



ROOFING & WATERPROOFING LIQUID APPLIED MEMBRANE SOLUTIONS

FOR NEW CONSTRUCTIONS AND REFURBISHMENTS

SIKA'S CORPORATE PROFILE



- In 101 countries
- More than 300+ production and marketing companies
- 25,000+ employees worldwide

Sika AG, located in Baar, Switzerland, is a globally active specialty chemicals company. Sika supplies the building and construction industry as well as manufacturing industries (automotive, bus, truck, rail, solar and wind power plants, facades).

Sika's product lines feature high-quality concrete admixtures, specialty mortars, sealants and adhesives, damping and reinforcing materials, structural strengthening systems, industrial flooring as well as roofing and waterproofing systems. Worldwide local presence in 101 countries and some 25,000 employees link customers directly to Sika and guarantee the success of all partners. Sika generated annual sales of CHF 8.1 billion in 2019.

SIKA – A COMPANY WITH MORE THAN 100 YEARS OF HISTORY



Sika Zurich



Today Sika is the global technology and market leader in specialty chemicals for Construction and Industry, providing complete systems and problem solutions.

The history of Sika began in 1910, when Kaspar Winkler, the founder of Sika, invented Sika-1, a quicksetting waterproofing admixture for mortar, used to waterproof the Gotthard Tunnel, thus enabling the Swiss railway company to electrify this important connection between Northern and Southern Europe. Kaspar Winkler recognized an upcoming global need for his "trailblazing" admixtures and launched subsidiaries around the world. Already in the 1930s, 15 Sika subsidiaries in Europe, USA, Argentina, Brazil and Japan established new construction chemicals markets.

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SIKA LIQUID APPLIED MEMBRANES (LAM)

Overview

WHERE IS YOUR ROOF MOST VULNERABLE TO LEAKAGE?

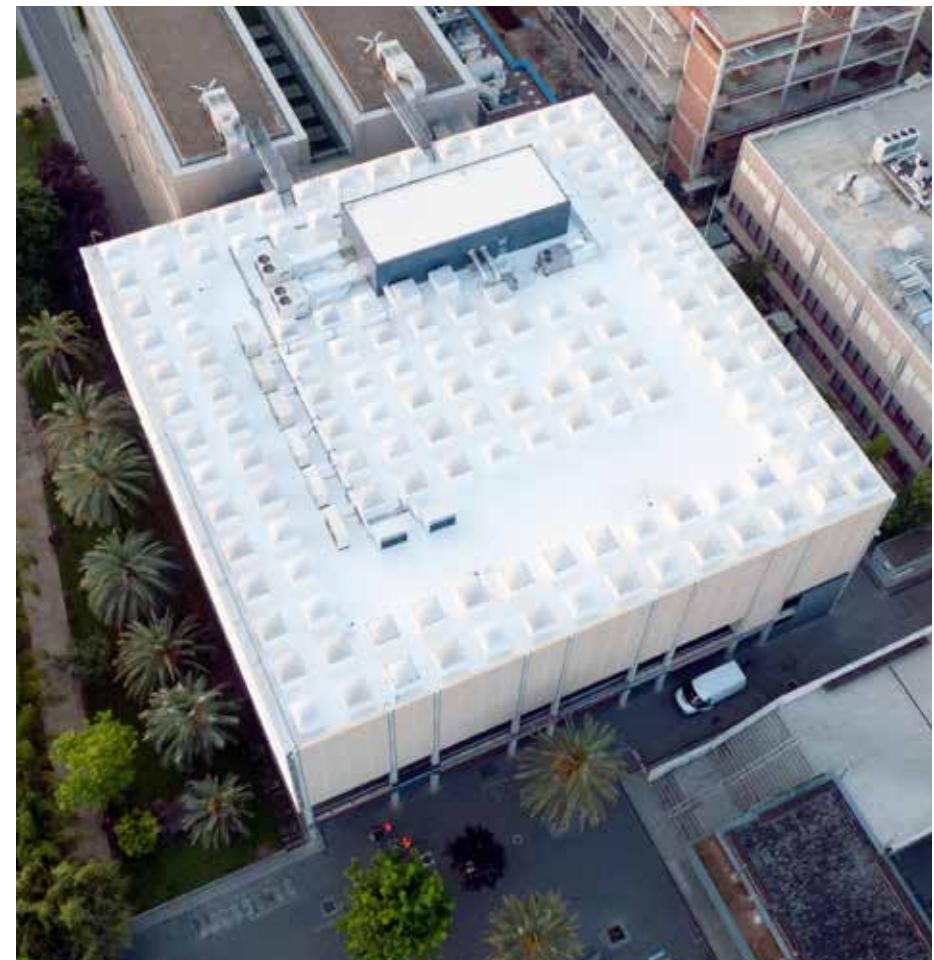
AT THE SEAMS AND DETAILS! Avoiding joints or seams is beneficial where complex structures need to be waterproofed – with Sika liquid applied membranes.

THE SOLUTION: SIKA LIQUID APPLIED MEMBRANES

Sika liquid applied membrane (LAM) systems allow you to realize your concepts and projects, also out of the usual. Our systems are applied in new construction and in refurbishment whenever the use of a sheet membrane is too complicated to provide fast, effective and safe installation.

Sika has a history of half a century in supplying long-lasting liquid applied membrane systems. We belong to the founder generation in the 1960's and today we are the global leader in a strongly growing liquid applied roofing market segment.

Sika offers not only a wide range of technologies and systems but also comprehensive technical services to ensure a smooth realization of every individual project. From first project consultation, specification, on-site training, quality control, site inspection to guarantee, Sika is a reliable partner for all parties involved!

