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Method Statement
SikaRoof® MTC Systems
Moisture triggered polyurethane Liquid Applied Membrane in Roofing
BU Contractors

Storage Place: Liquid Plastics Ltd, IOTECH House, Preston
Key Words: SikaRoof® MTC, Sikalastic®-601 BC, Sikalastic®-621 TC, Sikalastic®-602 BR, Sikalastic®-622 TR and Sikalastic®-623 DR. Liquid Applied Membrane in Roofing, one-component moisture triggered polyurethane
Scope: Method Statement for the application of Sikalastic®-601 BC, Sikalastic®-621 TC, Sikalastic®-602 BR, Sikalastic®-622 TR and Sikalastic®-623 DR for SikaRoof® MTC 8, 12, 18, 22 and SikaRoof® MTC Cold Bonding, SikaRoof® MTC Green and SikaRoof® MTC Ballast

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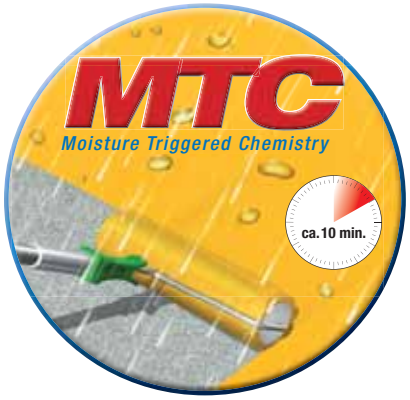
Index

An Introduction to **SikaRoof®** MTC

SikaRoof® MTC (Moisture Triggered Chemistry) Systems incorporate a unique technology that allows the material to use atmospheric moisture to trigger the curing process. This means the waterproof membranes are capable of curing in a wide range of conditions including extreme temperature ranges and humidity variations. Unlike traditional polyurethane systems they do not release CO_2, which often causes gassing, and application is not delayed by adverse weather conditions.

It is not recommended to install the SikaRoof® MTC systems when rain is imminent, as rainfall could affect the appearance of the product. However, once applied the membranes are waterproof and will not show an adverse reaction to water.

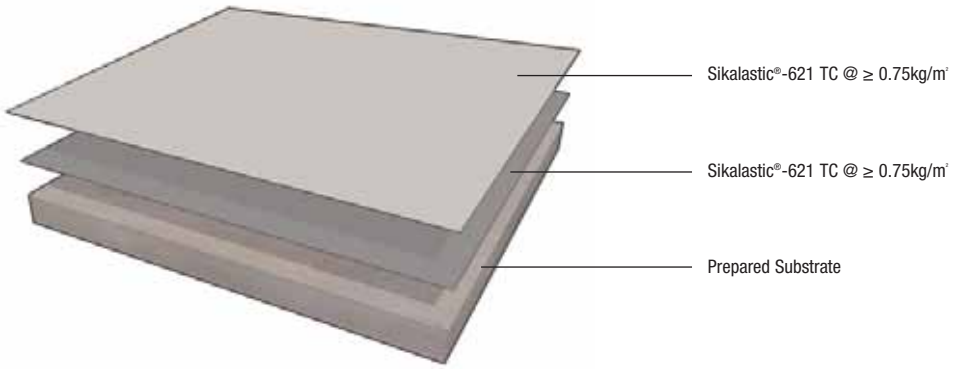
Within the SikaRoof® MTC Systems is a Sikalastic® membrane that cures to provide completely seamless waterproof protection. Its liquid application means it can be easily applied to all complex detail areas, and because it is completely cold applied there is no requirement for any heat or naked flame on the roof.



The SikaRoof® MTC Systems

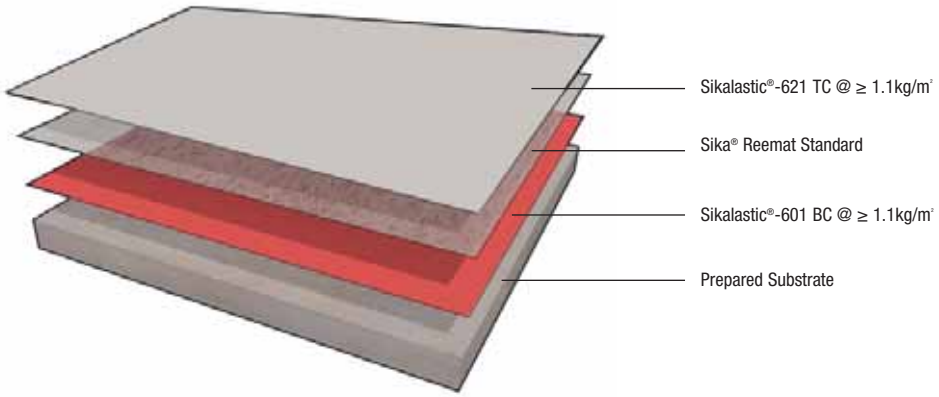
SikaRoof® MTC 8

UV stable or reflective roof coating system for enhanced energy efficiency. Using this system, the entire roof area is treated with Sikalastic®-621 TC. Once dry, another coat of Sikalastic®-621 TC is then applied and again allowed to cure.



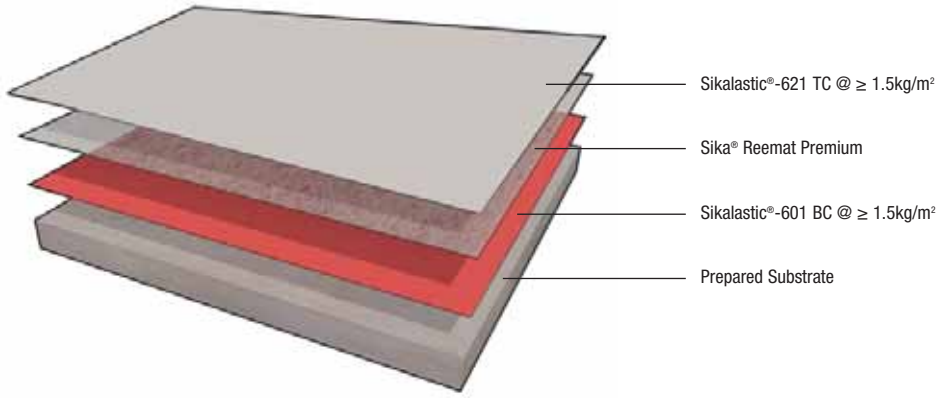
SikaRoof® MTC 12

A polyurethane based, roofing system which provides effective long term weatherproof protection. This system is based on an initial coat of Sikalastic®-601 BC, into which Sika® Reemat Standard is embedded. Once cured, Sikalasti®-621 TC is applied.



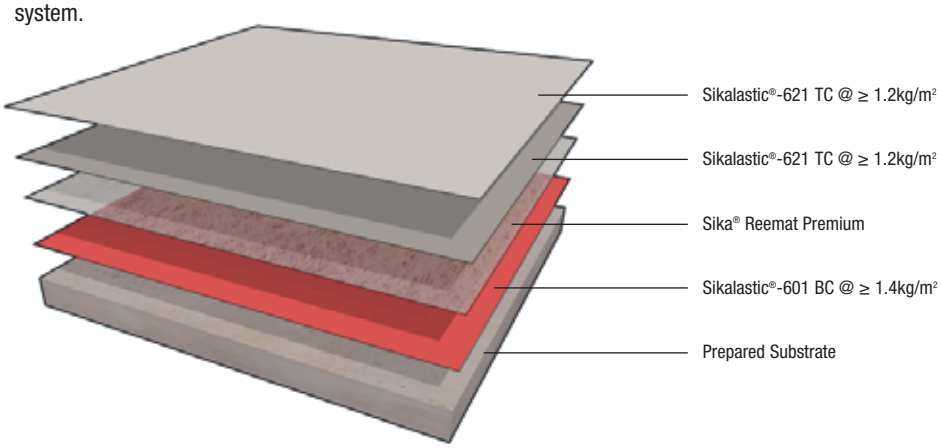
SikaRoof® MTC 18

A high performance, polyurethane based roofing system which provides effective long term weatherproof protection. This system is based on an initial coat of Sikalastic®-601 BC, into which Sika® Reemat Premium is embedded. Once cured, Sikalastic®-621 TC is applied.



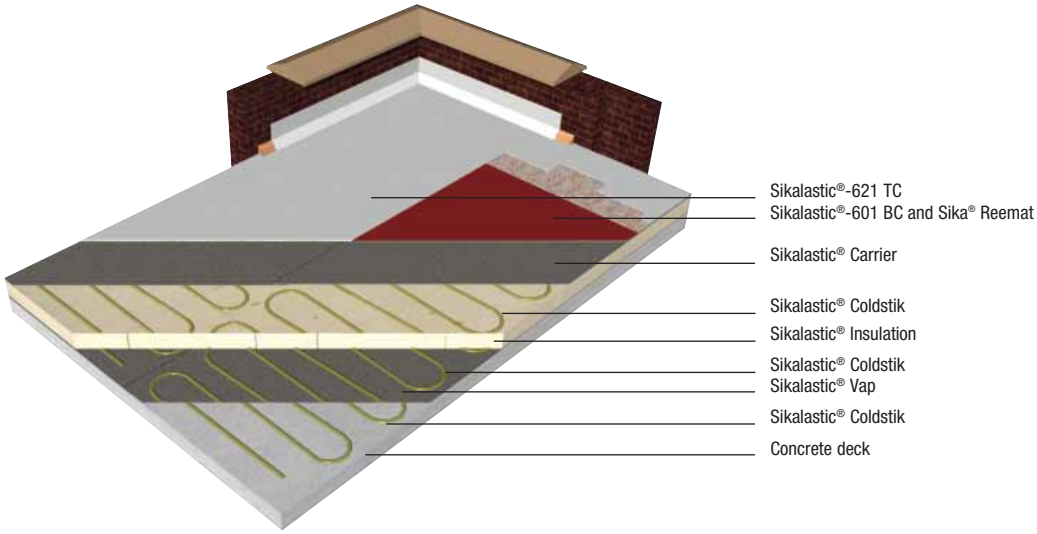
SikaRoof® MTC 22

A superior performance, polyurethane based roofing system which provides effective long term weatherproof protection. This system requires an initial coat of Sikalastic®-601 BC, into which Sika® Reemat Premium is embedded. Two layers of Sikalastic®-621 TC are then applied to finish the system.



