



ROOFING
SikaShield®
BITUMINOUS ROOFING SYSTEMS

BUILDING TRUST



SikaShield®

BITUMINOUS MEMBRANES

A Sika bituminous membrane for all application fields

Roofs are exposed every day to hazardous conditions and can get damaged and deteriorate over time. It is the most critical area of a building or structure which protects the users and interior from these hazards, and must be well-selected, well-designed and well-installed to be long-lasting and fault-free.

Approximately

60%

of the flat roof market worldwide is dominated by bitumen technologies.

In some countries, bitumen dominates over

80%

of the flat roof market.

Bitumen, also known as asphalt, is a sticky, black and highly viscous liquid or semi-solid form of petroleum. Thanks to its waterproofing qualities, it is widely used in construction to waterproof roofs, green roofs, terraces and balconies, basements, below-ground structures, podiums, bridges and other structures.

SikaShield® is fully-bonded to the surface with excellent mechanical properties and able to maintain its waterproofing capacity without causing cracks, thus providing a long-lasting system.



SikaShield® BITUMINOUS MEMBRANES ARE NOT ONLY DURABLE AGAINST WIND, RAIN, SNOW, HAIL AND OTHER ENVIRONMENTAL CONDITIONS, BUT THEY ALSO COME WITH DECADES OF EXPERTISE AND SUPPORT.

FLAT ROOFS



PITCHED ROOFS



TERRACES



GREEN ROOFS



PARKING LEVEL



RENOVATION



SikaShield®

Features and benefits

SikaShield® MEMBRANES ARE MADE by a polymer modified bituminous compound with or without a reinforcement and protected by an upper and under layer surface, leading to a wide range of possibilities depending on where and how it is to be used.

The combination of all these layers can offer the membrane a variety of qualities by changing the heat resistance, flexibility, viscosity, softness and mechanical resistance, allowing different levels of performance to be achieved according to the needs of the various application fields.

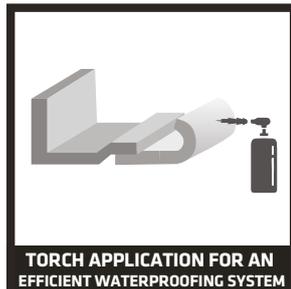
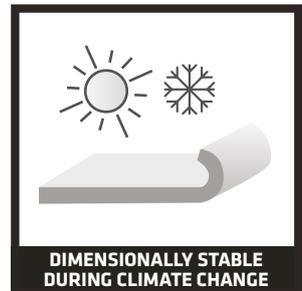
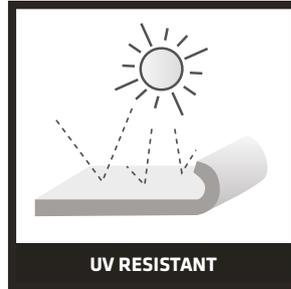
The aesthetic result is another significant advantage of the bituminous membrane. The plain and smooth finishing guarantees an optimum adhesion of the subsequent layers, while the mineral granules have the ideal color and/or design for exposed roofs. Even some other materials can be used to decrease the temperature inside of the buildings, such as aluminum foil.



1. Upper layer: aluminium, slates, sand, talc, or polyethylene foil
2. Bituminous compound
3. Reinforcement: fiberglass, polyester and/or aluminium, etc.
4. Bituminous compound
5. Under layer: foil (torch layer) or removable film (fully self-adhered)

THE COMBINATION OF ALL THESE LAYERS CAN OFFER THE MEMBRANE A VARIETY OF QUALITIES BY CHANGING THE HEAT RESISTANCE, FLEXIBILITY, VISCOSITY, SOFTNESS AND MECHANICAL RESISTANCE

MAIN
ADVANTAGES:



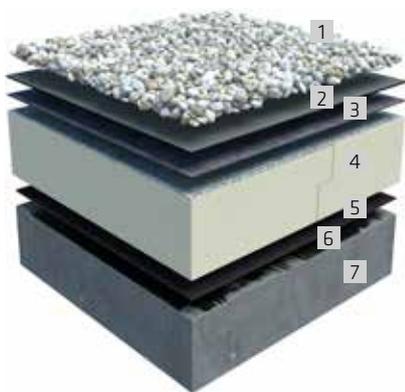
WARM FLAT ROOFS WITH LOADS

System build-up

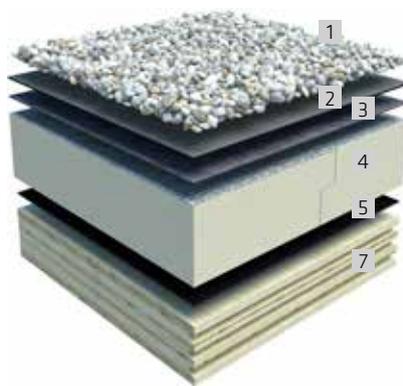
In the system, the waterproofing membrane protects the thermal insulation while an underlying vapor barrier sheet governs the building's physical balance. In order for the waterproofing membrane to sustain these influences as long as possible, thus reaching an above average service life, **"premium" quality bitumen sheets are advantageous.**

PUR/PIR panels have a particularly good insulation value.

Therefore, thinner insulation thicknesses are often enough to meet the heat protection standards. However, if the panel is not facing a bituminous foil, the membrane should not be torched and must be bonded with a cold adhesive or mechanically fixed. Another option is to use the self-adhesive membrane, SikaShield® E74 PE SA 3 mm, as the first layer over a PIR/PUR coated with aluminum foil or fiberglass.