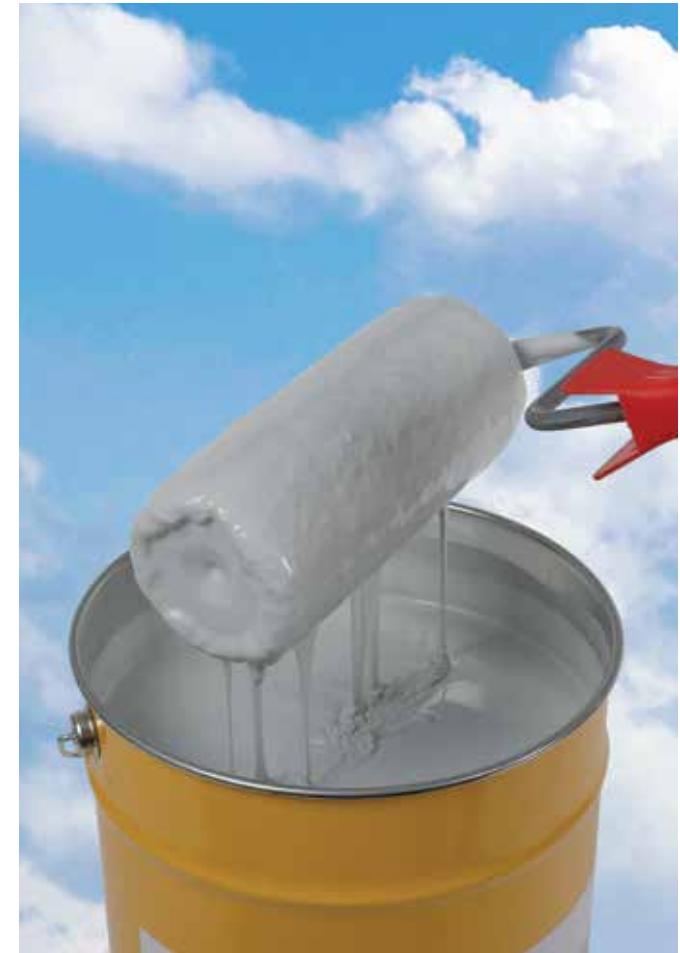


FEATURES

ADVANTAGES

BENEFITS

■ Liquid applied	■ Easy to adjust to complex details ■ Ideal for refurbishment ■ No penetration of the existing roof deck	■ Fast, easy and safe application ■ Extend life cycle of old or leaking roofs without interruption ■ Lower risk of roof failure
■ Versatile	■ Suitable for various type of roof structures and substrates ■ Ideal for refurbishment	■ More possible applications ■ Extend life cycle of old or leaking roofs without interruption
■ Highly elastic ■ Retains flexibility even at low temperatures	■ Good crack bridging property even at low temperatures	■ Lower risk of roof failure even in cold climate
■ Seamless	■ No joints or seams	■ Lower risk of roof failure
■ Zero flame technology	■ Reduction of fire risk	■ Safety
■ Fully adhered to the substrate	■ No water infiltration between substrate and membrane in case of a leakage	■ Easy locating in case of leakage ■ Lower risk of roof failure
■ High UV resistance	■ Durable waterproofing for exposed roofs	■ Lower risk of roof failure ■ Longer life expectancy
■ Vapor permeable	■ Allows the substrate to breath	■ Entrapped moisture can evaporate: no blistering
■ Variety of colour options	■ Allow design freedom	■ More possible applications
■ High solar reflectance index when applied in white colour	■ Ideal for cool roofs and solar roof	■ Energy efficiency improvement



APPLICATIONS OF SIKA LIQUID APPLIED MEMBRANES

Versatile waterproofing solution for a variety of structures

NEW PROJECT



Exposed concrete roof



Water tank system



Concealed concrete roof



Exposed car park system



Green Roof



Planter box

REFURBISH PROJECT



Protective screed



Torch on bitumen membrane



Existing liquid applied membrane



Corrosion steel roof

APPLICATIONS OF SIKA LIQUID APPLIED MEMBRANES

Applicable substrates

CONCRETE



METAL



BITUMEN



BRICKS AND STONES



FIBER CEMENT



ROOF TILES



COOL ROOFS WITH LIQUID APPLIED MEMBRANES

COOL ROOFS ALLOW BUILDING owners, architects, civil engineers, and energy consultants to optimize the energy and environmental performance of a building and contribute to a significant reduction of the “urban heat island effect” in metropolises.

WHY COOL ROOFS

Cool roofs minimize solar heat absorption therefore keep roof surfaces cooler at sun radiation. The materials used reflect the solar radiation (solar reflectance) while at the same time release the absorbed heat (infrared emittance).



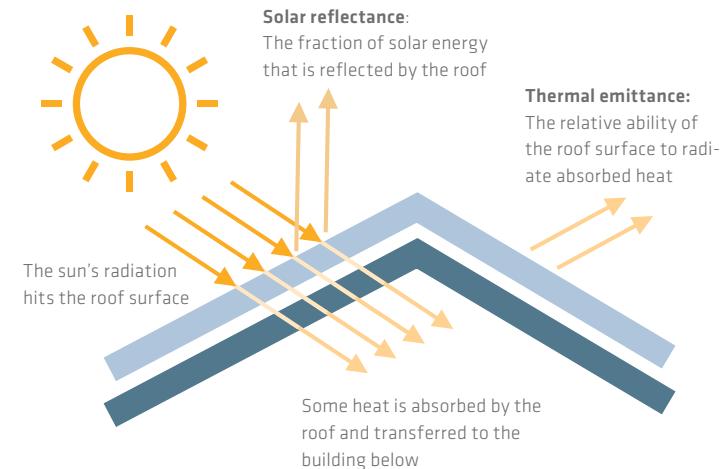
Roof temperature before LAM application.



Roof temperature after LAM application.

BENEFITS

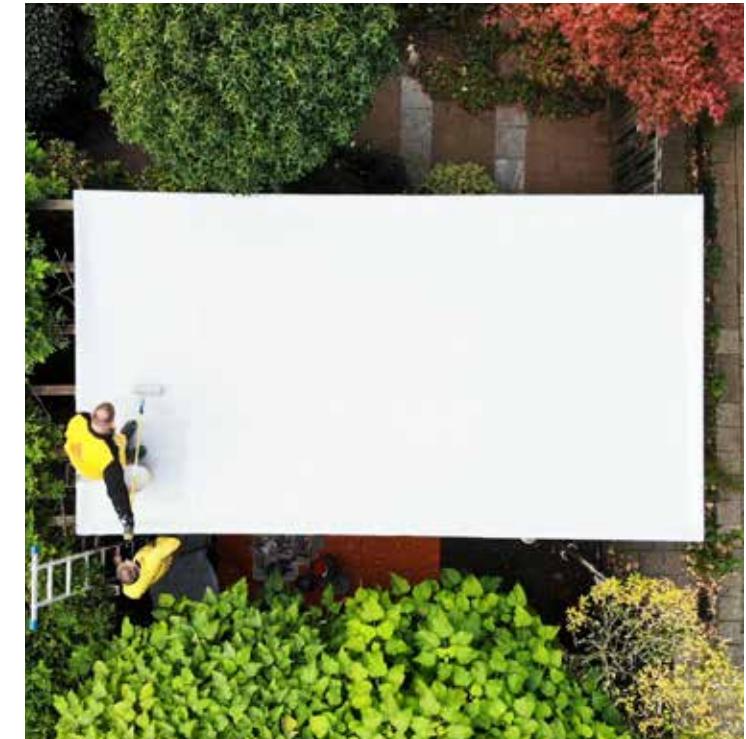
- Reduce energy consumption of air conditioning
- Reduce urban heat island effect
- Reduce thermal stress on a roof and material itself
- Reduce running and maintenance costs
- Positive impact on global environment
- Increase efficiency of photovoltaic panels
- Conformity with LEED v2009 (SSc 7.2) / v4 (SSc 5)



SIKA FOR COOL ROOFS

Sika is an early and active member of the CRRC (Cool Roof Rating Council), established in 1998 in the US as well as the ECRC (European Cool Roofs Council).

Sikalastic® Systems are tested for solar reflectance and thermal emittance, initially and after 3 years weathering, and listed in the CRRC Rated Products Directory.



COOL ROOFS WITH SIKA LAM

Sikalastic® liquid applied membranes applied in Traffic White (RAL 9016) have a high solar reflection and a low absorption, resulting in a high Solar Reflectance Index (SRI) which is the indicator

for the reflectivity of a surface. The higher the SRI, the higher the reflection of the roof surface and the "cooler" the roof.