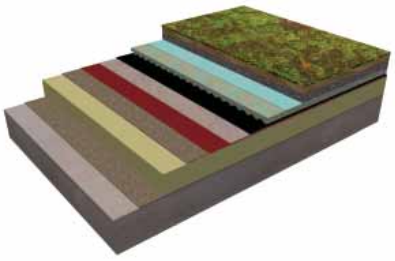
SikaRoof® MTC Cold Bonding

An insulated built-up roof waterproofing system suitable for new-build and refurbishment projects. Each component is bonded using a revolutionary cold fusion adhesive – no fire risk during application. This system requieres Sikalastic® Vap, Sikalastic® Insulation and Sikalastic® Carrier adhered with Sikalastic® Coldstik, waterproofed with SikaRoof® MTC 12, 18 or 22.



SikaRoof® MTC Green

For intensive and extensive green roofs to enhance the aesthetics of the building, to improve thermal performance, to aid noise reduction, to provide habitats for plants and animals, to reduce storm water run off and to absorb CO_2. This system requires an initial coat of Sikalastic®-602 BR, (≥ 2.0kg/m²) into which Sika® Reemat Premium is embedded. To finish the system apply one layer Sikalastic®-622 TR (≥ 1.4kg/m²) to covered areas and two layers of Sikalastic®-623 DR (≥ 2.0kg/m²) are applied to exposed areas.

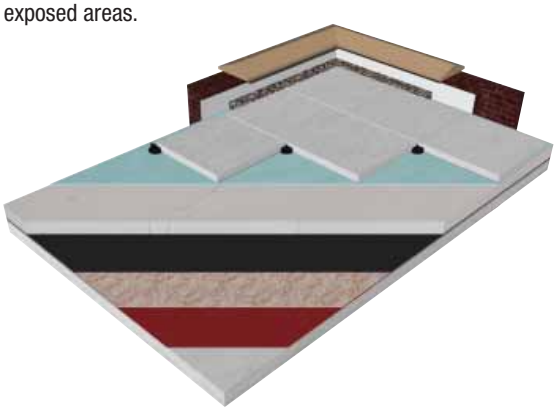


Extensive Green Roof Systems are an ideal solution to provide an aesthetic, low maintenance ecological feature, which can be admired from surrounding buildings.

Intensive Green Roof System designs are versatile, allowing the roof area to be utilised as highly aesthetic areas for recreation, public access or simply to be admired from surrounding buildings.

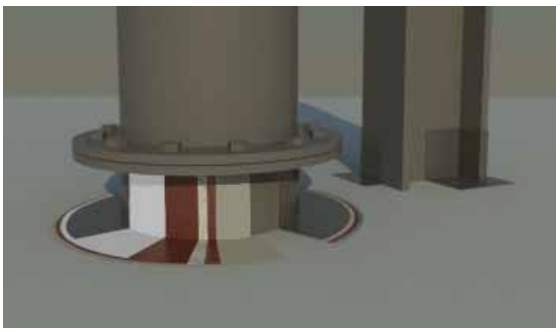
SikaRoof® MTC Ballast

For gravel and paver ballasted roofs to provide a natural looking surface, to protect from potential damages and to offer an un-combustable surface. This system requires an initial coat of Sikalastic®-602 BR (≥ 2.0kg/m²), into which Sika® Reemat Premium is embedded. To finish the system apply one layer Sikalastic®-622 TR (≥ 1.4kg/m²) to covered areas and two layers of Sikalastic®-623 DR (≥ 2.0kg/m²) are applied to exposed areas.



SikaRoof® MTC Flashing

Sikalastic® can also be used in conjunction with bituminous felt to provide seamless waterproofing around all detail areas including upstands, plant, equipment, and other roof protrusions. This system is based on an initial coat of Sikalastic®-601 BC (≥ 1.5kg/m²), into which Sika® Reemat Premium is embedded. Once cured, Sikalastic®-621 TC (≥ 1.5kg/m²) is applied.



References

To ensure the correct application of SikaRoof® MTC systems, please refer to the most recent issue of the following documents:
– PDS (Product Data Sheet)
– MSDS (Material and Safety Data Sheet)

If the fulfilment of the ETAG is an issue, the build-ups as defined in the ETA are obligatory.

If local regulations regarding external fire performance are existing, the valid performance of SikaRoof® MTC systems may be checked.

Limitations

According to the Product Data Sheet, certain limitations are given:
– Substrate and air temperature must be between +2 °C and +35 °C; apply when temperature is falling. If applied during rising temperatures "pin holing" may be caused by expanding air.
– Atmospheric humidity is at least 5% and less than 85%
– Beware of condensation. Surface temperature during application must be at least +2 °C above dew point.
– Pay attention to temperature fluctuation and direct solar radiation, which may influence application.
– Surface must be dry and substrate humidity is maximum 4%. Do not apply on substrates with rising moisture.
– Areas with high movement, irregular substrates, or timber based roof decks require a complete layer of Sikalastic® Carrier.
– Do not apply Sikalastic® directly on Sikalastic® Insulation boards. Instead use Sikalastic® Carrier between Sikalastic® Insulation board and Sikalastic®.
– Do not use SikaRoof® MTC systems for indoor applications or close to running air conditioning intake vents.
– SikaRoof® MTC systems are not recommended for frequent traffic. If daily pedestrian traffic is unavoidable, the SikaRoof® MTC system should be covered with an appropriate walkway system (e.g. tiles, pavers, wood panels).
– Do not apply cementitious products (e.g. tile mortar) directly onto Sikalastic®. Apply an intermediate coat of Sikalastic®-621 TC with kiln-dried quartz sand (0.3 - 0.8 mm grit) as an alkaline barrier.

Please refer to the most recent issue of the PDS to confirm the details of these limitations.

Products

Sikalastic® is an advanced, one-component, moisture-triggered polyurethane coating that is laid in conjunction with a reinforcement matting to form the waterproofing element of a cold-applied, fully bonded, seamless roofing system.

Sikalastic®-601 BC (Decothane Base Coat)

Sikalastic®-601 BC is a highly elastic base coat (BC) that is designed to provide easy application and a durable solution in combination with Sikalastic®-621 TC and is used to embed Sikalastic® Reemat glass fibre reinforcement.

Sikalastic®-621 TC (Decothane Top Coat)

Sikalastic®-621 TC is a highly elastic, UV-stable Top Coat (TC) designed to provide easy application and a durable solution in combination with Sikalastic®-601 BC.

Sikalastic®-602 BR (Decothane Root Resistant Base Coat)

Sikalastic®-602 BR is a cold-applied, seamless fully bonded, highly elastic, one-component, moisture-triggered polyurethane Root Resistant Base Coat (BR) designed to provide easy application and a durable solution in combination with Sikalastic®-622 TR (Top Coat Root Resistant) and Sikalastic®-623 DR (Detailing Top Coat UV- and Root Resistant)

Sikalastic®-622 TR (Decothane Root Resistant Top Coat)

Sikalastic®-622 TR is a cold-applied, seamless fully bonded, highly elastic, one-component, moisture-triggered polyurethane Root Resistant Top Coat (TR) designed to provide easy application and a durable solution in combination with Sikalastic®-602 DR (Base Coat Root Resistant) and Sikalastic®-623 DR (Detailing Top Coat Root Resistant)

Sikalastic®-623 DR (Decothane Root Resistant Detail Coat)

Sikalastic®-623 DR is a cold-applied, UV-stable, seamless fully bonded, highly elastic, one-component, moisture-triggered polyurethane root resistant detail coat (DR) designed to provide easy application and a durable solution in combination with Sikalastic®-602 BR.

Sika® Reemat (Liquid Plastics Reemat)

Sika® Reemat, a Glass Fibre Matting, is the reinforcement that is bedded in the first coat of the SikaRoof® MTC System. This product has the ability to mould to the complicated shapes that are created by the various details on roofs, and also provides the strength within the cap sheet. There are two grades of Reemat available Sika® Reemat Premium and Sikalastic® Reemat Standard.

Sikalastic® Coldstik (Liquid Plastics Decostik)

A new cold fusion bonded adhesive developed by Sika® which provides excellent adhesive qualities throughout the system while also providing waterproofing properties during the fixing process. Sikalastic® Coldstik consists of parts A and B which are mixed together as required on site. Please refer to appropriate Product Data Sheet for mixing instructions.

Sikalastic® Vap (Liquid Plastics Vapour Control Layer)

Sikalastic® Vap provides a complete vapour barrier when bedded and sealed with Sikalastic® Coldstik Adhesive.
It incorporates a fully annealed, extra heavy duty aluminium foil as a vapour barrier encapsulated in a reinforced coating.

Sikalastic® Carrier (Liquid Plastics Carrier Membrane)

Sikalastic® Carrier incorporates a dimensionally stable and modified elastomeric coating. This layer provides temporary waterproofing when laid with Sikalastic® Coldstik and allows for the construction of 'night seals' on major projects.

Sikalastic® Insulation (Liquid Plastics Decotherm)

Sikalastic® Insulation is a highly efficient CFC/HCFC free insulation board with a dimensionally stable glass tissue facing.

Sika® PU Accelerator (Decothane Accelerator)

It is possible to accelerate the curing times of the SikaRoof® MTC systems by using the Sika® PU Accelerator. A 200ml pack should be added to 21 kg containers of Sikalastic®-601 BC and to 22 kg containers Sikalastic®-621 TC and should not exceed 1% mixing level. Please refer to the most recent issue of the PDS.

Sika® Biowash (Liquid Plastics Biowash)

Sika® Biowash is a biocidal treatment, which is is designed to kill active mould, fungal and bacterial spores prior to the application of the SikaRoof® MTC systems. It remains active after its initial application – guarding against contamination for up to two years.

Sika® Flexitape Light / Heavy (Liquid Plastics Flexitape)

Sika® Flexitape is a woven reinforced nylon tape, which is readily capable of stretching within the coating to accommodate a high degree of thermal and structural movement. It is embedded into the SikaRoof® MTC systems to impart additional tensile strength and durability. Sika® Flexitape Light: it is used to provide local reinforcement over stable cracks and joints. Sika® Flexitape Heavy: it is used over joints or cracks liable to movement and for bridging gaps between substrates

Sikalastic® Flexistrip (Liquid Plastics Flexistrip)

Sikalastic® Flexistrip is a non-hardening, ready to use butyl putty supplied on an easy to use roll. Designed for treatment of boltheads and fixings on sheet roofs prior to application of the SikaRoof® MTC systems.

Sikalastic® Metal Primer (Liquid Plastics Metal Primer)

Sikalastic® Metal Primer is a tough, amide curing, two-pack system offering a high level of corrosion resistance. It consists of a grey base (Part A) and an activator (Part B). It is suitable for the priming of most metallic substrates prior to the application of SikaRoof® MTC systems. It also constitutes an effective anti-corrosive treatment in its own right.