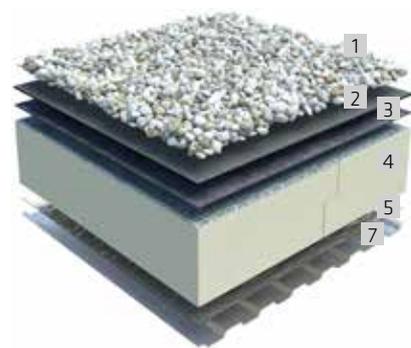


1. Gravels + Protection felt
2. 2nd waterproofing layer with smooth surface
3. 1st waterproofing layer with smooth surface
4. PIR/PUR thermal insulation
5. SikaShield® VB
6. Sika® Primer
7. Concrete, wood or profile sheeting



A full self-adhesive system can also be considered:

1. Gravels + Protection felt
2. SikaShield® E74 PE SA 3 mm
3. SikaShield® E74 PE SA 3 mm
4. PIR/PUR thermal insulation
5. SikaShield® VB E71 SA
6. Sika® Primer
7. Concrete, wood or profile sheeting



SUITABLE BITUMINOUS VAPOR CONTROL LAYER:

All substrates	On concrete
SikaShield® VB E71 SA	SikaShield® VB P42
Sarnavap® 5000 E SA	SikaShield® VB P21

SUITABLE TORCH WATERPROOFING MEMBRANES WITH SMOOTH SURFACE:

SBS	APP
SikaShield® E55	SikaShield® P55
SikaShield® E45	SikaShield® P45

WARM FLAT ROOFS WITHOUT LOADS – EXPOSED ROOFS

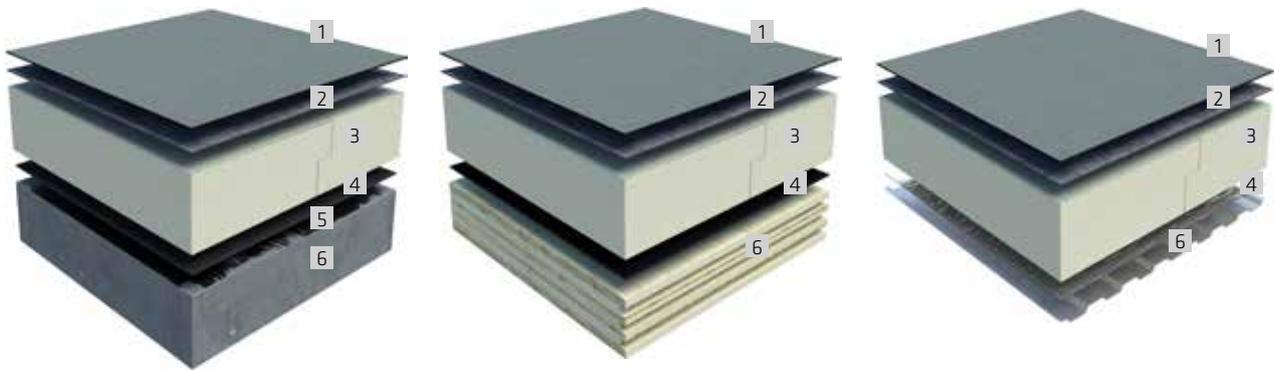
System build-up

In this case, the same parameters of the “warm flat roof with load” apply for the:

- Vapor control layer
- Thermal insulation

The difference with this system is the use of a self protected membrane, which is UV-resistant, such as a granule surface or aluminum foil coating.

The granules have the advantage of availability in various colors: grey, green, black, red, white. Each one has a different reflecting capacity of solar radiation, which must be considered if an LEED certification is needed or depending on the building requirements. And the aluminum foil can be used to decrease the thermal absorption of the building due its reflective characteristics.



1. 2nd waterproofing layer, exposed
2. 1st waterproofing layer with smooth surface
3. PIR/PUR thermal insulation
4. SikaShield® VB
5. Sika® Primer
6. Concrete, wood or profile sheeting

A full self-adhesive system can also be considered:

1. SikaShield® E79 MG SA 4 mm
2. SikaShield® E74 PE SA 3 mm
3. PIR/PUR thermal insulation coated with aluminum foil
4. SikaShield® VB E71 PE SA 3 kg/m²
5. Sika® Primer
6. Concrete, wood or profile sheeting

SUITABLE TORCH WATERPROOFING MEMBRANES TO BE USED AS TOP LAYER, EXPOSED:

SBS	APP
SikaShield® E65 MG	SikaShield® P55 MG
SikaShield® E55 MG	SikaShield® P45 MG

SUITABLE TORCH WATERPROOFING MEMBRANES WITH SMOOTH SURFACE:

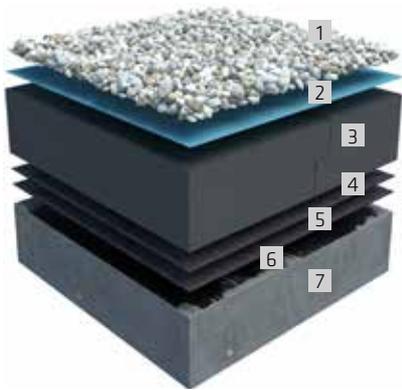
SBS	APP
SikaShield® E55	SikaShield® P55
SikaShield® E45	SikaShield® P45

TERRACES AND FLAT INVERTED ROOFS

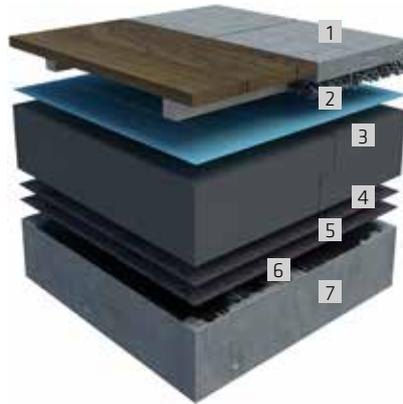
System build-up

In this type of roof construction, the roof is sealed below the insulation and is well protected from all external influences. This circumstance has a positive effect on the aging behavior and thus on the life expectancy of the waterproofing sheet. The insulation has to withstand rain, snow and wet weather. Therefore, XPS insulations are suitable due to their closed cell structure.