Sika Product	Solar Reflectance Index (SRI)
Sikalastic®-590	100.9
Sikalastic® U-Coating	108
Sikafill®-300 Thermic	100

LAM TECHNOLOGY

Material technology overview

TYPE	2-C PU / PUA	1-C PU	1-C PU DISPERSION	1-C ACRYLIC
	2 Component Polyurethane/Polyurea	1-Component Polyurethane Moisture Triggered Chemistry	1 Component Polyurethane Modified Acrylic / Bitumen	1 Component Multipurpose Elastic Acrylic
BRAND NAMES	Sikalastic®-870 BT Sikalastic®-871 JW Sikalastic®-853 R AP Sikalastic® U-Coating Sikalastic® ExcelTop High Reflection	Sikalastic®-612 Sikalastic®-632 R	Sikalastic®-110 Sikalastic®-590	SikaCoat®-300 Cool SikaCoat®-500 Super SikaFill®-300 Thermic
ADVANTAGES	<ul style="list-style-type: none"> ■ Fast application - application with 2-part hot spray equipment ■ Fast curing - walkable on after 5 minutes ■ Solvent free ■ High solids ■ Seamless waterproofing membrane ■ Excellent crack bridging properties ■ Highly elastic and crack bridging ■ Good adhesion to most substrates ■ Excellent mechanical properties 	<ul style="list-style-type: none"> ■ Fast curing - free from rain damage almost immediately on application ■ Proven technology - over 25 year track record ■ One component - ready to use ■ Cold applied - requires no heat or flame ■ Seamless roof waterproofing membrane ■ Highly elastic and crack bridging ■ Easily recoated when needed - no stripping required ■ Economical - provides cost efficient life cycle extension for failing roofs ■ Good adhesion to most substrates ■ Vapor permeable - allows the substrate to breathe ■ Environmentally preferred coating: water based, non-toxic 	<ul style="list-style-type: none"> ■ Solvent free and VOC compliant water-based coating ■ One-component-ready to use ■ Cold applied - requires no heat or flame ■ Seamless roof waterproofing membrane ■ Highly elastic and crack bridging ■ Easily recoated when needed - no stripping required ■ Economical - provides cost efficient life cycle extension for failing roofs ■ Good adhesion to most substrates ■ Vapor permeable - allows the substrate to breathe ■ Environmentally preferred coating: water based, non-toxic 	<ul style="list-style-type: none"> ■ One-component-ready to use ■ Environmentally preferred coating: water based, non-toxic ■ Excellent impermeability to rainwater or condensation ■ Resistant to weathering and UV rays ■ Excellent hiding power ■ Crack bridging ability ■ Easy application ■ Economical - provides cost efficient life cycle extension for failing roofs

MATERIAL COMPETENCE

Liquid applied membrane

	EXPOSED SYSTEM				
SOLUTION	Sikalastic®-870 BT	Sikalastic®-853 R AP *	Sikalastic®-612	Sikalastic®-632 R	Sikalastic®-590
MATERIAL	Pure Polyurea	Polyurethane/ Polyurea Hybrid	Pure Polyurethane	Pure Polyurethane	Polyurethane Modified Acrylic dispersion
PACKAGING	2 components	2 components	1 component	1 component	1 component
APPLICATION	Hot gun spray applied	Hot gun spray applied	Roller/ Brush/ Spray	Roller/ Brush/ Spray	Roller/ Brush/ Spray
CHARACTERISTIC	<ul style="list-style-type: none"> ■ High acidic and alkaline chemical resistance ■ High resistance to microbial waste ■ Fast reactivity and cure time ■ Crack bridging properties 	<ul style="list-style-type: none"> ■ Fast application and fast curing ■ Good elasticity and elongation at break ■ Easy detailed around complex geometries ■ Good adhesion to many substrates 	<ul style="list-style-type: none"> ■ Cold applied - requires no heat or flame ■ 10 minutes rain resistant ■ Root penetration resistant ■ Retain flexibility even at low temperatures 	<ul style="list-style-type: none"> ■ Unique technology that allows the freshly applied membrane will show no adverse reaction too water ■ 1 hour early rain resistant ■ Root penetration resistant ■ Retain flexibility even at low temperatures 	<ul style="list-style-type: none"> ■ Good behaviour under limited water ponding ■ UV resistant and resistant to yellowing and weathering ■ Non-toxic and VOC compliant water-based coating ■ High Solar reflective index
TENSILE STRENGTH	20 N/mm ²	10 N/mm ²	> 4.5 N/mm ² (Unreinforced) > 8 N/mm ² (Reinforced)	4.0 N/mm ² (Unreinforced) 5.0 N/mm ² (Reinforced)	> 1.7 N/mm ²
ELONGATION	280 %	510 %	> 180 % (Unreinforced) > 50 % (Reinforced)	600 % (Unreinforced) 600 % (Reinforced)	> 360 %
SOLID CONTENT	~ 99 %	~ 99 %	~ 80 %	~ 90 %	~ 63 %
RAIN RESISTANT	1 minute	5 minutes	10 minutes	1 hour	4 hours

* Top coat mandatory

MATERIAL COMPETENCE

Liquid applied membrane

EXPOSED SYSTEM				TOP COAT	
SOLUTION	SikaCoat®-500 Super	SikaCoat®-300 Cool	SikaFill®-300 Thermic	Sikalastic® U-Coating	Sikalastic® ExcelTop High Reflection
MATERIAL	Styrene Acrylic Reinforced Micro-Fibres	Styrene Acrylic	Thermal Insulation with microspheres acrylic	Pure Polyurethane	Polyurethane Acrylic
PACKAGING	1 component	1 component	1 component	2 components	2 components
APPLICATION	Roller/ Brush/ Spray	Roller/ Brush/ Spray	Roller/ Brush/ Spray	Roller/ Brush/ Spray	Roller / Brush / Spray
CHARACTERISTIC	<ul style="list-style-type: none"> ■ High weather resistant and UV resistance ■ Good penetration in cracks, and resistant to cracking ■ Able to absorb expansion and shrinkage movement without cracking 	<ul style="list-style-type: none"> ■ Excellent hiding power ■ Excellent UV stability ■ Waterproof to rain and splashed 	<ul style="list-style-type: none"> ■ Reduction of temperature and condensation based on new technology with polymeric microspheres ■ High reflectivity of solar radiation ■ Resistant to weathering and UV rays ■ Excellent permeability to rainwater or condensation 	<ul style="list-style-type: none"> ■ Solvent based non-yellowing polyurethane ■ Chemical resistance ■ Abrasion resistance ■ Dust resistance ■ High resistance to climate ■ Variety of colours 	<ul style="list-style-type: none"> ■ UV stable protective coating with excellent weathering resistance ■ UV protective coating for UC exposed Sikalastic® roofing systems ■ Excellent weather resistance ■ Variety of colours
TENSILE STRENGTH	> 2.2 N/mm ²	> 0.8 N/mm ²	> 1.0 N/mm ²	-	-
ELONGATION	> 147 %	> 260 %	> 100 %	-	-
SOLID CONTENT	~ 65 %	~ 60 %	~ 60 %	-	-
RAIN RESISTANT	2 hours	3 hours	3 hours	3 hours	45 minutes

CONCEALED SYSTEM				TANK LINER	
SOLUTION	Sikalastic®-853 R AP	Sikalastic®-632 R	Sikalastic®-110	Sikalastic®-871 JW	Sikalastic®-870 BT
MATERIAL	Polyurethane/ Polyurea Hybrid	Pure Polyurethane	Modified Polyurethane/ Bituminous Coating	Pure Polyurea	Pure Polyurea
PACKAGING	2 components	1 component	1 component	2 components	2 components
APPLICATION	Hot gun spray applied	Roller/ Brush/ Spray	Roller/ Brush/ Spray	Hot gun spray applied	Hot gun spray applied
CHARACTERISTIC	<ul style="list-style-type: none"> ■ Fast application and fast curing ■ Good elasticity and elongation at break ■ Easy detailed around complex geometries ■ Good adhesion to many substrates 	<ul style="list-style-type: none"> ■ Unique technology that allows the freshly applied membrane will show no adverse reaction too water ■ 1 hour early rain resistant ■ Root penetration resistant ■ Retain flexibility even at low temperatures 	<ul style="list-style-type: none"> ■ Low VOC and Eco-Friendly ■ Optimum adhesion onto concrete ■ High elasticity 	<ul style="list-style-type: none"> ■ Especially design for potable water installation, reservoirs and fish distribution pools ■ Will not contaminate water ■ Comply to SPAN certificated 	<ul style="list-style-type: none"> ■ High acidic and alkaline chemical resistance ■ High resistance to microbial waste ■ Fast reactivity and cure time ■ Crack bridging properties
TENSILE STRENGTH	10 N/mm ²	> 4 N/mm ² (Unreinforced) > 8 N/mm ² (Reinforced)	> 1.3 N/mm ²	> 250 N/mm ²	20 N/mm ²
ELONGATION	510 %	> 600 % (Unreinforced) > 45 % (Reinforced)	> 1000 %	> 280 %	280 %
SOLID CONTENT	~ 99 %	~ 90 %	~ 50 %	~ 99 %	~ 99 %
RAIN RESISTANT	5 minutes	1 hour	4 hours	1 minute	1 minute

