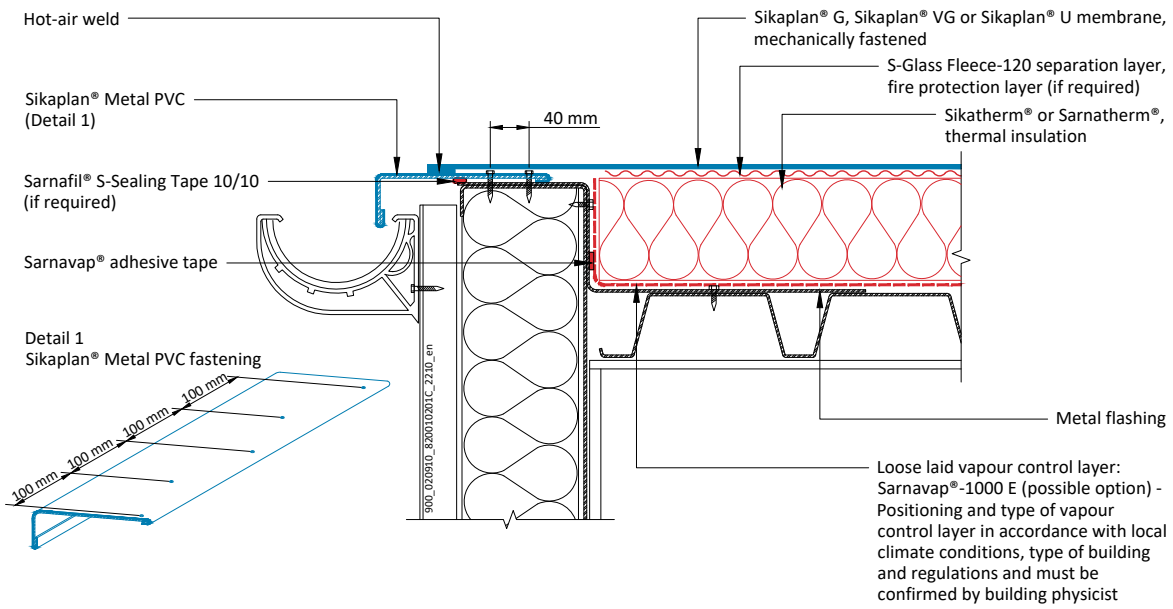


PLANNING INFORMATION

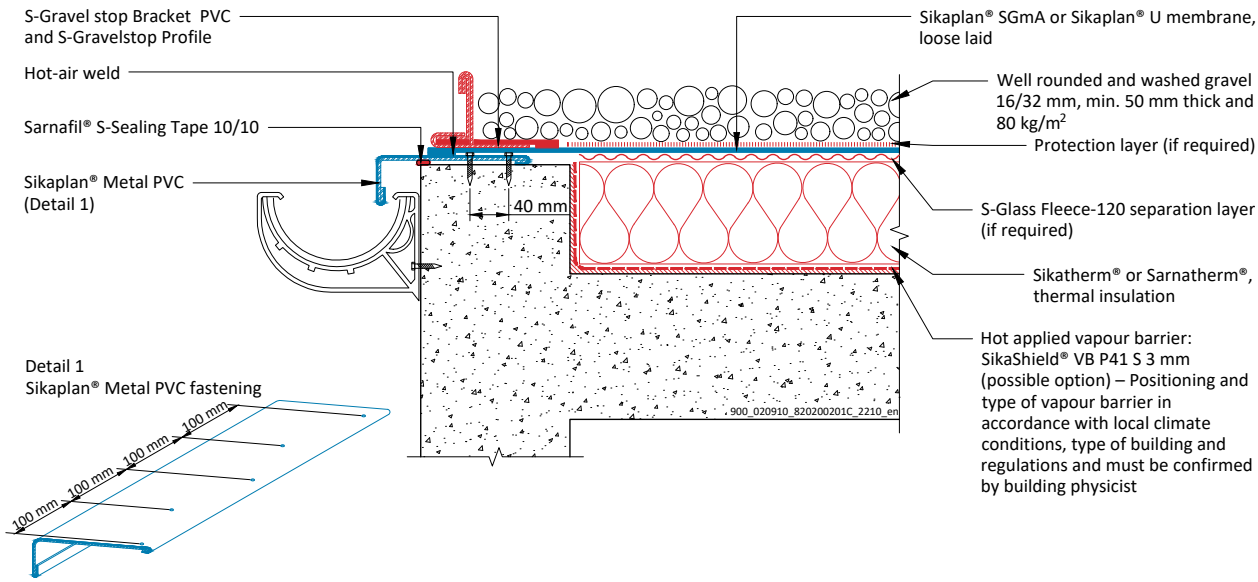
Mechanically fastened, or loosely laid Sikaplan® PVC roof waterproofing membrane hot welded to mechanically fastened Sikaplan® Metal PVC.

S-Gravelstop Bracket PVC and S-Gravelstop Profile to be installed in combination with ballasted roof systems.

001.02.01 – Mechanically Fastened Roof System

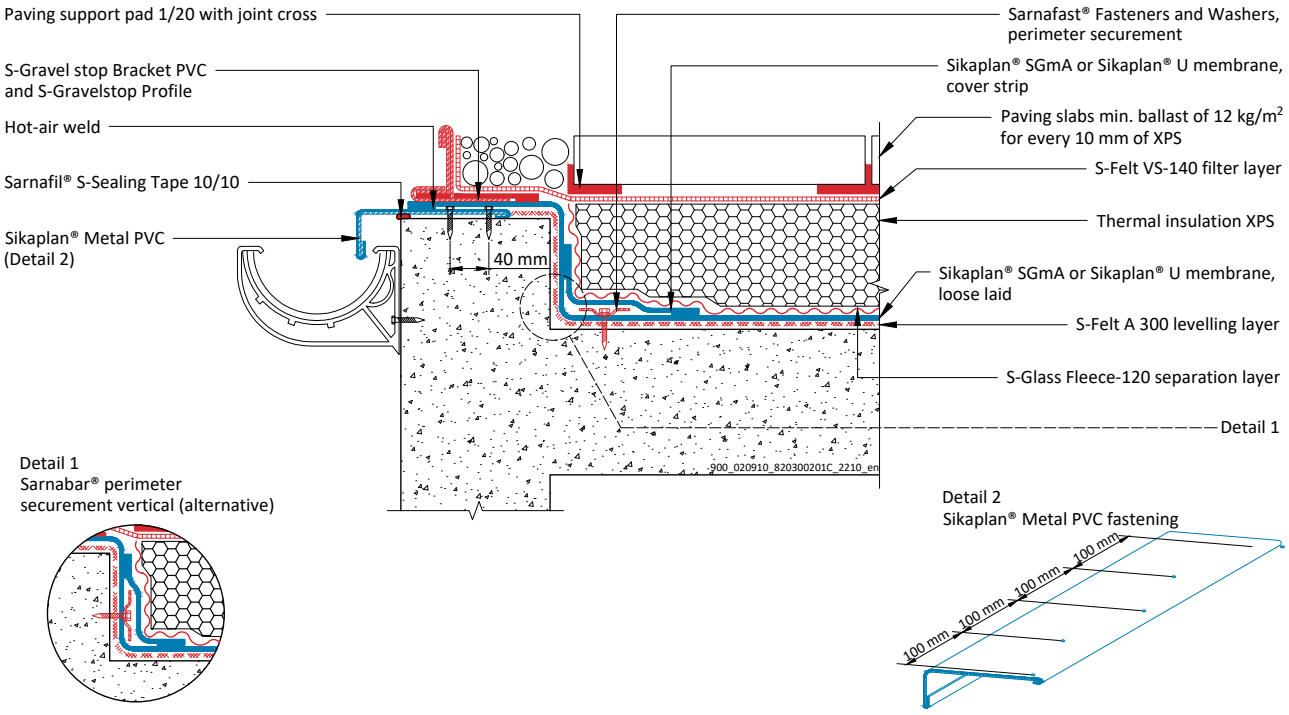


020.02.01 – Gravel Ballasted Roof System



ROOF EDGE TERMINATION WITH GUTTER

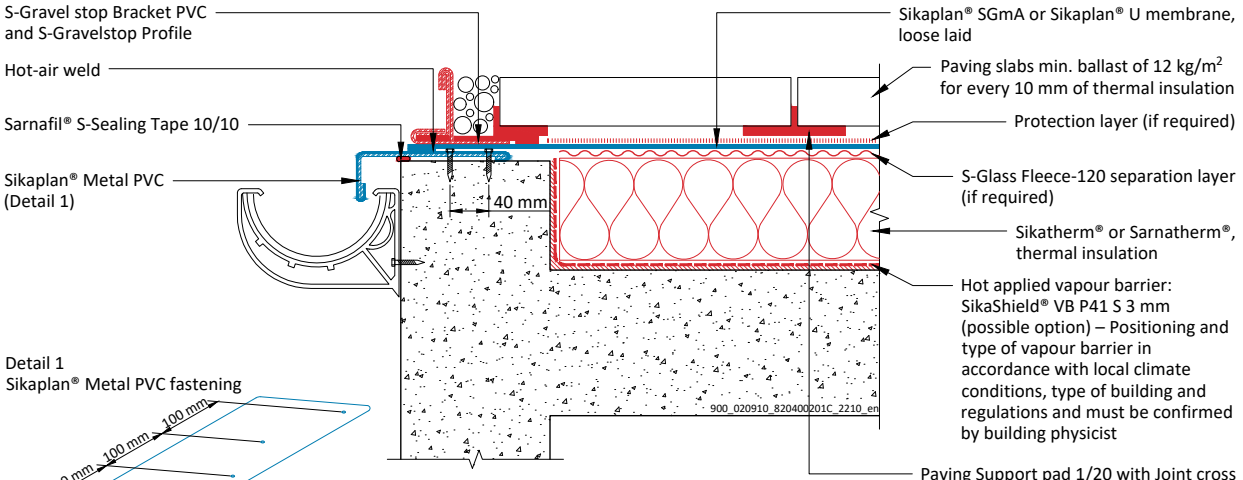
030.02.01 – Inverted Roof System



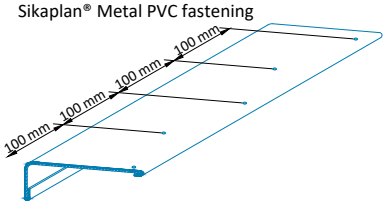
Detail 1
Sarnabar® perimeter securement vertical (alternative)

Detail 2
Sikaplan® Metal PVC fastening

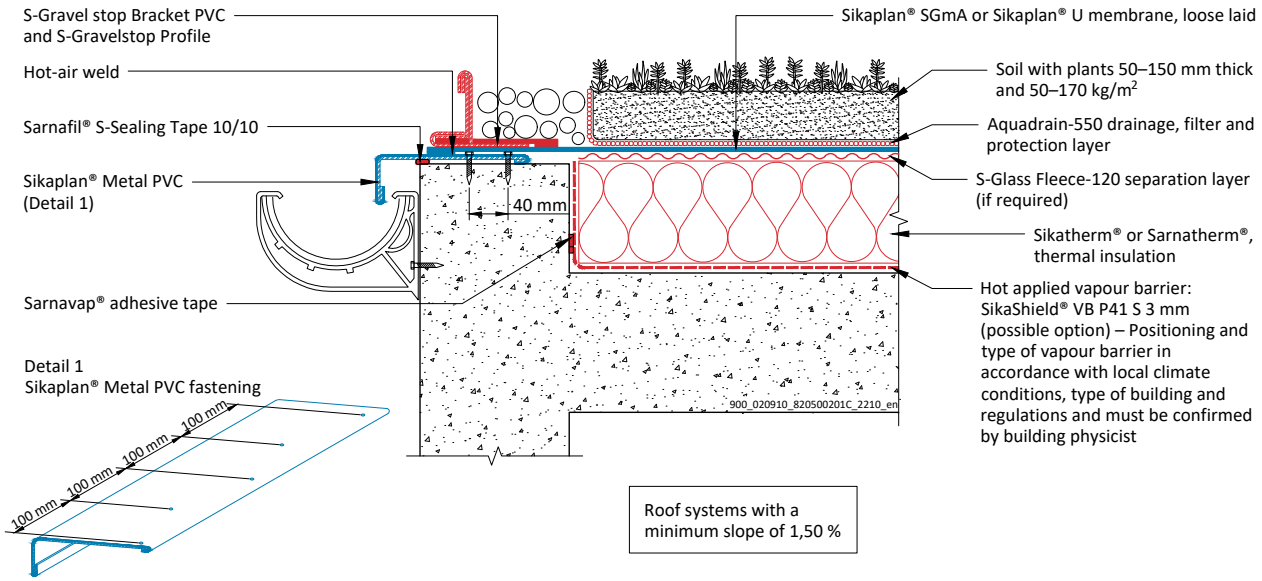
040.02.01 – Utility Roof System



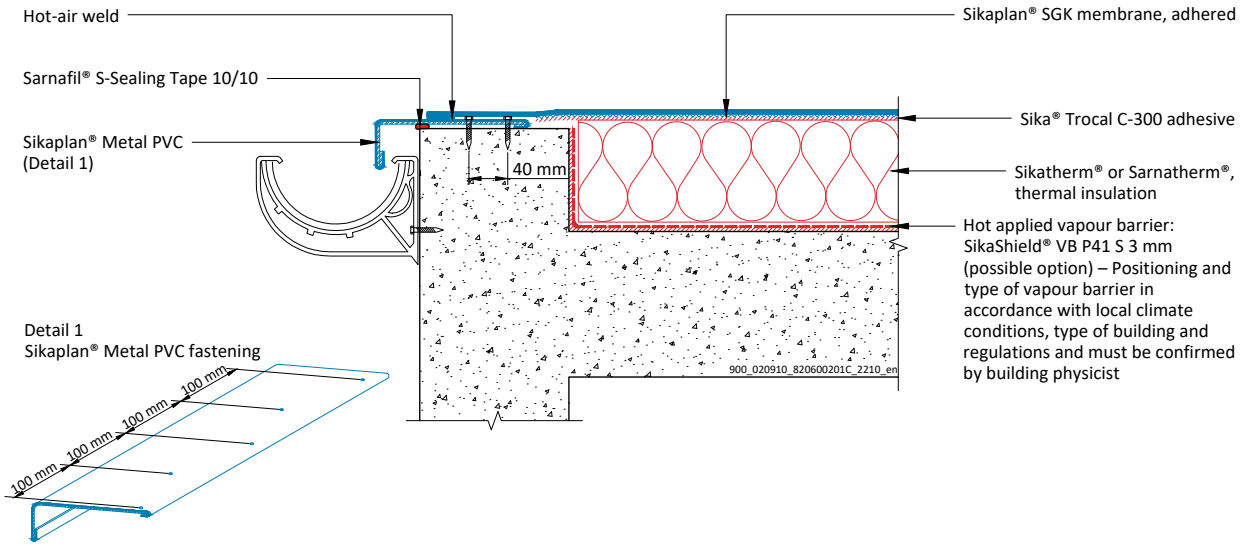
Detail 1
Sikaplan® Metal PVC fastening



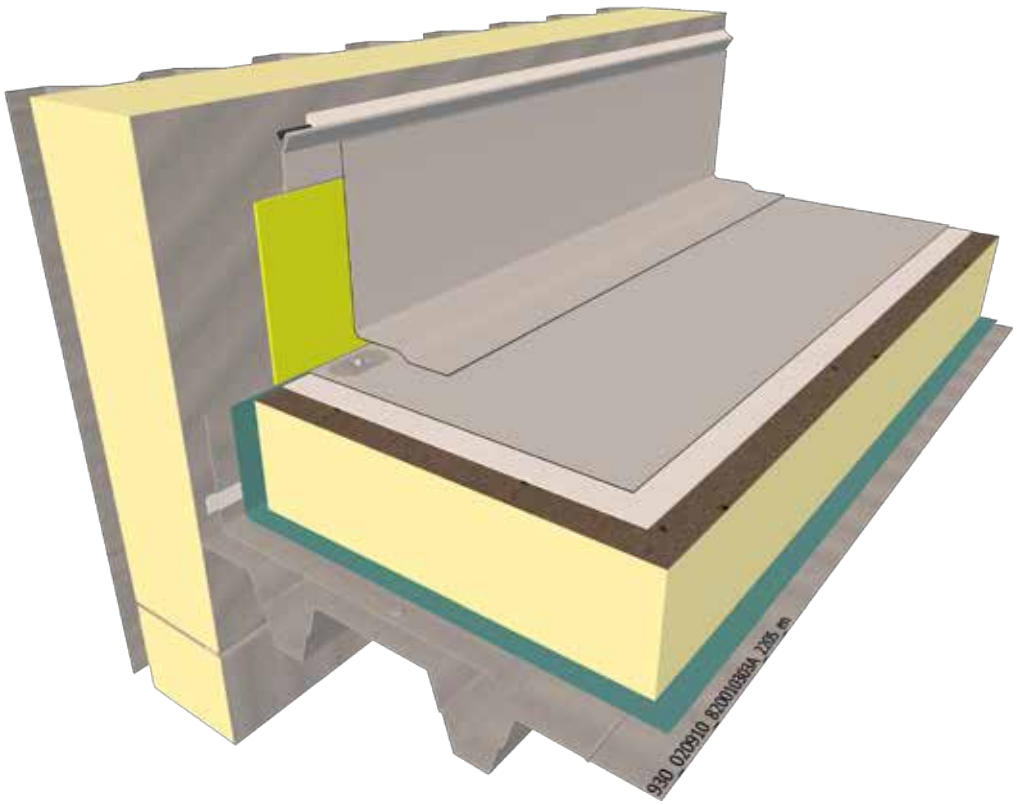
050.02.01 – Green Roof System (Extensive / Intensive)



060.02.01 - Adhered Roof System



UPSTAND



PLANNING INFORMATION

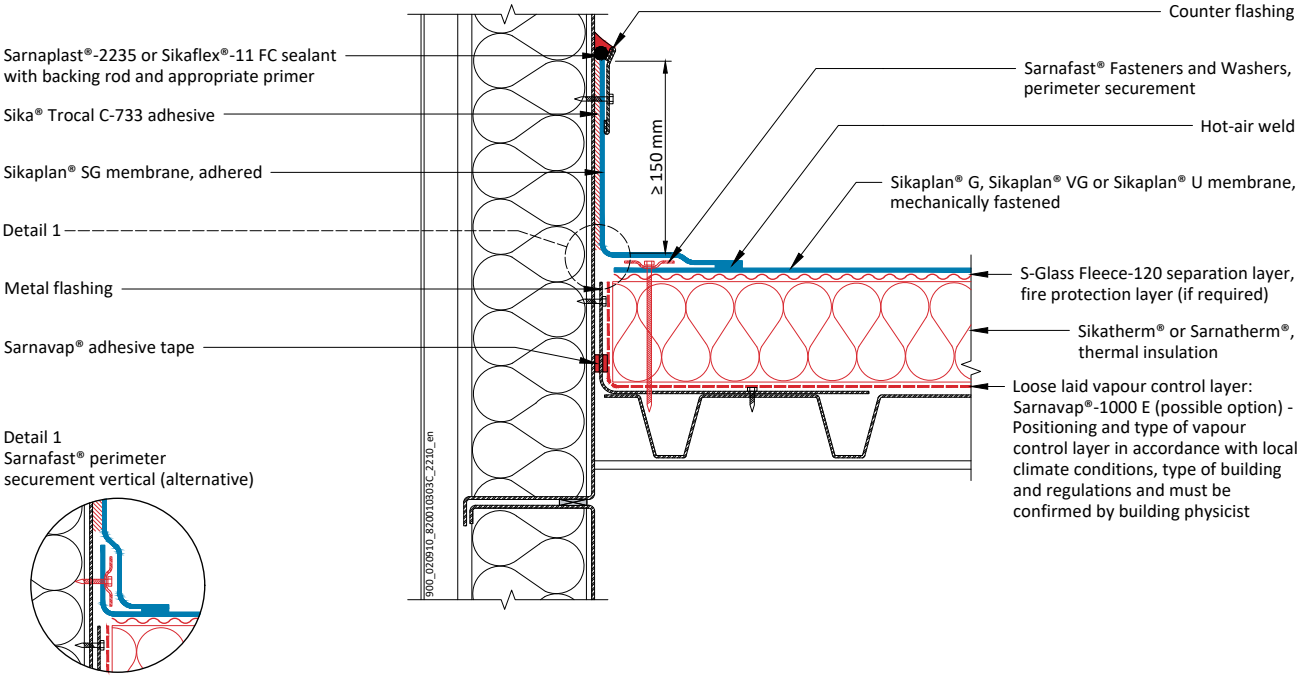
Perimeter flashings are formed using strips of Sikaplan® PVC membrane. The flashing strips are to be fully adhered with Sika® Trocal C-733 adhesive to the substrate and welded to the field sheet. The substrate must be free of ridges, and the flashing must be attached with a good adhesive bond.

A counter flashing should be installed on utility roof systems to protect the membrane.

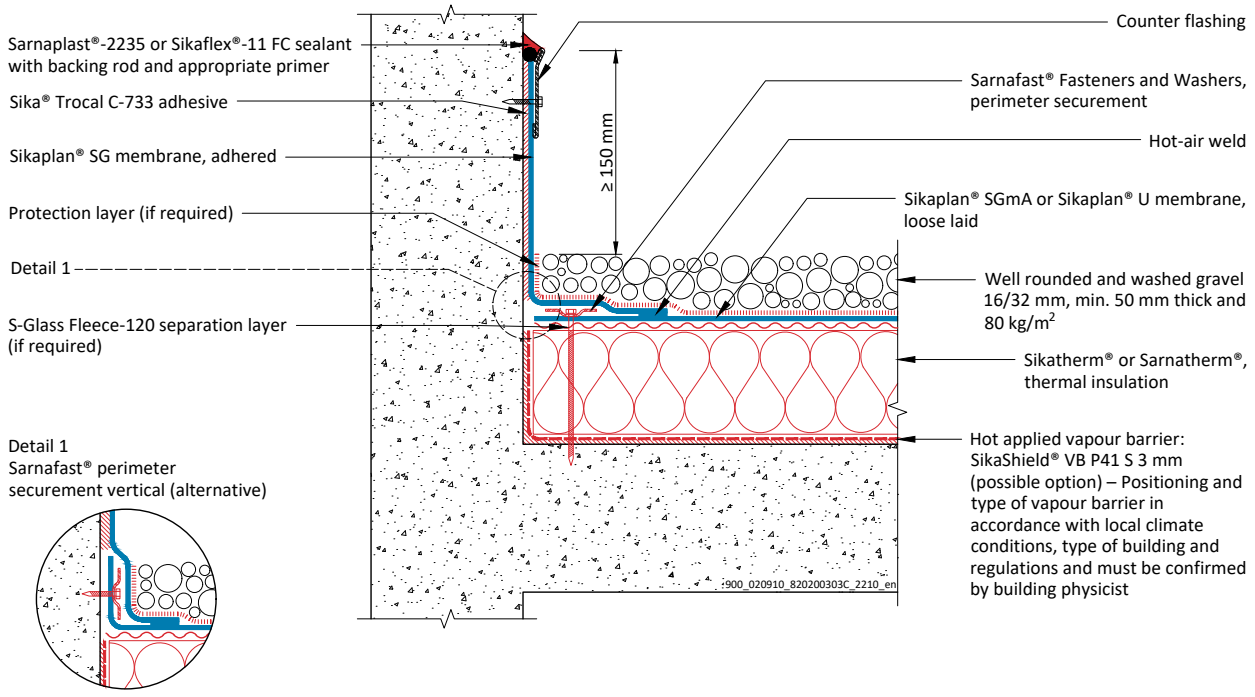
The fully adhered flashing strips can be either hot welded to mechanically fastened Sikaplan® PVC Metal Sheet or to be covered with mechanically fastened counter flashing. Top end of Sikaplan® PVC Metal Sheet or counter flashing to be sealed, using Sarnaplast®-2235 or Sikaflex®-11 FC.

At all upstands and penetrations wider than 50 cm Sikaplan® PVC membrane must be secured with Sarnafast® either to the horizontal or vertical surface.