Sika® Concrete Primer (Liquid Plastics Quick Cure Primer)

Sika® Concrete Primer is a two component, rapid curing, high solids, solvent based polyurea primer. It is designed primarily for sealing cementitous substrates to reduce the incidence of pin-holing through outgassing.

Sikalastic® EPDM Primer (Liquid Plastics EPDM Primer)

Sikalastic® EPDM Primer is a single component solvent based mixture of synthetic rubber that is used as primer prior to the application of SikaRoof® MTC systems.

Sika® Bonding Primer (Liquid Plastics Bonding Primer)

Sika® Bonding Primer is a rapid curing, water based primer consisting of two components; a pre-reacted epoxy resin dispersed in water (Part A) and a waterborne modified polyamine solution (Part B). In its wet mixed state, it is milky green and slightly viscous. It is suitable for use on most sound and eroded building surfaces where both a penetrative and surface-lying effect is needed.

Sika® Reactivation Primer (Liquid Plastics Reactivation Primer)

Sika® Reactivation Primer is a single pack, polyurethane based primer for the reactivation of existing SikaRoof® MTC systems, prior to over-coating. Reactivation Primer is designed to yield excellent adhesion to existing, suitably prepared installations. This enables any localised damage to be easily repaired and facilitates recoating, at the end of the system's design life, to provide continuing effective protection against water ingress.

Safety Measures on Site

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

Personal Protection

The following protective equipment is essential for anyone working with SikaRoof® MTC products.



In addition to protective clothing it is also recommended to use a barrier cream on the skin. The use of a barrier cream is more useful and effective than often reputed, they are inexpensive, convenient, and protect well if they are not frequently flushed with solvents. However, barrier creams are only a supplement to and not a replacement for protective gloves, so always wear gloves. Always ensure there is no contamination inside gloves before reusing them.

If any SikaRoof® MTC products gets on clothing, remove the garment at once. The friction of resin-saturated fabric on the skin can cause serious chemical burns. Wash your exposed skin occasionally during the workday and immediately if any Liquid Applied Membrane product gets on it. Avoid using solvents since they can help Liquid Applied Membrane material penetrate in to the skin and solvents themselves are aggressive and harmful to the skin. If water is no more available at any time or shorten, then clean the contamination with sand instead. Certain hand cleaners also work without harmful effects. Citrus skin cleaners, for example, are effective and mild. Soap and water takes time, but also eventually works for small areas.

Avoiding skin contact by keeping tools and equipment clean is one of the best ways to protect oneself.

Despite safety precautions, with any instances of skin contact rinse immediately with clean water and use warm water and soap to thoroughly clean the skin. A good skin cleaner is Sika® Topclean T.

No SikaRoof® MTC applications should ever proceed without sufficient water being adjacent and available for eye washing. If adequate clean water is not provided then the project should not commence, no matter what the urgency. If a professional eyewash kit is not available, then at the very minimum one quart of clean water must be present. The water can be in a pail, plastic jug or via a hosepipe.

Safety glasses or other eye protection obviously help those doing the work but they can also create a false sense of security. Do not take risks with health!

In the event of any spillage or contact into the eyes, always seek medical advice immediately after rinsing and cleaning the eyes with the clean water

Ensure sufficient ventilation during application in closed or confined spaces. Dependent on local regulations respiratory masks may be required. Please observe all relevant local regulations.

Hard hats, safety shoes and ear protection is also generally recommended on construction sites.



Pre Project Preparation

Project check

It's indispensable to check the project in advance. The following checklist consist the most important points to take in consideration.

– Check that the construction and substrate is in good condition.
– Check that new concrete has cured for at least 28 days and has a Pull off strength ≥ 1.5 N/mm².
– Check that the surface is dry and substrate humidity is maximum 4% without emitting dampness.
– Check the ventilation and ensure that during application it is sufficient.
– During phase of refurbishment, check that the application on the roof should is not disturbing the inside work.
– Check that the necessary health and safety equipment as scaffolding, ladder etc is available on site.
– Check the measurement of the project.
– Make a programme for the whole procedure. Check the staff is available, all SikaRoof® MTC products including tools/equipment as well as the protective health and safety equipment are available for the defined period of time.

Substrate preparation

Asphalt

Asphalt contains volatiles which can cause bleeding and slight non-detrimental staining. The asphalt must be carefully assessed for moisture and/or air entrapment, grade and surface finish prior to any coating works being carried out. For SikaRoof® 8, 12, 18 and 22 Exposed priming requirement must also be considered. Always use total reinforcement.

General

Power wash and use Sika® Biowash as required. All major cracks should be sealed to allow continuity of the Sikalastic® waterproofing membrane.

Felt

Power wash and use Sika® Biowash as required. For SikaRoof® MTC Systems apply the Sikalastic® waterproofing membrane directly.

General

Always replace badly degraded felt. Treat blisters by star cutting and removing any underlying water. Allow to dry and re-adhere using Sikalastic® Coldstik.

Cementitious substrates

For SikaRoof® MTC Systems, prior to the commencement of works, compatibility trials should be carried out onto the concrete to confirm substrate suitability with the Sikalastic® waterproofing membrane. Subject to this test, a primer may be required. If a primer is required, please contact Sika Technical Services.

Outgassing is a naturally occurring phenomenon of concrete that can produce pinholes in subsequently applied coatings. The concrete must be carefully assessed for moisture content, air entrapment and surface finish prior to any coating work. Any requirement for priming must also be considered. Installing the membrane either when the concrete temperature is falling or stable can reduce outgassing. It is generally beneficial, therefore, to apply the embedment coat in the late afternoon or evening.

General

New concrete should be allowed a minimum of 28 days before priming. Inspect the concrete, including upstands, all areas should be hammer tested, areas found to be hollow or defective should be removed and made good using an appropriate polymer modified mortar and allowed to cure for a minimum period of 72 hours before overcoating, in accordance with standard concrete repair procedures. Power washing may reveal surface imperfections. Also latence and curing membrane should be removed from new concrete. Ensure that all vertical cementitious surfaces are fair and smooth. For larger areas of imperfections use suitable fairing coat to fill all voids and air inclusions. Bag-rubbing may be used for localised filling of minor imperfections. For larger repairs use an appropriate repair mortar. Allow to cure for a minimum period of 72 hours before overcoating, in accordance with standard concrete repair procedures.

Metal substrates

Some types of factory treated profiled metal sheet roofing may be coated; please refer to our Technical Customer Services Department. When treating ferrous, or galvanised metals, lead, copper, aluminium, brass or stainless steel, remove all rust, mill scale and oxidation products. For SikaRoof® MTC Exposed apply Sikalastic® Metal Primer followed by the SikaRoof® MTC System. Galvanised surfaces are to be decreased and may need to be treated with a mordant solution prior to priming.

General

Wherever possible, abrade exposed surfaces to reveal bright metal. Use localised reinforcement over joints and fixings. All SikaRoof® MTC systems can be used for the treatment of proprietary profiled metal roofs but preliminary adhesion tests are recommended. Consult Sika Technical Services.

Timber (over-felted)

Timber and timber based panel roof decks require a complete layer of Sikalastic® Carrier bonded using Sikalastic® Coldstik prior to the application of the chosen system. The substrate should then be treated as a felt roof. Small timber protrusions may be treated directly, provided that the timber is of exterior quality, e.g. plywood, oil tempered hardboard, etc.

Timber upstands (not over-felted)

Small timber protrusions may be treated directly, provided that the timber is of exterior quality, e.g. plywood, oil tempered hardboard, etc. New plywood, etc., used to overlay vertical roof details, e.g. parapet walls, upstands, boxed plant, etc., should be primed with Sikalastic® Concrete Primer prior to coating.

Brick and stone

Power wash and use Sika® Biowash as required. Apply the SikaRoof® MTC System directly.

General

Usual preparation procedures should be observed. Use localised reinforcement over joints or cracks. A fair faced finish should preferably be achieved otherwise treat as vertical concrete. Mortar joints should be sound and preferably
flush pointed.

Slates, tiles, etc.

Power wash and use Sika® Biowash as required. Asbestos base tiles should be primed with an appropriate primer (adhesion test required). Apply the SikaRoof® MTC System (incorporating full reinforcement) directly to the slate and tiles (including glazed tiles).
Note: SikaRoof® MTC 8 is not suitable for this application.

General

Domestic roofs should not be coated in this manner. Ensure all slates/tiles are sound and securely fastened, replacing obviously broken or missing sections. Venting of roof spaces may be necessary.

Plastics

Apply the SikaRoof® MTC System waterproofing membrane directly.

General

Sika® recommend an adhesion test prior to treatment. Many plastic substrates such as GRP or polycarbonate may be treated, but advice should be sought from Sika Technical Services for other specific applications. Usual preparation procedures should be observed. Remove any oxidised layers and use localised reinforcement over joints.

Bituminous coatings

Apply the SikaRoof® MTC System directly. Powerwash and use Sika® Biowash as required.

General

Remove loose or degraded coatings. Do not coat sticky or mobile surfaces, volatile mastic coatings or old coal tar coatings. Always use fully reinforced systems.

Paints

Apply the SikaRoof® MTC System waterproofing membrane directly to gloss paints – e.g. chlorinated rubber, epoxy or alkyd. Emulsion paints may be coated directly. Adhesion tests should be conducted prior to overcoating aluminium based solar reflective coatings; prime soundly adhered surfaces with Sikalastic® Metal Primer. Powerwash and use Sika® Biowash as required.

General

Remove loose or degraded coating. When applying Sikaf® coatings over previously applied coatings, ensure that the existing material is sound and firmly adhered. Sikalastic® Bonding Primer should be used if the existing coating is porous or chalking. For further information about specific applications, please consult our Technical Customer Services Department (see also “Metals” sub-section).

Existing **SikaRoof®** MTC Systems

Following inspection, apply Sika® Reactivation Primer and allow to dry prior to the application of the SikaRoof® MTC Systems.

General

Inspect the existing membrane and check that it is still soundly adhered. Clean the membrane using a water jet at approximately 14N/mm^2 (2000 p.s.i) using Sika® Biowash if necessary. Allow to dry.

Application

Prior to application of SikaRoof® MTC systems the 8-point check is mandatory.

