Construction

# Sikalastic®-601 BC

## High performance, versatile and easily applied liquid Roof Waterproofing Base Coat.

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| **Product Description** | Sikalastic®-601 BC is a cold-applied, seamless, highly elastic, one-component, moisture-triggered polyurethane Base Coat (BC) designed to provide easy application and a durable solution in combination with Sikalastic®-621 TC (Top Coat). |
| **Uses** | ■ For SikaRoof® MTC 12,15,18,22 and SikaRoof® MTC Cold Bonding in both new construction and refurbishment projects<br>■ For roofs displaying complex detail areas, even when accessibility is limited<br>■ For cost efficient life cycle extension of failing roofs<br>■ For Sika SolaRoof™ MTC 15, 18, 22 as high reflective roof waterproofing system for excellent cool roof characteristics and bifacial photovoltaic panels, e.g. Solyndra |
| **Characteristics / Advantages** | ■ Proven technology - over 20 years track record<br>■ Easy and quick application with Sika® Reemat and Sikalastic® Applicator<br>■ Moisture triggered chemistry – after application rapidly weatherproof<br>■ Highly elastic and crack-bridging<br>■ Seamless roof waterproofing membrane<br>■ When used with approved primers will fully bond to most substrates preventing the migration of water<br>■ Vapour permeable<br>■ Strong resistance to a wide range of chemicals<br>■ One component – ready to use |

### Tests

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| **Approval / Standards** | ■ European Technical Approval<br>■ Din 4062; 1978 |

## Product Data

### Form

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| **Appearance / Colours** | Oxide Red |
| **Packaging** | 5 litre pails (6.80 kg)<br>15 litre pails (20.40 kg) |

### Storage

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| **Storage Conditions / Shelf Life** | 12 months from date of production if stored properly in original, unopened and undamaged sealed packaging in dry conditions at temperatures > 0 °C and <25 °C.<br>Higher storage temperatures may reduce shelf life of product. |

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## Technical Data

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| **Chemical Base** | One-component moisture-triggered aliphatic Polyurethane | |
| **Density** | 1.36 kg/l<br>All density values at +23 °C | (EN ISO 2811-1) |
| **Solid Content** | ~ 78 % by volume / ~ 84.3 % by weight | |
| **Flash Point** | +59°C | |
| **Service temperature** | -30 to +80°C (intermittent) | |

## Chemical Properties

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| **Chemical Resistance** | Strong resistance to a wide range of reagents including paraffin, petrol, fuel oil, white spirit, acid rain, detergents and moderate solutions of acids and alkalis. Some low molecular weight alcohols can soften the material. Contact Technical Service for specific recommendations<br><br>Salt spray to ASTM B117 (1000 hours continuous exposure) and prohesion testing to ASTM G85- 94; Annex A5 (1000 hours cyclic exposure) |

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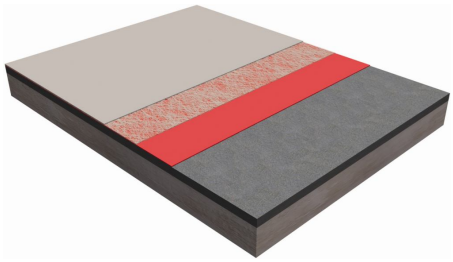
# System Information

## System Structure

### Exposed Roofs

To provide a UV –stable coating, to extend life expectancy of cold roofs, to provide reflective coatings to enhance energy efficiency, or for high-performance waterproofing solutions on new construction and refurbishment projects.