001.03.03 - Counter Flashing - Adhered on Metal Wall Element - Mechanically Fastened Roof System

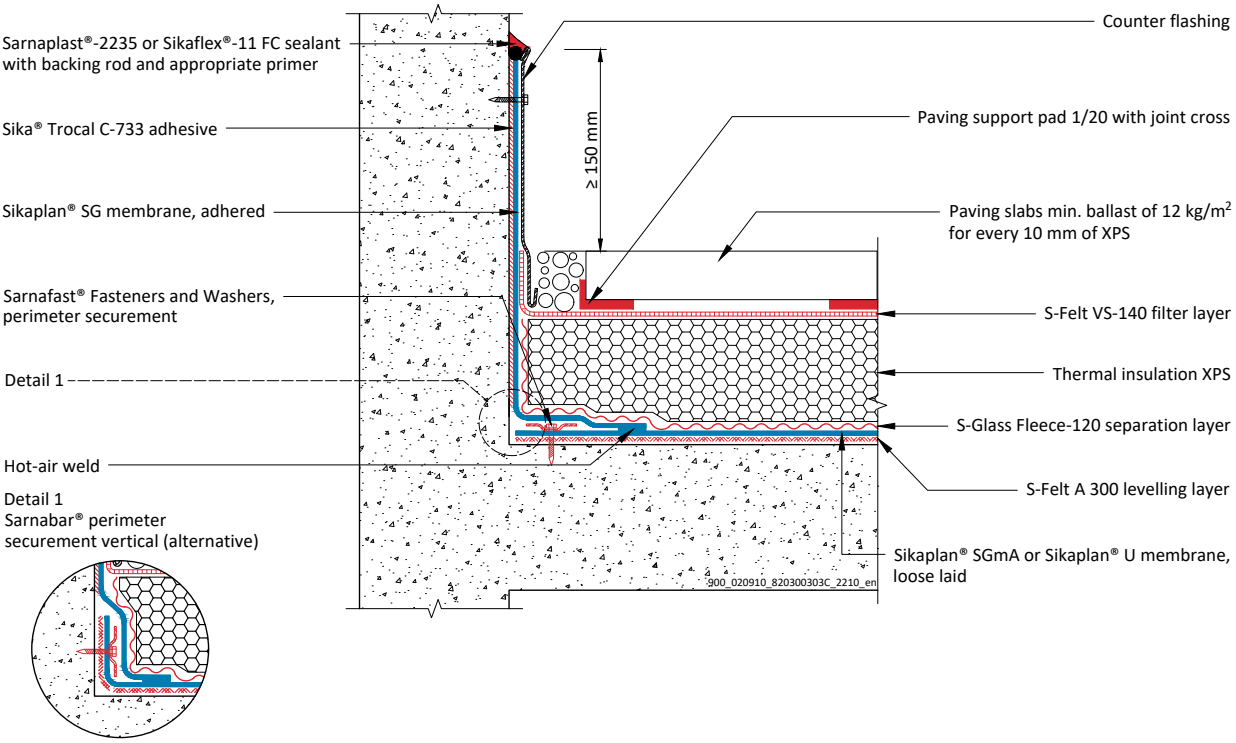


020.03.03 - Counter Flashing Adhered on Concrete Wall - Gravel Ballasted Roof System

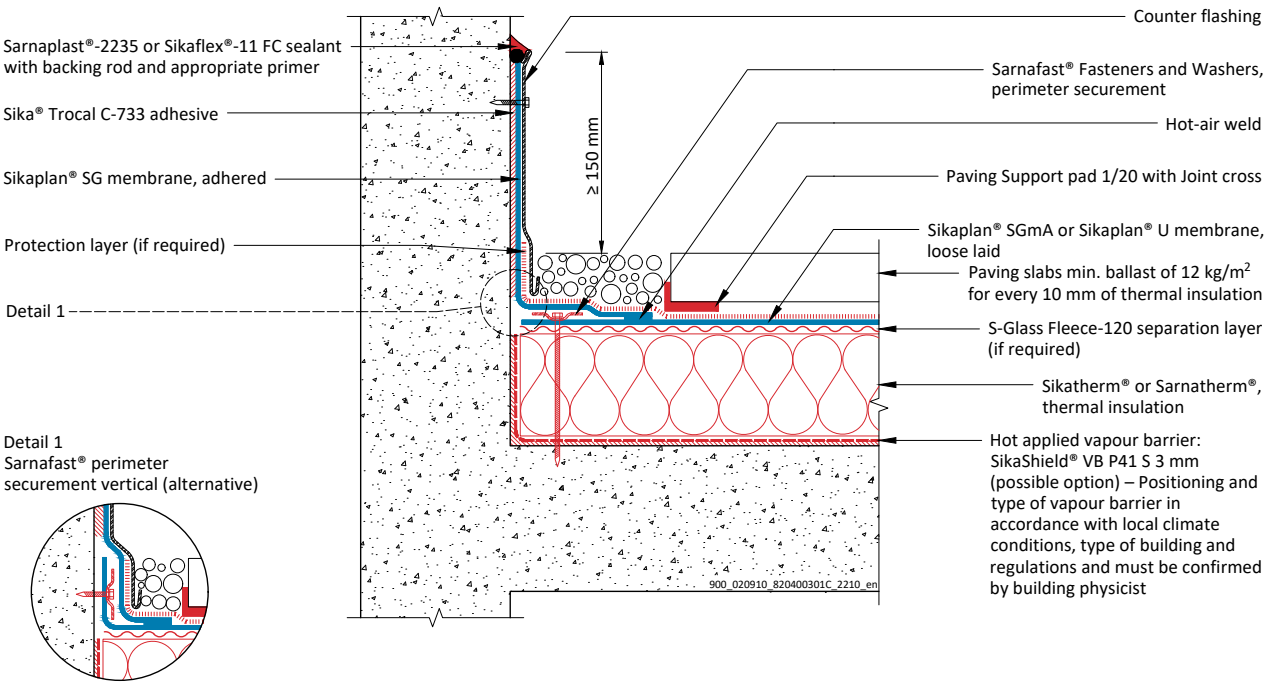


UPSTAND

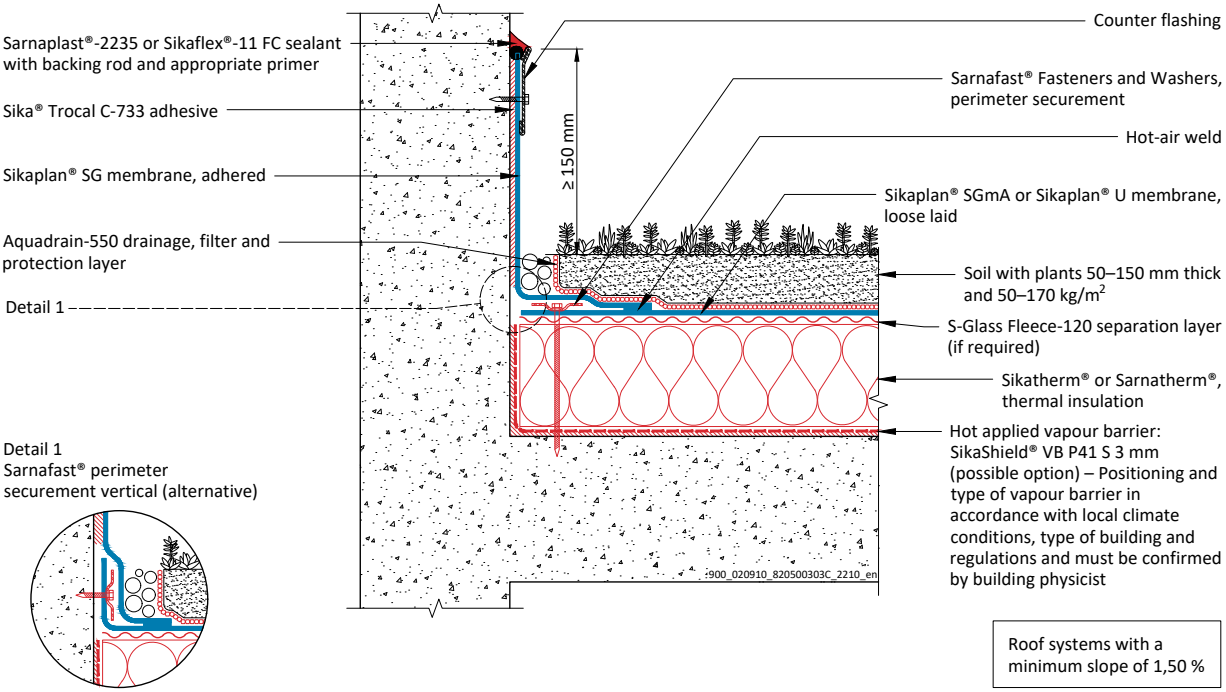
030.03.03 – Counter Flashing – Adhered on Concrete Wall – Inverted Roof System



040.03.01 – Counter Flashing – Adhered on Concrete Wall – Utility Roof System



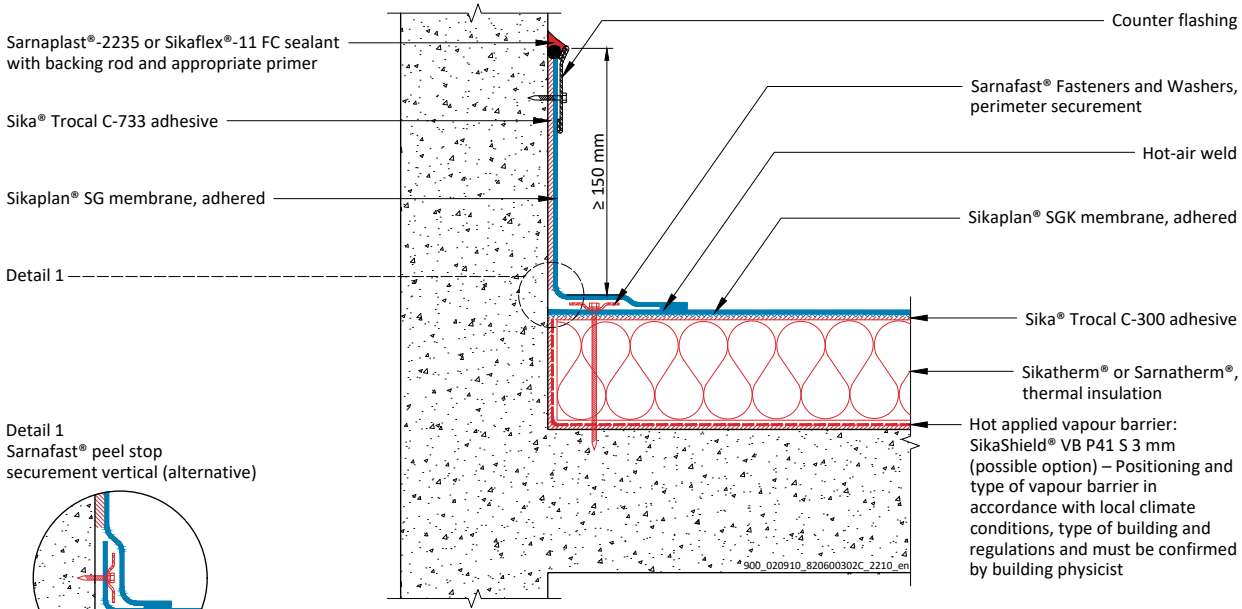
050.03.03 – Counter Flashing – Adhered on Concrete Wall – Green Roof System (Extensive / Intensive)



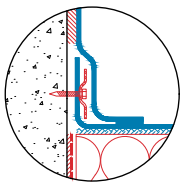
Detail 1
Sarnafast® perimeter securement vertical (alternative)

Roof systems with a minimum slope of 1,50 %

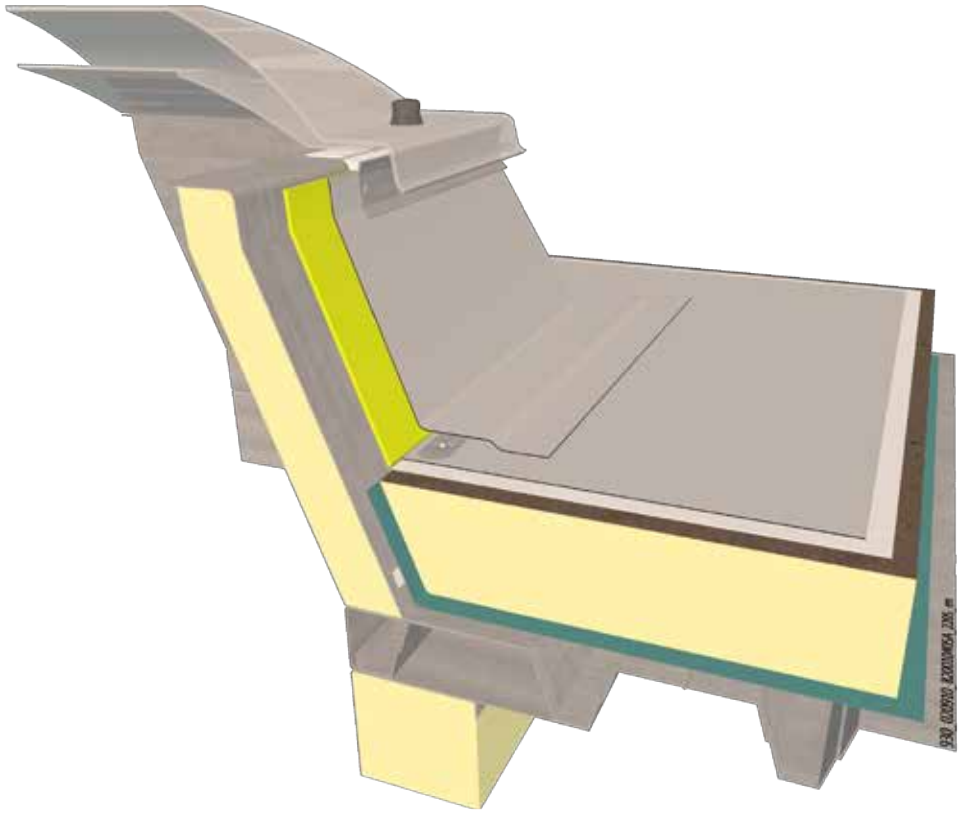
060.03.02 - Counter Flashing - Adhered on Concrete Wall - Adhered Roof System



Detail 1
Sarnafast® peel stop securement vertical (alternative)



SKYLIGHT



PLANNING INFORMATION

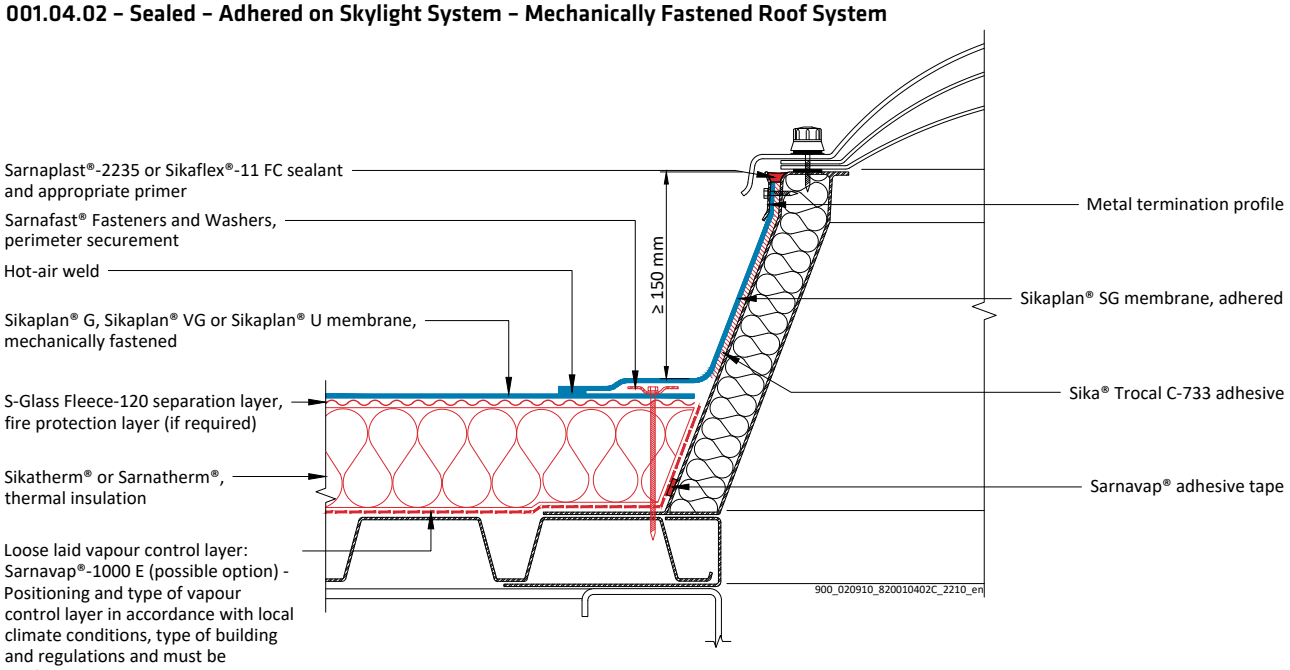
Skylight flashings are formed using strips of Sikaplan® PVC membrane. The flashing strips are to be fully adhered with Sika® Trocal C-733 adhesive to the substrate and welded to the field sheet. The substrate must be free of ridges, and the flashing must be attached with a good adhesive bond.

A counter flashing should be installed on utility roof systems to protect the membrane.

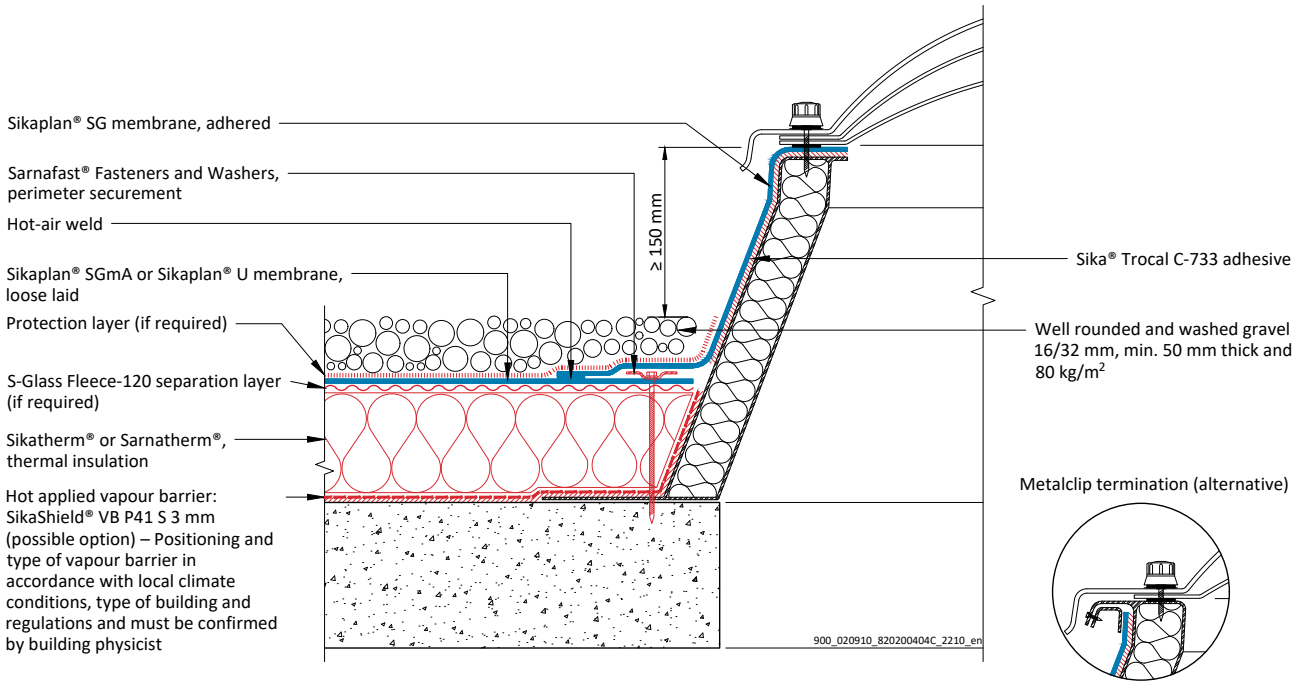
The fully adhered flashing strips to be covered with mechanically fastened metal termination profile. Top end of profile to be sealed, using Sarnaplast®-2235 or Sikaflex®-11 FC.

At all upstands and penetrations wider than 50 cm Sikaplan® PVC membrane must be secured with Sarnafast® either to the horizontal or vertical surface.

001.04.02 – Sealed – Adhered on Skylight System – Mechanically Fastened Roof System

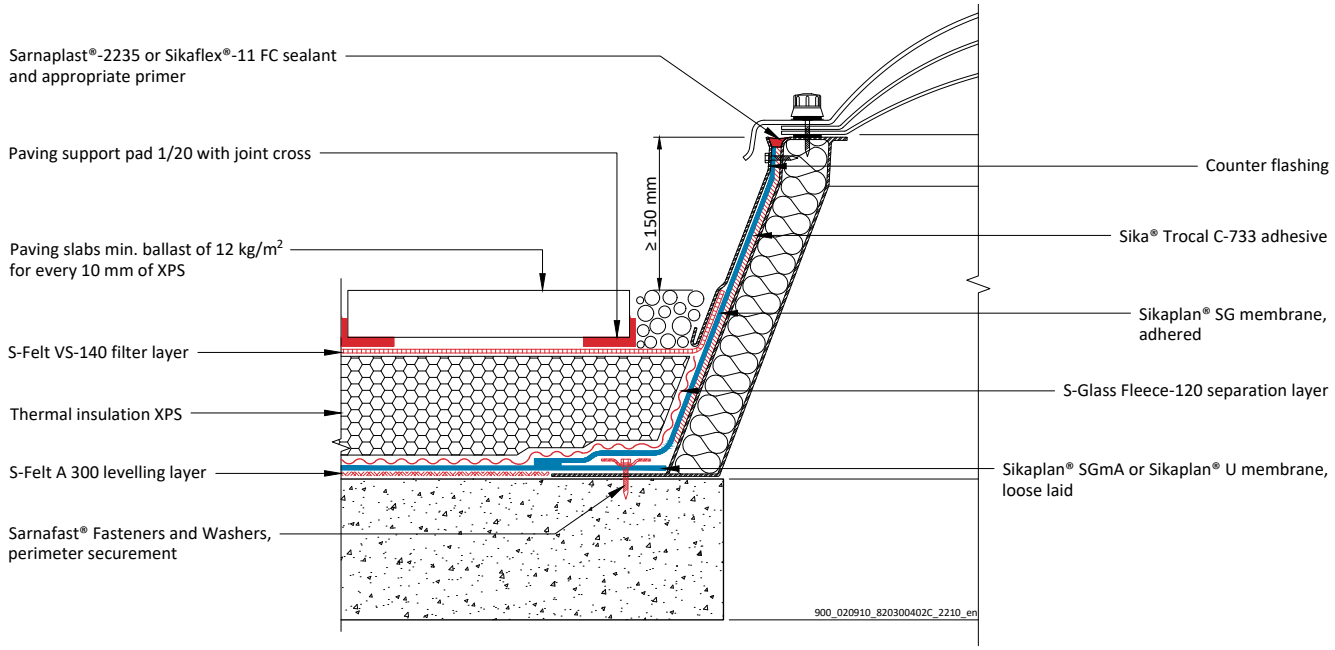


020.04.04 - Clamped - Adhered on Skylight System - Gravel Ballasted Roof System

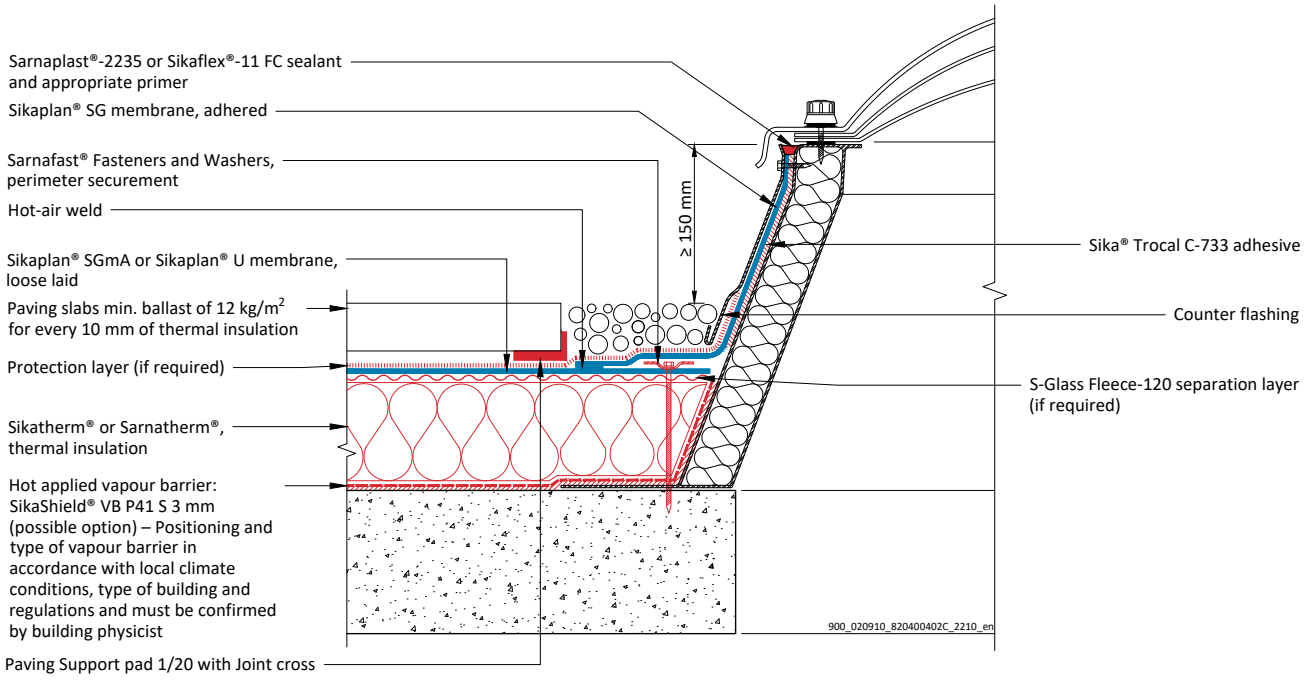


SKYLIGHT

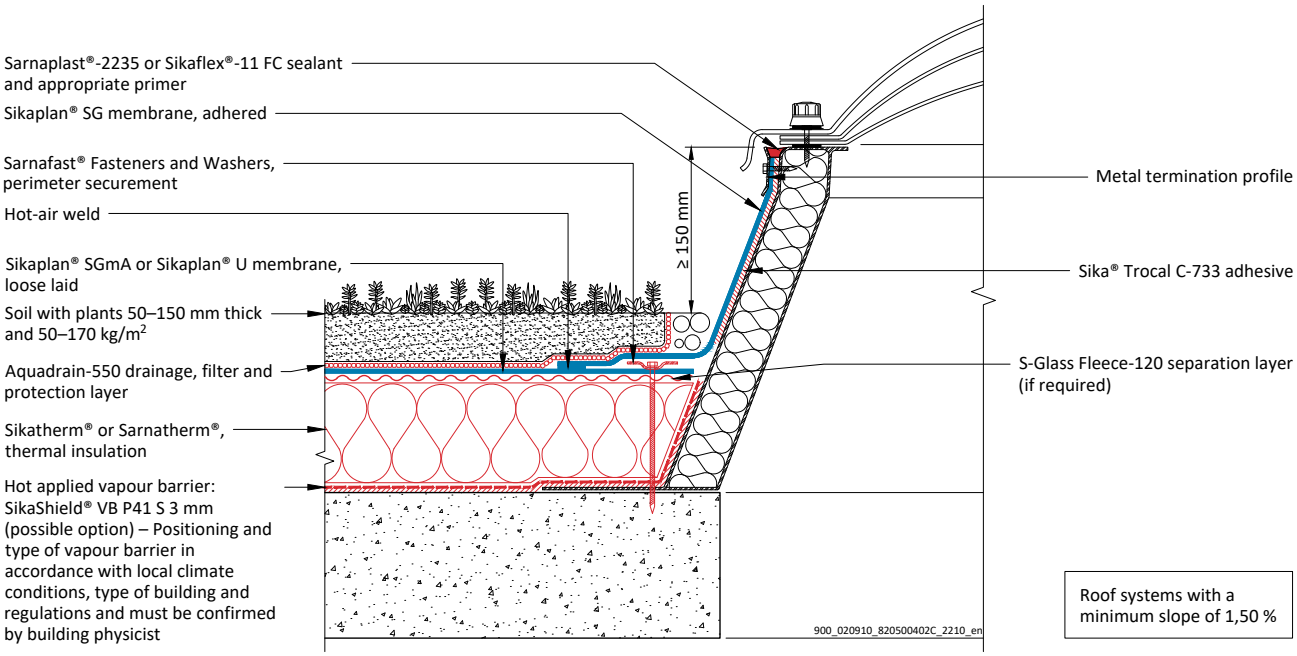
030.04.02 – Sealed – Adhered on Skylight System – Inverted Roof System