8-Point check

Point 1: Air temperature is between +2 °C and +35 °C; temperature is falling
Point 2: Atmospheric humidity is at least 5% and less than 85%
Point 3: Substrate temperature is between +2 °C and +35 °C; temperature is falling
Point 4: No precipitation is present or forecast for the next 8-12 hours
Point 5: Surface is dry and substrate humidity is maximum 4% without emitting dampness.
Point 6: Surface temperature is at least 2 °C above dew point.
– Measurement with dew point device
– Determination by dew point chart
Point 7: Substrate is prepared according Pre Project Preparation
Point 8: Any defects and deviation in quality are recorded in writing.

Determination of dew point

It is important to pay close attention to avoiding dew point conditions. The application temperature must exceed the dew point by at least 2°C. The dew point can be defined with an with dew point device or manually by the dew point chart as following explained.

1. Measure air temperature in °C
2. Measure atmospheric humidity in %
3. Measure substrate temperature in °C

4. Determine dew point temperature using dew point chart or Sika slide rule guide

5. Add 3°C to dew point temperature
6. Verify that substrate temperature is at least 3°C higher than dew point temperature

Example Air temperature: 13°C
Atmospheric humidity: 80%
Substrate temperature: 10°C
Determined dew point temperature with dew point chart: 9.7°C
Add 3°C: 12.7°
Verify: Is 10°C greater than 12.7°C?
Decision: Installation is not permissible

Dew Point Chart

Tempe-rature °C	Dew point temperature (°C) at relative humidity of											Tempe-rature °C
	0	10	20	30	40	50	60	70	80	90	100	
0	-	- 27.9	- 20.2	- 15.4	- 12.0	- 9.2	- 6.8	- 4.8	- 2.8	- 1.4	0	0
1	-	- 27.2	- 19.3	- 14.5	- 11.1	- 8.2	- 5.8	- 3.8	- 1.9	- 0.4	+ 1.0	1
2	-	- 26.4	- 18.5	- 13.7	- 10.2	- 7.3	- 5.0	- 2.8	- 1.0	+ 0.6	+ 2.0	2
3	-	- 25.6	- 17.7	- 12.9	- 9.4	- 6.4	- 4.1	- 1.9	- 0.1	+ 1.5	+ 3.0	3
4	-	- 24.8	- 16.8	- 12.0	- 8.5	- 5.5	- 3.1	- 1.0	+ 0.8	+ 2.5	+ 4.0	4
5	-	- 24.0	- 15.9	- 11.2	- 7.6	- 4.6	- 2.2	- 0.1	+ 1.8	+ 1.8	+ 5.0	5
6	-	- 23.1	- 15.0	- 10.3	- 6.6	- 3.7	- 1.3	+ 0.8	+ 2.8	+ 4.5	+ 6.0	6
7	-	- 22.3	- 15.2	- 9.4	- 5.7	- 2.8	- 0.4	+ 1.8	+ 3.8	+ 5.5	+ 7.0	7
8	-	- 21.6	- 13.5	- 8.5	- 4.8	- 1.8	+ 0.6	+ 2.8	+ 4.8	+ 6.5	+ 8.0	8
9	-	- 21.0	- 12.8	- 7.6	- 3.8	- 0.8	+ 1.6	+ 3.8	+ 5.8	+ 7.4	+ 9.0	9
10	-	- 20.2	- 12.0	- 6.7	- 2.9	+ 0.1	+ 2.5	+ 4.8	+ 6.8	+ 8.4	+ 10.0	10
11	-	- 19.5	- 11.1	- 5.9	- 2.0	+ 0.9	+ 3.5	+ 5.7	+ 7.8	+ 9.4	+ 11.0	11
12	-	- 18.7	- 10.2	- 5.0	- 1.2	+ 1.7	+ 4.4	+ 6.6	+ 8.7	+ 10.4	+ 12.0	12
13	-	- 19.9	- 9.4	- 4.2	- 0.3	+ 2.6	+ 5.3	+ 7.5	+ 9.7	+ 11.4	+ 13.0	13
14	-	- 17.2	- 8.8	- 3.3	+ 0.6	+ 3.5	+ 6.2	+ 8.5	+ 10.6	+ 12.3	+ 14.0	14
15	-	- 16.4	- 7.8	- 2.4	+ 1.5	+ 4.5	+ 7.2	+ 9.5	+ 11.6	+ 13.3	+ 15.0	15
16	-	- 15.7	- 6.9	- 1.5	+ 2.4	+ 5.5	+ 8.1	+ 10.5	+ 12.6	+ 14.3	+ 16.0	16
17	-	- 14.9	- 6.0	- 0.7	+ 3.3	+ 6.5	+ 9.1	+ 11.5	+ 13.5	+ 15.3	+ 17.0	17
18	-	- 14.1	- 5.2	+ 0.2	+ 4.2	+ 7.4	+ 10.1	+ 12.4	+ 14.5	+ 16.3	+ 18.0	18
19	-	- 13.2	- 4.5	+ 1.0	+ 5.1	+ 8.3	+ 11.0	+ 13.4	+ 15.4	+ 17.3	+ 19.0	19
20	-	- 12.5	- 3.6	+ 1.9	+ 6.0	+ 9.3	+ 12.0	+ 14.3	+ 16.4	+ 18.3	+ 20.0	20
21	-	- 11.7	- 2.8	+ 2.7	+ 6.8	+ 10.2	+ 12.9	+ 15.3	+ 17.4	+ 19.3	+ 21.0	21
22	-	- 11.0	- 2.0	+ 3.6	+ 7.7	+ 11.1	+ 13.9	+ 16.3	+ 18.3	+ 20.3	+ 22.0	22
23	-	- 10.3	- 1.2	+ 4.5	+ 8.6	+ 12.1	+ 14.7	+ 17.2	+ 19.3	+ 21.1	+ 23.0	23
24	-	- 9.6	- 0.3	+ 5.4	+ 9.5	+ 12.9	+ 15.7	+ 18.2	+ 20.3	+ 22.2	+ 24.0	24
25	-	- 8.8	+ 0.5	+ 6.3	+ 10.4	+ 13.8	+ 16.7	+ 19.2	+ 21.3	+ 23.2	+ 25.0	25
26	-	- 8.0	+ 1.3	+ 7.1	+ 11.3	+ 14.8	+ 17.7	+ 20.2	+ 22.3	+ 24.2	+ 26.0	26
27	-	- 7.3	+ 2.1	+ 7.9	+ 12.2	+ 15.8	+ 18.5	+ 21.0	+ 23.2	+ 25.2	+ 27.0	27
28	-	- 6.5	+ 3.0	+ 8.7	+ 13.1	+ 16.7	+ 19.5	+ 22.0	+ 24.2	+ 26.2	+ 28.0	28
29	-	- 5.7	+ 3.8	+ 9.6	+ 14.0	+ 17.5	+ 20.4	+ 23.0	+ 25.2	+ 27.2	+ 29.0	29
30	-	- 5.0	+ 4.6	+ 10.5	+ 14.9	+ 18.4	+ 21.4	+ 24.0	+ 26.2	+ 28.2	+ 30.0	30

SikaRoof® MTC 8, 12, 18, 22

All detailed areas should first be completed first by using Sikalastic®-601 BC into which Sika® Reemat is embedded. Detailed areas should be allowed to cure prior to the application of Sikalastic®-601 BC on the whole Roof surface area.

Apply an initial embedment coat of Sikalastic®-601 BC to the prepared, sound, roof surfaces, using the appropriate consumption rate.

Whilst wet strengthen by inserting Sika® Reemat rollering the mat until it is completely embedded and thoroughly saturated. Overlap adjacent areas of Sika® Reemat already laid by 50mm ensuring sufficient embedment material is applied to these areas. At this stage, check the coating for pinholes and/or exposed matting and apply further material to correct if necessary. Allow to dry before applying Sikalastic®-621 TC.

Sikalastic®-621 TC is applied directly onto the Sikalastic®-601 BC in all roof areas including details such as upstands, pipes and protrusions. Apply 1 or 2 coats of Sikalastic®-621 TC depending upon the SikaRoof® MTC System required.

SikaRoof® MTC Green and SikaRoof® MTC Ballast

All detailed areas should be completed first by using Sikalastic®-602 BR into which Sika® Reemat Premium is embedded. Detailed areas should be allowed to cure prior to the application of Sikalastic®-602 BR on the whole Roof surface area.

Apply an initial embedment coat of Sikalastic®-602 BR to the prepared, sound, roof surfaces, using the appropriate consumption rate.

Whilst wet strengthen by inserting Sika® Reemat Premium rollering the mat until it is completely embedded and thoroughly saturated. Overlap adjacent areas of Sika® Reemat Premium already laid by 50mm ensuring sufficient embedment material is applied to these areas. At this stage, check the coating for pinholes and/or exposed matting and apply further material to correct if necessary. Allow to dry before applying Sikalastic®-622 TR or Sikalastic®-623 DR.

Sikalastic®-622 TR is applied in one coat to covered areas and Sikalastic®-623 DR is applied in two coats to exposed areas including details such as upstands, pipes and protrusions, directly onto the Sikalastic®-602 BR.

SikaRoof® MTC Flashing

Apply an initial embedment coat of Sikalastic®-601 BC to the prepared, sound, roof surfaces, using the appropriate consumption rate. Whilst wet strengthen by inserting Sika® Reemat Premium rollering the mat until it is completely embedded and thoroughly saturated. Overlap adjacent areas of Sika® Reemat Premium already laid by 50mm ensuring sufficient embedment material is applied to these areas. At this stage, check the coating for pinholes and/or exposed matting and apply further material to correct if necessary. Allow to dry before is applied directly onto the Sikalastic®-601 BC.

SikaRoof® MTC Cold Bonding

Preparation of Deck and Mixing of Sikalastic® Coldstik

Depending on the project specification, either:

1. Strip off the existing waterproofing and insulation system down to the structural deck (this operation is to be carried out strictly in accordance with the Sika® Project Specification);
2. Prepare the existing deck and existing waterproofing layer by either repairing or cleaning strictly in accordance with the project specification.

Sikalastic® Coldstik Adhesive Preparation

When the deck is fully prepared pour part B into part A and mix at a medium rate with the drill and paddle for 2 minutes. When the mixing is complete, pour into the application container.

Sikalastic® Vap

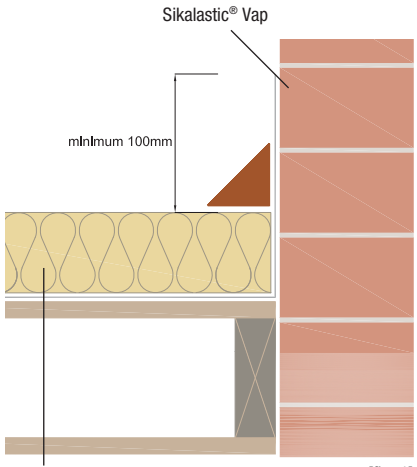
Pour Sikalastic® Coldstik adhesive onto the fully prepared substrate to form a snake-like pattern. The beads of adhesive should be no more than 250mm apart (please see recommended fixing patterns on page 15).