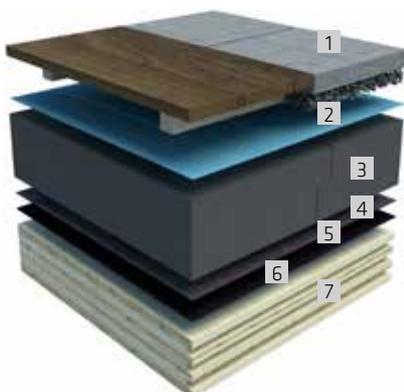
The membranes with a plain and smooth surface are suitable as a waterproofing layer for these systems. When the substrate is a wooden surface, the self-adhesive membrane, SikaShield® E74 PE SA 3 mm, must be used as first layer to ensure a safe and secure application. To improve the adhesion, an elastomeric primer, such as Sika® Igoflex® P-10 EL, must be used.



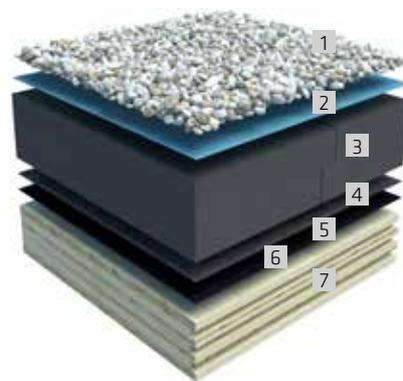
1. Gravel
2. Diffusion Separation layer
3. XPS Thermal Insulation
4. 2nd waterproofing layer with smooth surface
5. 1st waterproofing layer with smooth surface
6. Sika® Primer
7. Concrete



1. Wooden slat or concrete slabs in gravel bed
2. Diffusion separation layer
3. XPS thermal insulation
4. 2nd waterproofing layer with smooth surface
5. 1st waterproofing layer with smooth surface
6. Sika® Primer
7. Concrete



1. Wooden slat or concrete slabs in gravel bed
2. Diffusion separation layer
3. XPS thermal insulation
4. Waterproofing layer with smooth surface
5. SikaShield® E74 PE SA 3 mm
6. Sika® Primer
7. Wood



1. Gravel
2. Diffusion separation layer
3. XPS thermal insulation
4. Waterproofing layer with smooth surface
5. SikaShield® E74 PE SA 3 mm
6. Sika® Primer
7. Wood

SUITABLE TORCH WATERPROOFING MEMBRANES WITH SMOOTH SURFACE:

SBS	APP
SikaShield® E55	SikaShield® P55
SikaShield® E45	SikaShield® P45

GREEN ROOFS

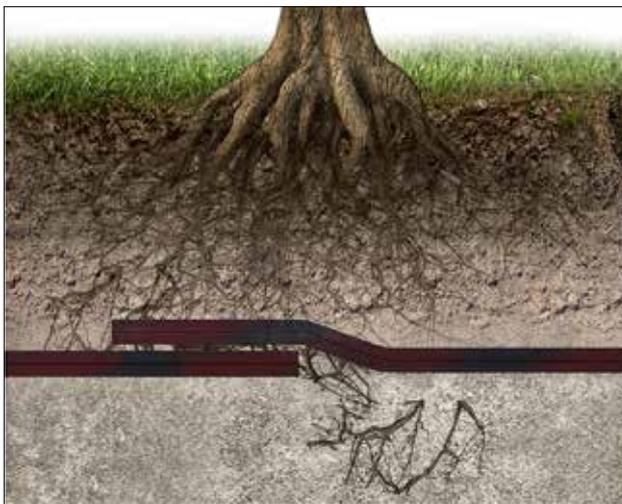
System build-up

With a green roof valuable space is obtained. In wet weather it acts like a sponge and stores up to 90% of water. This improves the water balance of the area and acts as an active flood protection.

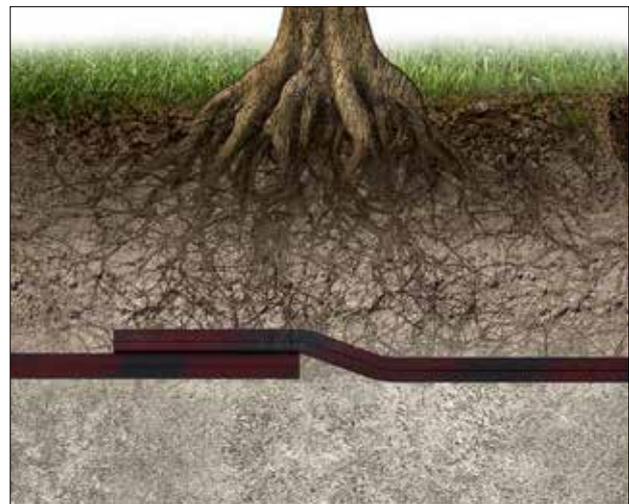
Green roofs include flat roofs with low shrubs, grasses and weeds. These plants need little rainwater and require very

little maintenance after the establishment phase. The thickness of the vegetation layer is usually about 10 cm.