| | SikaRoof® MTC 12 | SikaRoof® MTC 15<br>Sika SolaRoof™ MTC 15 | SikaRoof® MTC 18<br>Sika SolaRoof™ MTC 18 | SikaRoof® MTC 22<br>Sika SolaRoof™ MTC 22 |
|---|---|---|---|---|
| Build up | Sikalastic®-601 BC applied in 1 coat, reinforced with Sika® Reemat Standard and sealed with Sikalastic®-621 TC | Sikalastic®-601 BC applied in 1 coat, reinforced with Sika® Reemat Premium and sealed with 1 coat Sikalastic®-621 TC | Sikalastic®-601 BC applied in 1 coat, reinforced with Sika® Reemat Premium and sealed with 1-2 coats Sikalastic®-621 TC | Sikalastic®-601 BC applied in 1 coat, reinforced with Sika® Reemat Premium and sealed with 2 coats Sikalastic®-621 TC |
| | | Highly reflective Sikalastic®-621 TC – SR* as part of Sika SolaRoof™ MTC | | |
| Substrates | Sound concrete and cement screed, metals, wood, bituminous felt and asphalt in good condition, spray applied foam, brick and stones, slates and tiles, plastics (GRP, UPVC, ABS) | Sound concrete and cement screed, metals, wood, bituminous felt and asphalt in moderate condition, spray applied foam, brick and stones, slates and tiles, plastics (GRP, UPVC, ABS) | Sound concrete and cement screed, metals, wood, bituminous felt and asphalt in moderate condition, spray applied foam, brick and stones, slates and tiles, plastics (GRP, UPVC, ABS) | Sound concrete and cement screed, metals, wood, bituminous felt and asphalt in moderate condition, spray applied foam, brick and stones, slates and tiles, plastics (GRP, UPVC, ABS) |
| Primer | Please refer to Sikalastic® Primer chart below | | | |
| Total dry film thickness (BC and TC) | ~ 1.3mm | ~ 1.5mm | ~ 1.8mm | ~ 2.2mm |
| Total consumption | BC: ≥ 0.75l/m² (≥ 1.0kg/m²) | BC: ≥ 1l/m² (≥1.4kg/m²) | BC: ≥ 1l/m² (≥1.4kg/m²) | BC: ≥ 1l/m² (≥1.4kg/m²) |
| | TC: ≥ 0.75l/m² (≥ 1.0kg/m²) | TC: ≥ 0.75l/m² (≥1.0kg/m²) | TC: ≥ 1.1l/m² (≥1.6kg/m²) | TC: ≥ 1.6l/m² (≥2.3kg/m²) |
| Tensile strength | 9N/mm² | 11.4N/mm² | 12.1N/mm² | 11N/mm² |
| Tensile Elongation | 38% | 46% | 58% | 84% |
| Vapor permeability | 6.60 g/m²/day<br>µH2O: 4133 | 6.50 g/m²/day<br>µH2O: 3480 | 5.80 g/m²/day<br>µH2O: 3584 | 3.80 g/m²/day<br>µH2O: 4274 |
| * For an optimum reflectivity of the Sika SolaRoof MTC systems we recommend airless spray-application of Sikalastic®-621 TC – SR (traffic white RAL 9016) | | | | |

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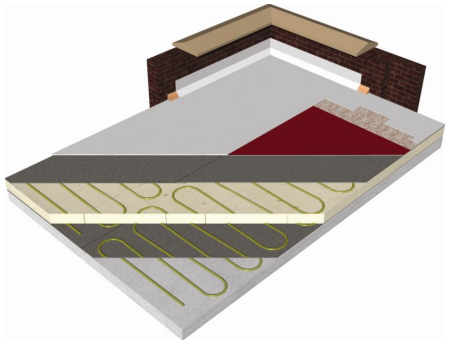
**System Structure**

## Built–up Roofs

SikaRoof® MTC Cold Bonding

Insulated built-up roof waterproofing design for new construction and refurbishment projects



Build up: Sikalastic Vap, Sikalastic Insulation and Sikalastic Carrier adhered

Sikalastic Coldstick, waterproofing with SikaRoof MTC 12, 15, 18,

22 or Sika SolaRoof MTC 15, 18, 22

Substrates: Plywood, concrete, galvanised steel, aluminium, asphalt,

Bituminous felt (incl. SBS)

Primer: Please refer to Sikalastic Primer chart below

Total dry film thickness: 1.2 to 2.2 mm

(BC and TC)

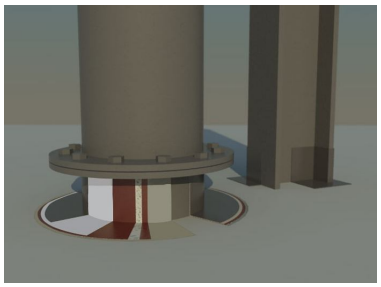
Total consumption: BC:> 1.0 to 1.4 kg/m2

TC :> 1.0 to 2.3 kg/m2

## Professional Detailing

SikaRoof® MTC Flashing

As a flashing kit, can be used with bituminous felt to from a complete waterproofing system.