Lay the Sikalastic® Vap onto the Sikalastic® Coldstik adhesive ensuring that pressure is applied to the membrane and the adhesive.

For application to profile metal decks apply the Sikalastic® Coldstik adhesive along the crowns.

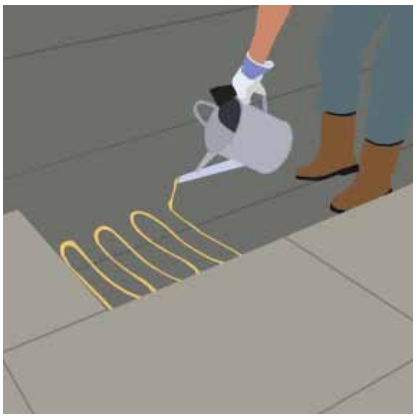
Seal side and end laps with a bead of Sikalastic® Coldstik adhesive and use the scraper to remove and spread excess adhesive.

Note: Sikalastic® Vap should always be dressed up upstands to at least 100mm above the finished thickness of insulation [see fig. 1].



[fig. 1]

Sika Service AG, Corporate Business Unit Contractors, Industriestrasse 26, CH-6060 Sarnen, Switzerland
Phone +41 58 436 79 66, Fax +41 58 436 76 60, E-Mail: tenisch.willi@ch.sika.com, www.sika.com



Sikalastic® Insulation

Pour Sikalastic® Coldstik adhesive onto the Sikalastic® Vap to form a snake-like pattern. The beads of adhesive should be no more than 250mm apart (please see recommended fixing patterns on page 15).

Lay the Sikalastic® Insulation onto the beads of Sikalastic® Coldstik adhesive and apply pressure from above (stand on the board). Ensure that each board is tightly butt jointed to the next and that all joints are staggered (brick bond pattern).

Note: If the roof is of an extremely uneven nature, cut the board with a stanley knife and apply pressure to ensure contact between the board and the adhesive.

Note: When laying tapered insulation, it is advisable to take the time to mark out the insulation scheme onto the actual roof. Mark the direction of the fall and if required, mark out the type of board.

Sikalastic® Carrier

Pour Sikalastic® Coldstik adhesive onto the previously adhered Sikalastic® Insulation to form a snake-like pattern. The beads of adhesive should be no more than 250mm apart (please see recommended fixing patterns on page 15).

Note: Sikalastic® Carrier should only be adhered to field areas – do not attempt to dress the carrier membrane through changes in level, up upstands, or to protrusions or pipes.

Seal side and end laps with a bead of Sikalastic® Coldstik adhesive and use the scraper to remove and spread any excess adhesive.

Night seals can be formed by applying a full embedment coat of Sikalastic®-601 BC and whilst wet insert Sika® Reemat 300, followed by brushing/tamping until the mat is completely embeded and thoroughly saturated. Allow to dry before applying the SikaRoof® MTC.

SikaRoof® MTC 12, 18, 22 or Green

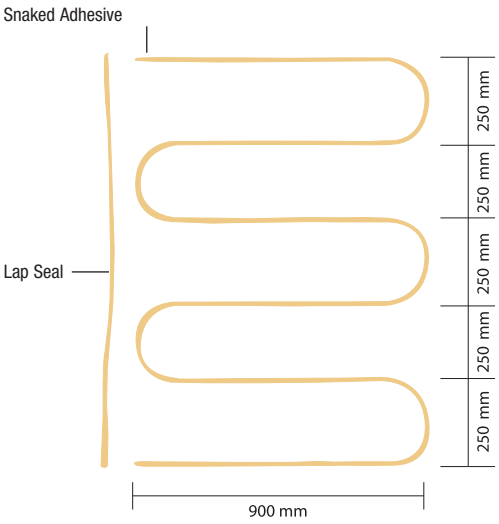
All detailed areas should first be completed first by using Sikalastic®-601 BC (for SikaRoof® MTC 12, 18 and 22) or Sikalastic®-602 BR (for SikaRoof® MTC Green) into which Sika® Reemat is embedded. Detailed areas should be allowed to cure prior to the application.

Apply an initial embedment coat of Sikalastic®-601 BC (for SikaRoof® MTC 12, 18 and 22) or Sikalastic®-602 BR (for SikaRoof® MTC Green) to the prepared, sound, roof surfaces, using the appropriate consumption rate.

Whilst wet strengthen by inserting Sika® Reemat (either Premium or Standard grade – depending upon specification) rollering the mat until it is completely embedded and thoroughly saturated. Overlap adjacent areas of Sika® Reemat already laid by 50mm ensuring sufficient embedment material is applied to these areas. At this stage, check the coating for pinholes and/or exposed matting and apply further material to correct if necessary.
Allow to dry before applying Sikalastic®-621 TC (for SikaRoof® MTC 12, 18 and 22) or Sikalastic®-622 TR and Sikalastic®-623 DR (for SikaRoof® MTC Green).

Sikalastic®-621 TC (for SikaRoof® MTC 12, 18 and 22) or Sikalastic®-622 TR/Sikalastic®-623 DR (for SikaRoof® MTC Green) is applied directly onto the Sikalastic®-601 BC or Sikalastic®-602 BR in all roof areas including details such as upstands, pipes and protrusions. Apply 1 or 2 coats of Sikalastic® -621 TC or Sikalastic®-622 TR and Sikalastic®-623 DR depending upon the SikaRoof® MTC System required.

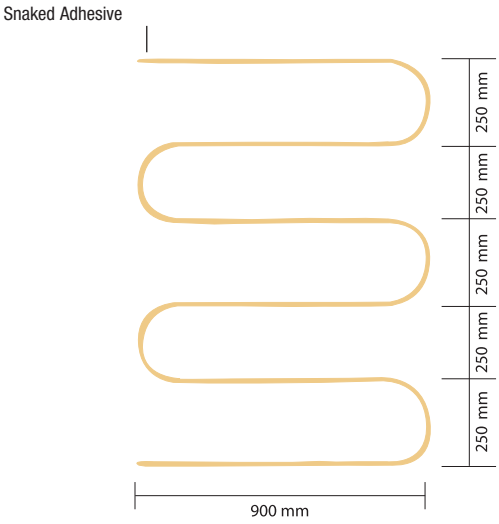
Sikalastic® Recommended Fixing Patterns



Sikalastic® Vap

When laying the Sikalastic® Vap, the Sikalastic® Coldstik adhesive should be laid as shown. When laying in high wind uplift areas the spacings should be reduced to 150mm centres.

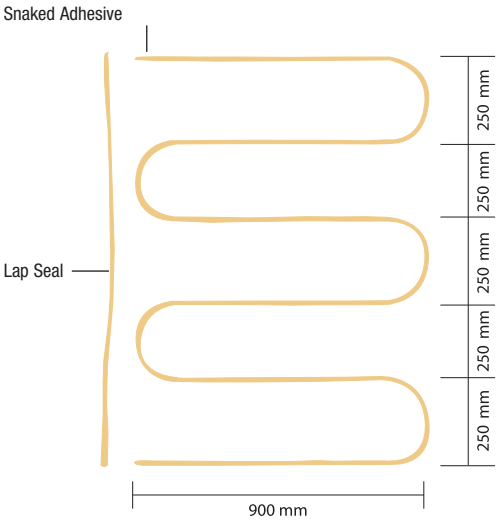
The Sikalastic® Coldstik adhesive should form a bead of approximately 20mm and is also used to seal the side and end lap details.



Sikalastic® Insulation

When laying the Sikalastic® Insulation, the Sikalastic® Coldstik adhesive should be laid as shown. When laying in high wind uplift areas the spacings should be reduced to 150mm centres.

The Sikalastic® Coldstik adhesive should form a bead of approximately 20mm when creating the snake like pattern.



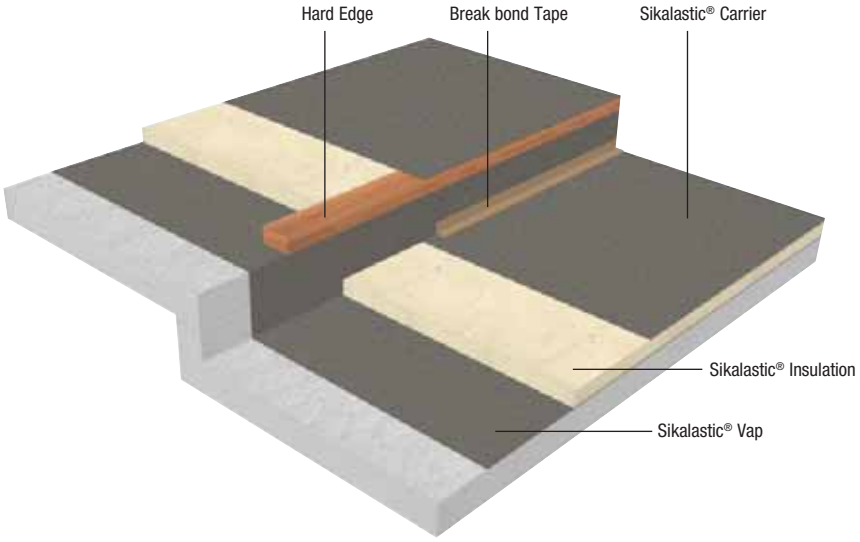
Sikalastic® Carrier

When laying the Sikalastic® Carrier, the Sikalastic® Coldstik adhesive should be laid as shown. When laying in high wind uplift areas the spacings should be reduced to 150mm centres.

The Sikalastic® Coldstik adhesive should form a bead of approximately 20mm and is also used to seal the side and end lap details.