The SikaShield® P55 PE RT is the ideal membrane for these systems, because resists to the chemical effects of humic acids and fertilizers, allowing the membrane to be in direct contact with soil, and preventing penetration by roots.



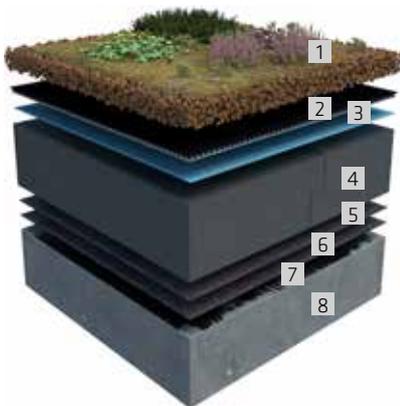
Traditional membranes.



SikaShield® P55 PE RT.

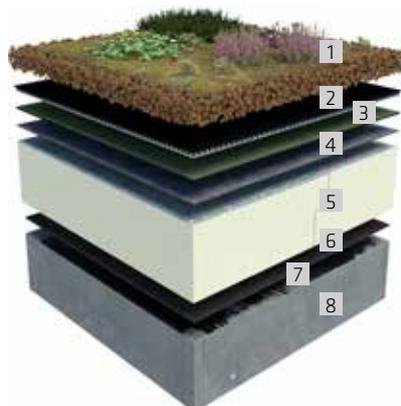
POSSIBLE SOLUTIONS

INVERTED GREEN ROOF



1. Vegetation
2. Drain and storage mat
3. Diffusion separation layer
4. XPS thermal insulation
5. SikaShield® P55 PE RT 4 mm
6. Waterproofing layer with smooth surface
7. Sika® Primer
8. Concrete

WARM GREEN ROOF



1. Vegetation
2. Drain and storage mat
3. SikaShield® P55 PE RT 4 mm
4. Waterproofing layer with smooth surface
5. PIR/PUR thermal insulation
6. SikaShield® VB
7. Sika® Primer
8. Concrete

FLL approved

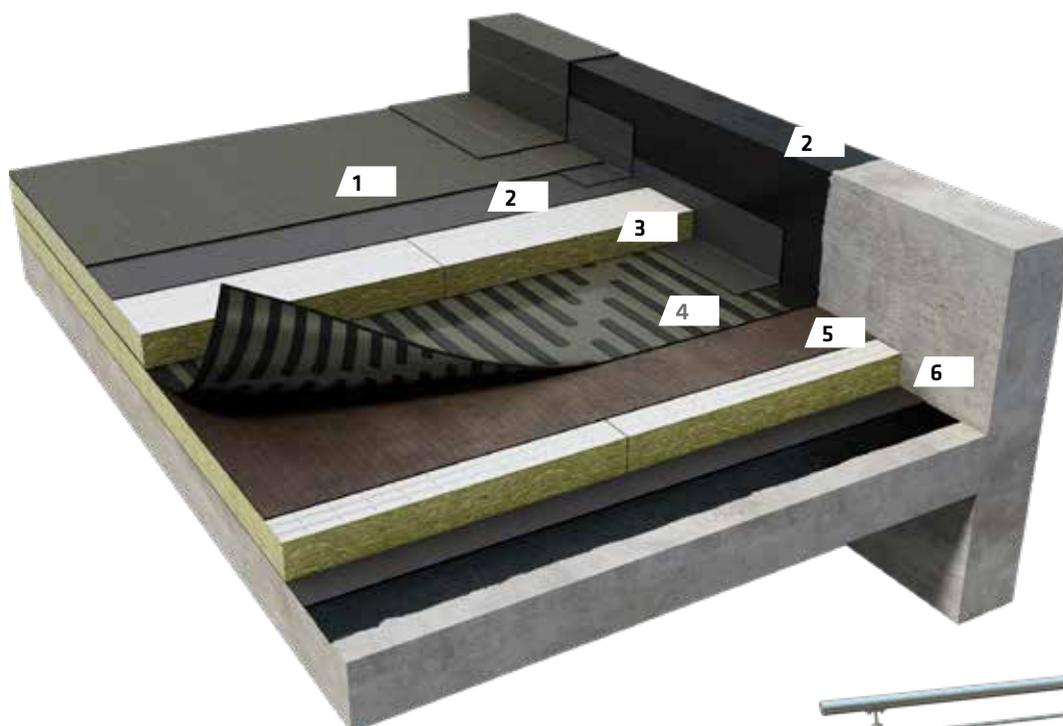
SUITABLE TORCH WATERPROOFING MEMBRANES WITH SMOOTH SURFACE:

SBS	APP
SikaShield® E55	SikaShield® P55
SikaShield® E45	SikaShield® P45

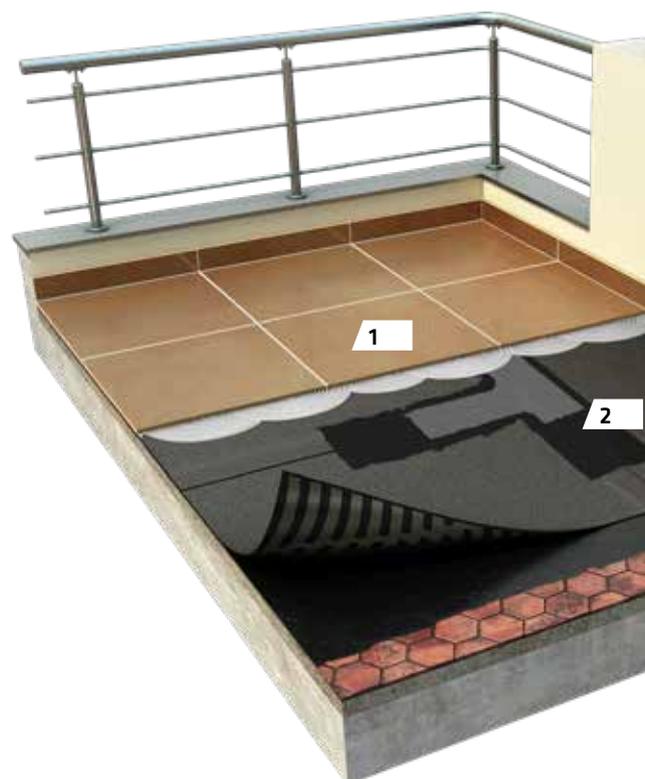
ROOF RENOVATION

System build-up

ROOFS, BALCONIES, TERRACES ARE mostly outdoor and like all other parts of a property require maintenance. Outdoor exposures include rain, UV light, heat, hail, snow, low temperature, and other environmental exposures. And the lack of an efficient protection can cause great damage to a building.



1. SikaShield® HB79 MG 4 mm
2. SikaShield® E74 PE SA 3 mm
3. XPS or EPS thermal insulation
4. SikaShield® VMS "BS" type
5. Sika® Primer
6. Substrate (old or new floor)

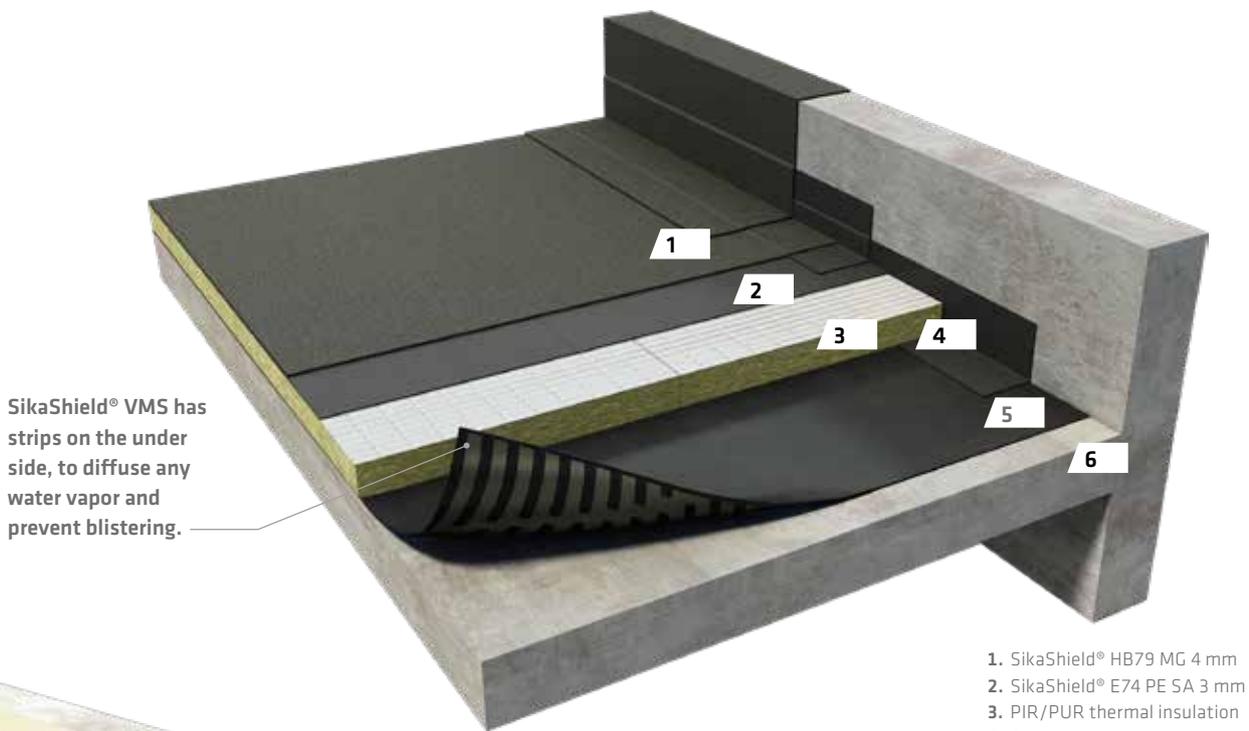


* The primer is not necessary when the membrane is torch applied, but is always recommend to increase the bonding and quality of the system.

Sika has developed a safe and secure solution for roof refurbishment, the SikaShield® VMS membranes as an effective, easy and simple application in all seasons, without demolition of the substrate.

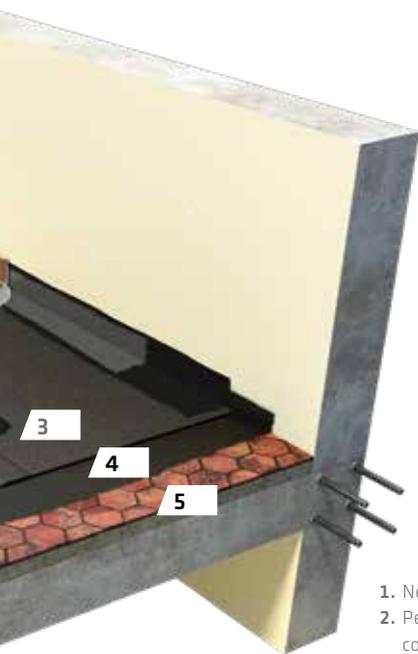
QR-CODE
TO THE
COUNTRIES
TO ADD

FOR MORE DETAILS ABOUT
THE MEMBRANES AND
SYSTEMS AVAILABLE.