Build up: Sikalastic -601 BC applied in 1 coat, reinforced with Sika® Reemat Premium and sealed with 1 coat Sikalastic®-621 TC

Substrates: Bituminous membrane.

Primer: Please refer to Sikalastic ® Primer chart below

Dry film thickness: (BC and TC) 1.5 to 2.2 mm

Total consumption: BC: > 1.4 kg/m2
TC: > 1.0 to 1.6 kg/m2

Sikalastic® Carrier is applied to areas with high movement, irregular substrates or to bridge cracks, joints, and seams on the substrate.

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| 1 C | One component product. Stir before using |
| | Low-temperature stability |
| | Thermal-shock resistant, i.e. will not be damaged by extended or sudden thermal exposure to ice, hail, rain, direct sunlight or rapid thermal swings |
| | Highly elastic and crack-bridging |
| | Vapour permeable |
| | Easy application by brush, roller or airless spray equipment even when accessibility is limited |
| | Bonds fully to most substrates, preventing the migration of water |
| | Root resistant |
| | Seamless waterproofing membrane |
| | Withstands mechanical loads of pedestrian and light wheeled traffic |
| Bitumen | Compatible with bituminous felts |

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## Application Details

**Substrate Quality**

Cementitious substrates

New concrete should be allowed a minimum of 10 days before priming – ideally 28 days and should have a Pull off strength ≥1.5 N/mm2. Inspect the concrete, including upstands, all areas should be hammer tested. Concrete must be suitably finished, preferably by wood float or steel pan. A power float finish is acceptable where the surface is prepared to avoid laitance (a tamped finish is not acceptable). The surface finish must be uniform and free from defects such as laitance, voids or honeycombing.

Brick and stone

Mortar joints must be sound and preferably flush pointed.

Ceramic tiles

Ensure all tiles are sound and securely fastened, replacing obviously broken or missing sections.

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.

Bituminous felt

Ensure that Bituminous felt is firmly adhered or mechanically fixed to the substrate. Bituminous felt should not contain any badly degraded areas.

Bituminous coatings

Bituminous coatings should not have sticky or mobile surfaces, volatile mastic coatings, or old coal tar coatings.

Metals

Metals must be in sound condition.

Wooden substrates

Timber and timber based panel roof decks are to be in good condition, firmly adhered, or mechanically fixed.

Paints/Coatings

Ensure the existing material is sound and firmly adhered.

Existing SikaRoof® MTC Systems

The existing SikaRoof® MTC Systems should still be soundly adhered to the substrate.

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**Substrate Preparation**

Cementitious substrates

Cementitious or mineral based substrates must be prepared mechanically using abrasive blast cleaning or scarifying equipment to remove cement laitance and to achieve an open textured surface.

Loose friable material and weak concrete must be completely removed and surface defects such as blowholes and voids must be fully exposed.

Repairs to the substrate, filling of joints, blowholes/voids and surface levelling must be carried out using appropriate products from the Sikafloor®, SikaDur® and SikaGard® range of materials.

High spots must be removed by e.g. grinding.

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.

Brick and stone

Power wash and use Sika® Biowash as required.

Ceramic tiles

Tiles need a. good adhesion to the substrate otherwise they need to be removed. Power wash and use Sika® Biowash as required.

Asphalt

Power wash and use Sika® Biowash as required. All major cracks should be sealed to allow continuity of the SikaRoof® MTC System. Asphalt must be carefully assessed for moisture and/ or air entrapment, grade and surface finish prior to any coating works being carried out.

Bituminous felt

Power wash and use Sika® Biowash as required. Treat blisters by star cutting and removing any underlying water. Allow to dry and re-adhere using Sikalastic® Coldstik.

Bituminous coatings

Remove loose or degraded coatings.

Metals

Steelwork is ideally prepared to Sa2½ (Swedish Standard SIS 05 : 5900 = 2nd quality BS4232 = S.S.P.C. grade SP10) OR as indicated by the blasting specification which may be of a higher standard. Where blasting is not permitted, clean metal preparation by pin hammer, etc. is acceptable.

Non-ferrous metals are prepared as follows. Remove any deposits of dust and oxidation and abrade to bright metal. Wire brushing can be used for soft metal such as lead. The surface must be clean and free from grease which, if present, must be removed with a proprietary solution. Wash with detergent, rinse and dry.