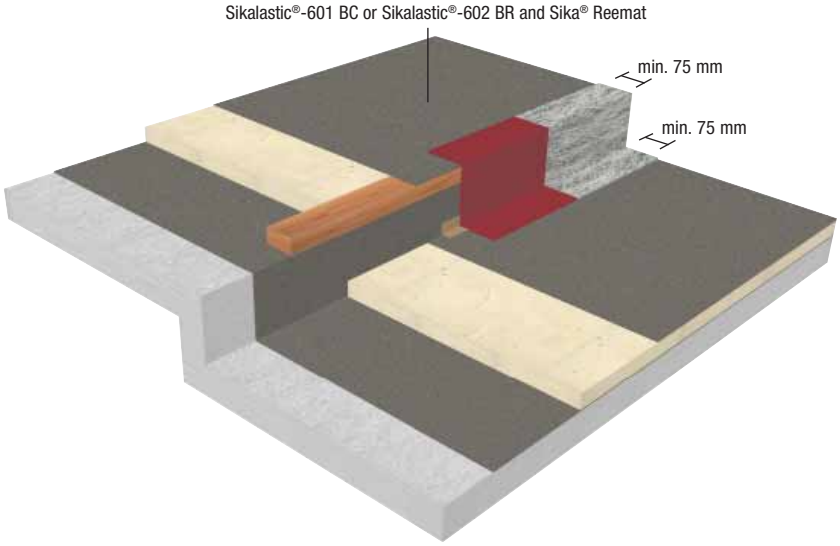
Typical Details

Change in Level



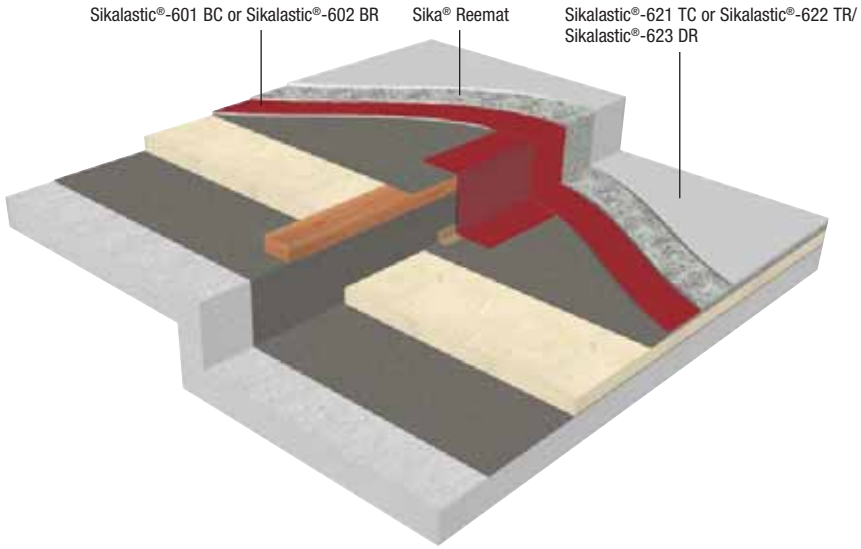
Step 1

At change in levels, fix a hard edge of timber by mechanically fixing or bedding in Sikalastic® Coldstik adhesive. Gaps between insulation and structure are to be covered with a Break Bond Tape.



Step 2

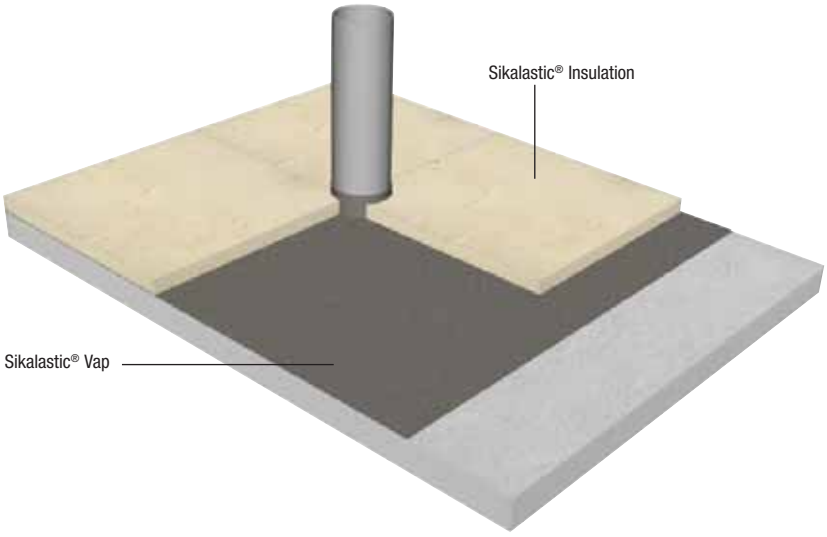
The change in level is then coated and reinforced by applying a layer of Sika® Reemat Premium in an embedment coat of Sikalastic®-601 BC or Sikalastic®-602 BR.



Step 3

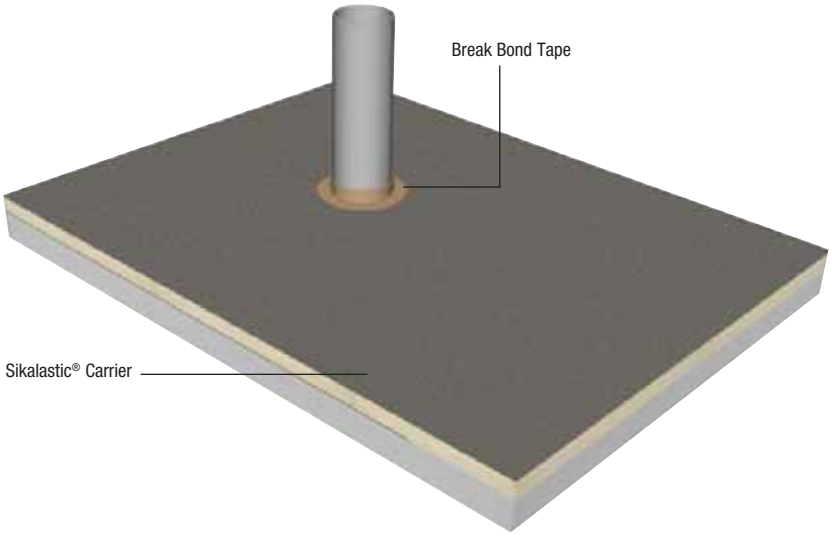
The SikaRoof® MTC System is then applied over the entire structure in accordance with the project specification including a second Sika® Reemat reinforcement.

Pipe Penetration



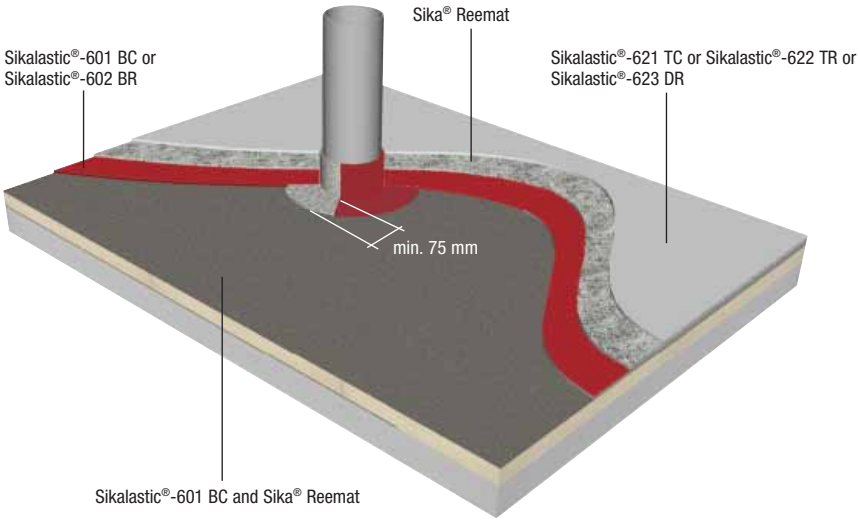
Step 1

At a pipe penetration dress the Sikalastic® Vap to the pipe, bedded onto Sikalastic® Coldstik adhesive. Bed Sikalastic® Insulation into Sikalastic® Coldstik Adhesive over the Sikalastic® Vap while trimming the board as close as possible to the pipe.



Step 2

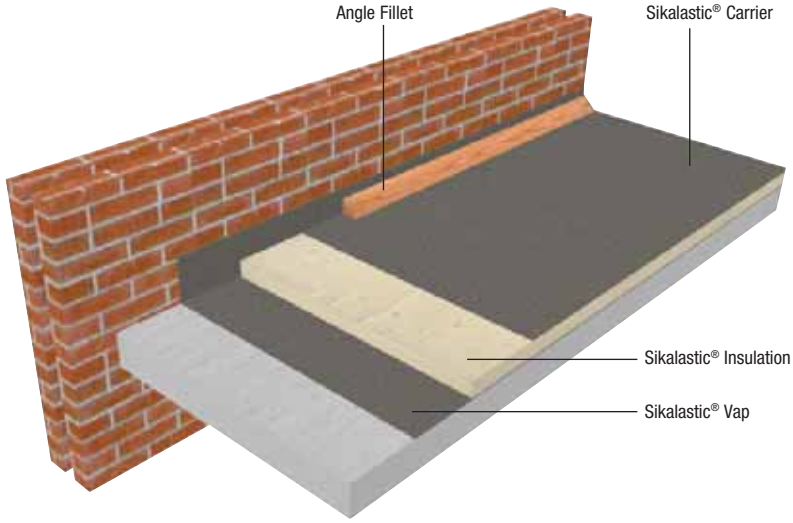
Sikalastic® Carrier is rolled out over the Sikalastic® Insulation and is bedded into Sikalastic® Coldstik adhesive which is snaked onto the Sikalastic® insulation. Side and end laps are sealed using Sikalastic® Coldstik adhesive. Break bond tape is then used to mask any gaps around the pipe.



Step 3

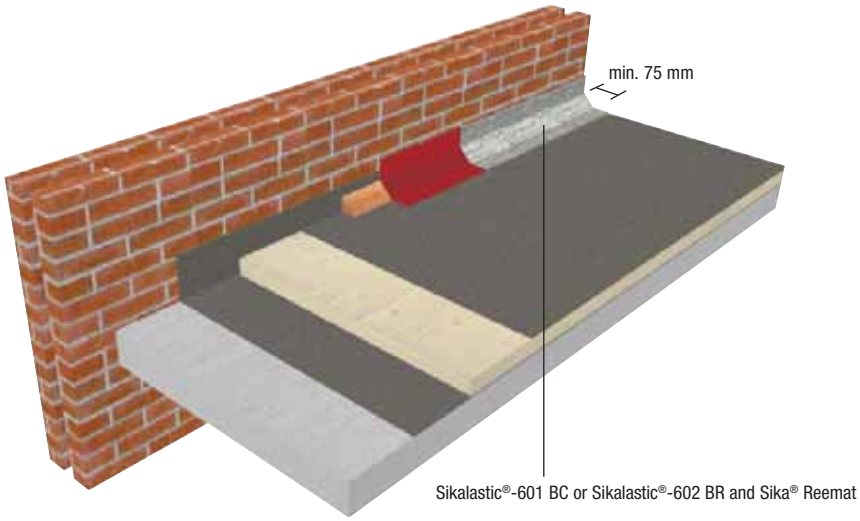
The junction detail between the Sikalastic® Carrier and pipe is then coated and reinforced with Sika® Reemat in an embedment coat prior to the application of the full SikaRoof® MTC system, including a second Sika® Reemat reinforcement.