SikaShield® VMS has strips on the under side, to diffuse any water vapor and prevent blistering.

1. SikaShield® HB79 MG 4 mm
2. SikaShield® E74 PE SA 3 mm
3. PIR/PUR thermal insulation
4. Adhesive
5. SikaShield® VMS P52 or SikaShield® VMS P51
6. Substrate (old or new floor)



1. New floor bonded with adhesive class C251
2. Perimeter, end and side joints with double coat of Sikalastic®-685 and Sika® Igoflex® F-05
3. SikaShield® VMS "MC" type
4. Sika® Primer
5. Substrate (old or new floor)

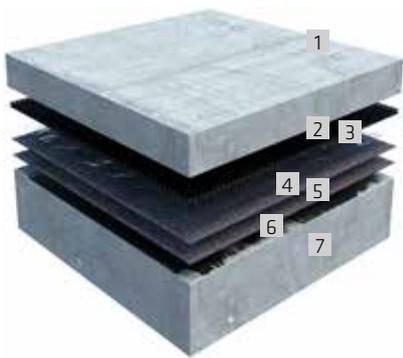
PARKING LEVELS NON-INSULATED

System build-up

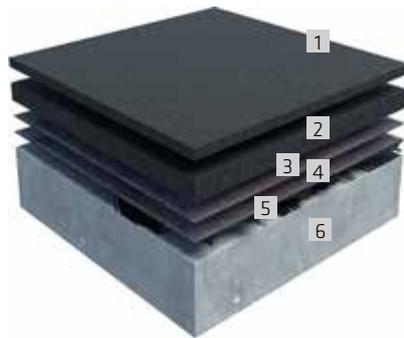
A PARKING LEVEL IS a building fit for traffic (garage, basement garage) and allows space-saving parking of vehicles or other transport over several floors. Therefore, the pavement (asphalt, concrete, etc.) and the seal must be perfectly coordinated.

For concrete surfaces there are a variety of design options. Between protected concrete and waterproofing sheets, drains and overlays have to be installed so that water is safely diverted and common shrinkage and creep processes are col-

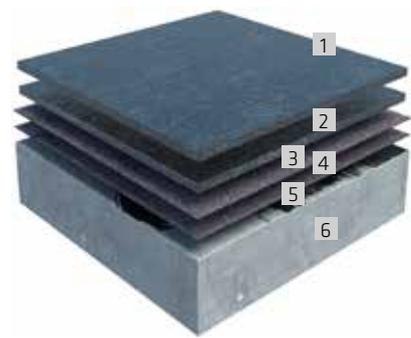
lected within the concrete layer. In all these cases, the bituminous conglomerate, the poured asphalt paving or concrete paving cast on site can be laid directly on the waterproofing covering.



1. Concrete paving
2. Drainage Mat
3. Sheet of drift
4. 2nd waterproofing layer
5. 1st waterproofing layer
6. Sika® Primer*
7. Concrete



1. Mastic asphalt
2. Mastic asphalt (protective layer)
3. 2nd waterproofing layer
4. 1st waterproofing layer
5. Sika® Primer*
6. Concrete



1. Rolled asphalt
2. Rolled asphalt (protective layer)
3. 2nd waterproofing layer
4. 1st waterproofing layer
5. Sika® Primer*
6. Concrete

* An epoxy primer, such as Sikadur®-188 Normal, can also be used.
Sika® Hot melt bitumen is also a good option to bond the membranes.

CE

CE marking and Declaration of Performance to EN 14695 – Reinforced bitumen membranes for waterproofing concrete bridge structures and other concrete surfaces subject to traffic.

SUITABLE WATERPROOFING MEMBRANES:

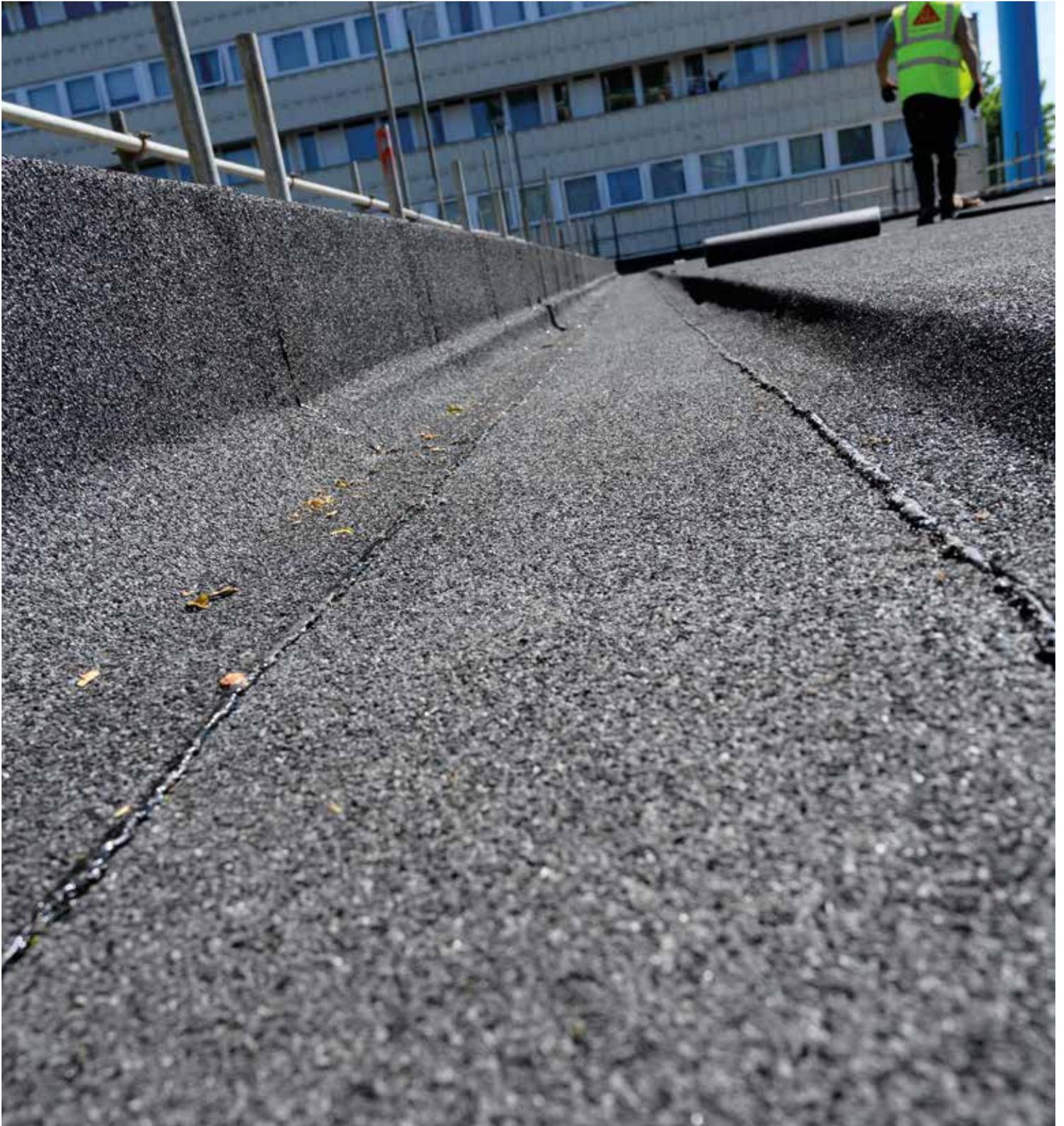
APP

SikaShield® P67

SikaShield® P58

SikaShield® P56

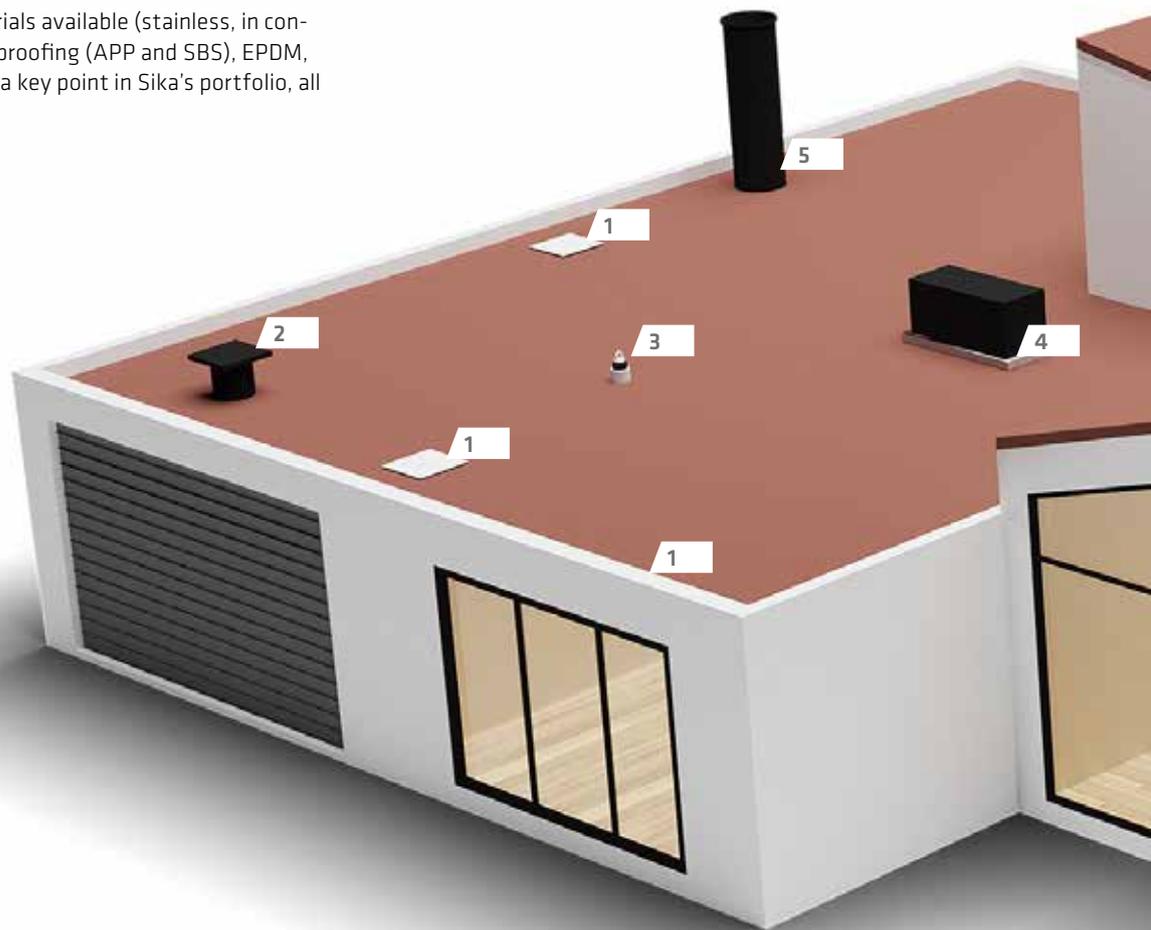
SikaShield® P47



ADDITIONAL PRODUCTS

A FULL RANGE OF ACCESSORIES is available to complete the waterproofing systems, such as vent collars and outlet vent collars for safe integration of roof openings such as ventilators, railing supports, guardrails, lightning protection, etc.