EXPOSED CONCRETE ROOF

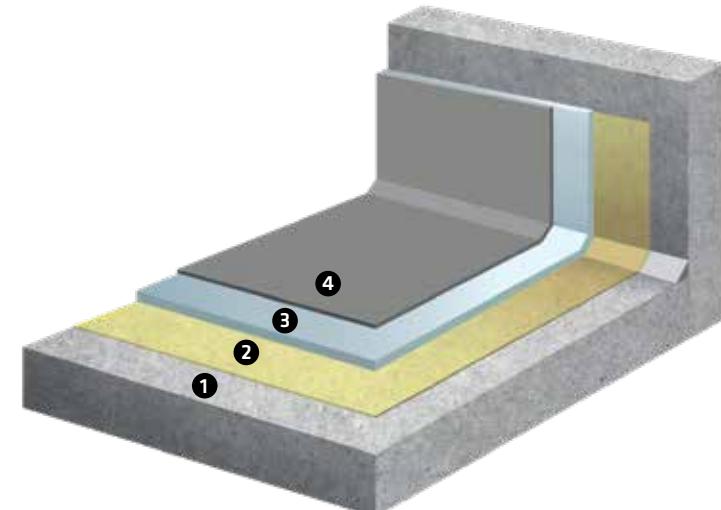
2 COMPONENTS POLYUREA



Menara PNB Tower, Kuala Lumpur, Malaysia

Characteristics & Benefits

- Fast curing spray applied membrane
- Excellent crack bridging properties
- For cost efficient life cycle extension of failing roofs
- Highly elastic waterproofing membrane
- Forms a seamless waterproofing layer over existing roof installation



Sika Solution

Sikalastic®-853 R AP (Hybrid) or Sikalastic®-870 BT (Pure)

System Design / Build-up

1. Substrate : Concrete roof
2. Primer : Sikafloor®-161 HC broadcast with Sikadur Quartz Sand
3. Waterproofing : Sikalastic®-853 R AP or Sikalastic®-870 BT
4. Top coat : Sikalastic® U-Coating

EXPOSED CONCRETE ROOF

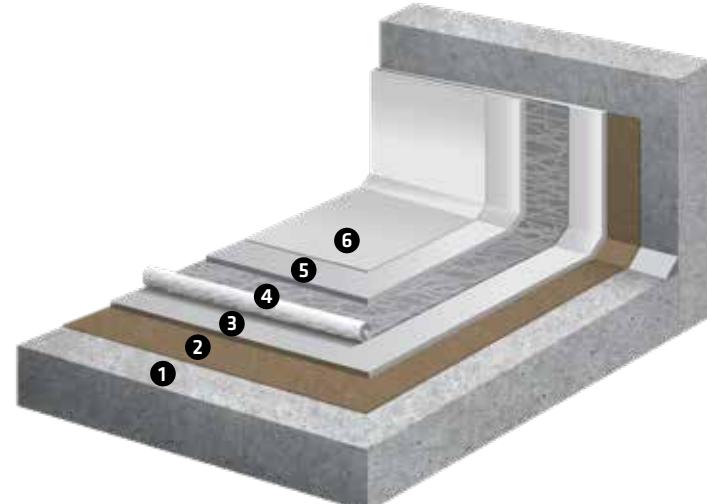
1 COMPONENT PURE POLYURETHANE



Ocean Villas, Danang, Vietnam

Characteristics & Benefits

- One component Pure Polyurethane
- 1 hour early rain resistant
- UV resistant
- High mechanical properties
- Crack bridging ability based on ASTM C836
- High solar reflective finished



Sika Solution

SikaRoof MTC 08 UV



System Design/ Build up

1. Substrate : Concrete roof
2. Primer : Sikalastic® U-Primer
3. First coat : Sikalastic®-632 R
4. Reinforcement : Sika Reemat® Premium-120
5. Second coat : Sikalastic®-632 R
6. Top coat (Optional) : Sikalastic® U-Coating

EXPOSED CONCRETE ROOF

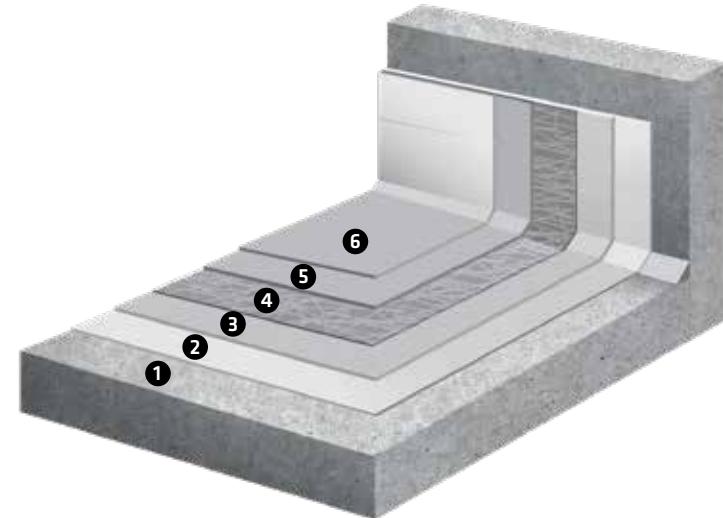
1 COMPONENT POLYURETHANE MODIFIED ACRYLIC DISPERSION



Army Camp Sarawak

Characteristics & Benefits

- Eco-friendly, low VOC polyurethane hybrid membrane
- Easy and seamless waterproofing system
- Excellent resistant to UV, yellowing and weathering
- High solar reflective index
- Comply to Singapore Green Label
- Highly durable with Sika Reemat reinforced system
- Good behaviour under limited water ponding



Sika Solution

Sikalastic®-590



System Design/ Build up

1. Substrate : Concrete roof
2. Primer : Sikalastic®-590 + 10% water
3. First coat : Sikalastic®-590
4. Reinforcement: Sika Reemat® Premium-120
5. Second coat : Sikalastic®-590
6. Third coat : Sikalastic®-590

EXPOSED CONCRETE ROOF

1 COMPONENT STYRENE ACRYLIC REINFORCED MICRO-FIBRES



Maple Residence Cyberjaya, Selangor, Malaysia

Characteristics & Benefits

- Water based
- Integral micro-fibre reinforcement
- High weather resistant and UV resistance
- Good penetration in cracks, and resistant to cracking
- Able to absorb expansion and shrinkage movement without cracking
- Odourless and non-toxic
- Comply to Singapore Green Label



Sika Solution

SikaCoat®-500 Super

System Design/ Build up

1. Substrate : Concrete roof
2. Primer : SikaCoat®-500 Super + 10% water
3. First coat : SikaCoat®-500 Super
4. Second coat: SikaCoat®-500 Super