Upstand to Brickwork



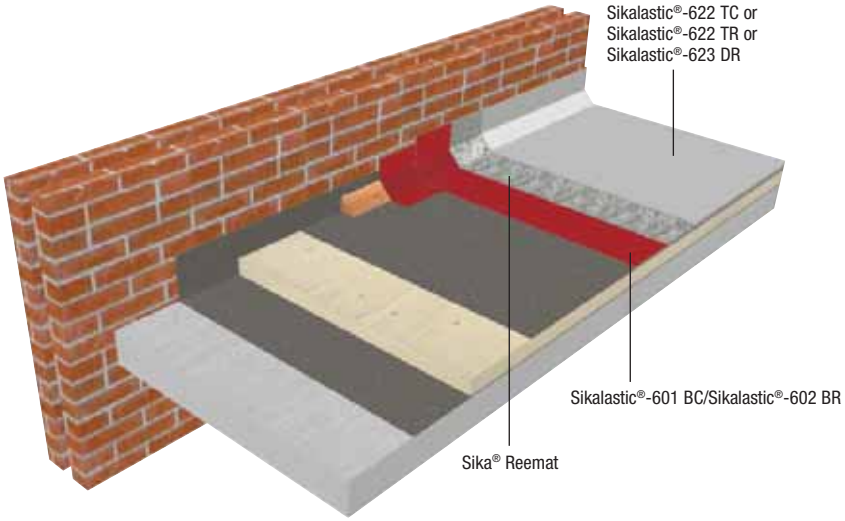
Step 1

Dress the Sikalastic® Vap up the brickwork ensuring that the back of the Sikalastic® Vap is coated with Sikalastic® Coldstik Adhesive. The Sikalasticv Vap must finish at least 100mm above the finished insulation level. Sikalastic® Insulation is to be bedded into the Sikalastic® Coldstik Adhesive in the recommended pattern.



Step 2

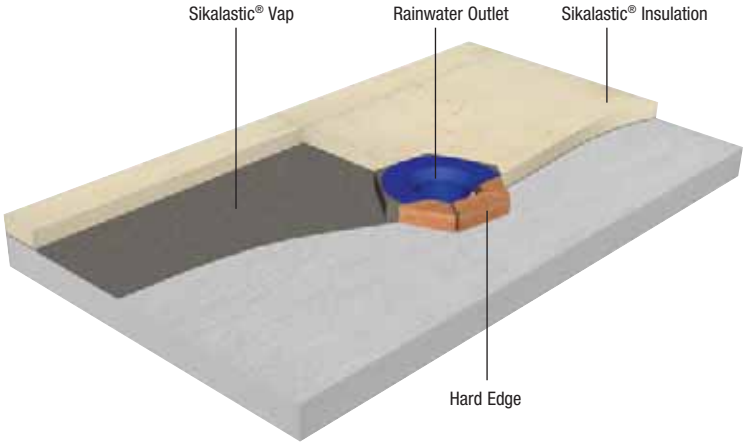
Sikalastic® Carrier is laid over the Sikalastic® Insulation and bedded into the Sikalastic® Coldstik Adhesive to the recommended fixing pattern. The angle fillet should be placed at the detail junction and also be bedded in Sikalastic® Coldstik. This junction detail between the Sikalastic® Carrier and upstand is then coated and reinforced with Sika® Reemat Premium in an embedment coat of Sikalastic®-601 BC or Sikalastic®-602 BR.



Step 3

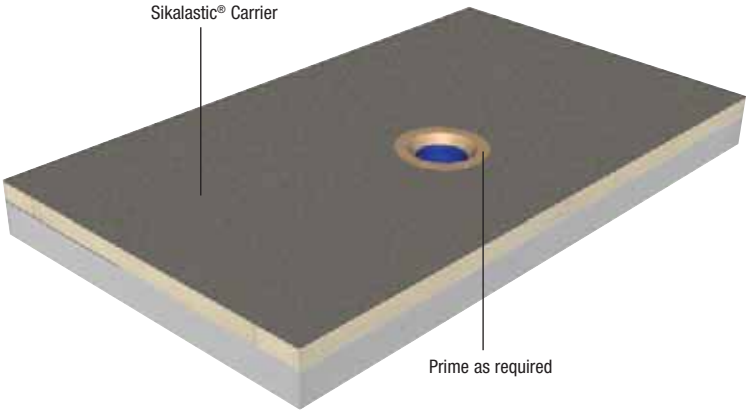
The SikaRoof® MTC System is applied over the entire structure in accordance with the project specification including a second Sika® Reemat reinforcement.

Rainwater Outlet



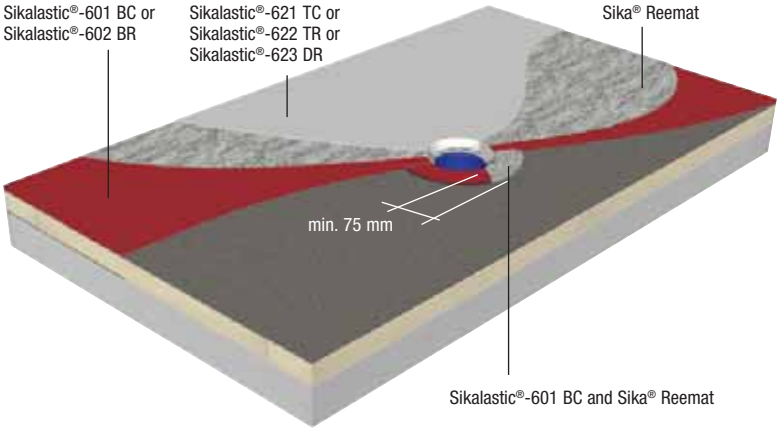
Step 1

When fixing a new rainwater outlet, ensure that a hard edge is fixed around the opening. The depth of the hard edge should be 10mm less than the Sikalastic® Insulation thickness. The Sikalastic® Vap is then dressed up and over the hard edge – being held in position with Sikalastic® Coldstik adhesive. The rainwater outlet is then fixed all in accordance with the manufacturers details. The Sikalastic® insulation is then trimmed and dressed to the outlet and bedded in Sikalastic® Coldstik adhesive.



Step 2

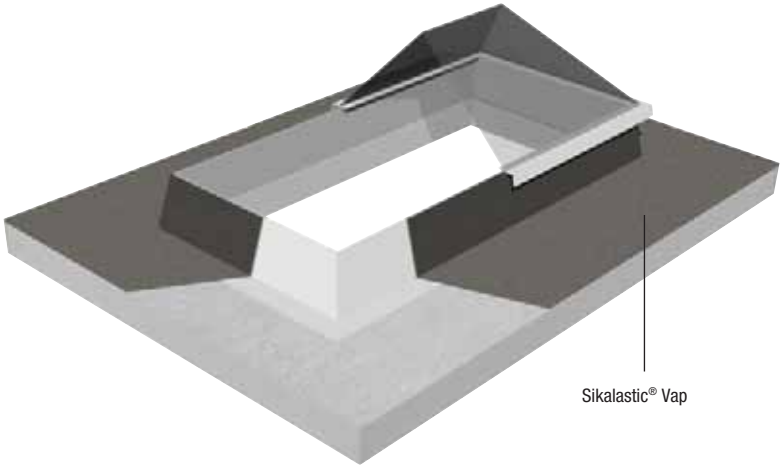
The Sikalastic® Carrier is then dressed to the Sikalastic® Insulation and the rainwater outlet and bedded in Sikalastic® Coldstik Adhesive. Prime the outlet as required.



Step 3

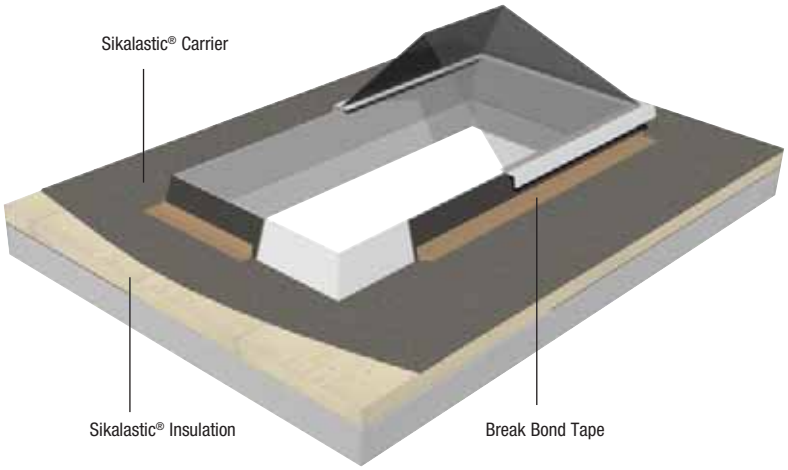
Sikalastic®-601 BC or Sikalastic®-602 BR and Sika® Reemat is then applied complete from the Sikalastic® Carrier and into the throat of the rainwater outlet. The SikaRoof® MTC System is then applied over the entire structure and into the throat of the rainwater outlet in accordance with the project specification including a second Sika® Reemat reinforcement.

Rooflight



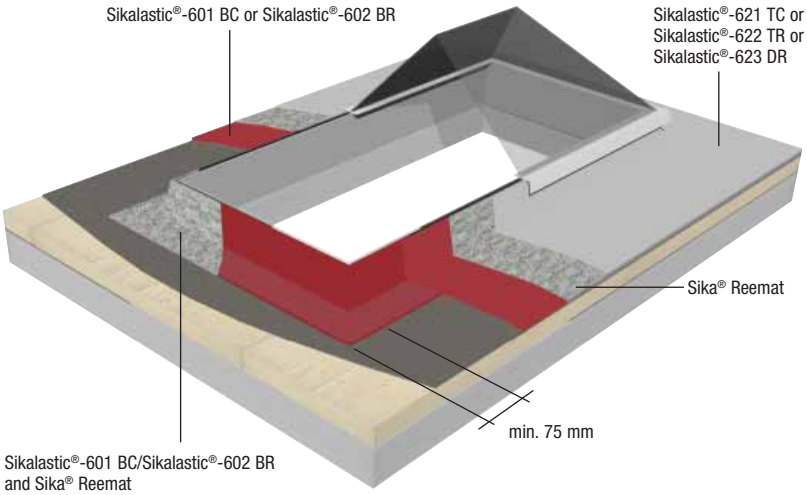
Step 1

At the Rooflight upstand kerb, dress the Sikalastic® Vap up the kerb by bedding it in Sikalastic® Coldstik adhesive. The Sikalstic® Vap should be dressed to the top of the kerb.