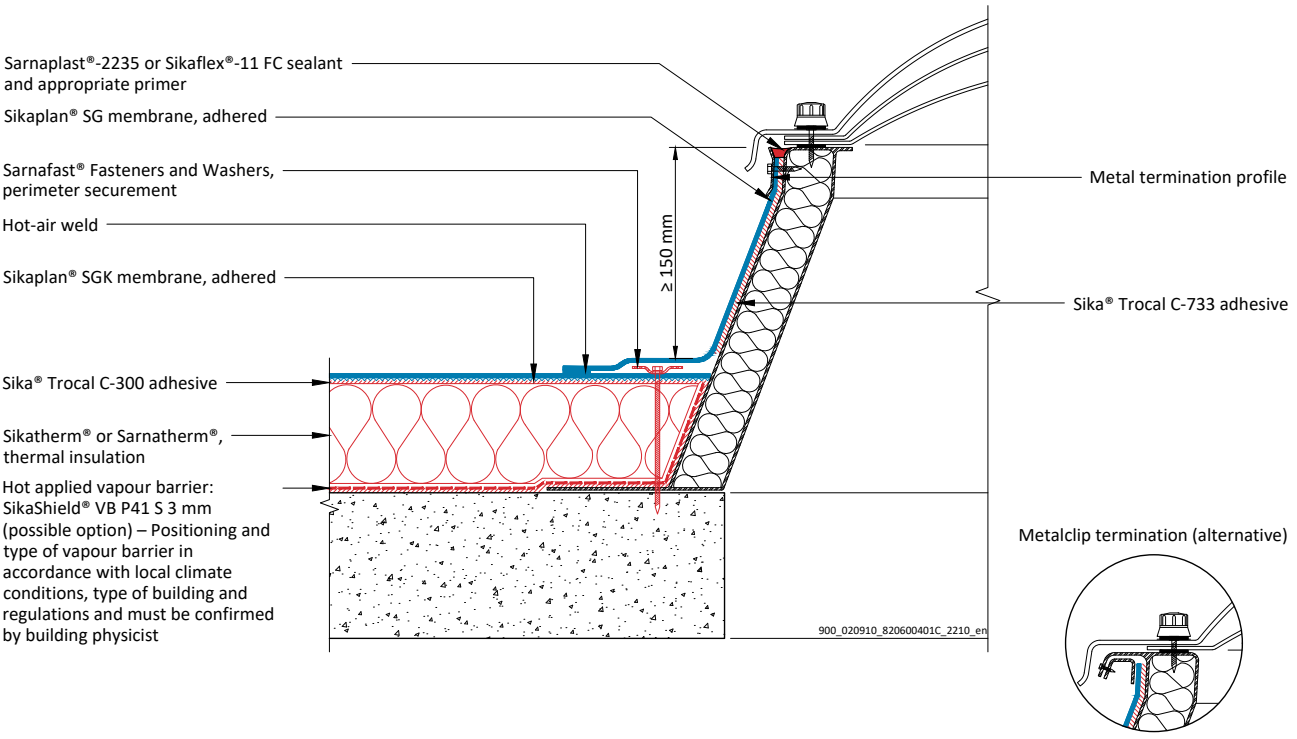
040.04.02 – Sealed – Adhered on Skylight System – Utility Roof System



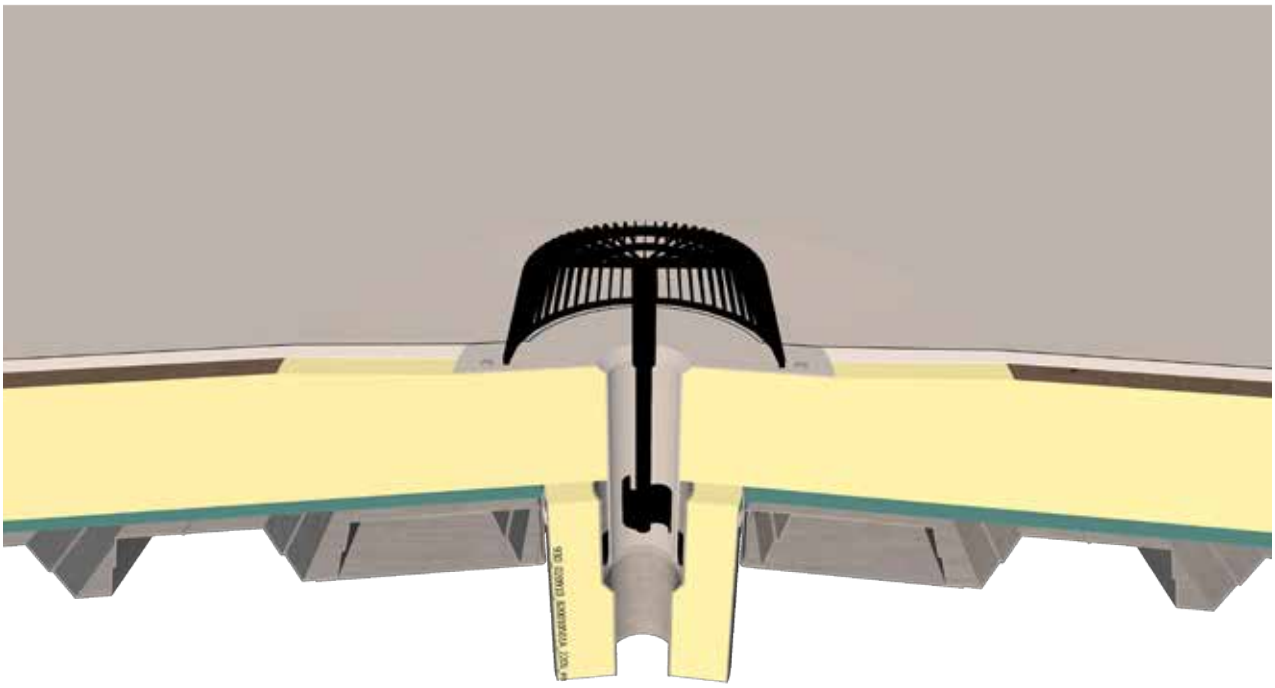
050.04.02 – Sealed – Adhered on Skylight System – Green Roof System (Extensive / Intensive)



060.04.01 - Sealed - Adhered on Skylight System - Adhered Roof System



ROOF DRAIN (OUTLET)

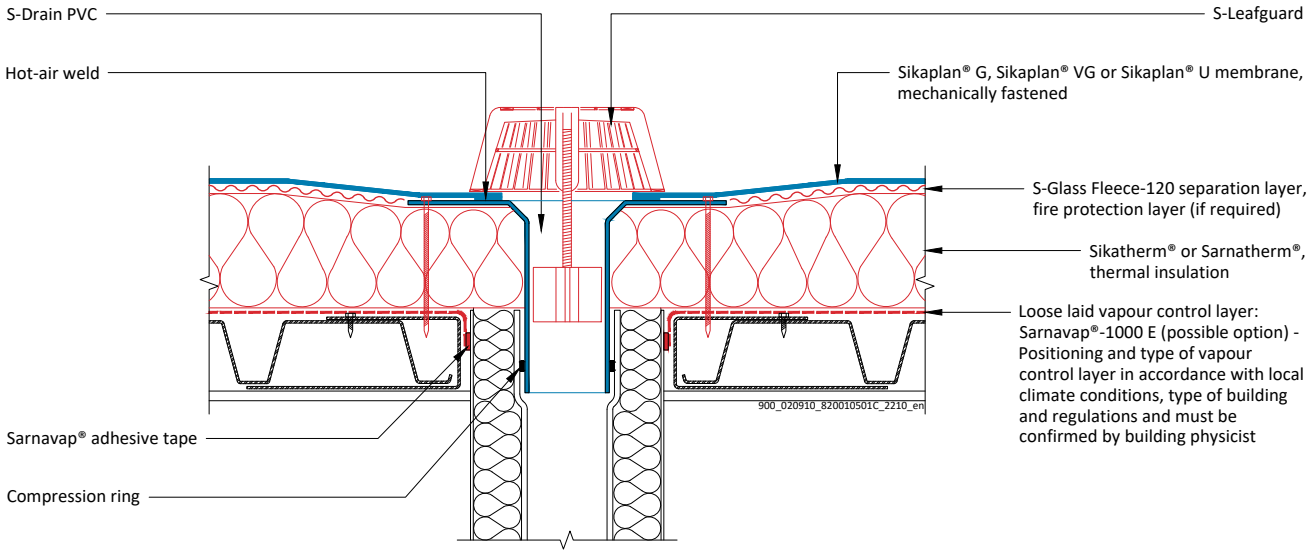


PLANNING INFORMATION

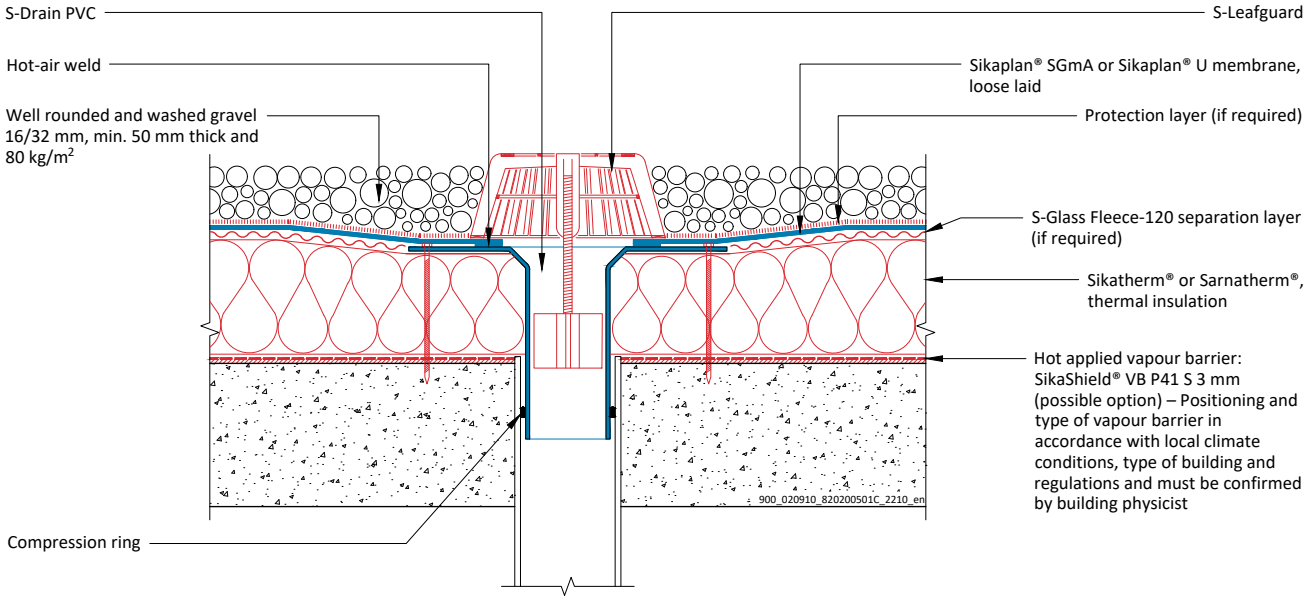
Prefabricated S-Drain PVC to be mechanically fastened to surface.
Mechanically fastened, loose laid or adhered Sikaplan® PVC membrane hot welded to S-Drain PVC.

The S-Leafguard and Gravel Frame with adjustable put on frame and perforated strainer serve as protection against infiltration of gravel and leaves into the S-Drain PVC.

001.05.01 – Mechanically Fastened Roof System

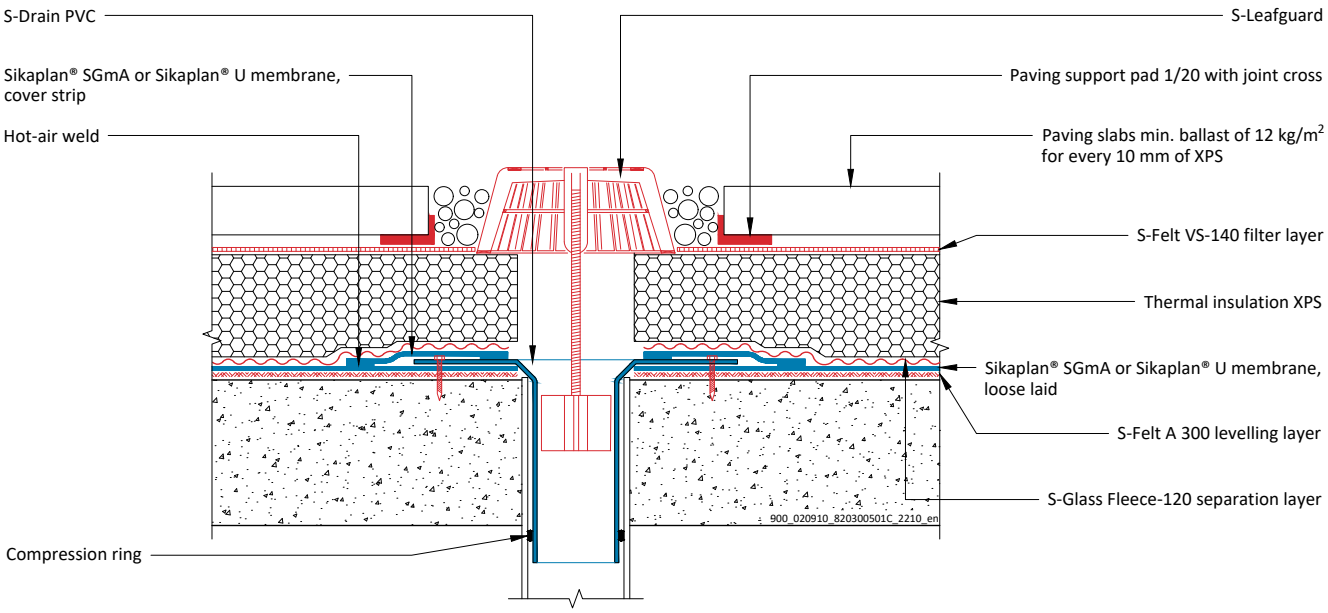


020.05.01 – Gravel Ballasted Roof System

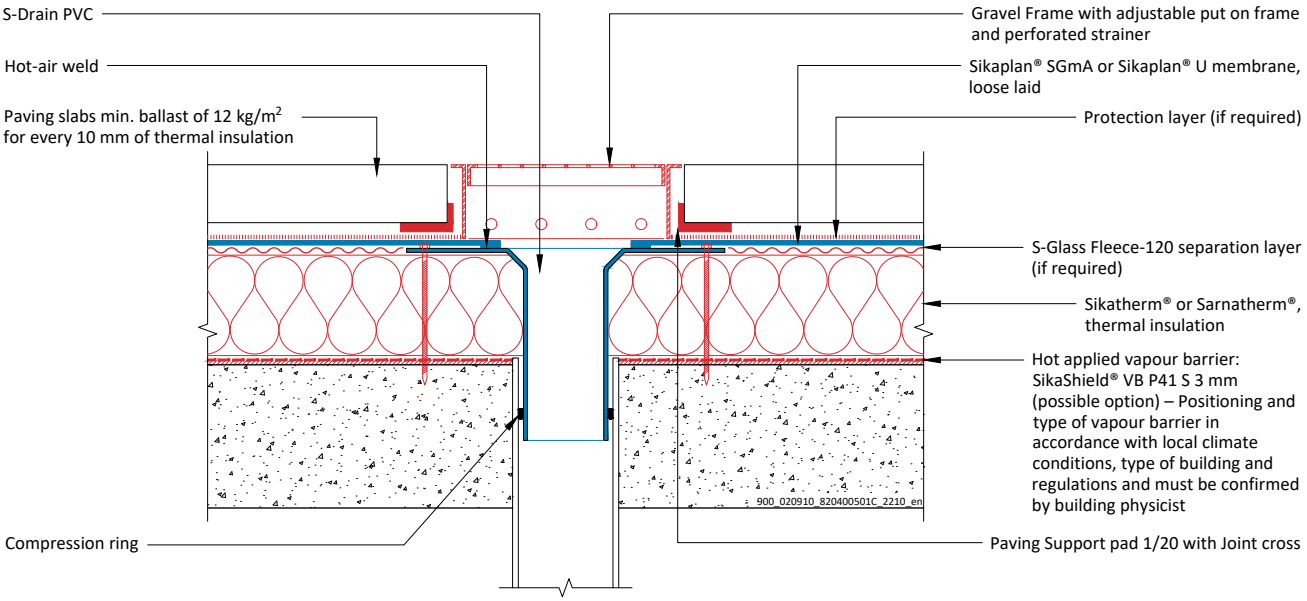


ROOF DRAIN (OUTLET)

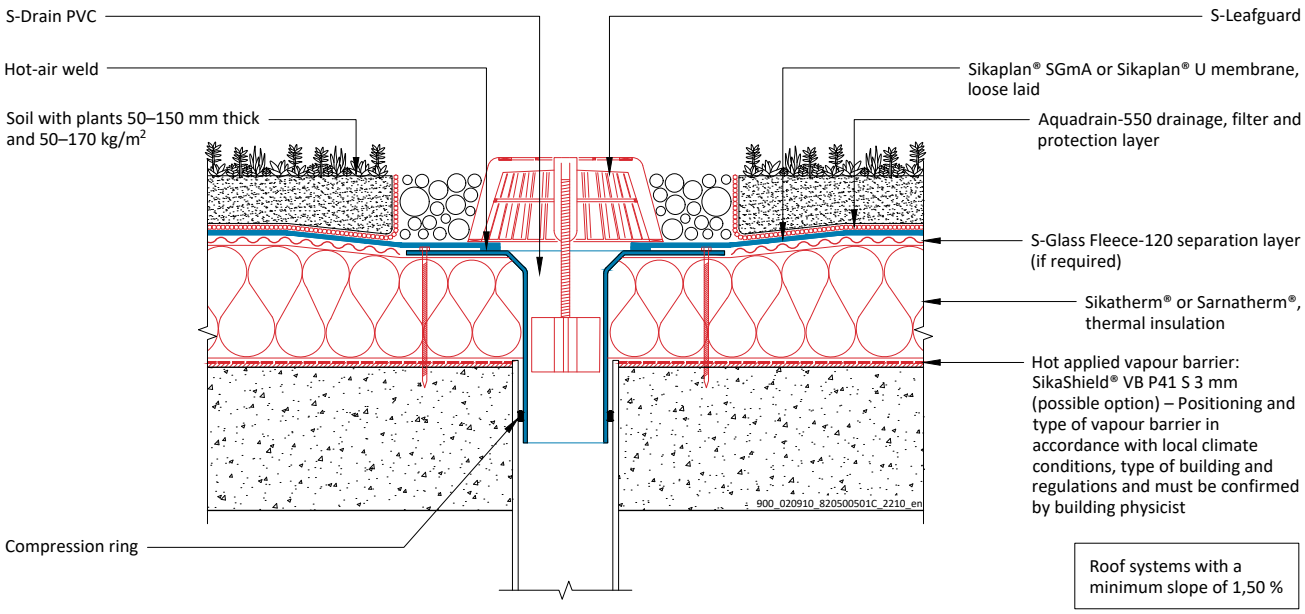
030.05.01 – Inverted Roof System



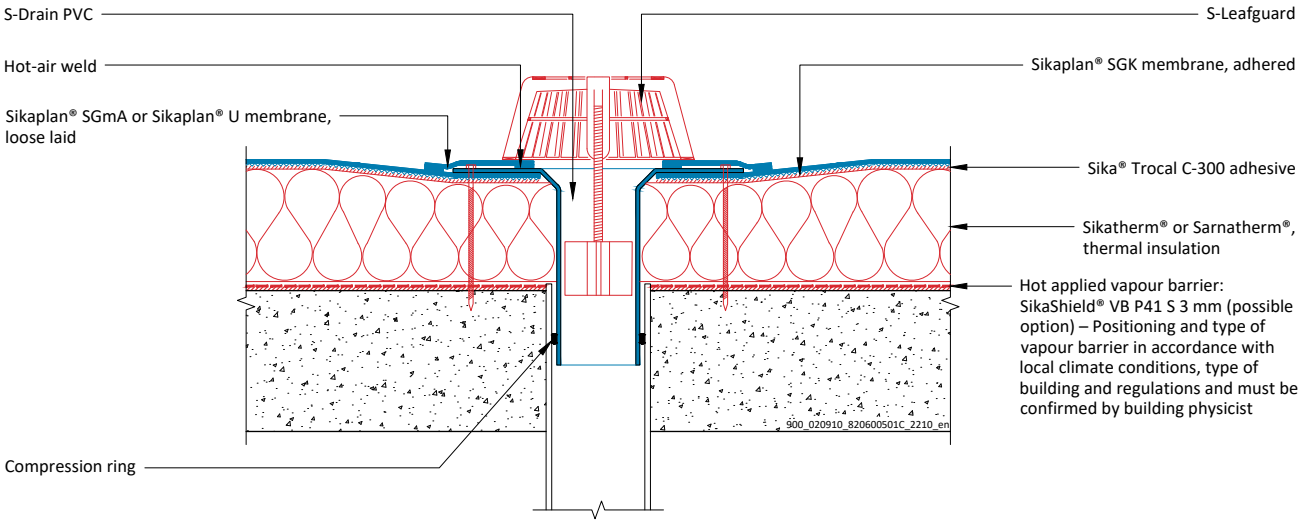
040.05.01 – Utility Roof System



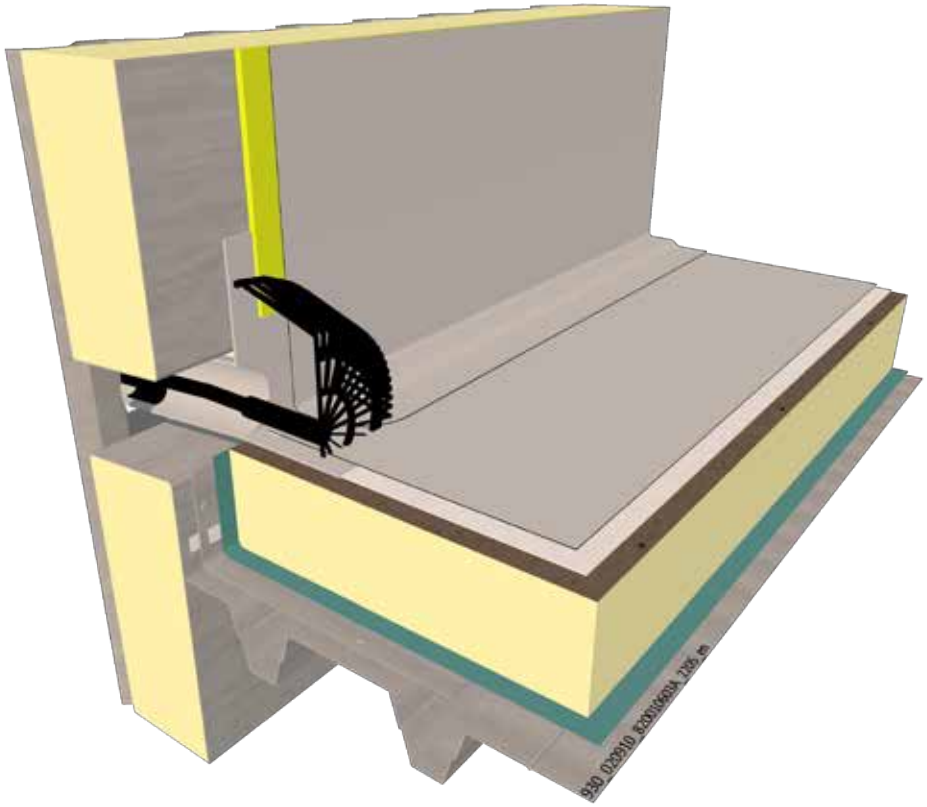
050.05.01 – Green Roof System (Extensive / Intensive)