EXPOSED CAR PARK ROOF

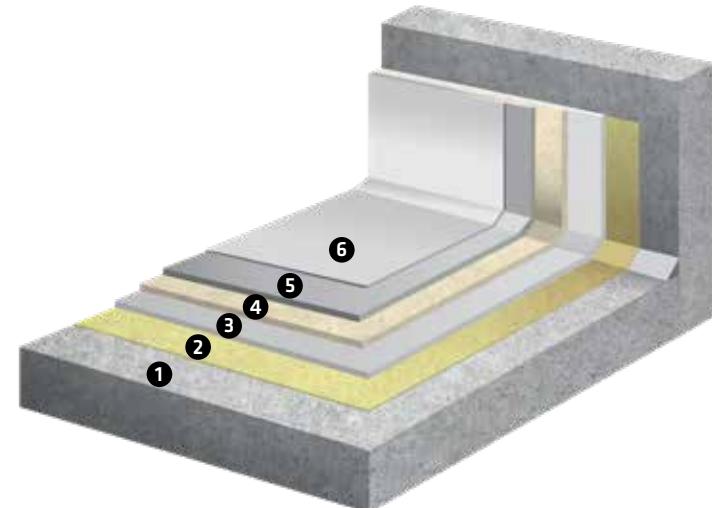
2 COMPONENTS POLYURETHANE/ POLYUREA HYBRID MEMBRANE



Bosch, Penang, Malaysia

Characteristics & Benefits

- Solvent free
- Fast curing spray applied membrane
- High solids contain no fillers
- Water vapour which allows substrate to breathe
- Excellent crack bridging – Comply test report according to DIN EN 1062-7
- LEED EQ Credit 4.2: Low - Emitting Materials: Paints & Coating



Sika Solution

Sikafloor® MultiFlex PB-58 UV



System Design/ Build up

1. Substrate : Concrete slab
2. Primer : Sikafloor®-161 HC broadcast with Sikadur® Quartz Sand
3. Waterproofing: Sikalastic®-851 R
4. Wearing coat : Sikafloor®-377 broadcast with Sikadur® Quartz Sand
5. Top coat : Sikafloor®-359 N
6. Line marking : Sikafloor®-359 MYG

EXPOSED STEEL ROOF

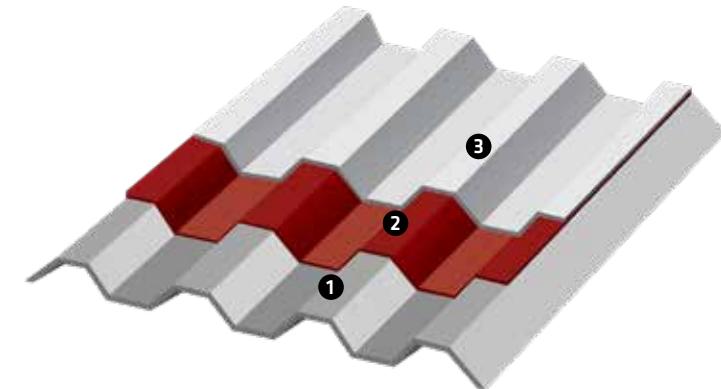
1 COMPONENT THERMAL INSULATION WITH MICROSPHERE ACRYLIC



Private residential

Characteristics & Benefits

- Thermal insulator that contributes to the reduction of temperature and condensation
- Reduce temperature up to approximately 20% (Depending on surface and actual conditions)
- Resistant to weathering and UV rays
- High reflectivity of solar radiation
- Excellent impermeability to rainwater or condensation



Sika Solution

SikaFill®-300 Thermic



System Design / Build-up

1. Substrate : Steel roof
2. Primer : Sikalastic® Metal Primer MY
3. Thermal insulation coat: SikaFill®-300 Thermic

CONCEALED CONCRETE ROOF

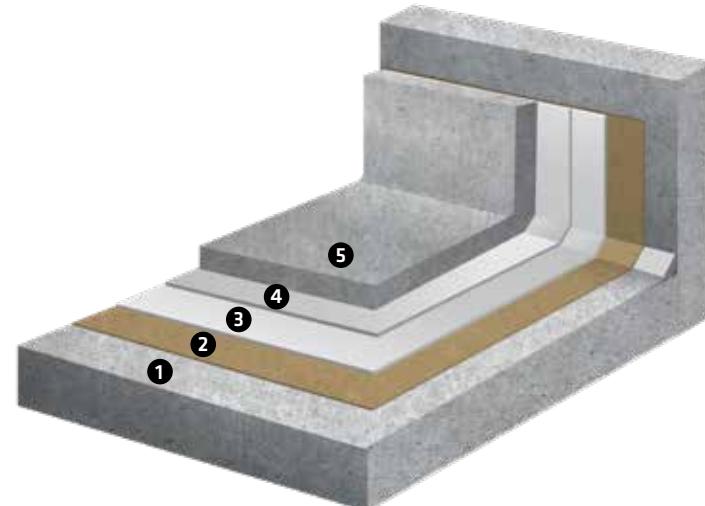
1 COMPONENT PURE POLYURETHANE



Media City Angkasapuri, KL

Characteristics & Benefits

- One component Pure Polyurethane
- 1 hour early rain resistant
- Crack bridging ability based on ASTM C836
- High mechanical properties
- Good elasticity



Sika Solution

Sikalastic®-632 R



System Design/ Build up

1. Substrate : Concrete roof
2. Primer : Sikalastic® U-Primer
3. First coat : Sikalastic®-632 R
4. Second coat: Sikalastic®-632 R
5. Protective screed

CONCEALED CONCRETE ROOF

1 COMPONENT POLYURETHANE MODIFIED BITUMINOUS



Quarza Mall, Melawati, Kuala Lumpur, Malaysia

Characteristics & Benefits

- Non toxic
- Low VOC and Eco-Friendly
- Optimum adhesion onto concrete
- High elasticity
- Comply to Singapore Green Label



Sika Solution

Sikalastic®-110

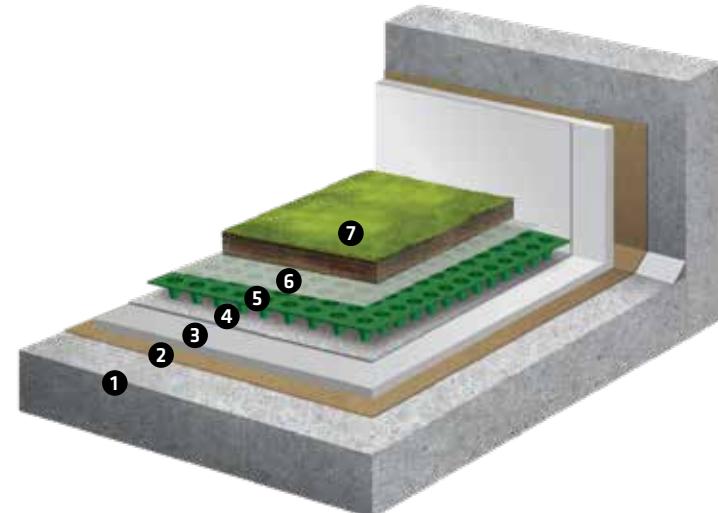


System Design/ Build up

1. Substrate : Concrete roof
2. Primer : Sikalastic®-110 + 10% water
3. First coat : Sikalastic®-110
4. Reinforcement layer : Sika Reemat® Premium-120
5. Second coat : Sikalastic®-110
6. Third coat : Sikalastic®-110
7. Protective Screeed