The different types of materials available (stainless, in connection with bitumen waterproofing (APP and SBS), EPDM, polypropylene, etc.) are also a key point in Sika's portfolio, all within various dimensions.



EPDM rubber roof outlet, applied by torch method and compatible with any type of bituminous membrane. With different heights and diameters.



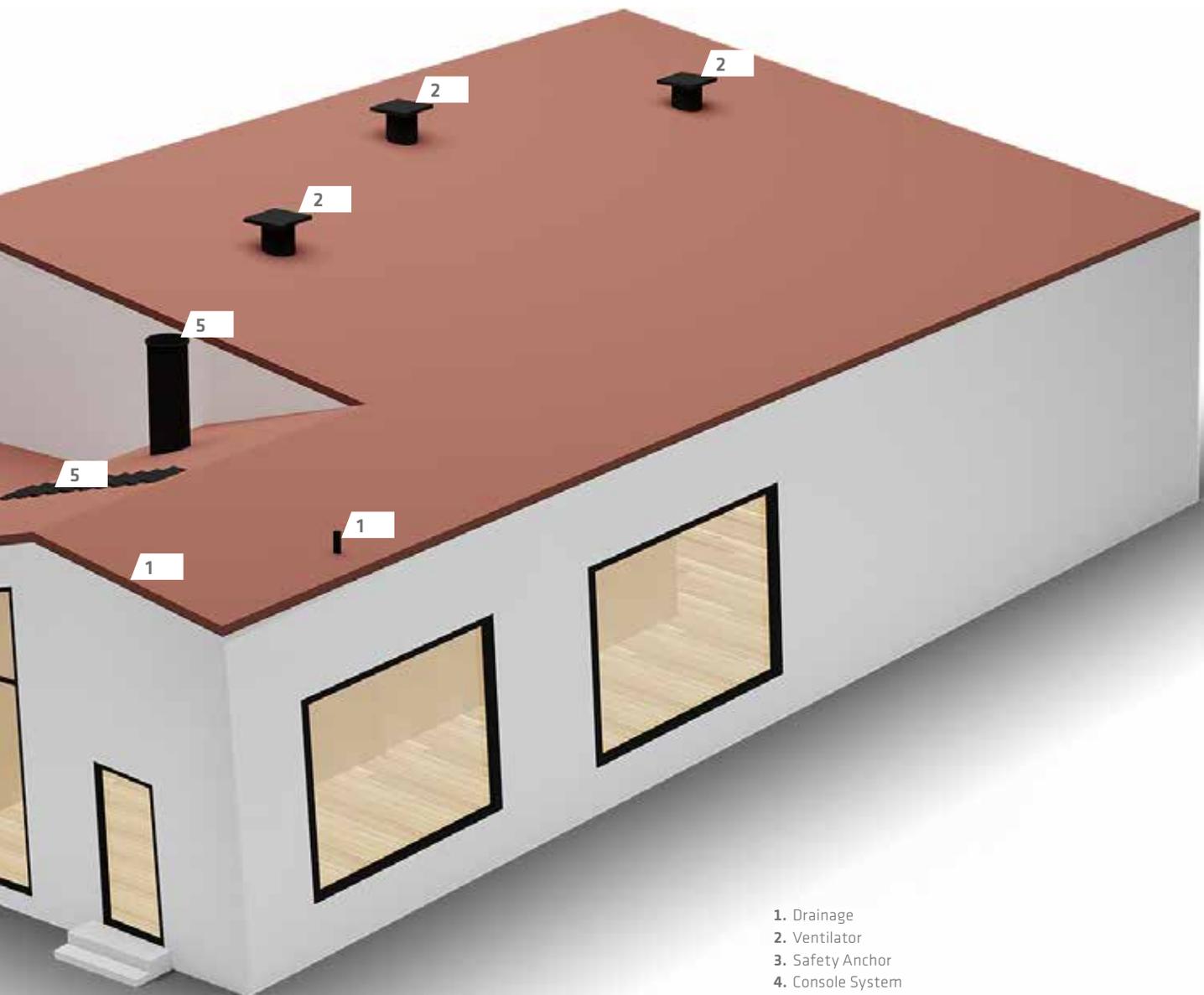
Vertical roof outlet: Stainless steel, SBS or APP, with or without flange.



Horizontal roof outlet for installation through parapet: Stainless steel, SBS or APP.



Thermoplastic elastomer vent pipes to allow moisture and vapour under waterproofing membranes to go out.



- 1. Drainage
- 2. Ventilator
- 3. Safety Anchor
- 4. Console System
- 5. Flashing

GLOBAL BUT LOCAL PARTNERSHIP



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, industrial flooring as well as roofing and waterproofing systems.

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



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BUILDING TRUST