060.05.01 - Adhered Roof System



SCUPPER

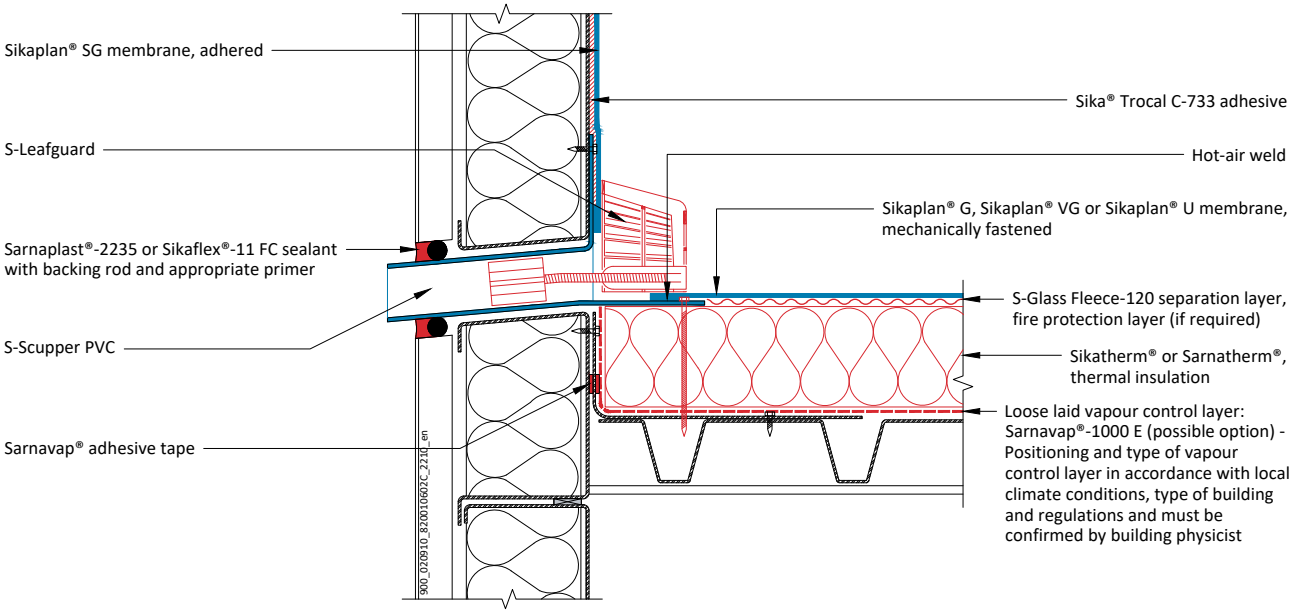


PLANNING INFORMATION

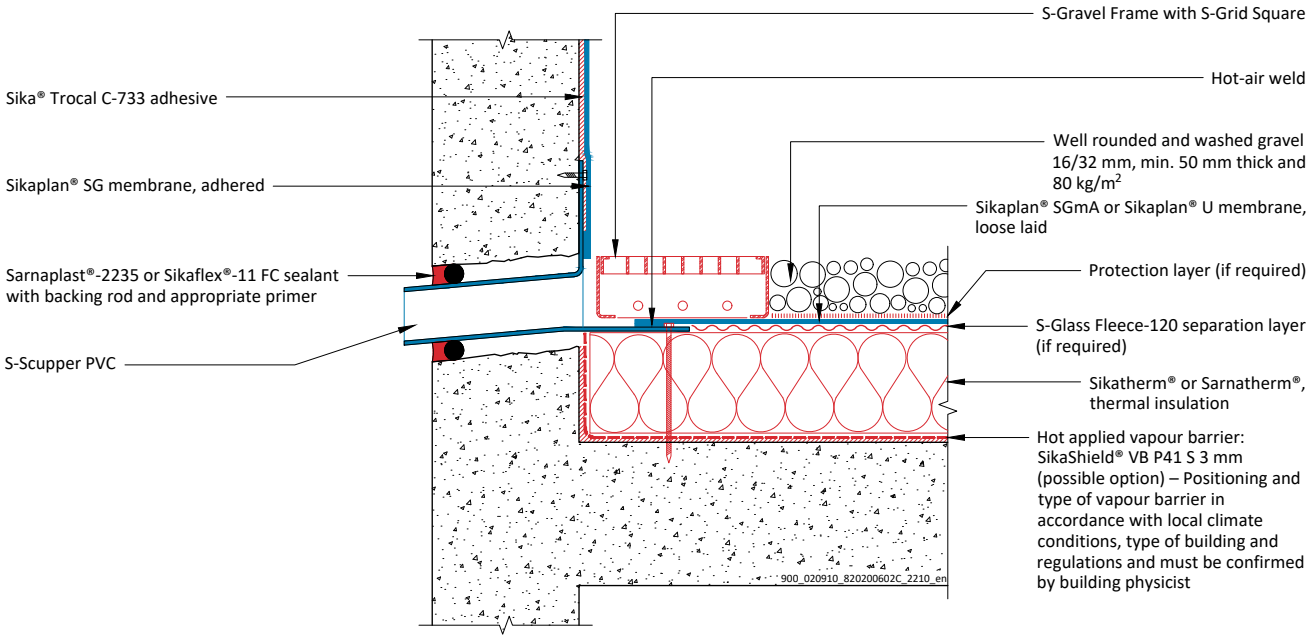
Prefabricated S-Scupper PVC to be mechanically fastened to surface.
Mechanically fastened, loosely laid or adhered Sikaplan® PVC roof waterproofing membrane and Sikaplan® PVC upstand membrane hot welded to S-Scupper PVC.

The S-Leafguard and Gravel Frame with adjustable put on frame and perforated strainer serves as protection against infiltration of gravel and leaves into the S-Scupper PVC.

001.06.02 – Adhered on Metal Element – Mechanically Fastened Roof System

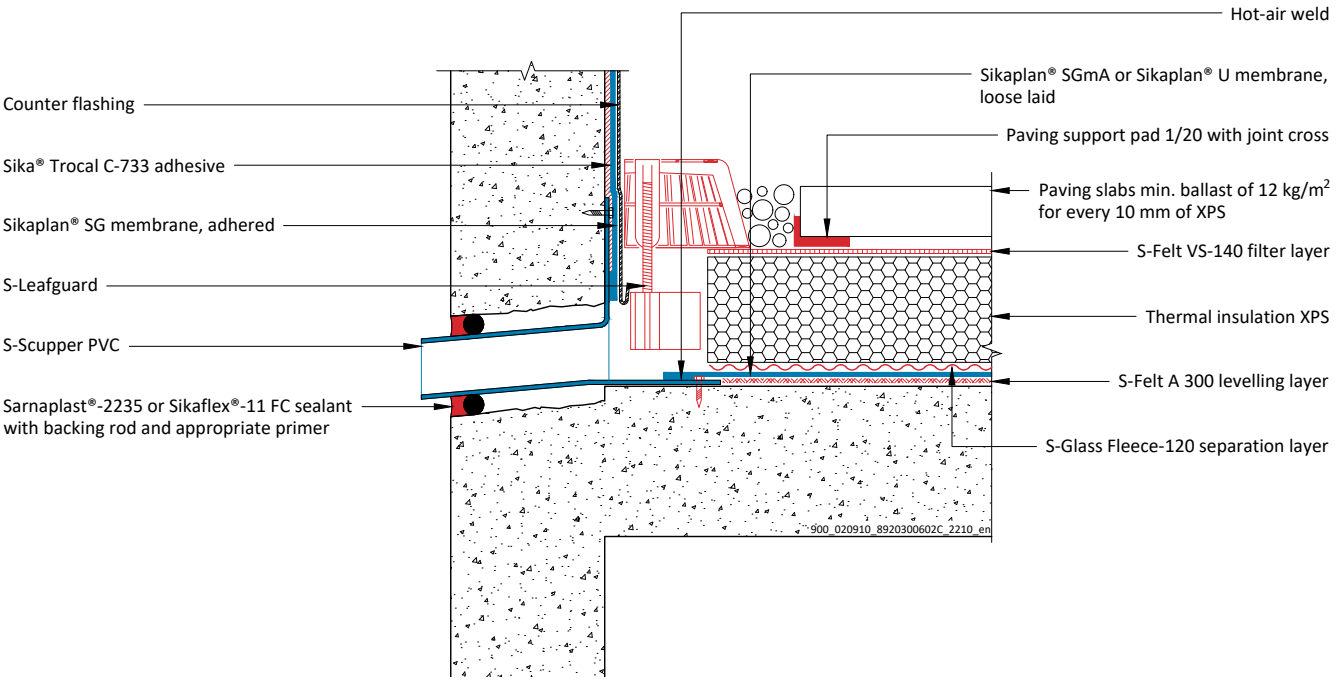


020.06.02 - Adhered on Concrete Wall - Gravel Ballasted Roof System

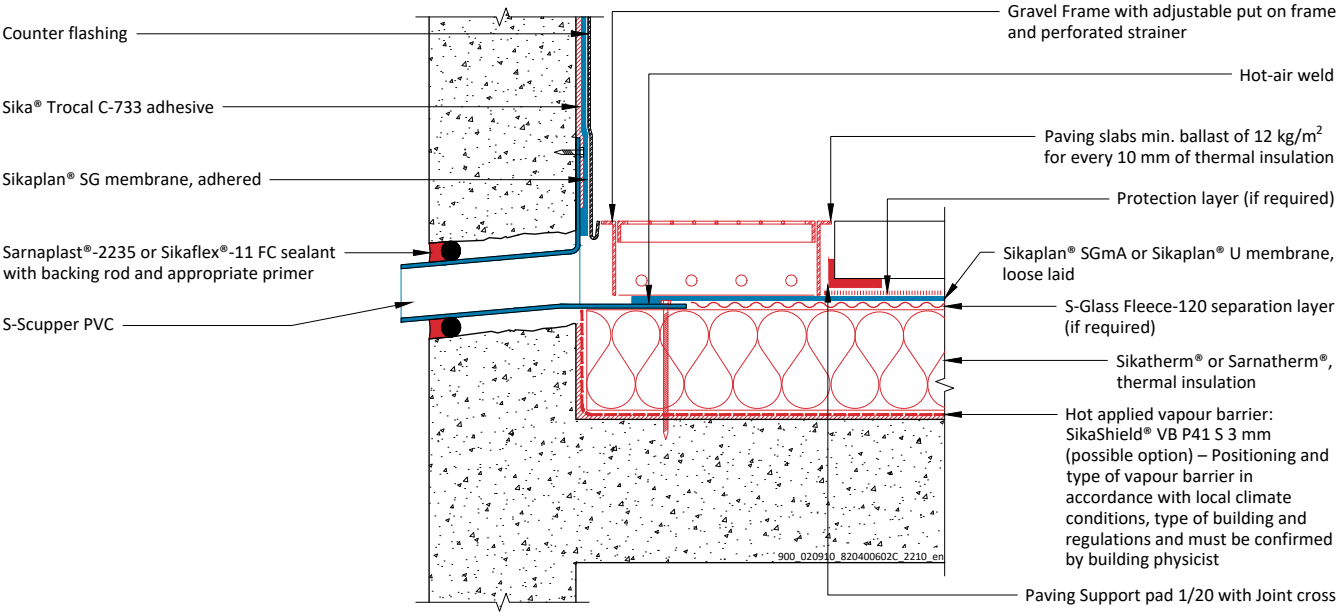


SCUPPER

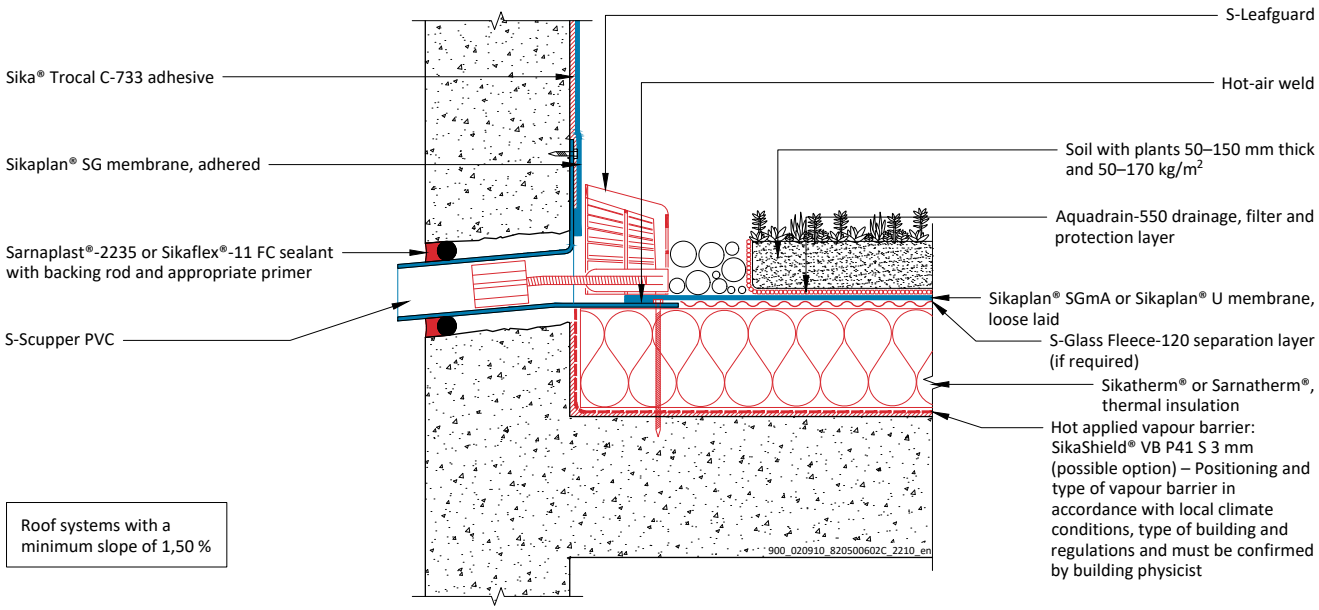
030.06.02 - Adhered on Concrete Wall - Inverted Roof System



040.06.02 - Adhered on Concrete Wall - Utility Roof System

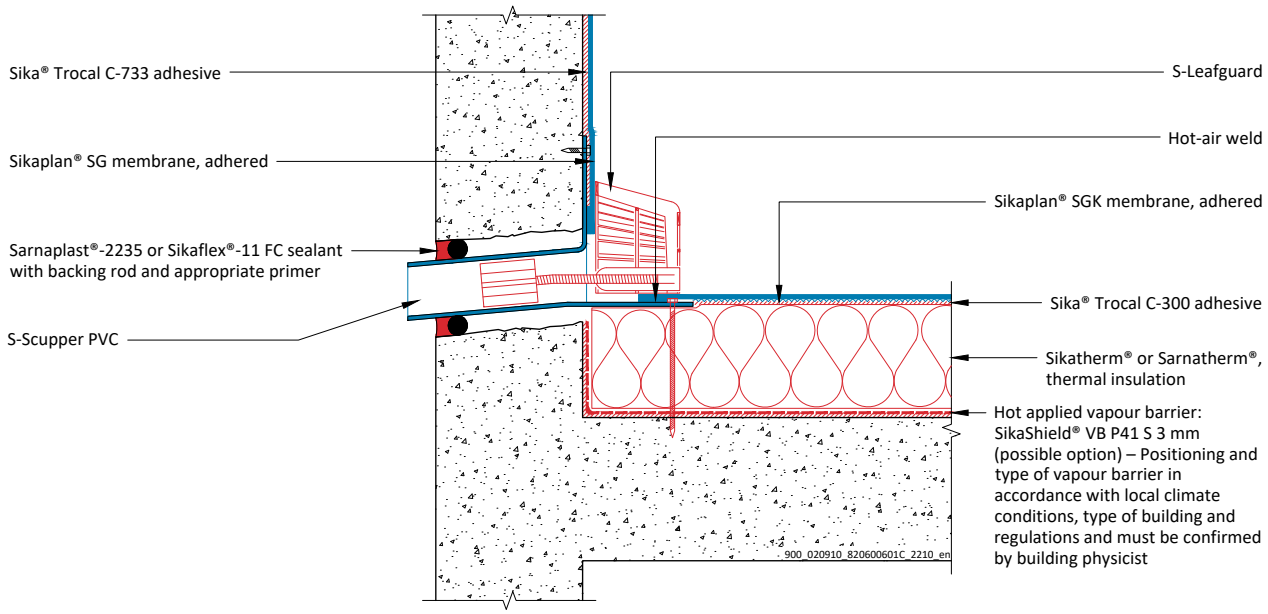


050.06.02 - Adhered on Concrete Wall - Green Roof System (Extensive / Intensive)

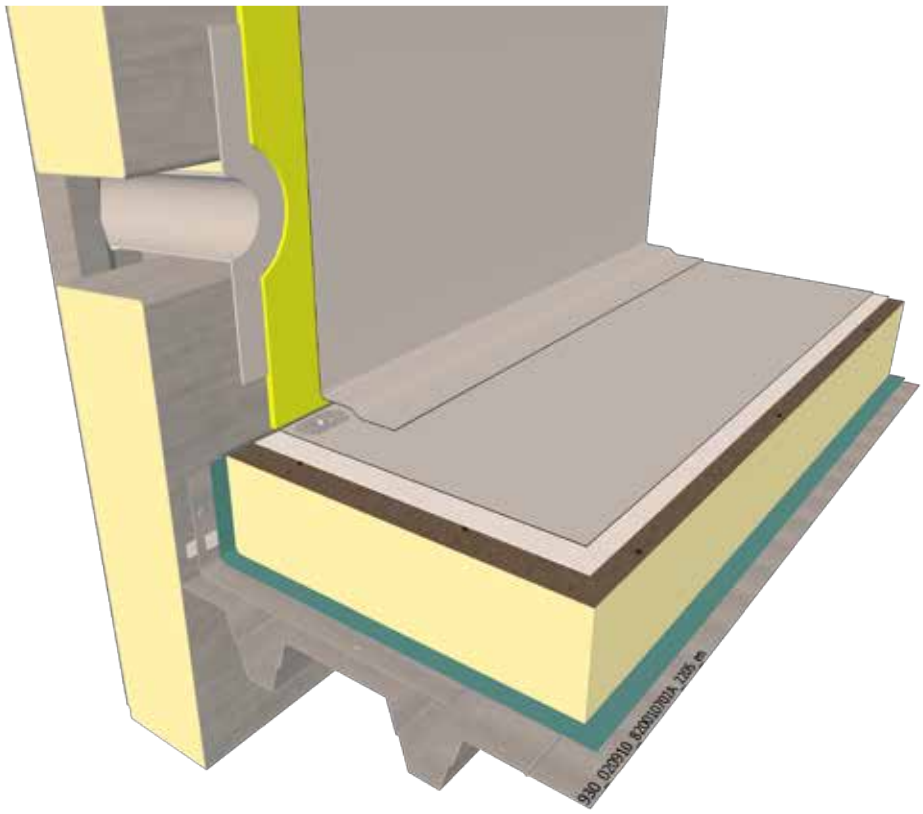


Roof systems with a minimum slope of 1,50 %

060.06.01 - Adhered on Concrete Wall - Adhered Roof System



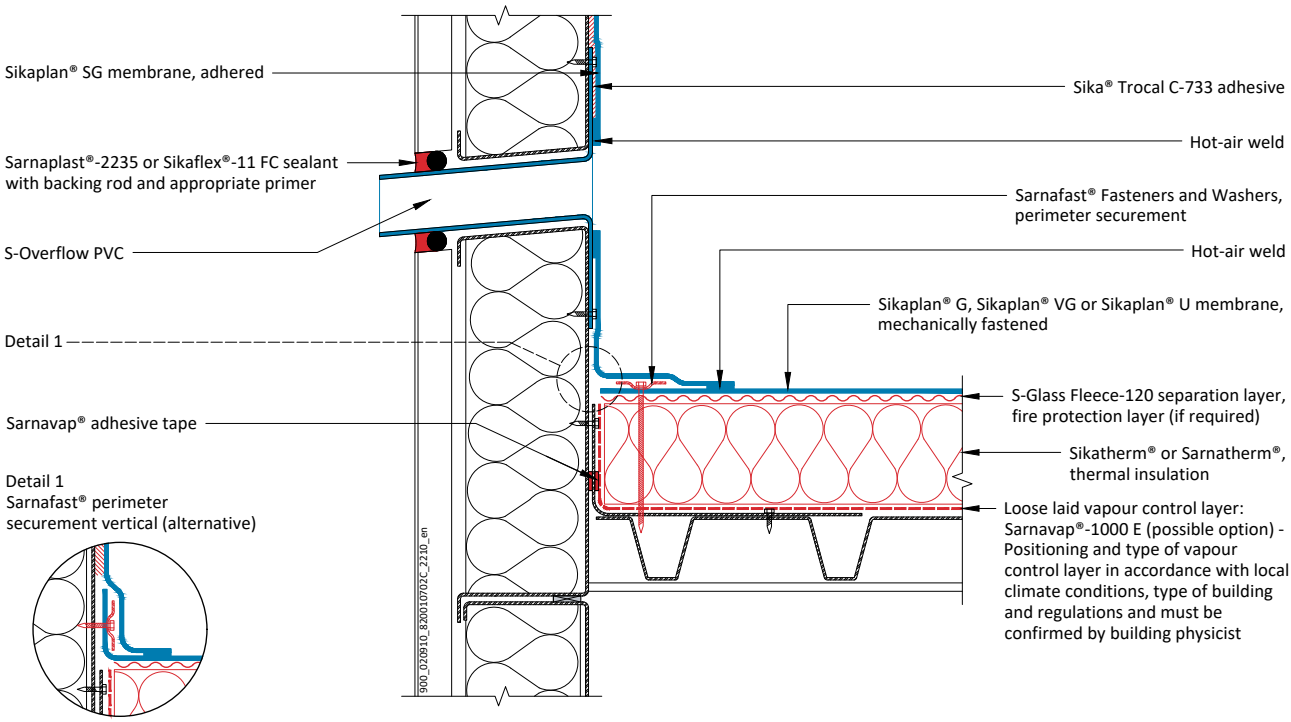
OVERFLOW



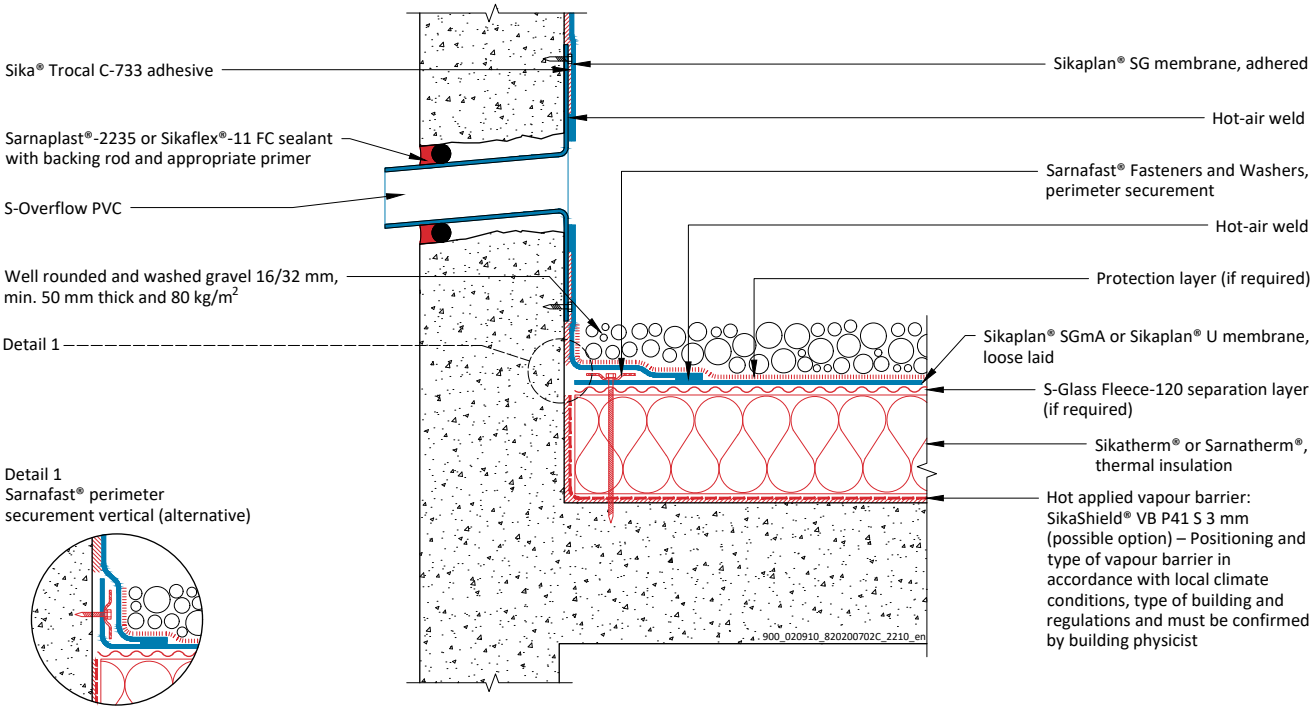
PLANNING INFORMATION

Prefabricated S-Overflow PVC to be mechanically fastened to upstand structure.
Sikaplan® PVC upstand membrane hot welded to S-Overflow PVC.