GREEN ROOF

2 COMPONENTS POLYURETHANE/ POLYUREA HYBRID MEMBRANE



Characteristics & Benefits

- Solvent free
- Fast curing spray applied membrane
- High solids contain no fillers
- Water vapour which allows substrate to breathe
- Excellent crack bridging – Comply test report according to DIN EN 1062-7
- Root resistant – Comply to FLL testing and DIN 4062
- LEED EQ Credit 4.2: Low - Emitting Materials: Paints & Coating



Sika Solution

Sikalastic®-851 R



System Design/ Build up

- | | |
|------------------------|---|
| 1. Substrate | : Concrete slab |
| 2. Primer | : Sikafloor®-161 HC broadcast with Sikadur® Quartz Sand |
| 3. Waterproofing | : Sikalastic®-851 R |
| 4. Separation layer | : S-Felt Geotextile |
| 5. Drainage | : SikaRoof® Drainage Sheet 20 |
| 6. Filter sheet | : S-Felt Geotextile |
| 7. Hardscape/Softscape | : Soil with plant |

PLANTER BOX

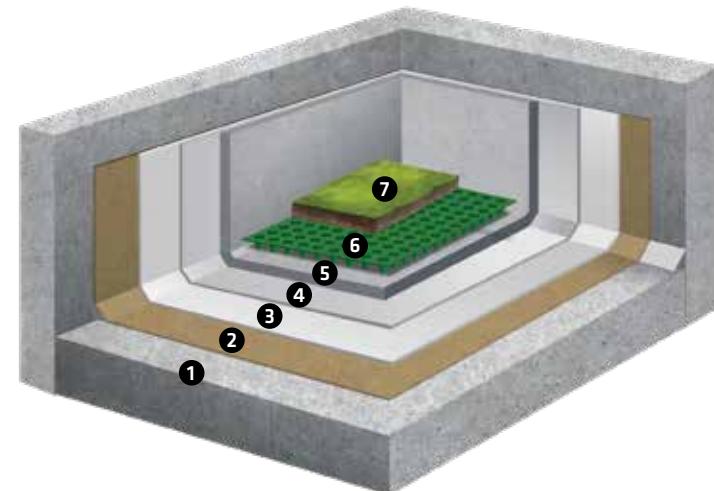
1 COMPONENT PURE POLYURETHANE



Tabuan Tranquility 3, Kuching

Characteristics & Benefits

- One component Pure Polyurethane
- 1 hour early rain resistant
- UV resistant
- Comply to Root resistance according DIN 4062
- Crack bridging ability based on ASTM C836



Sika Solution

Sikalastic®-632 R

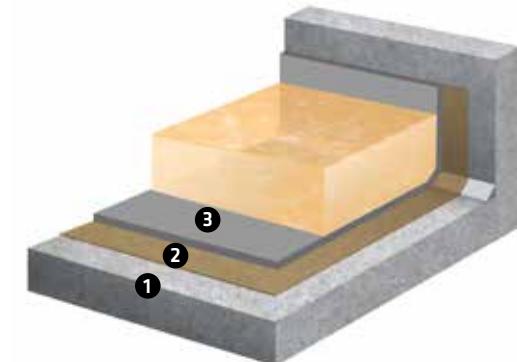
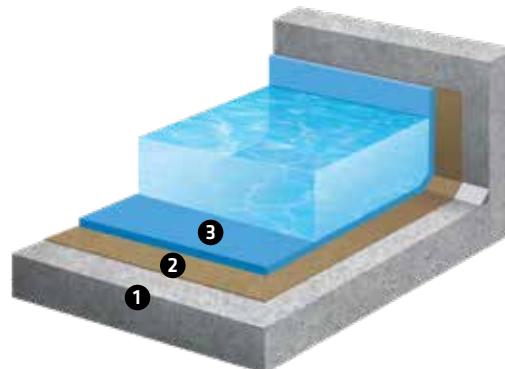


System Design/ Build up

1. Substrate : Concrete roof
2. Primer : Sikalastic® U-Primer
3. First coat : Sikalastic®-632 R
4. Second coat: Sikalastic®-632 R
5. Protective screed
6. Drainage : Sika® Drain 500 Geo
7. Soil with plant

WATER RESERVOIR

2 COMPONENTS PURE POLYUREA



Characteristics & Benefits

- Designed for the use in potable water installations, reservoirs and fish distribution pools
- Will not contaminate water
- Fast reactivity and cure time
- Almost immediate return to service time
- Performs in constant temperatures from +5°C to 60°C
- SPAN approval



Drinking Water



Sika Solution
Sikalastic®-871 JW

System Design/ Build up

1. Substrate : Concrete
2. Primer : Sikafloor®-161 HC broadcast with Sikadur® Quartz Sand
3. Waterproofing layer: Sikalastic®-871 JW

Waste Water

Sika Solution
Sikalastic®-870 BT

System Design/ Build up

1. Substrate : Concrete
2. Primer : Sikafloor®-161 HC broadcast with Sikadur® Quartz Sand
3. Waterproofing layer: Sikalastic®-870 BT

LAM ON CONCRETE ROOF REFURBISHMENT

Exposed RC flat roof over existing protective screed / concrete

Common Problems	Possible Cause
Cracks	Weak / Porous substrate
Water ponding	Insufficient slope
Root growth or moss	Lack of maintenance

Advantages:

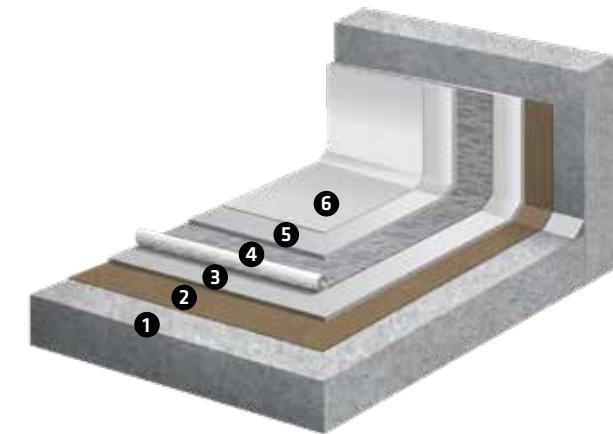
- Cost efficient life cycle extension for failing roofs
- Seamless roof waterproofing membrane
- Easily recoated when needed
- No penetration of the roof deck
- Easy & fast installation even on complicated details

EXISTING ROOF SYSTEM

BEFORE



AFTER



System Build-up

1. Existing protective screed - Surface preparation prior re-waterproofing
2. Primer : Sikalastic® U-Primer
3. First coat : Sikalastic®-632 R
4. Reinforcement layer: Sika® Reemat Premium-120
5. Second coat : Sikalastic®-632 R
6. Top coat (Optional) : Sikalastic® U-Coating

LAM ON CONCRETE ROOF REFURBISHMENT

Exposed RC flat roof with existing torch on bitumen membrane

Common Problems	Possible Cause
Detailing and termination (open seams)	Poor workmanship
Limitation of product service life	Product aging / degradation
Delamination	Poor surface preparation
Waterproofing	Insufficient slope

Advantages:

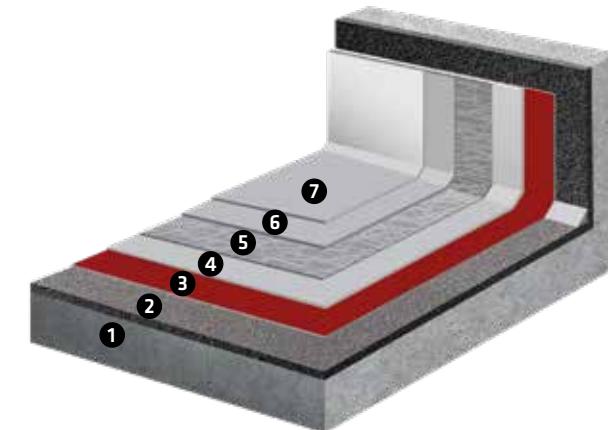
- Cost efficient life cycle extension for failing roofs
- Overcoating on the existing roof is possible
- Easily recoated when needed, no stripping required
- Seamless
- Easy & fast installation even on complicated details