Wooden substrates

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.

Paints/Coatings

Remove loose or degraded coatings. Ensure the surface is clean and free from grease.

Existing SikaRoof® MTC System

Clean the membrane using a water jet at approximately 140bar (2000 p.s.i) using Sika® Biowash if necessary. Allow to dry.

*Note: For the Waiting Time /Overcoating you should refer to the PDS of the appropriate cleaner. Other substrates must be tested for their compatibility. If in doubt, apply a test area first.*

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**Substrate Priming**

| Substrate | Primer | Consumption primer [ml/m²] |
|---|---|---|
| Cementitious substrates | Sika® Concrete Primer | ≈ 150 |
| Brick and Stone | Not required | |
| Ceramic tiles (unglazed) and concrete slabs | Sika® Concrete Primer | ≈ 150 |
| Asphalt | subject to surface assessment tests<br>Only required for high reflectivity applications (Sikalastic® Metal Primer) | |
| Bituminous felt | Only required for high reflectivity applications (Sikalastic® Metal Primer) | |
| Bituminous coatings | Only required for high reflectivity applications (Sikalastic® Metal Primer) | |
| Metals<br>Ferrous or galvanised metals, lead, copper, aluminium, brass or stainless steel | Sikalastic® Metal Primer | ≈ 200 |
| Wooden substrates | Timber based roof decks require a complete layer of Sikalastic Carrier. For exposed timber Upstands use Sika® Concrete Primer | |
| Paints | Sika® Bonding Primer or aluminium based solar reflective coatings with Sikalastic® Metal Primer | |
| Existing SikaRoof® MTC System | Sika® Reactivation Primer. | ≈ 200 |

* Sikalastic® Metal Primer prevents migration of bituminous volatiles and improves long-term reflectivity

*Note: For the Waiting Time /Overcoating you should refer to the PDS of the appropriate cleaner and primer. Other substrates must be tested for their compatibility. If in doubt, apply a test area first.*

## Application Conditions / Limitations

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| **Substrate and ambient Temperature** | +5 °C min. / +35 °C max. |
| **Substrate Moisture Content** | < 4 % moisture content.<br>No rising moisture according to ASTM (Polyethylene-sheet). No water / moisture / condensation on the substrate. |
| **Relative Air Humidity** | 5 % min. / 85 % max. |
| **Dew Point** | Beware of condensation. Surface temperature during application must be at least +3 °C above dew point. |

## Application Instructions

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| **Mixing** | Not required |
| **Application Method** | Prior to the application of Sikalastic®-601 BC the substrate must be prepared and the priming coat must have cured tack-free. For the Waiting Time/Overcoating please refer to the PDS of the appropriate primer.<br>**Exposed Roofs**<br>SikaRoof MTC 12, 15, 18, 22: Apply first coat of Sikalastic®-601 BC and roll in Sikalastic® Reemat whilst wet. Ensure there are no creases and that the Reemat overlaps by minimum of 5 cm. Prior to the application of a second and third coat of Sikalastic®-621 TC the indicated waiting time in the table below should be achieved.<br>Please note, always begin with details prior to waterproofing the horizontal surface.<br>For Sika SolaRoof™ MTC 15, 18, 22 we recommend airless spray-application of Sikalastic®-621 TC-SR for optimum reflectivity. |

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**Built-up Roofs**

SikaRoof® MTC Cold Bonding: Mix the components of Sikalastic® Coldstick (as instructed in the relevant PDS) and apply to the substrate snaking the adhesive across the deck. For profiled metal deck apply along the crowns. Roll the Sikalastic® Vap into the adhesive, sealing side and end laps with a bead of adhesive. The Sikalastic® Insulation is embedded in a similar layer of Sikalastic® Coldstick. The Sikalastic® Carrier is then laid onto the Sikalastic® Insulation and adhered in a similar manner to the vapour control layer. The SikaRoof MTC 12,15, 18 or 22 is then applied directly over the Sikalastic® Carrier. Prior to the application of the Sika SolaRoof™ MTC 15, 18, 22 systems, Sikalastic® Metal Primer has to be applied as barrier layer to prevent migration of bituminous volatiles.