001.07.02 – Adhered on Metal Element – Mechanically Fastened Roof System

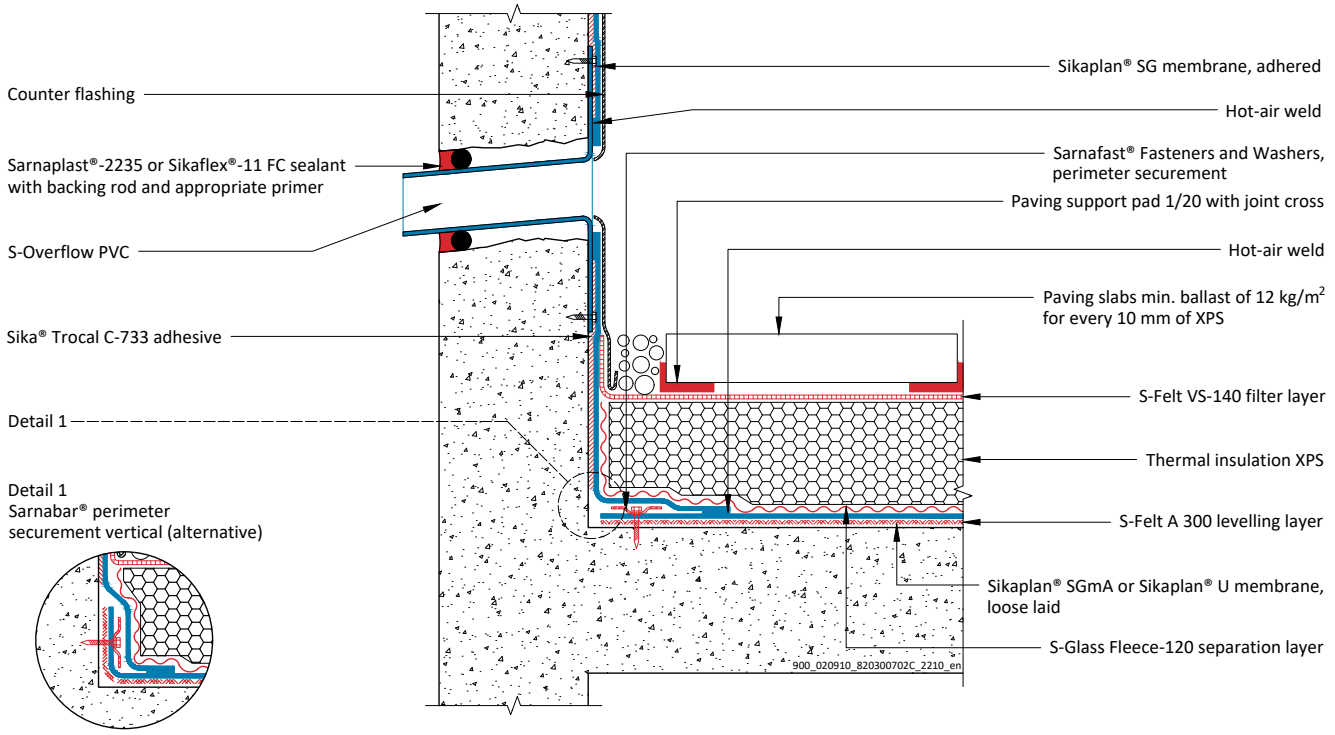


020.07.02 - Adhered on Concrete Wall - Gravel Ballasted Roof System

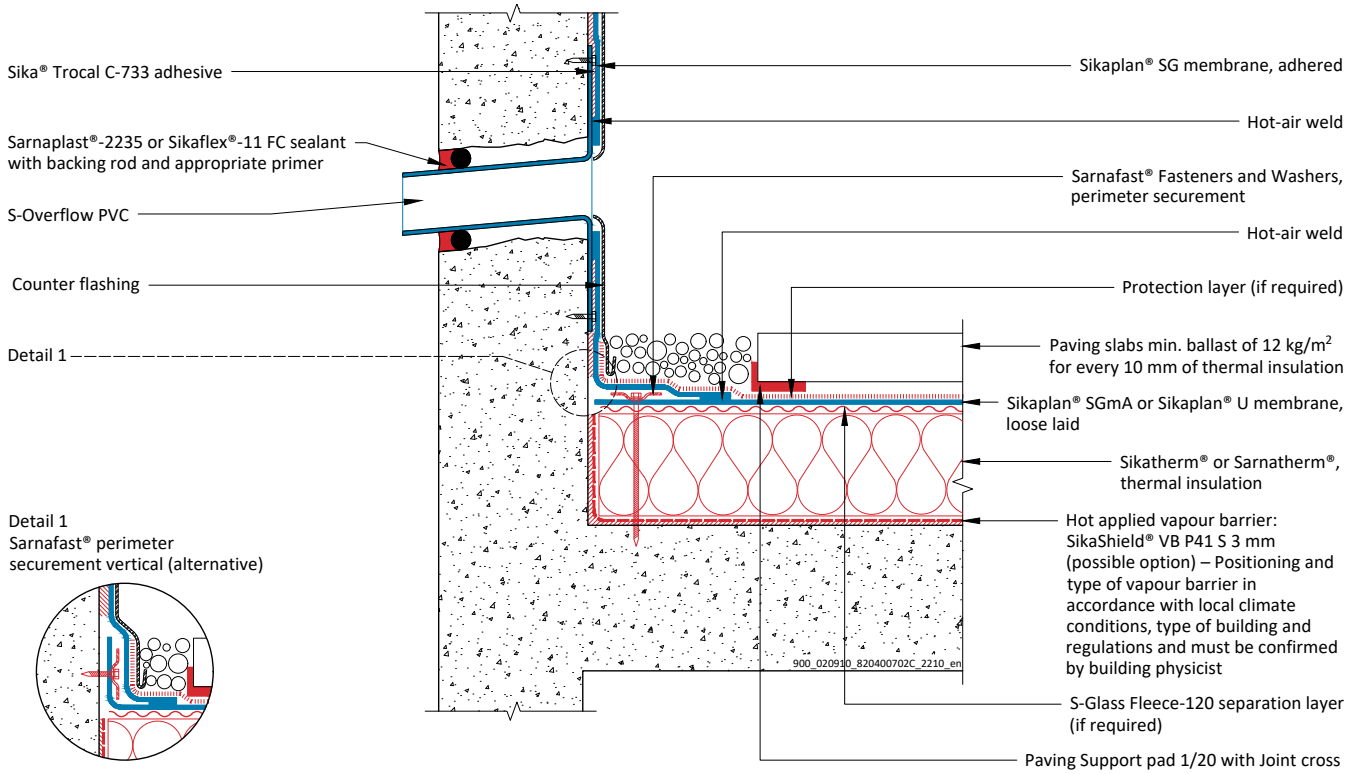


OVERFLOW

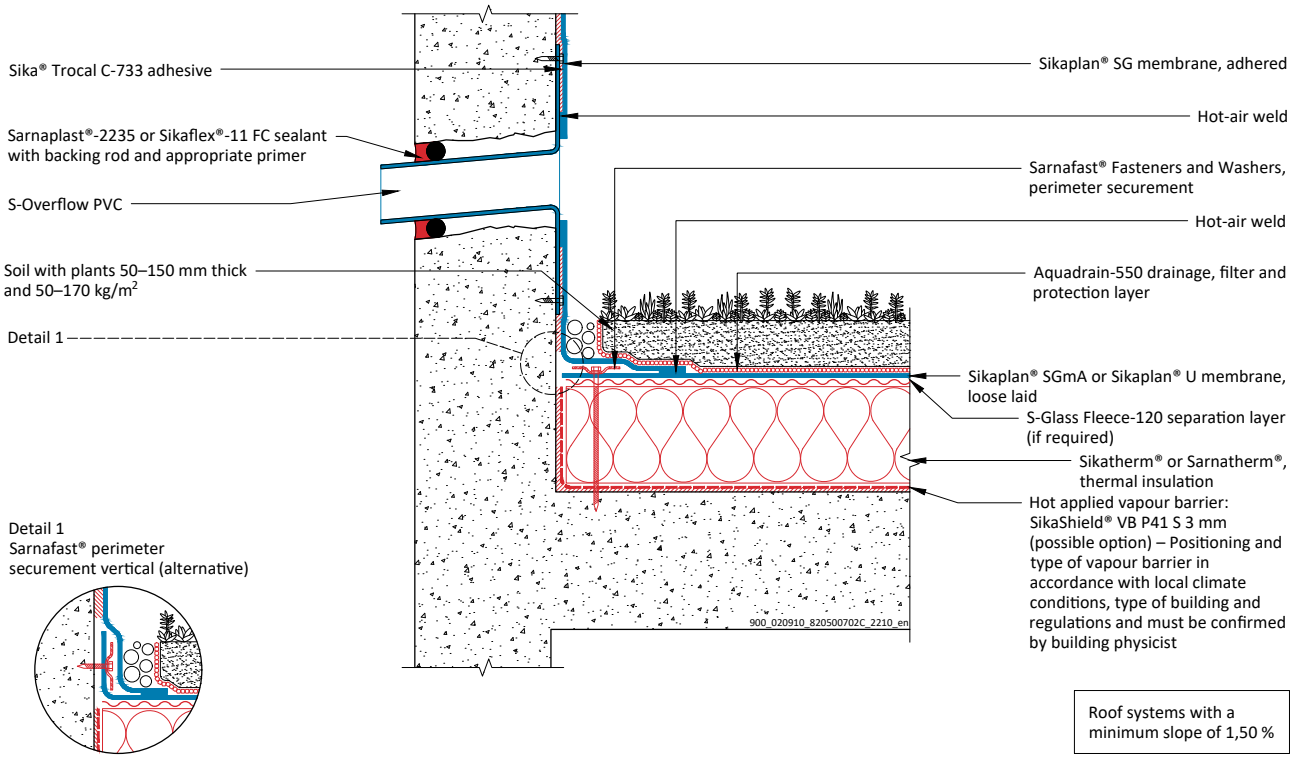
030.07.02 - Adhered on Concrete Wall - Inverted Roof System



040.07.02 - Adhered on Concrete Wall - Utility Roof System



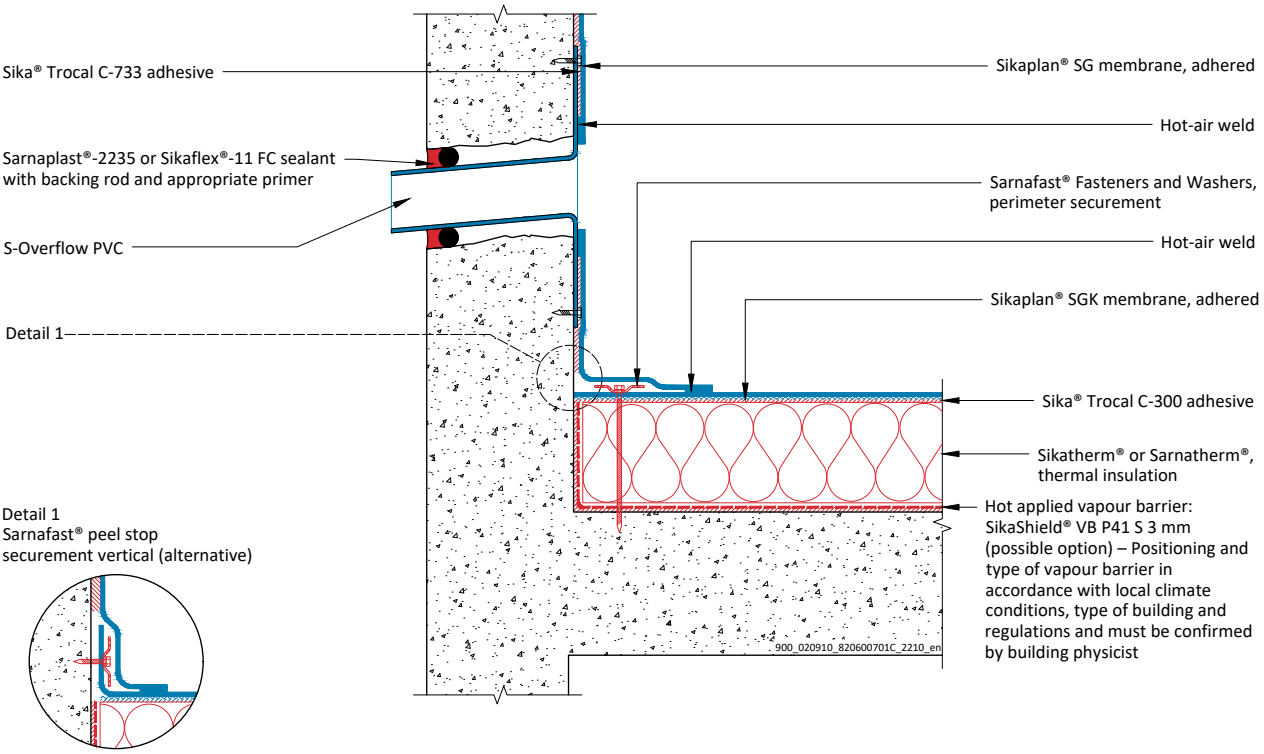
050.07.02 - Adhered on Concrete Wall - Green Roof System (Extensive / Intensive)



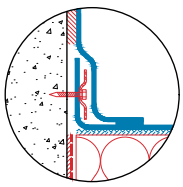
Detail 1
Sarnafast® perimeter securement vertical (alternative)

Roof systems with a minimum slope of 1,50 %

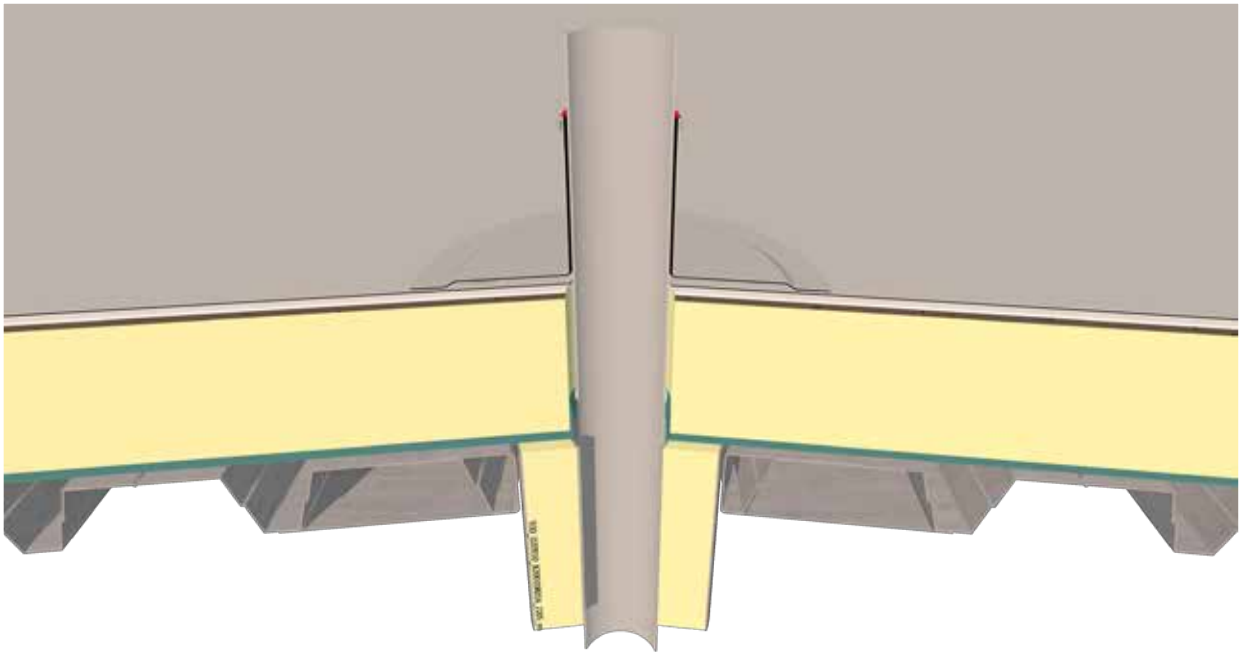
060.07.01 - Adhered on Concrete Wall - Adhered Roof System



Detail 1
Sarnafast® peel stop securement vertical (alternative)



VENT PIPE / POST



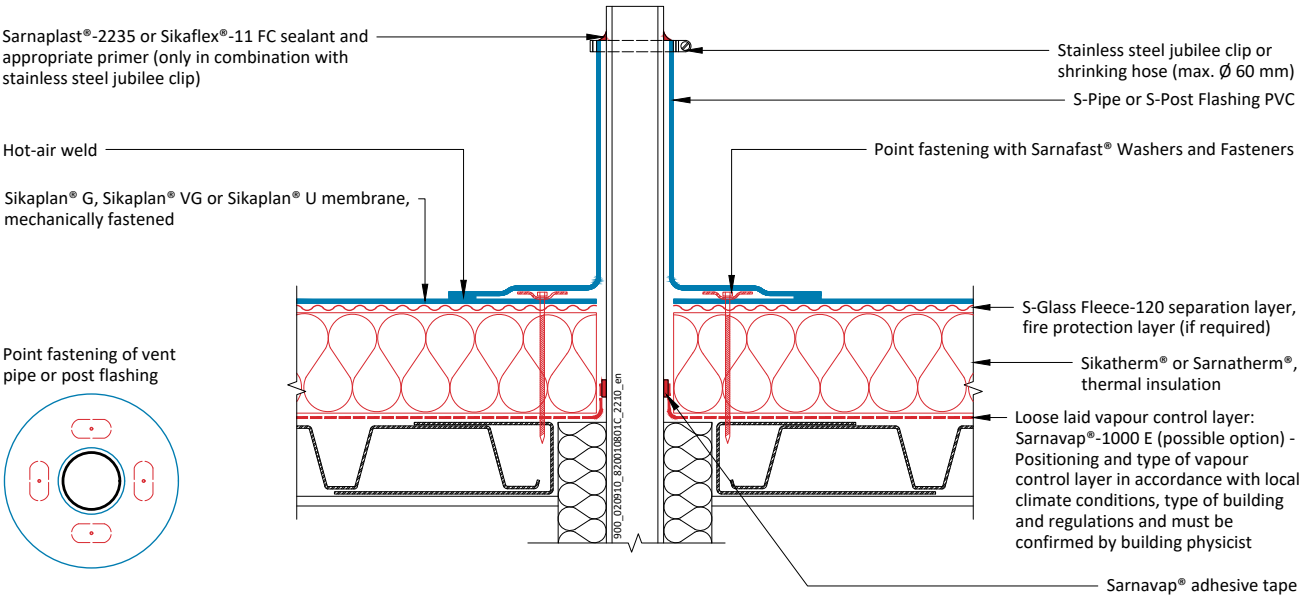
PLANNING INFORMATION

On vent pipe / post flashing Sikaplan® PVC roof waterproofing for mechanically fastened roof systems to be point fastened using four Sarnafast® Washers and Fasteners. In all other ballasted / adhered roof systems, no additional fastening to be needed.

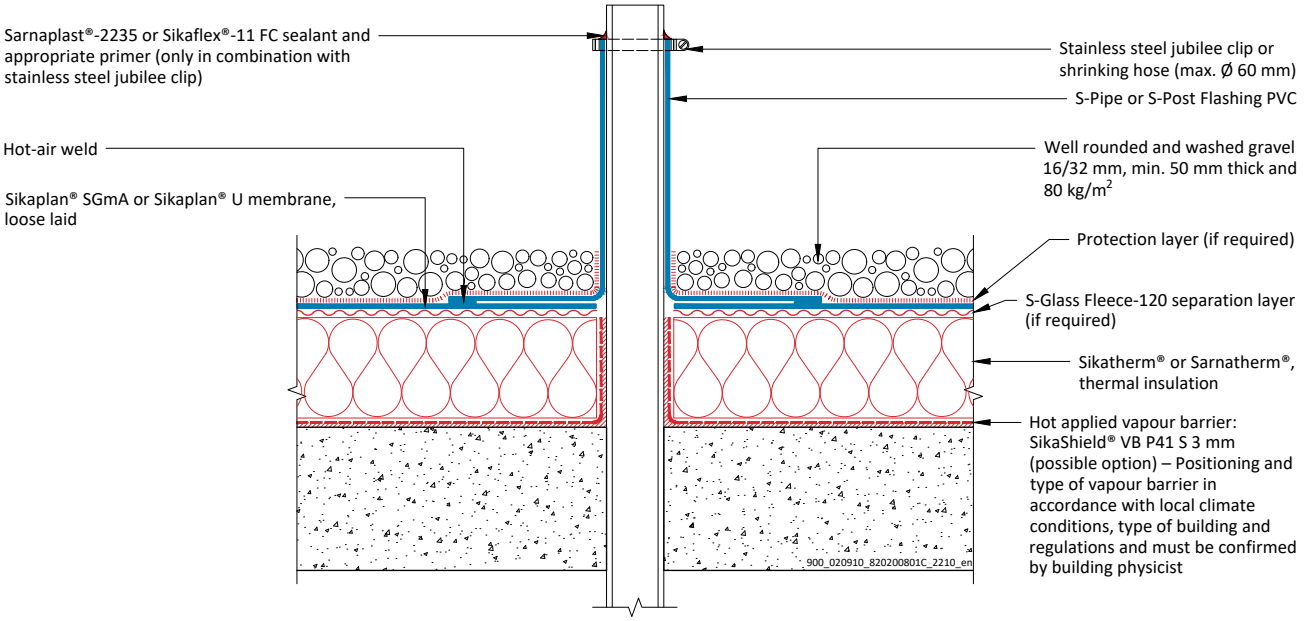
S-Pipe / Post Flashing PVC to be hot welded to Sikaplan® PVC roof waterproofing membrane.

Top end of S-Pipe / Post Flashing PVC to be waterproofed using shrinking hose or stainless steel jubilee clip in combination with Sarnaplast®-2235 or Sikaflex®-11 FC sealant.