EXISTING ROOF SYSTEM

BEFORE



AFTER



System Build-up

1. Concrete substrate
2. Existing torch applied membrane
3. Primer : Sikalastic® Metal Primer
4. First coat : Sikalastic®-632 R
5. Reinforcement layer: Sika® Reemat Premium-120
6. Second coat : Sikalastic®-632 R
7. Top coat (Optional) : Sikalastic® U-Coating

LAM ON STEEL ROOF REFURBISHMENT

Exposed steel roof

Common Problems	Possible Cause
Metal corrosion	Oxidation and chemical attack
Loose fasteners and cracks in seal & joints	High metal expansion and contraction
Joints and flashing	Poor workmanship and aging sealant

Advantages:

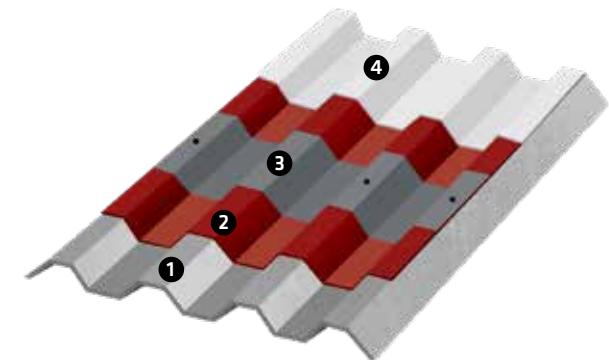
- Restored water tightness
- Additional protection for the metal deck
- Reduced "heat island" effect (highly reflective surface)

EXISTING ROOF SYSTEM

BEFORE



AFTER



System Build-up

1. Existing metal deck (adequate repair)
2. Primer : Sikalastic® Metal Primer MY
3. Reinforcement tape: Sika® Multiseal Butyl Fleece
4. Waterproofing : SikaFill®-300 Thermic

PERFORMANCE AND INSTALLATION RELATED REQUIREMENTS

UV LIGHT RESISTANCE



Light, especially energy-rich ultraviolet light, has an ageing effect on roof membranes that can eventually result in surface cracking and degradation. Sika roofing membranes for exposed roofs are all more than sufficiently UV stabilized against this to perform for the long term, even in extreme climates and locations with high UV light exposure.

SLIP RESISTANCE



The Sika roofing product range includes sheet membranes with embossed surfaces to provide slip resistance. Different degrees of slip resistance can be also achieved with Sika liquid applied membranes by broadcasting with selected grades of quartz sand.

HIGH FIRE RESISTANCE



Fire resistance requirements can be very individual and dependent on the type of construction and use of the building. If the roofing membrane is the top roof surface, then the membrane material must generally be classified as self-extinguishing. Sika roofing materials are all designed to comply with this and all relevant international and local building regulations in terms of fire.

ROOT RESISTANT



Membranes used under ballast must also withstand penetration from the roots of plants. Roof gardens and other green roofs obviously have a particular requirement for this, not only from the membrane, but also at their welded seams, connections and terminations. Sika single ply and liquid applied membranes for ballasted roof systems all resist root penetration and are treated to be resistant against micro-organisms, or they are inherent by fully resistant.

COMPATIBILITY TO BITUMEN



As bitumen has been used as a traditional roofing material for many years, it is often still present on existing roofs to be refurbished or upgraded in terms of waterproofing, fire or insulation. For a fast and secure solution bitumen compatibility is a major requirement. Sika provides systems which are bitumen-resistant and can be used in almost any refurbishment situation.

RESISTANCE TO PEDESTRIAN AND LIGHT WHEELED TRAFFIC



Increasingly, roofing systems are being used for areas exposed to pedestrian and vehicular traffic, i.e. on roof terraces or car parking areas. If the roofing membrane is the top surface for traffic, it must withstand this abrasion and wear without additional protection. It also has to be slip-resistant and may need different colors for line marking etc. Sika liquid applied membrane systems provide full service trafficability for pedestrians and / or vehicles as required.

RESISTANCE TO COLD



The weather around the world provides different climatic conditions in which roofing systems have to perform and resistance to minus temperatures is one of the main requirements here. All membranes from Sika stay flexible in cold within their stated performance limits. Some Sika roofing systems have the advantage that they can be installed at temperatures below zero.

FAST INSTALLATION



Installation time is always an important issue and cost factor for roofing systems. Sika has developed many special roofing systems and ancillary products which allow extremely rapid and cost effective installation.

THERMAL SHOCK RESISTANCE



Sika roof waterproofing membranes and all of the ancillary roofing products are specially designed to withstand sudden changes of temperature and weather conditions. They will not be damaged by extended or sudden thermal changes in cold, heat, snow, hail, rain, etc.

NO PENETRATION INTO THE DECK



A mechanical fastening system may not be possible due to unacceptable drilling noise for the fixings, contamination through the deck, or due to the structural design itself. All of these difficulties and their potential costs can be overcome by using Sika adhered, ballasted or liquid applied membrane systems.

FULLY ADHERED TO THE SUBSTRATE

 Superior aesthetic appearance, regardless of the roof shape, or with no penetration of the roof deck, is often a requirement for both new and refurbishment projects. With Sika fully adhered systems the membrane is fully bonded to the substrate, therefore it can meet these high aesthetic and performance requirements reliably and with low maintenance costs.

SINGLE COMPONENT PRODUCTS

 1-C Sika liquid applied membranes are probably the easiest to install. They are applied 'direct from the can' and do not require mixing with other components.

HIGHEST AESTHETIC APPEARANCE

 Sometimes roofing materials not only have an important waterproofing function, but they must also meet high design and architectural requirements. Sika has developed several advanced systems suitable for installation over complex roof shapes with good looking top surfaces, i.e. including smooth surfaces, standing seam metal roof imitation and other special profiles, etc.

GOOD VAPOR PERMEABILITY

 Sika has developed membranes which are waterproof, but with excellent vapor diffusion properties. This allows any moisture in the structure below to evaporate.

WIDE COLOR RANGE

 Sika membranes are supplied in several standard colors, some in an extensive range. Special colors can also be made to order or color matched to a client's requirements.

EASY APPLICATION BY BRUSH OR ROLLER

 Sika liquid applied membranes can be applied by brush and roller. This application is easy and does not require investment in expensive application equipment.

SEAMLESS WATERPROOFING

 The Sika liquid applied membranes provide seamless waterproofing over the entire roof surface. In addition to technical advantages, it can also create an excellent visual appearance.

CRACK BRIDGING ABILITY

 The Sika liquid applied membranes in particular can provide outstanding crack bridging properties, with high flexibility and elasticity – even at low temperatures.