Step 2

Sikalastic® Insulation should be trimmed neatly to the rooflight kerb and bonded in Sikalastic® Coldstik adhesive. The Sikalastic® Carrier should be dressed up to the rooflight kerb and break-bond tape applied to the joint.



Step 3

Sikalastic® 601 BC or Sikalastic®-602 BR is applied complete with Sika® Reemat Premium reinforcement from the Sikalastic® Carrier to the rooflight upstand. The SikaRoof® MTC is then applied to the whole roof area, including the rooflight upstand.

Inspection, Sampling, Quality Control

General

In normal use, SikaRoof® MTC Systems require no routine maintenance other than periodic inspections to check for damage by accidental impact or by building modifications involving the roof structure. During the course of such inspections, sharp objects such as screws, stones, broken glass and other material should be removed from the surface in order to minimise the chances of accidental damage by subsequent foot traffic.

In order to prevent damage by excessive localised loading, particularly on roofs incorporating soft insulation, planks or other simple load-spreading devices should be placed under ladders or the supports of free standing structures on the roof.

Repairs

In the event of localised damage, or to reinstate a completely seamless barrier following structural modifications, repairs can be made quickly and easily by applying more of the appropriate coating to the affected areas. If treating small punctures, the surrounding membrane should be cleaned, primed if necessary and repaired by the application of additional material by brush or roller. If treating new joints etc. embed either Sikalastic® Reemat or Sika® Flexitape into the wet coating and allow to cure before applying a second coat. In all cases, care should be taken to restore the dry film thickness of the original membrane.

Long Term Maintenance

Inspection

Towards the end of the anticipated design life of the chosen system, the membrane should again be inspected. In practice, the actual durability of the various SikaRoof® MTC Systems will often far exceed the quoted life span and maintenance will not strictly be necessary for several years after the termination of the stated period. Nonetheless, it is recommended that the system be overcoated when it has reached the end of its design life in order to ensure effective and continuous protection against water ingress. In all cases, inspections should then be carried out regularly (annually, for example) in order to check for signs of wear or excessive weathering.

Note: If the top coat was previously applied in a different colour to the underlying coat, this will serve as a guide to the need for re-coating – i.e. the coating underneath will begin to show through when the top coat wears thin.

Refurbishment

SikaRoof® MTC Systems do not need to be replaced at the end of their initial design lives. They may be restored to extend their original durability simply by the application of our extension systems.
Please contact Sika Technical Services for details. This method of roof refurbishment is significantly more cost effective than conventional alternatives and will enable further long term cost savings to be made.

Equipment – Tools

Jet Washer

If vegetation, moss or algae are present on the existing roof a power washer is required to clean off the substrate prior to the application of SikaRoof® MTC Cold Bonding. Existing chippings should be removed by hand or scabbling prior to power washing.

Squeegee

Useful when removing excess water from the roof after overnight rain.

Drill and Paddle

Sikalastic® Coldstik adhesive can be mixed by hand, or the easy and efficient way to mix the two part Sikalastic® Coldstik adhesive is by using a drill and paddle. Part B should be poured into part A and mixed with the drill and paddle for two minutes at medium speed, to ensure the two components are mixed thoroughly.

Pouring Can

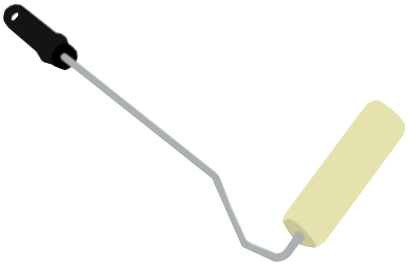
Once Sikalastic® Coldstik adhesive has been mixed, a pouring can is used to snake the adhesive to the structural deck, the Sikalastic® Vap or Sikalastic® Insulation. This method of application allows for fast installation of the system.

Scraper

Required to squeeze the excess adhesive from the laps of the Sikalastic® Vap and Sikalastic® Carrier when sealing the side and end laps. Sikalastic® Coldstik adhesive should flow from the laps to ensure a waterproof seal.

Medium Pile Roller

Used in the application of Sikalastic®-601 BC and Sikalastic®-621 TC to ensure a consistent thickness of the SikaRoof® MTC System.



Short pile Roller

Used in the application of Reemat reinforcement and for the application of Sikalastic®-621 TC and Sikalastic®-601 BC to details and penetrations through the roof construction.

Brushes

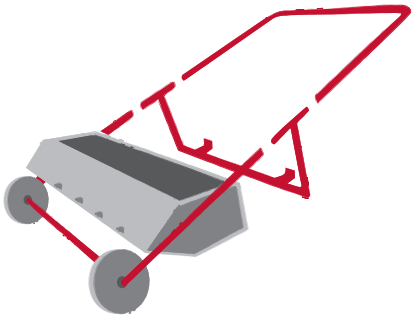
For application of Reemat and Sikalastic®-621 TC and Sikalastic®-601 BC to all details and penetrations.

Stanley Knife

This tool is required when cutting Sikalastic® Insulation and other membranes used within the built-up roofing system. When the insulation is resting on an uneven substrate, this tool should be used to cut the back of the board to enable maximum contact with Sikalastic® Coldstik adhesive.

Saw

Used when cutting thick insulation boards or when fixing Sikalastic® tapered insulation systems.



Sikalastic® Applicator

A gravity fed, easy-to-use applicator that can be used to evenly distribute Sikalastic® Coldstik, Sikalastic®-601 BC and Sikalastic®-621 TC.

Disposal

The disposal of emptied tins of Sika® products.

Sikalastic®-601 BC, Sikalastic®-602 BR, Sikalastic®-621 TC, Sikalastic®-622 TR and Sikalastic®-623 DR

Where residual material has fully cured the material poses no threat to health, safety or the environment. Therefore containers coated with fully cured residues do not need special disposal considerations. However, where the tins carry hazard warnings such as transport diamonds or orange squares denoting chemical hazards, these markings should be covered, removed or otherwise obliterated. If these are not removed there may be difficulties at the disposal site as the markings indicate that the contents are hazardous.

However, where residual material has not cured or a skin has formed on the surface this must be disposed as hazardous waste and any markings denoting hazards must remain.

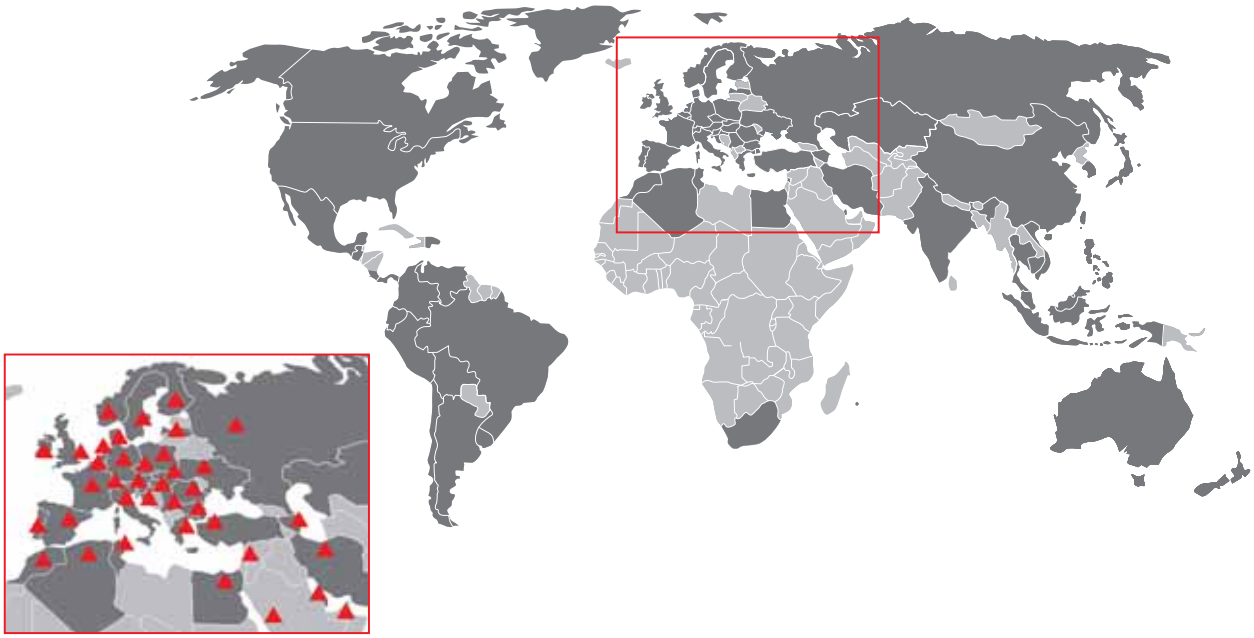
Twin pack / two part materials:

When both parts are added and mixed, any subsequent residues will cure and the statement above applies. Residues from unmixed tins of part A and part B will not cure. This means that contaminated containers will need to be disposed of under local Hazardous Waste Regulations. However, it is suggested that when adding part B to part A mixed material should be added to the now empty part B tin and then used, the residues remaining in this tin will now cure and the tin will be suitable for normal disposal on curing.

Health and Safety

Please refer to the relevant safety data sheets prior to use.

Sika® – a Global Player in Speciality Chemicals for Construction and Industry



Sika® is a globally active company in the speciality and construction chemicals business. It has subsidiary manufacturing, sales and technical support facilities in over 70 countries around the world. Sika® is the global market and technology leader in waterproofing, sealing, bonding, dampening, strengthening and the protection of buildings and civil engineering structures.
Sika® has approx. 12,000 employees worldwide and is therefore ideally positioned to support the success of its customers.

Also available from Sika

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

This Method Statement is provided by Sika as a 'standard proposal' for the application of SikaRoof®-MTC systems. Please also refer to the specific recommendations in the relevant Product data sheet for each. It always remains the responsibility of the structural engineer to confirm the product suitability and the correct method for any given application. Where alternative methods or criteria to those outlined here are to be used, these must first be submitted to Sika Technical Services for prior approval and agreement in writing, before the commencement of any works. Sika can not accept responsibility or liability due to any other variations or conditions.

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