001.08.01 – Mechanically Fastened Roof System

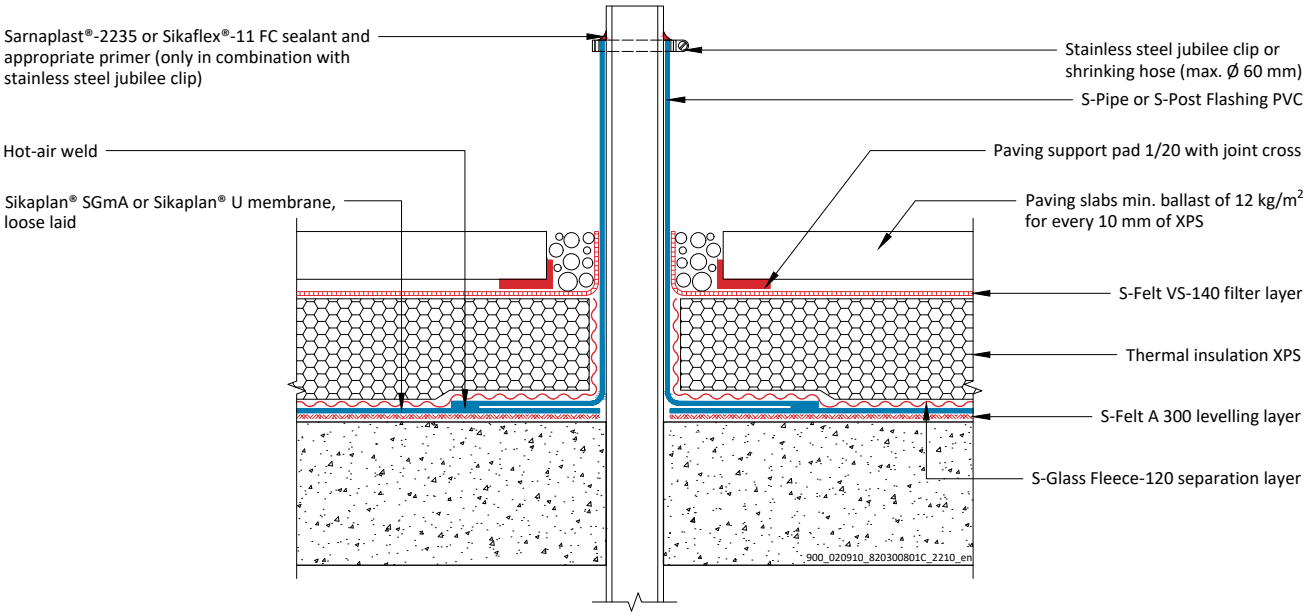


020.08.01 – Gravel Ballasted Roof System

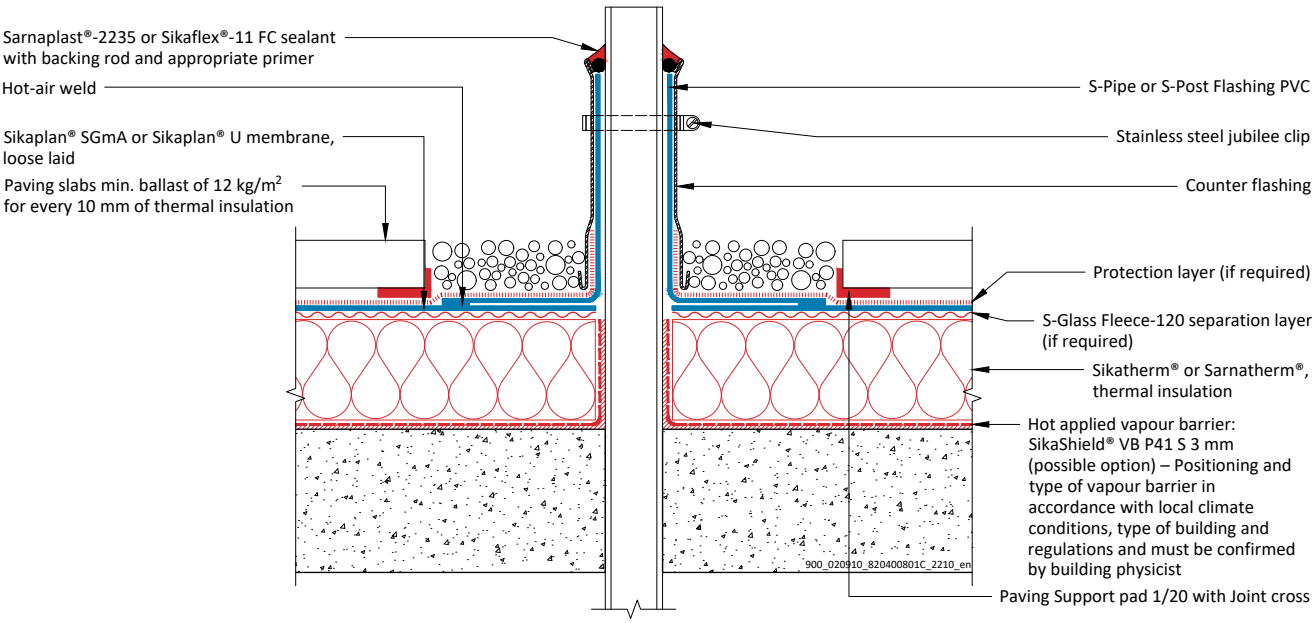


VENT PIPE / POST

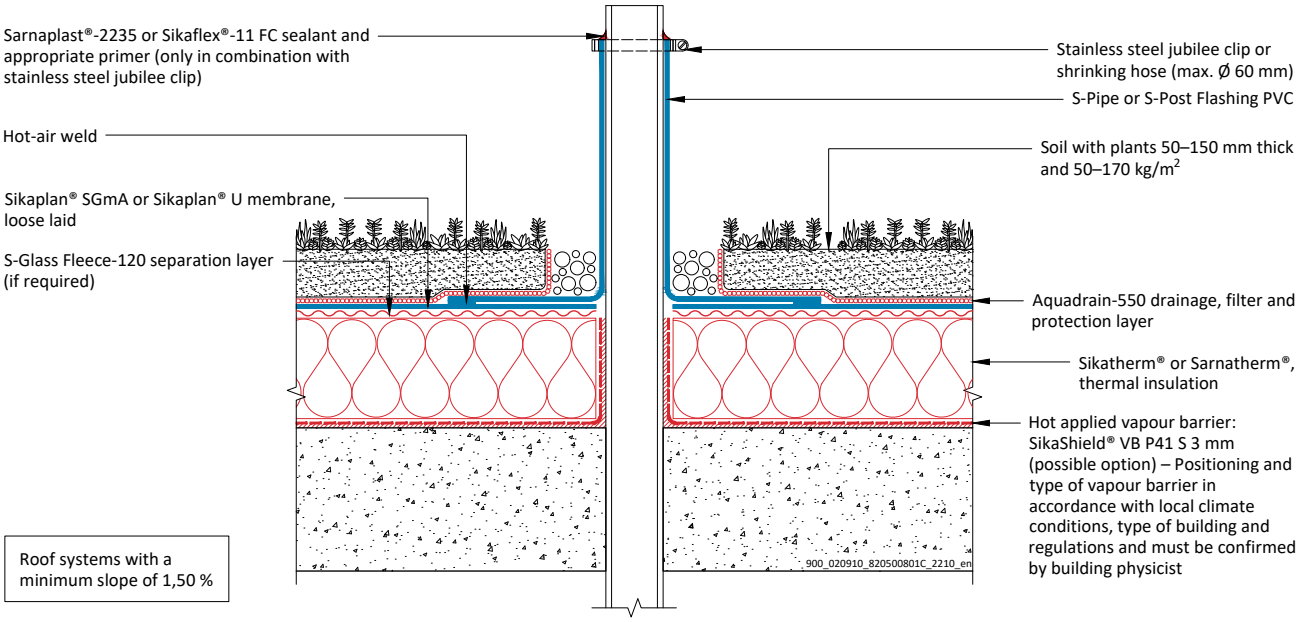
030.08.01 – Inverted Roof System



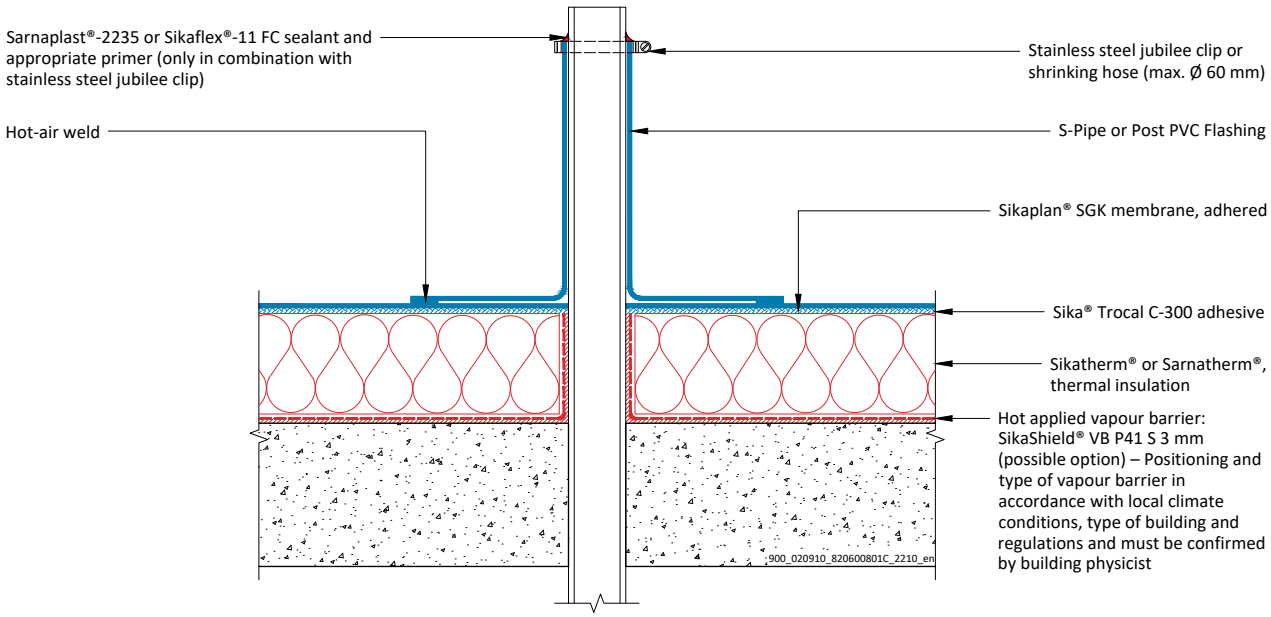
040.08.01 – Utility Roof System



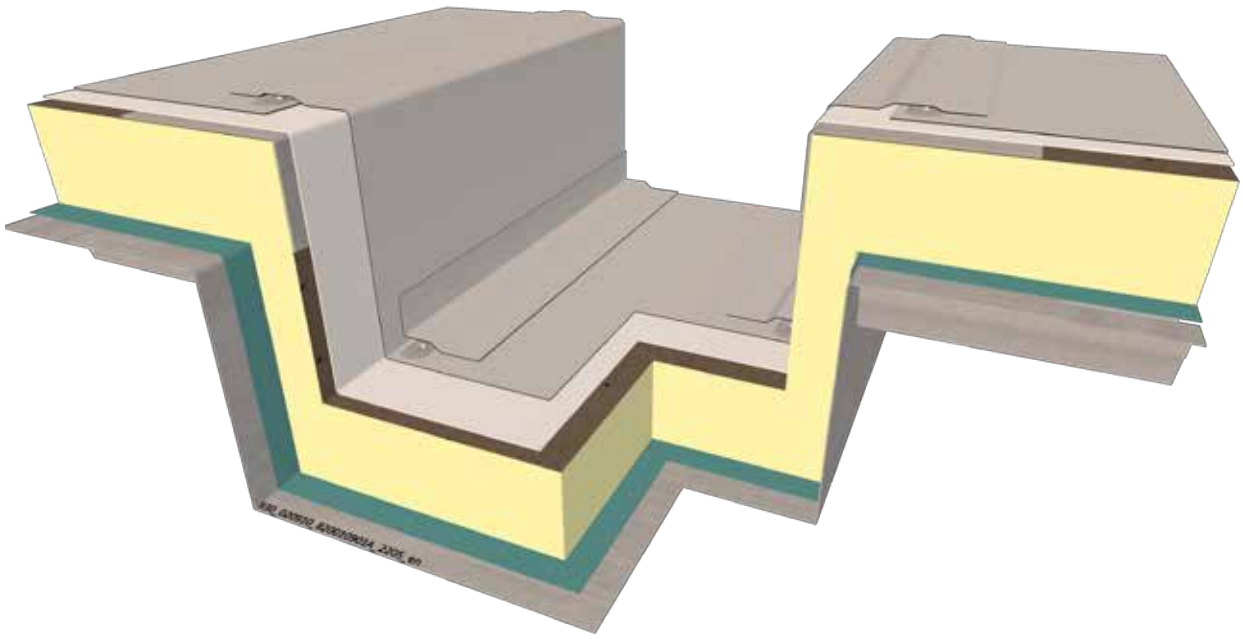
050.08.01 – Green Roof System (Extensive / Intensive)



060.08.01 - Adhered Roof System



GUTTER



PLANNING INFORMATION

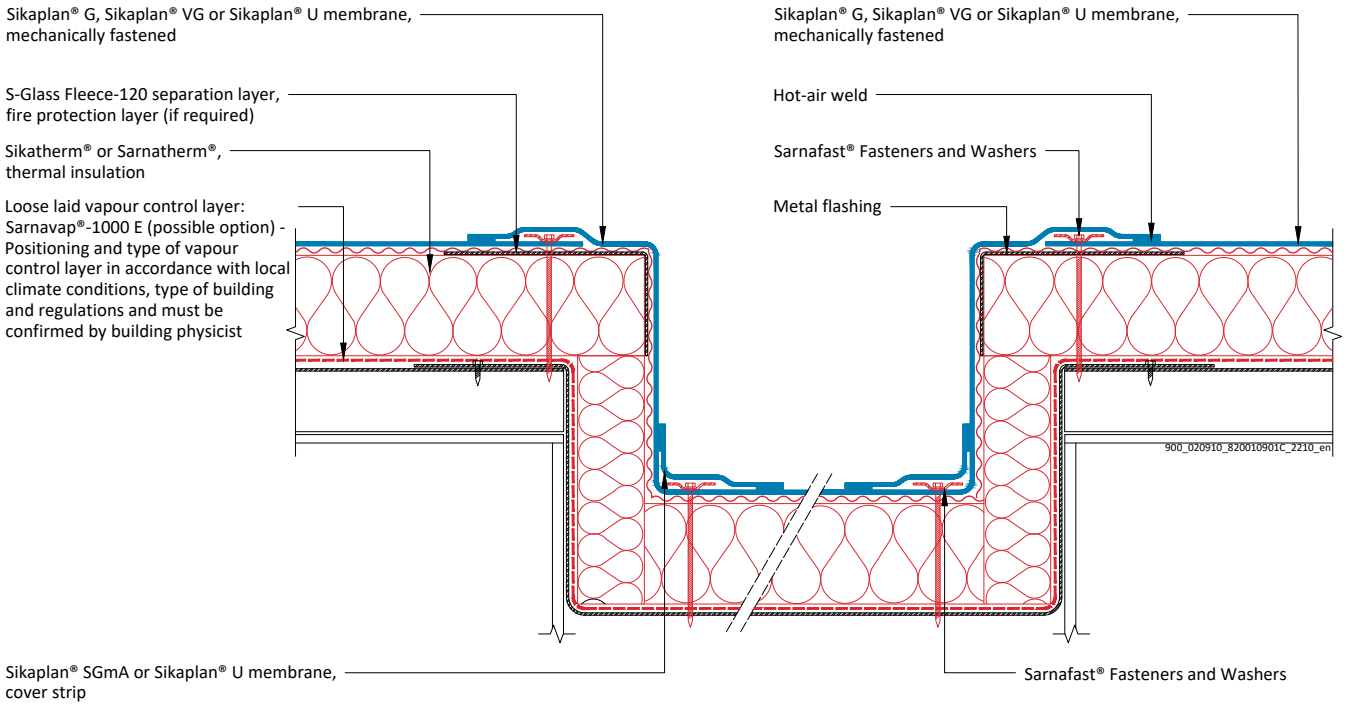
Gutter edges on top of thermal insulation should be protected with metal flashing.

Sikaplan® PVC roof waterproofing membrane must be secured with Sarnafast® Washers and Fasteners.

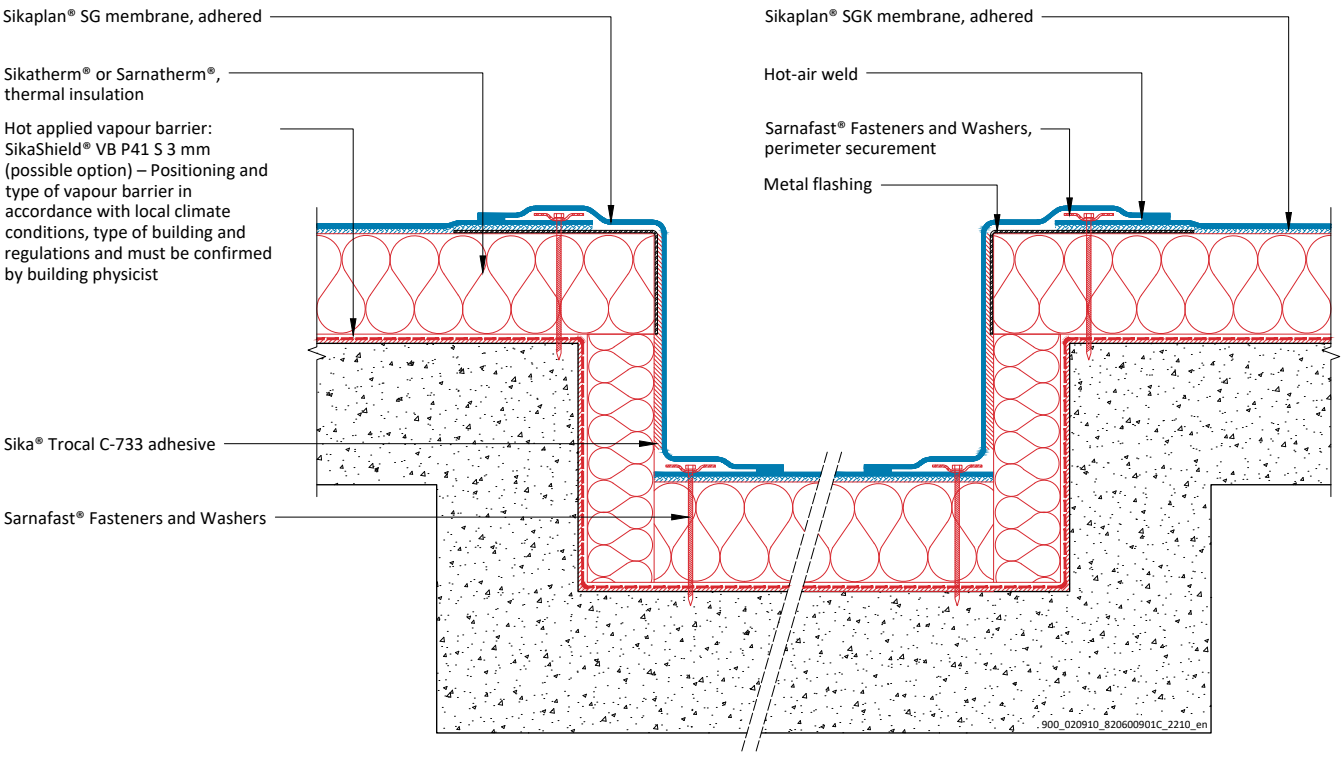
Mechanically fastened gutter flashing, using Sikaplan® PVC membrane with Sarnafast® Washers and Fasteners securement along vertical areas.

Adhered gutter flashing, using Sika® Trocal C-733 adhesive and Sikaplan® PVC membrane along vertical areas. Depending on the width of gutter Sikaplan® PVC membrane secured with Sarnafast® Fasteners along vertical areas.

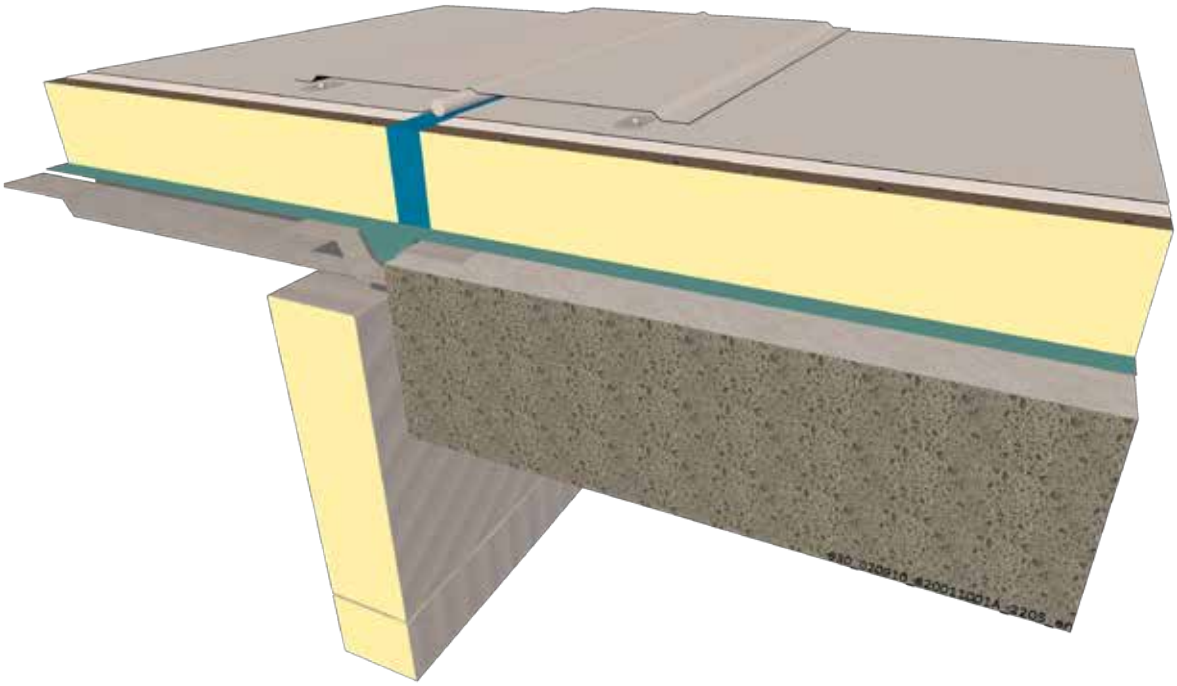
001.09.01 – Mechanically Fastened Roof System



060.09.01 - Adhered Roof System



MOVEMENT JOINT



PLANNING INFORMATION

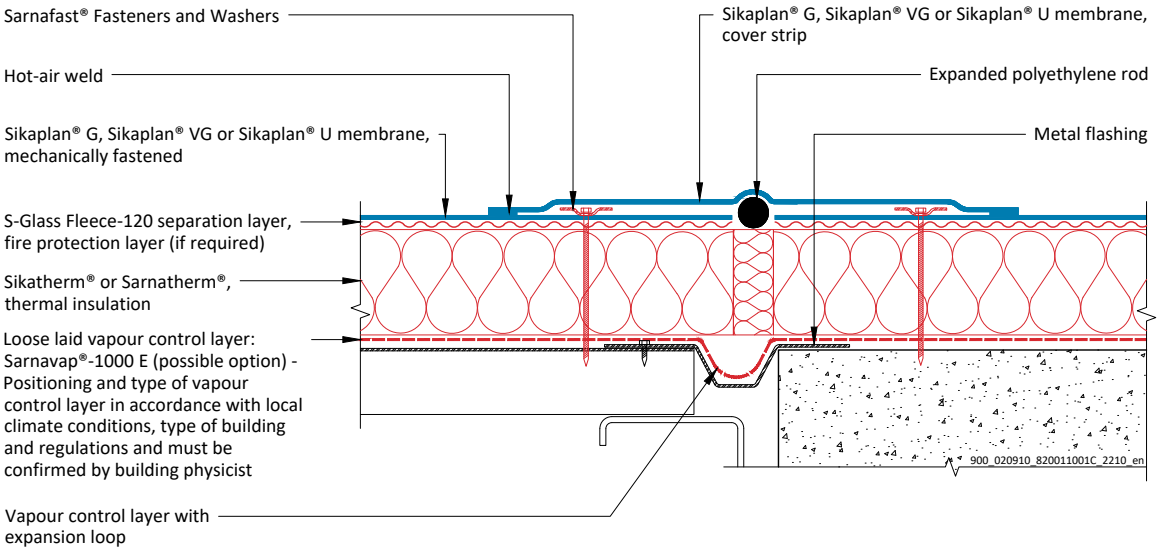
Vapour- control layer / barrier to be installed with an expansion loop above metal flashing.

Sikaplan® PVC membrane must be secured with Sarnafast® Washers and Fasteners on both sides of movement joints.

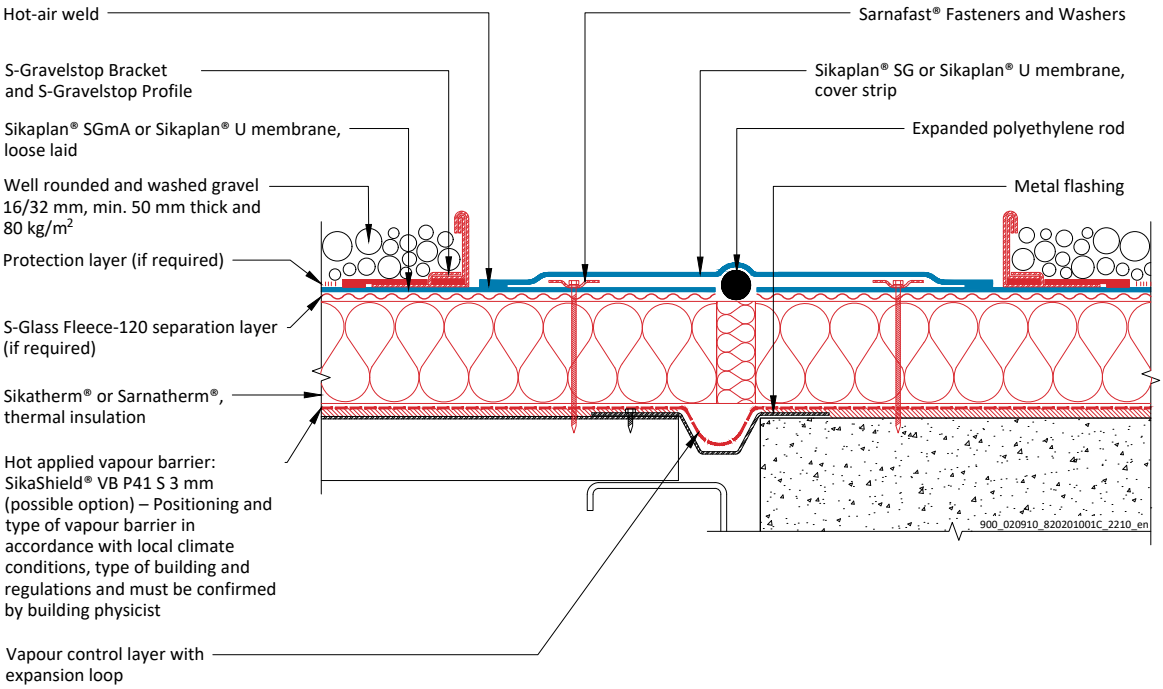
S-Gravelstop Bracket PVC and S-Gravelstop Profile to be installed in combination with ballasted roof systems.

Installation of expanded polyethylene rod and waterproof with Sikaplan® PVC coverstrip, hot welded on both sides of movement joints to Sikaplan® PVC roof waterproofing membrane.