**Professional Detailing**

SikaRoof® MTC Flashing: Ensure that Bituminous felt is firmly adhered or mechanically fixed. Apply first coat of Sikalastic®-601 BC, and roll in the Sika® Reemat Premium whilst wet. Ensure there are no bubbles or creases and that the Reemat overlaps by a minimum of 5cm. Prior to the application of a second and third coat of Sikalastic®-621 TC the indicated Waiting Time in the table below should be achieved.

**Application Tools**

Jet washer: If dust, vegetation, moss / algae or other contaminants are present on the existing roof, a power washer is required to clean the substrate prior to the application of SikaRoof® MTC Systems. 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: The two parts of Sikalastic® Coldstik should be mixed for two minutes using a drill and paddle. Part B should be poured into part A.

Pouring Can: The pouring can is used to snake the Sikalastic® Coldstik across the structural deck, the Sikalastic® Vap or the Sikalastic® Insulation.

Scraper: Required to squeeze the excess Sikalastic® Coldstik from the laps of the Sikalastic® Vap and Sikalastic® Carrier when sealing the side and end laps.

Medium pile roller: Used in the application of Sikalastic®-601 BC to ensure a consistent thickness of the seamless SikaRoof® MTC Systems.

Small Medium pile roller: Used in the application of Sika® Reemat , Sikalastic®-601 BC to details and penetrations throughout the roof construction.

Brushes: For application of Sika® Reemat , Sikalastic®-601 BC to all details and penetrations.

Stanley knife: This tool is required when cutting Sikalastic® Vap, Sikalastic® Insulation and Sikalastic® Carrier. When the Sikalastic® Insulation is resting on a uneven substrate, the back of the board should be cut to enable maximum contact with Sikalastic® Coldstik.

Saw: Used when cutting thick Sikalastic® Insulation boards.

Sikalastic® Applicator: Gravity fed easy-to-use spreader for Sikalastic®-601 BC and Sikalastic® Coldstik.

**Cleaning of Tools**

Clean all tools and application equipment with proprietary cleaning solvent immediately after use. Hardened and/or cured material can only be removed mechanically.

**Pot life**

Sikalastic®-601 BC is designed for fast drying. High temperatures combined with high air humidity will increase the drying process. Thus, material in opened containers should be applied immediately. In opened containers, the material will form a film within 1 or 2 hours.

## Curing Details

**Applied Product ready for use**

| Temperature | Relative humidity | Rain resistant | Touch dry | Full cure |
|---|---|---|---|---|
| +5°C | 50% | 10 minutes | 8-10 hours | 24 hours |
| +10°C | 50% | 10 minutes | 4 hours | 8-10 hours |
| +20°C | 50% | 10 minutes | 3 hours | 6-8 hours |

*Note: Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.*

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| **Notes on Application / Limitations** | Do not apply Sikalastic®-601 BC on substrates with rising moisture.<br>On substrates likely to exhibit outgassing, apply during falling ambient and substrate temperature. If applied during rising temperatures "pin holing" may occur from rising air.<br>Substrate preparation is crucial to ensure highly durable quality. Precisely follow the instructions of the corresponding Primer and Cleaner PDS and the most recent issue of the Method Statement.<br>Do not use Sikalastic®-601 BC for indoor applications.<br>Do not apply close to the air intake vent of a running air conditioning unit.<br>Do not apply Sikalastic®-601 BC directly on Sikalastic® Insulation boards. Instead use Sikalastic® Carrier between Sikalastic® Insulation board and Sikalastic®-601 BC.<br>Areas with high movement, irregular substrates, or timber based roof decks require a complete layer of Sikalastic® Carrier.<br>Do not apply cementitious products (e.g. tile mortar) directly onto Sikalastic®-601 BC or Sikalastic® -621 TC |
| **EU Regulations 2004/42**<br><br>**VOC - Decopaint Directive** | According to the EU-Directive 2004/42/CE, the maximum allowed content of VOC (Product category IIA / **i** type **sb**) is 600/500 g/l (Limits 2007 / 2010) for the ready to use product.<br><br>The maximum content of **Sikalastic®-601 BC** is < 500 g/l VOC for the ready to use product. |
| **Value Base** | All technical data stated in this Product Data Sheet is based on laboratory tests. Actual measured data may vary due to circumstances beyond our control. |
| **Local Restrictions** | Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields. |
| **Health and Safety Information** | For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological, and other safety-related data. |
| **Legal notes** | 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. |

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