001.10.01 – Mechanically Fastened Roof System

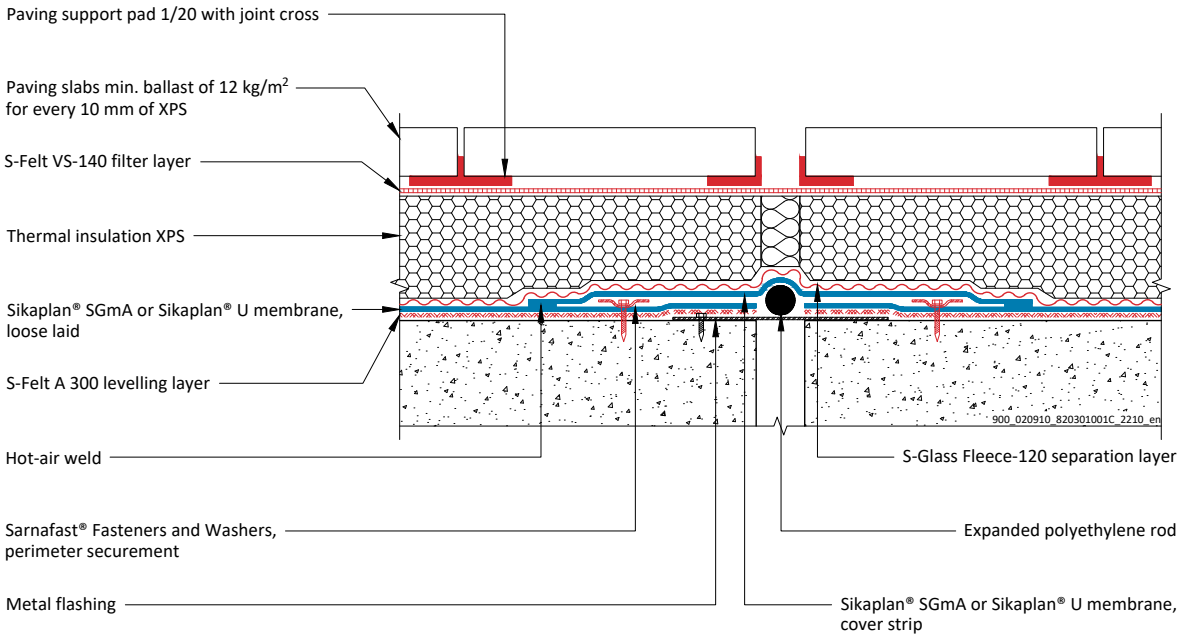


020.10.01 – Gravel Ballasted Roof System

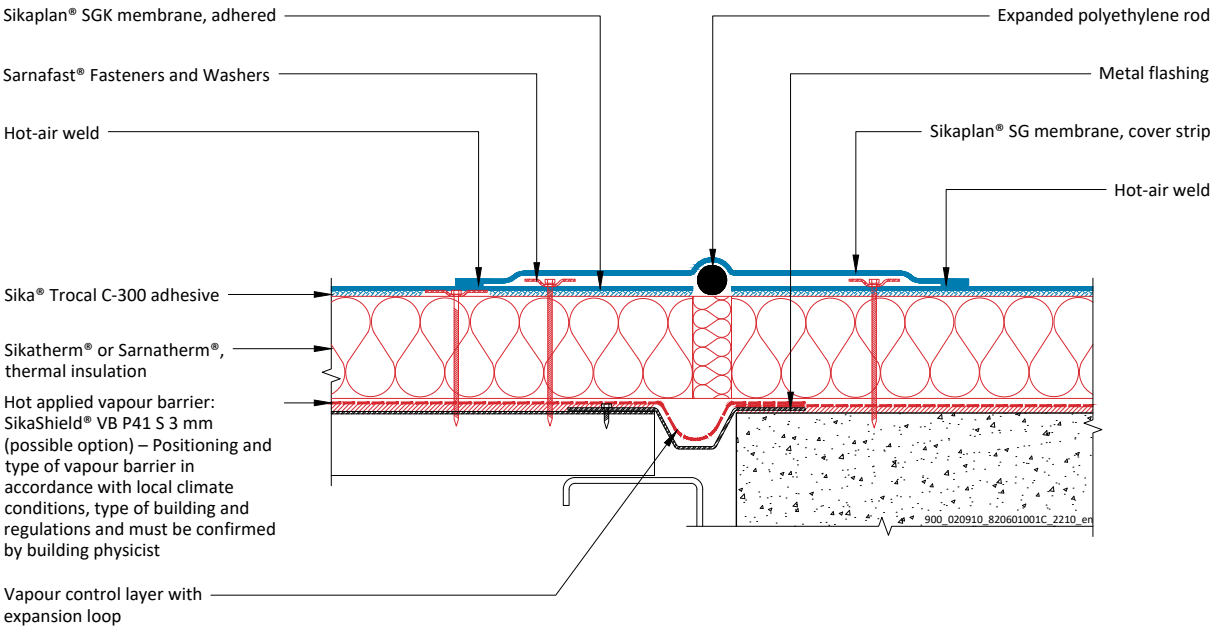


MOVEMENT JOINT

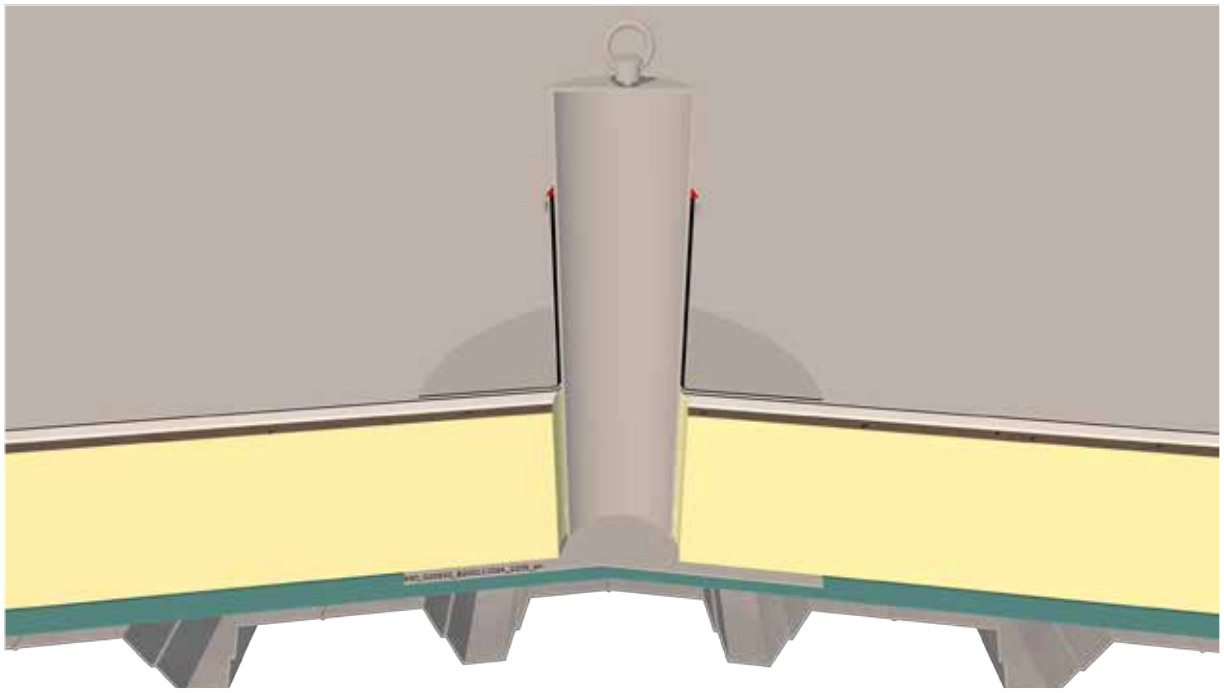
030.10.01 - Inverted Roof System



060.10.01 - Adhered Roof System



FALL ARREST ANCHOR



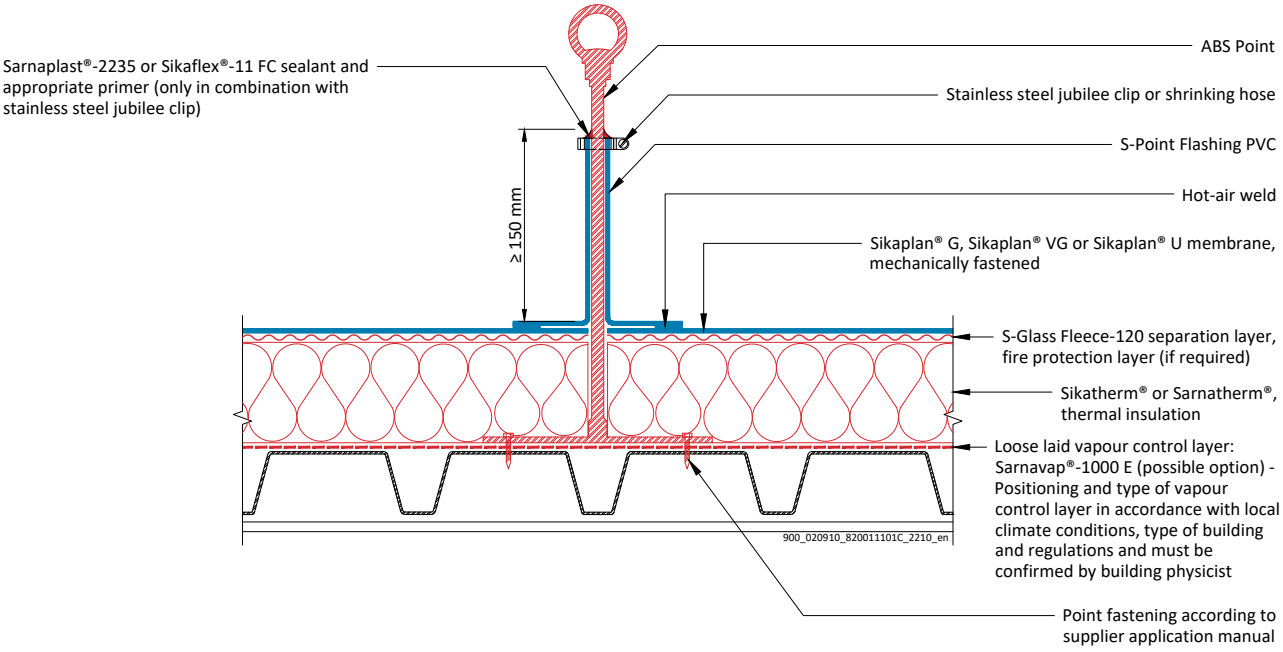
PLANNING INFORMATION

Depending on the use ABS Point or Seculine Vario anchor to be installed according to supplier application manual.

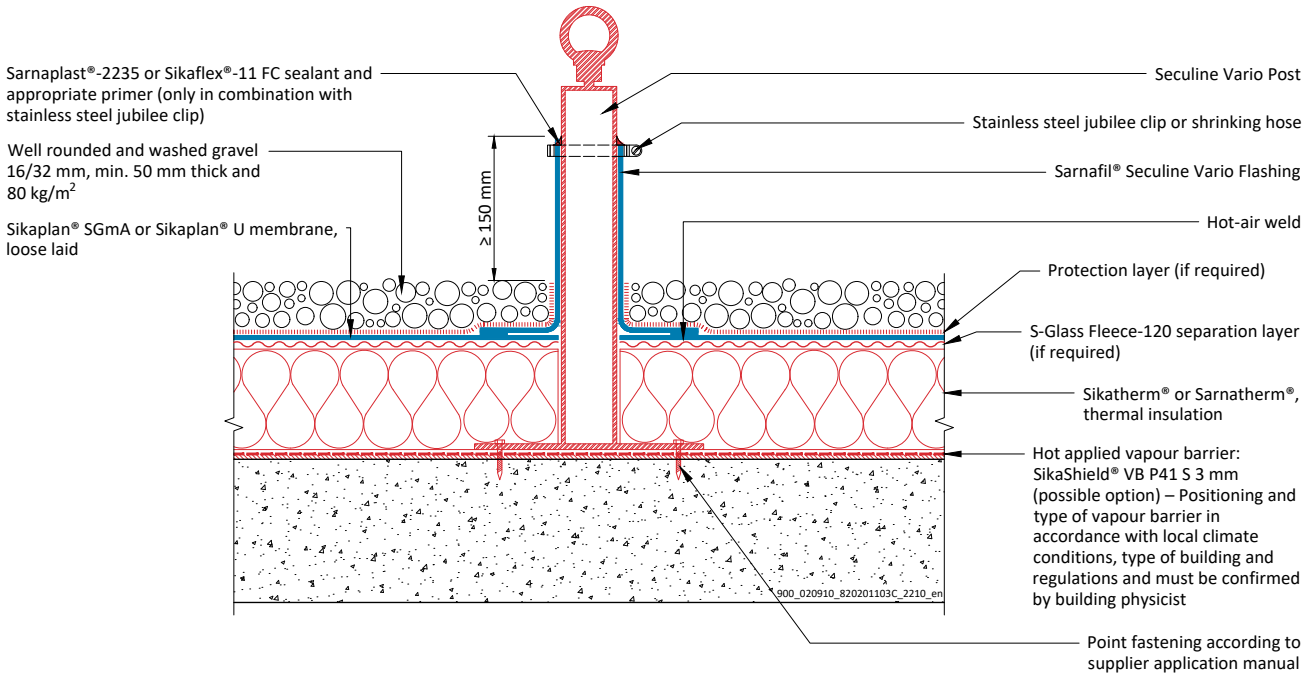
Uninsulated S-Point Flashing PVC or Sarnafil® Seculine Vario Flashing PVC to be hot welded to Sikaplan® PVC roof waterproofing membrane.

Top end of S-Point Flashing PVC or Sarnafil® Seculine Vario Flashing PVC to be waterproofed using shrinking hose or stainless steel jubilee clip in combination with Sarnaplast®-2235 or Sikaflex®-11 FC sealant.

001.11.01 – ABS Point – Uninsulated – Mechanically Fastened Roof System

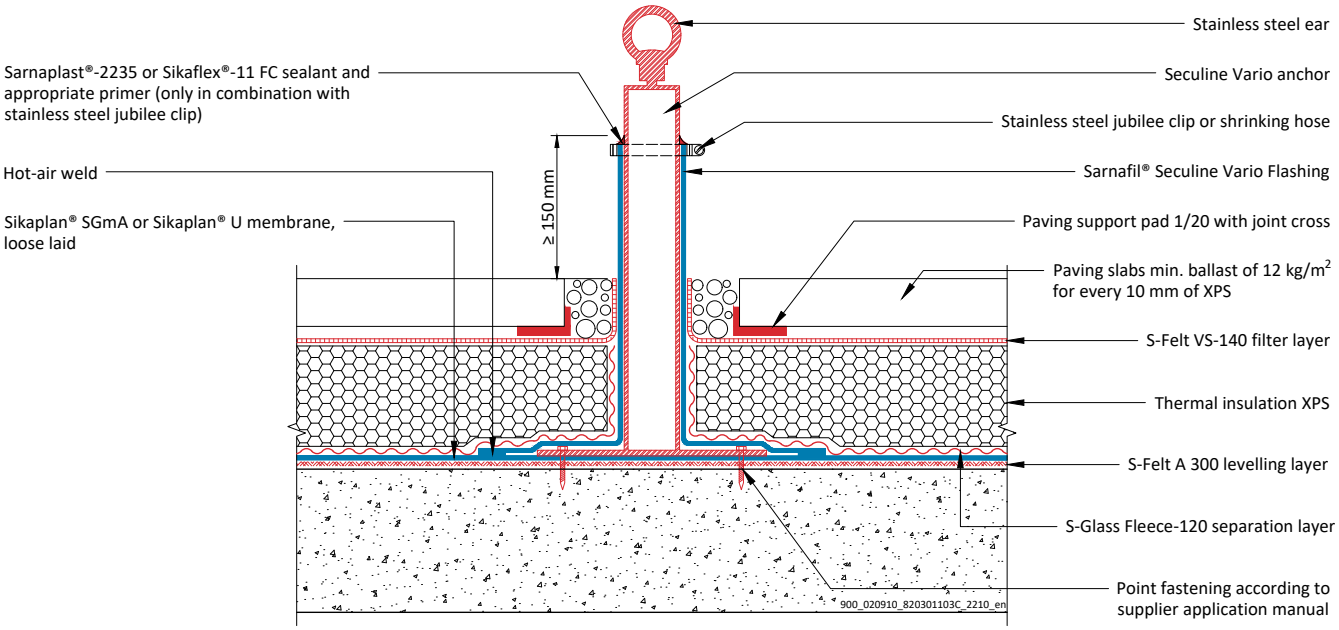


020.11.03 - Seculine Vario Anchor - Uninsulated - Gravel Ballasted Roof System

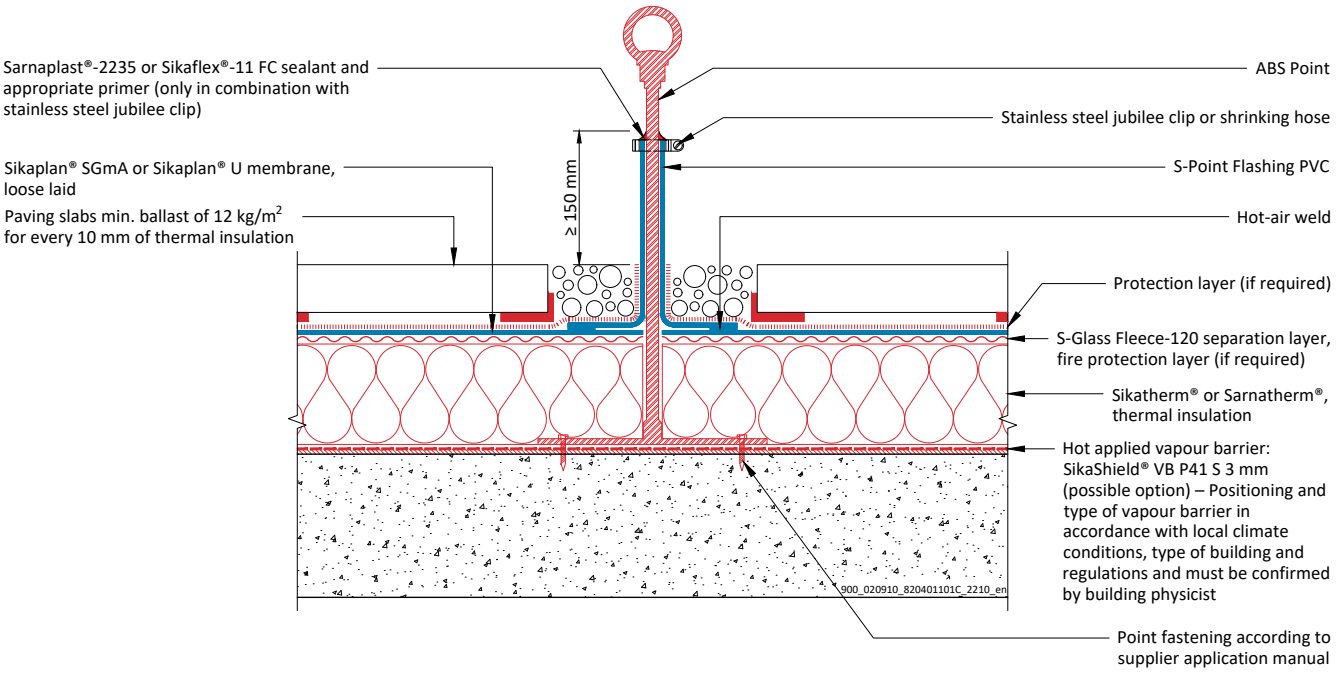


FALL ARREST ANCHOR

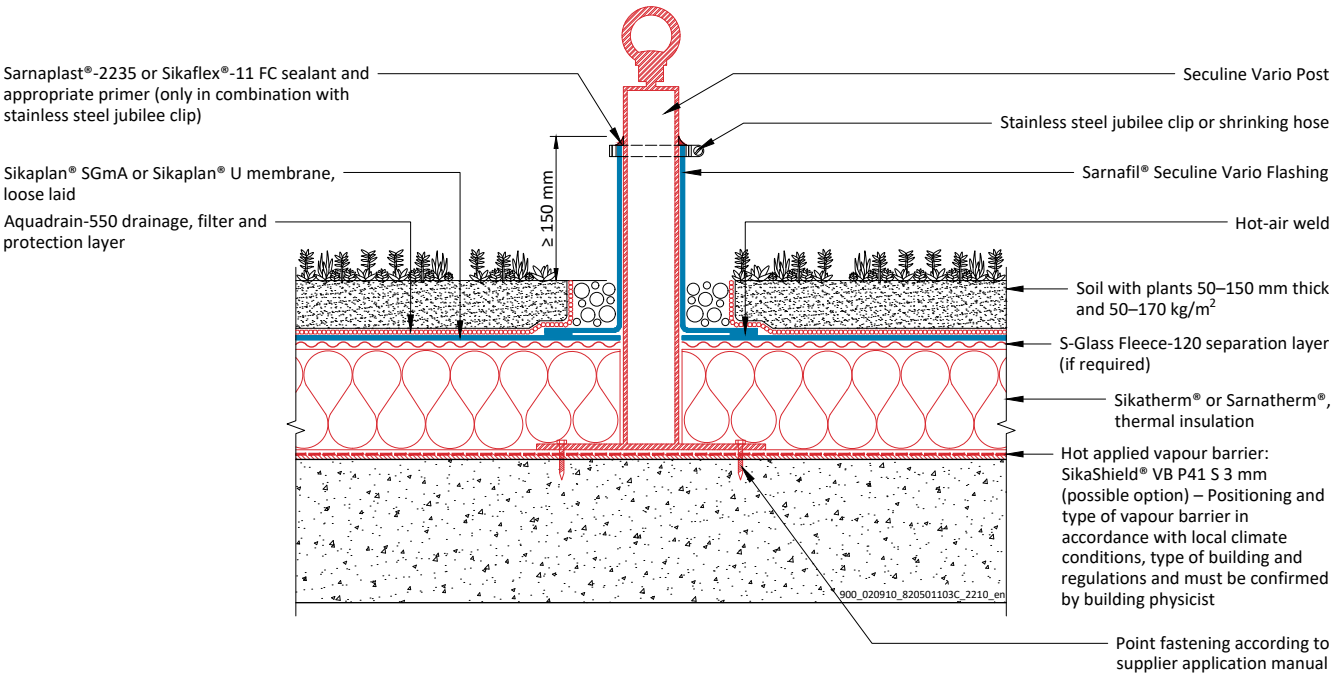
030.11.03 – Seculine Vario Anchor – Uninsulated – Inverted Roof System



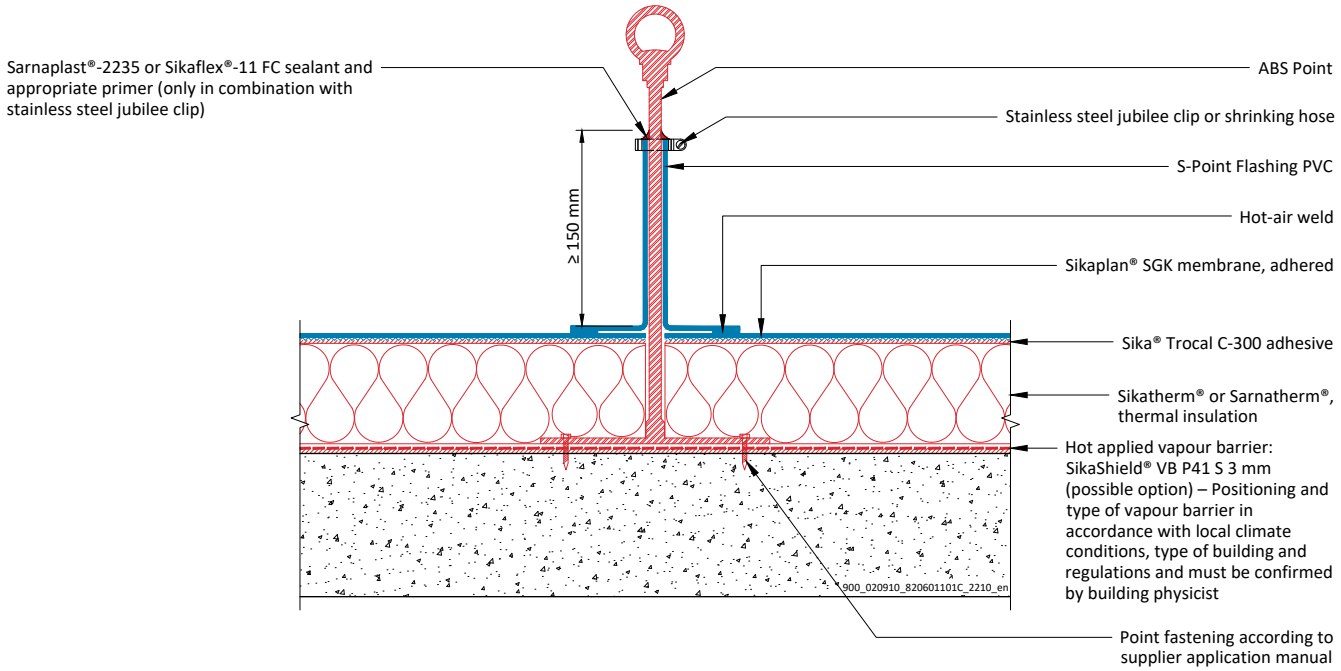
060.11.01 - ABS Point - Uninsulated - Utility Roof System



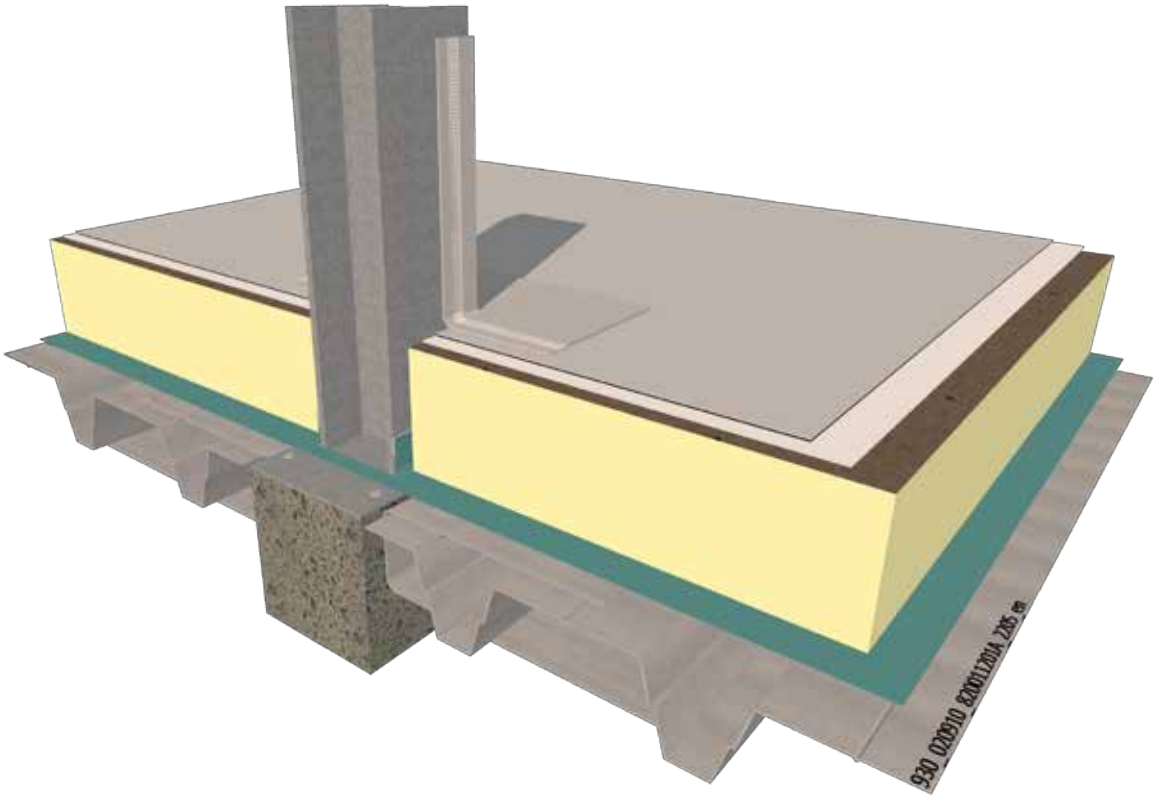
050.11.03 - Seculine Vario Anchor - Uninsulated - Green Roof System (Extensive / Intensive)



060.11.01 - ABS Point - Uninsulated - Adhered Roof System



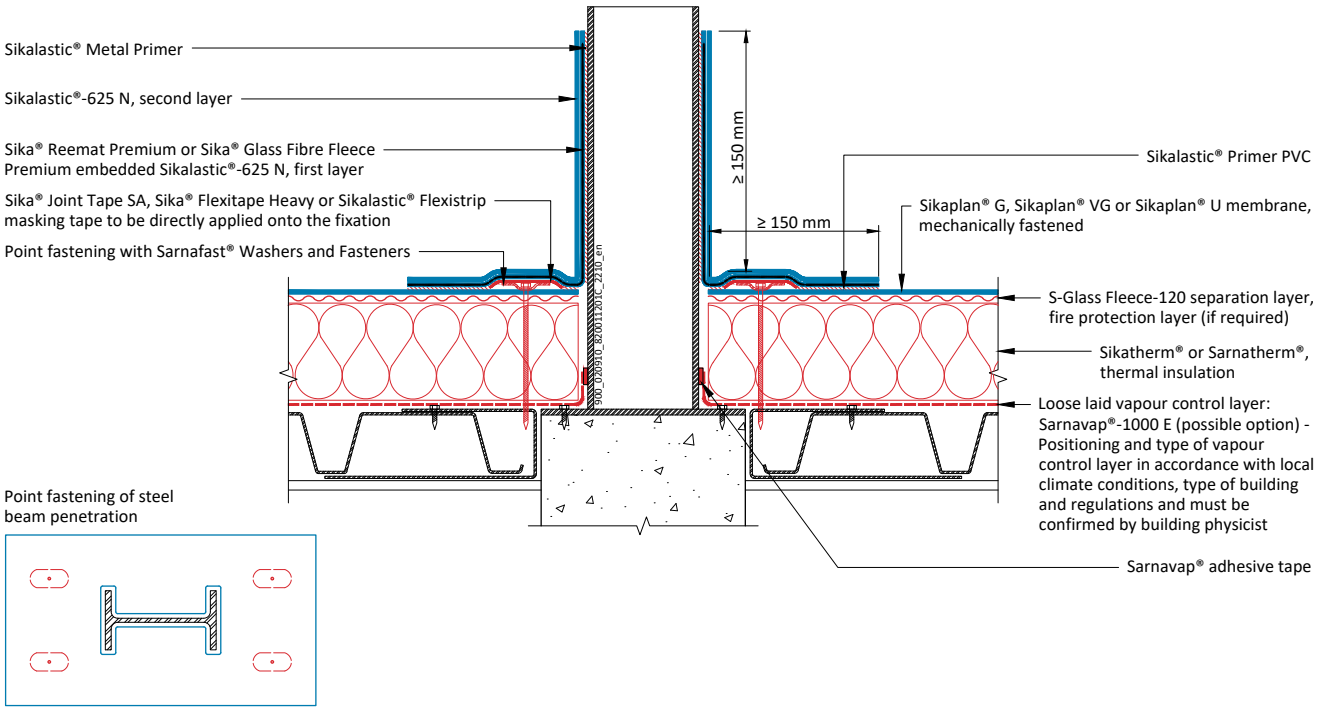
PENETRATION – DOUBLE T STEEL BEAM



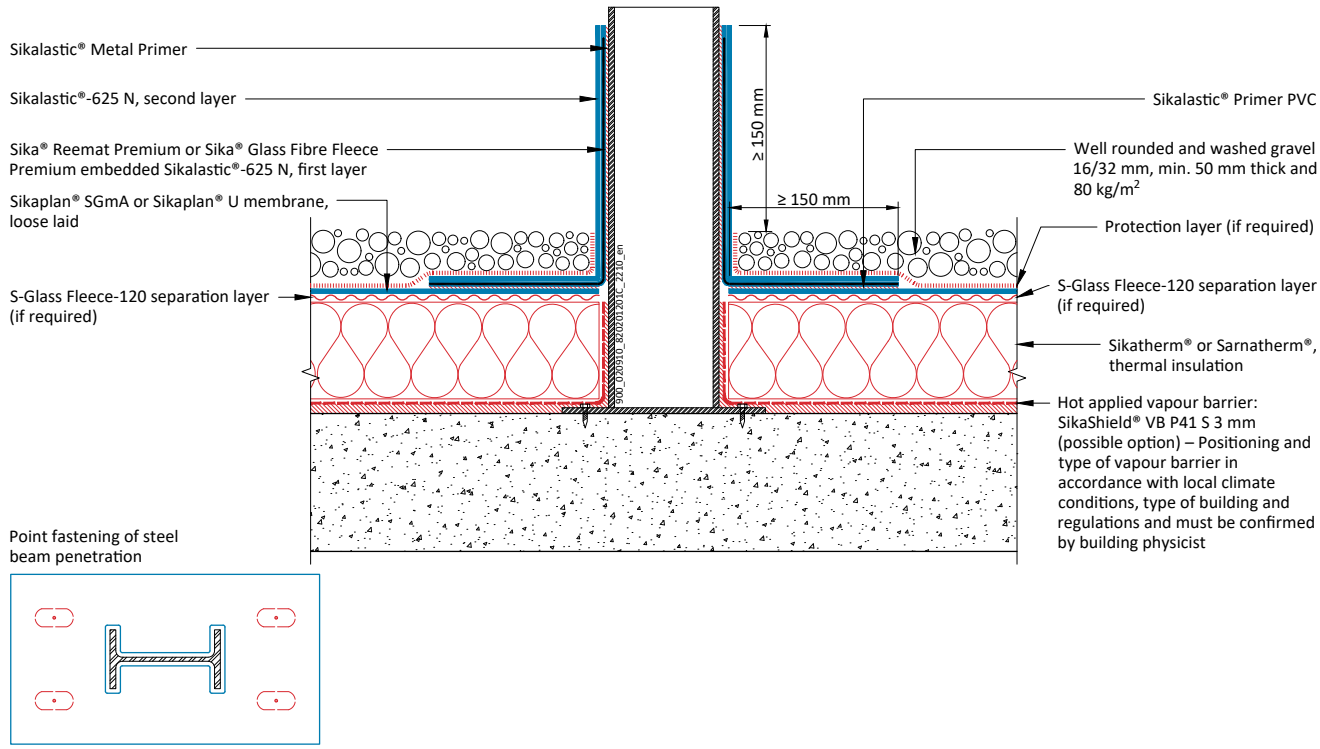
PLANNING INFORMATION

Detailing utilizing Sikalastic®-625 N first layer (base coat) in combination with Sika® Reemat Premium or Sika® Glass Fibre Fleece Premium embedded and Sikalastic®-625 N second layer (top coat) for the application to Sikaplan® PVC membrane is an exceptionally efficient method of protecting difficult details.

001.12.01 – Mechanically Fastened Roof System

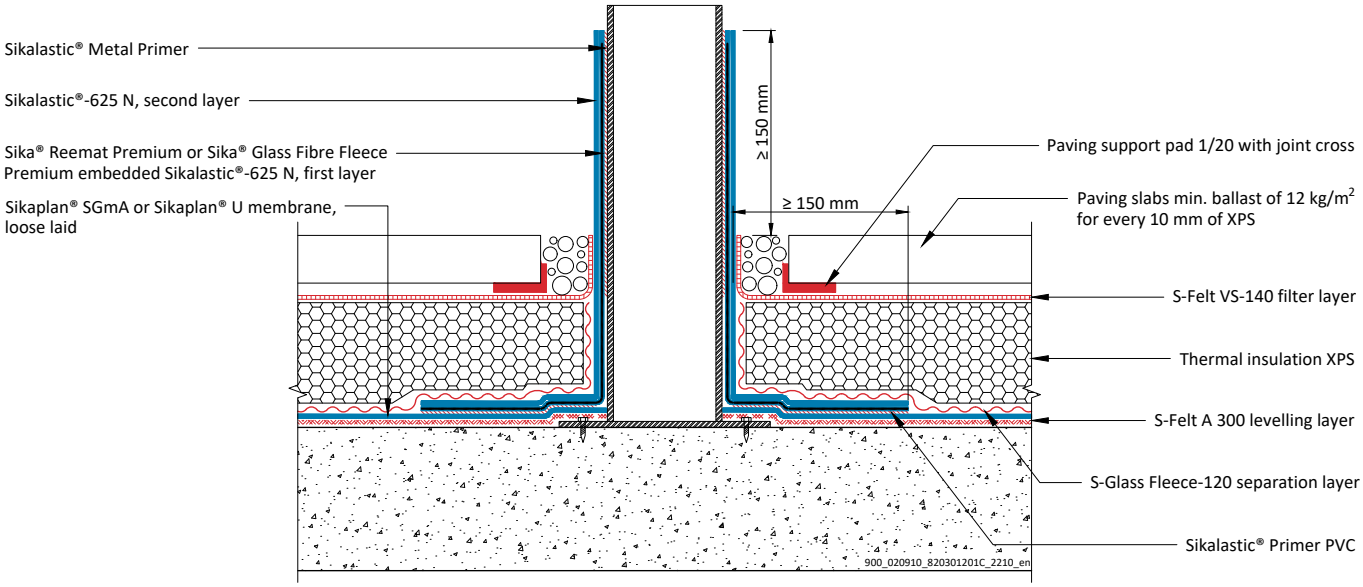


020.12.01 – Gravel Ballasted Roof System

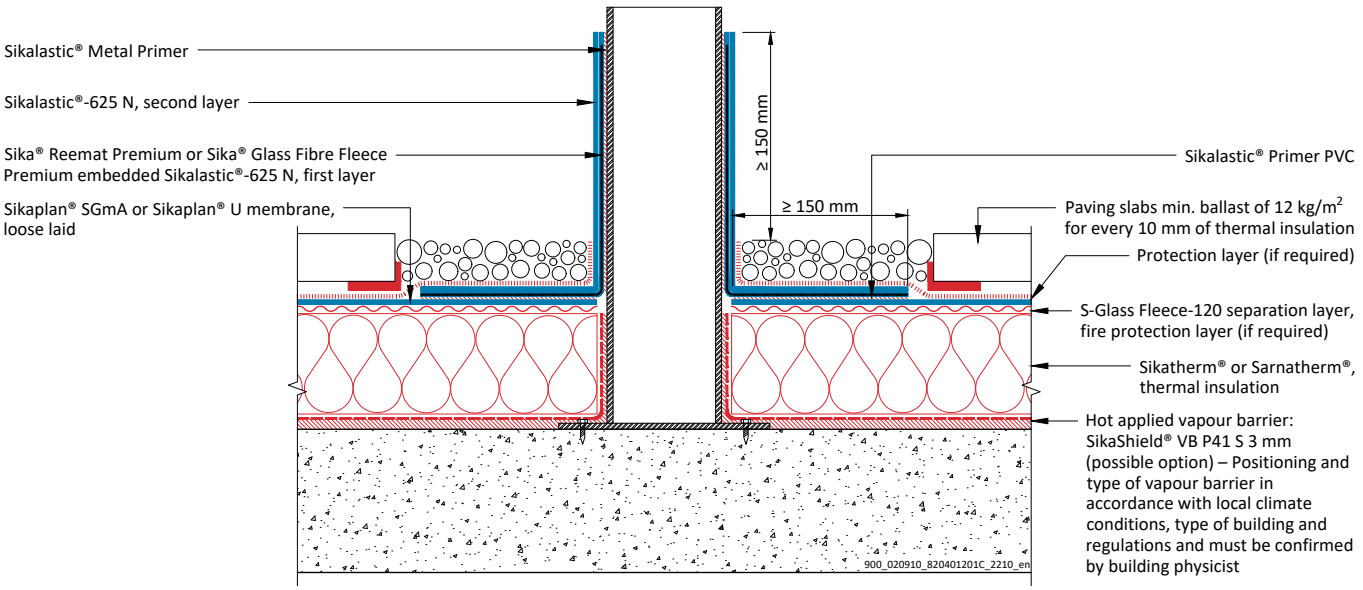


PENETRATION – DOUBLE T STEEL BEAM

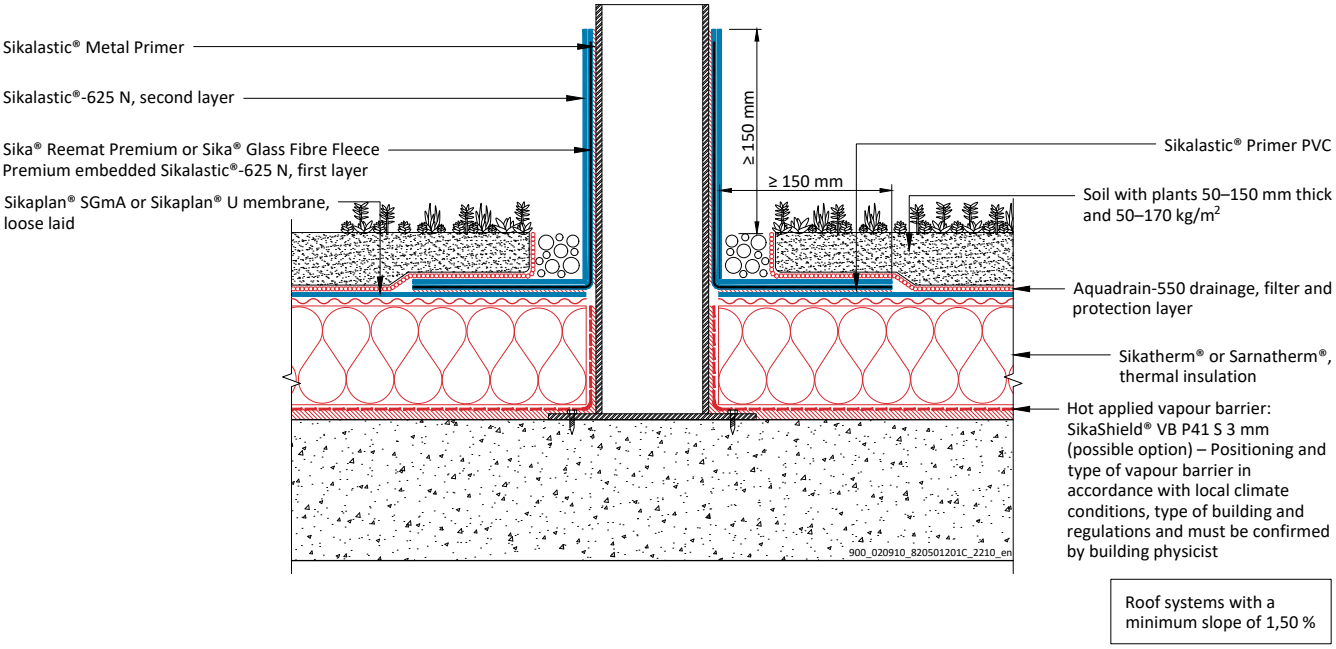
030.12.01 – Inverted Roof System



040.12.01 – Utility Roof System

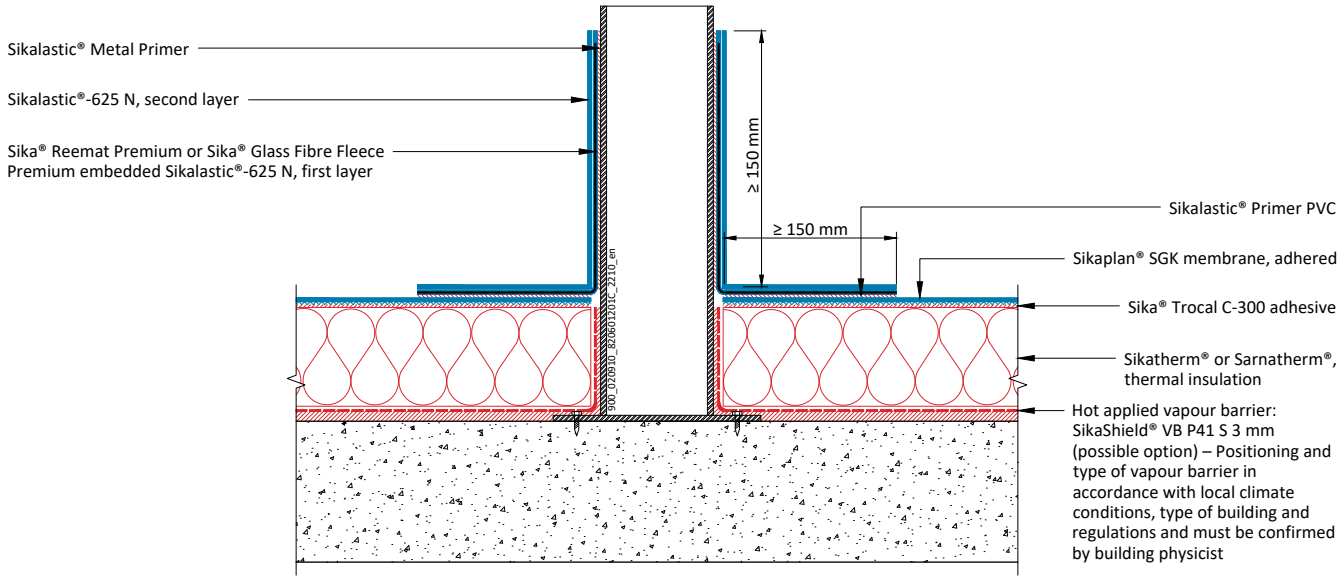


050.12.01 – Green Roof System (Extensive / Intensive)

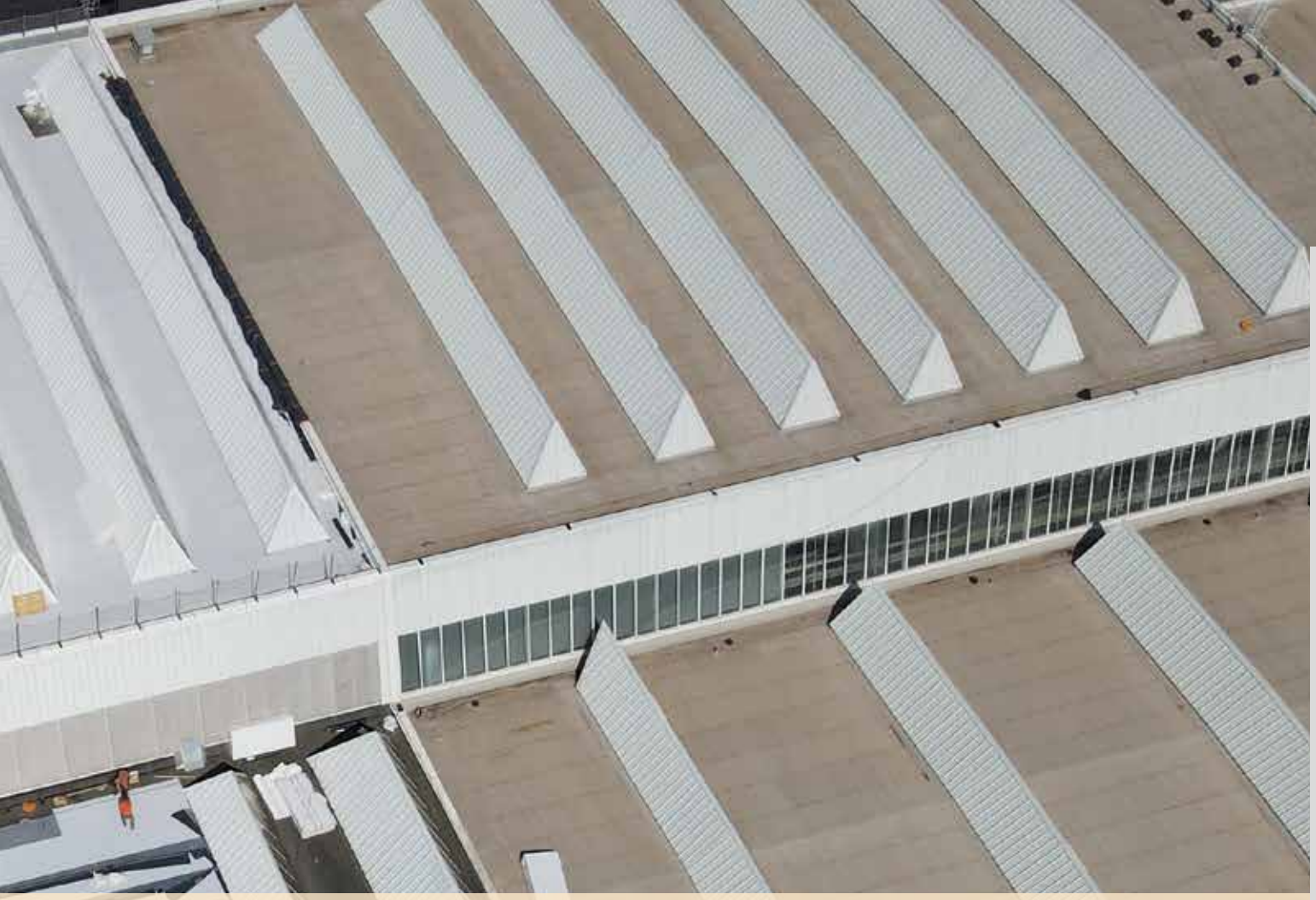


Roof systems with a minimum slope of 1,50 %

060.12.01 - Adhered Roof System



Expédition Shipping



SUSTAINABLE SOLUTIONS

RESPONSIBLE FOR THE FUTURE – SIKA ROOFING SOLUTIONS

Climate change and a growing population require cleaner energy and better-functioning cities. These forces are driving the demand for intelligent construction materials and smart mobility systems to ease congestion and reduce CO_2 emissions.

Sustainability is an important component of Sika's growth strategy and a clear focus in product development. The ambition of Sika product engineers: to extend the service life of buildings and industrial applications in order to reduce maintenance effort, to improve energy and material efficiency, and to further enhance user-friendliness and health and safety profiles.

Sika strives to create more value for all its stakeholders with its products, systems and solutions along the entire value chain and throughout the life span of its products. Performance is the foundation of sustainability.

Sika roofing solutions take less from the environment and offer more in durability and longevity, which results in a smaller overall environmental footprint.

MORE VALUE LESS IMPACT

HOW CAN SIKA ROOFING SYSTEMS CONTRIBUTE TO SUSTAINABLE CONSTRUCTION?
Long-lasting, high-performance roofing systems can make a major contribution to sustainable construction. Raw materials, production, application, the use phase and maintenance have significant influence on the overall sustainability performance of roofing applications. The contribution of roofing systems to sustainable construction is evaluated from a life-cycle perspective and evidenced through the various reference projects presented in this brochure.

RAW MATERIALS AND PRODUCTION
Energy and resource efficiency: Sika provides roofing systems that use less energy and resources in comparison with competitive technologies.

Climate protection: Sika provides roofing systems with low global warming potential. This means a reduced carbon footprint.

APPLICATION
Air quality: Sika provides low-VOC and VOC-free roofing solutions that help reduce summer smog and improve health and safety conditions during the roof installation process. The low-odor performance of Sika products has been externally tested and certified.

DURABILITY
The durability of building materials is a key to sustainable building construction. Internal and external studies document the outstanding service life of Sarnafil® roofing systems.
A flat roof, using the proper materials and installed by professionals, is tight for the lifetime. However, if unpredictable mechanical influence occurs, for example subsequent application of ballast such as green roof, it can lead to unintended leaks in the waterproofing layer. As a solution SikaRoof® Control System provides security for investors and building owners.

USE AND MAINTENANCE
Saving energy: Sika solar reflective membranes help save energy by increasing the reflectivity and as a consequence reducing the cooling energy demand of buildings.

Saving energy: Sika roofing systems can save energy by incorporating high-performance thermal insulation.

Generating energy: Sika SolaRoof® systems allow the production of energy, while Sika solar reflective membranes improve photovoltaic panel efficiency.

Improving the microclimate: Sika green roofing systems help improve the microclimate and mitigate the development of urban heat islands as well as help manage water runoff from roofs.

Extending service life: Sika roof refurbishment solutions allow extending the service life of existing roofs by using the existing buildup as a base for the new system.

SUSTAINABILITY PERFORMANCE CONFIRMED BY EPD AND LCA

Interest in Environmental Product Declarations (EPD)s has grown dramatically since recent versions of the U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) program and the UK's British Research Establishment Environmental Assessment Method (BREEAM) award credits for buildings incorporating products with EPD, which provide added value and comprehensive information for assessing buildings and other structures.
Sika provides custom Life Cycle Assessment (LCA) calculations, Environmental Product Declarations (EPD) and project specific reports developed with internal tools.
The EPDs are a standardized way to communicate relevant environmental information of products by quantifying the environmental aspects and potential environmental impacts throughout the product's life cycle based on quantitative data from LCA.


epd-norge.no
The Norwegian EPD Foundation

ENVIRONMENTAL PRODUCT DECLARATION
as per /ISO 14025/ and /EN 15804/

Owner of the Declaration	Sika Deutschland GmbH
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-SIK-20170120-IBA1-EN
Registration number	NEPD-1770-741-EN
Issue date	11/12/2017
Valid to	10/12/2022

Sikaplan® U
Sika Deutschland GmbH

Institut Bauen und Umwelt e.V.

www.ibu-epd.com / https://epd-online.com

Sika has published product-specific EPD's for Sikaplan® PVC membranes with the Institut Bauen und Umwelt (IBU). The EPD can be accessed in the IBU webpage
https://ibu-epd.com/veroeffentlichte-epds/

THIRD-PARTY VERIFIED
EPD
ISO 14025 and EN 15804
Institut Bauen und Umwelt e.V.

CONTRIBUTING TO GREEN BUILDING CERTIFICATION PROGRAMS

Over the recent years, several countries and organizations have developed environmental certification programs for buildings. The criteria of the programs are similar, whereas the evaluation may differ substantially. Green building certification programs focus on assessing whole buildings or building products.
Sika is actively involved in all major green building programs around the world. Most relevant from the global perspective are LEED, BREEAM and DGNB.

LEED (Leadership in Energy and Environmental Design)
LEED is the world's best known and largest "green building" certification system. It was developed in 2000 by the U.S. Green Building Council (USGBC) and is most relevant for North America but is also heavily used in many other regions around the world, such as South America, Europe and Asia. It is based on a set of rating categories in which specific topics are assessed. The products environmental impact is determined by using LCAs and EPDs.

BREEAM (BRE Environmental Assessment Method)
BREEAM is an environmental assessment method and rating system for buildings launched in 1990 by the BRE (UK). Local adaptations are also used in other countries such as the Netherlands, Sweden and Spain. BREEAM assesses the overall performance of buildings using factors such as energy and water use, the internal environment (health and wellbeing), pollution, transport, materials etc., awarding credits in each area according to defined performance criteria. The products environmental impact is determined using LCAs and EPDs.

DGNB (Deutsches Gütesiegel für Nachhaltiges Bauen)
The DGNB certification system was developed by the German Sustainable Building Council and the German government in 2009. The system is used in Germany and internationally. DGNB is based on up to 50 criteria in six quality sections, including Environmental Quality, Economic Quality and Technical Quality. For the Environmental Quality section, LCA data and EPDs are used.

MORE VALUE – GREEN BUILDING CONTRIBUTION
Relevant Sika contributions are as follows:

LEED®	BREEAM®	DGNB
LEED® v4 **SSc 5:** Heat island reduction **MRc 2:** Building disclosure – EPD **MRc 3:** Building disclosure – sourcing of raw materials **MRc 4:** Building disclosure – material ingredients **MRc 5:** Construction and demolition waste management	**BREEAM® UK-NC 2018** **Mat01:** Life cycle impacts **Mat03:** Responsible sourcing of materials **Mat04:** Insulation **Wst01:** Construction waste management	**DGNB 2018** **ENV1.1:** Building Life Cycle Assessment **ENV1.2:** Local environmental impact **SOC1.6:** Indoor and Outdoor quality **TEC1.6:** Ease of recovery and recycling

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.

ALSO AVAILABLE FROM SIKA

ROOFING
SIKA TECHNOLOGY AND CONCEPTS FOR ROOFING

ROOFING
ENABLER OF SUSTAINABLE CONSTRUCTION

ROOFING
SIKA COOL ROOF SOLUTIONS
SOLUTIONS FOR ENERGY-EFFICIENT FLAT ROOF BUILDUPS

SikaRoof® BOARD ADHESIVE
ADHESIVE TO BOND THERMAL INSULATION BOARDS TO VARIOUS SUBSTRATES

ROOFING
THERMAL INSULATION WITH Sikatherm PIR BOARDS
FOR FLAT ROOFING APPLICATIONS

APPLICATION MANUAL
Sikaplan® G TYPES

FOR MORE SIKA 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, flooring as well as roofing and waterproofing systems.

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