LAM PRODUCTS

Products range

PRODUCTS

PURE POLYUREA	POLYUREA HYBRID	PURE POLYURETHANE	POLYURETHANE MODIFIED BITUMEN/ ACRYLIC
			
Sikalastic®-871 JW Rapid curing, two-component, hot spray applied, pure polyurea membrane	Sikalastic®-853 R AP Rapid curing, two-component, hot spray applied, modified polyurethane/ polyurea hybrid membrane	Sikalastic®-612 One-component, pure polyurethane based on Sika MTC Technology	Sikalastic®-590 Economic, one-component, water-based, polyurethane acrylic dispersion
			
Sikalastic®-870 BT Rapid curing, two-component, hot spray applied, pure polyurea membrane		Sikalastic®-632 R One-component, pure polyurethane based on unique i-Cure® technology	Sikalastic®-110 Economic, one-component, high elasticity, water-based, polyurethane bituminous

PRODUCTS

ACRYLIC	TOP COAT	PRIMER
SikaCoat®-500 Super  <p>Economic, one-component, water based, styrene-acrylic copolymers in watery emulsion with internally reinforced micro-fibres</p>	Sikalastic® U-Coating  <p>Rapid curing, two-component, pure polyurethane, Aliphatic membrane</p>	Sikalastic® U-Primer  <p>One-component, solvent based material to prime concrete and cementitious substrates prior to application of Sikalastic®-632 R</p>
SikaFill®-300 Thermic  <p>Economical, one-component, thermal insulation waterproofing to reduction of temperature and condensation</p>	Sikalastic® ExcelTop High Reflection  <p>Two-component, solvent based, acrylic polyurethane UV protective coating</p>	Sikafloor®-161 HC  <p>Two-component, solvent free, low viscosity epoxy resin for prime concrete, cement screeds and epoxy mortars</p>
SikaCoat®-300 Cool  <p>Economic, one-component, water based, styrene-acrylic copolymers in watery emulsion</p>		Sikalastic® Metal Primer MY  <p>One-component, self-etching ultra fast curing to prime galvanized steel & aluminum as well as light metal decks</p>

LAM ACCESSORIES

Reinforcements & others

REINFORCEMENT

Sika Reemat Premium-120 is used as reinforcement with the liquid applied waterproofing membrane



- Quick application and easily moulded around flashing, protrusions, joints, corners and other surface detail
- Increase tensile strength to the waterproofing membranes
- Ensures the correct thickness of the waterproofing layer
- Ensure the crack bridging properties of the waterproofing layer
- Adapts to all different shapes and profiles on the substrates surface

Sika Product

- **Sika® Reemat Premium-120**

SEALING TAPE

Elastic system component used in combination with Sika waterproofing products to tighten and waterproof areas at risk of cracking



- High elastic
- High breaking strength
- Easy to apply
- Waterproof and watertight
- Good adhesion to sika waterproofing products
- Very thin

REINFORCED TAPE

Self adhesive sealing tape with a butyl rubber compound by a polypropylene fleece. It seal the joints between the floor and wall to prevent seepage and cracking in the membrane.



- Remedial treatment
- Reinforcement of bolt-heads
- Excellent adhesion to most materials
- Heat and cold resistance
- Anti-corrosion prevents the surface corrosion from moisture and steam

DRAINAGE BOARD

Drainage and retention sheet on base of premium grade high density polyethylene (HDPE)



- High compression resistance
- Drainage and protection layer
- High water retention and drainage capacity

Sika Product

- **Sika® Drain-850 Geo**
- **Sika® Drain-500 Geo**
- **Sika® Drain-500**
- **SikaRoof® Drainage Sheet 20**

LAM APPLICATION PROCEDURES

Application method

ROLLER APPLICATION

The application is done in several stages: First the base coat of liquid membrane is applied directly on the prepared / cleaned substrate. Then the reinforcement material (e.g. Sikalastic® Reemat) is rolled out and embedded into the wet base coat.

After the first coat is cured the top coat of liquid membrane is applied over it.

Tools & equipment:

- Rollers and brushes



1-C AIRLESS SPRAY APPLICATION

In addition to roller application the one-component PU liquid applied membranes can also be applied with airless spray equipment. This method is used for application on metal and fibre cement roofs, as well as for top coat application in other Sikalastic® waterproofing systems.

Equipment:

The spray equipment should have the following capabilities:

- Min. pressure: 220 bar
- Min. output: 5.1 l/min
- Min. ø nozzle: 0.83 mm (0.033 inch)



HOT SPRAYED 2-C PU MACHINE (SPRAY) APPLICATION

Two-component spray applied liquid membrane systems require special equipment and comprehensive know how about machine settings. The material is usually heated up to a temperature between 70 – 80°C and pumped with 160 – 200 bar pressure into the mixing chamber of the application gun were component A + B are mixed and immediately sprayed onto the surface, were it cures within seconds and create a uniform waterproofing membrane. The application with two-component hot spray equipment is very efficient for large surface application. The fast curing of the applied membrane allows overcoating or pedestrian traffic on the same day.

Equipment:

Suitable spray machines are for example:

- Graco E XP-2
- Gamma Evolution G 50 H
- Wiwa PU 460



LAM PROJECT REFERENCES- MALAYSIA

Klang Valley

- Asian Football Confederation, Bukit Jalil, Selangor
- Audi Damansara, Kuala Lumpur, Selangor
- Boustead Ikanu, MyTOWN Shopping Centre, Cheras, Kuala Lumpur
- Casaman Desa Park City Management, Casaman Desa Park City, Kuala Lumpur
- Concerto North Kiara, Jalan Dutamas Raya, Dutamas, Kuala Lumpur
- CPN & i-City Properties Sdn Bhd, Central Plaza at I- City, Shah Alam, Selangor
- Dharma Drum Mountain Buddhist Centre Malaysia, Petaling Jaya, Selangor
- Gadang Holding Berhad, PRIMA 1A, Laman View Cyberjaya, Selangor
- Gadang Holding Berhad, PRIMA 2A, Laman View Cyberjaya, Selangor
- Gamuda Land, Gamuda Coves Sales Gallery At, Mukim Tanjung 12, Daerah Kuala Langat, Dengkil, Selangor
- Global Oriental Berhad, Springville Residence Taman Equine, Seri Kembangan, Selangor
- Grand Blue Wave Hotel, Shah Alam
- Hospital Putrajaya, Jalan P9, Presint 7, Putrajaya, Selangor
- IOI Property, 310 Units Town House In Kota Warison, Bangi
- IOI, 280 Units Park Villa, Jalan Pipit, Puchong, Selangor
- IOI, 310 Units Town House In Kota Warison, Bangi Selangor
- IOI, PAR 3, IOI Resort, Putrajaya, Selangor
- IOI, The Strata 2 townhouses, Bandar Puteri Bangi, Kajang, Selangor
- Islamic Arts Museum Malaysia (IAMD), Kuala Lumpur
- Kenwinston, Skylofts USJ Subang, Selangor
- Kiaramas Gateway JMB, Kiaramas Gateway Mont Kiara, Kuala Lumpur
- KPJ Damansara 2 Specialist Hospital, Damansara Perdana, Kuala Lumpur
- KUIS Kolej Universiti Islam Antarabangsa Selangor (Kolej Universiti Islam Antarabangsa Selangor), Kajang, Selangor
- KUIS, Kolej Islam Antarabangsar, Bangi
- LBS, BSP21, Bandar Saujana Putra, Jenjarom, Selangor
- LBS, Desiran Bayu, Jalan Desiran Bayu, 47120, Selangor
- LBS, Zenopy Residences, Seri Kembangan, Selangor
- Mah Sing, M Aruna, Saujana Rawang, Selangor

- Mediacity, Angkasapuri Bukit Putra, Kuala Lumpur
- Menara OCBC Bank, Kuala Lumpur
- MINDEF,Wisma Perwira Kementah, Padang Tembak, Kuala Lumpur
- Mitsui Outlet Park KLIA Sepang, Kuala Lumpur
- MRCB Land, 9 Seputeh, Jalan Klang Lama, Kuala Lumpur
- Nirwana, KTC Office Tower at Jalan Dewan Bahasa, Kuala Lumpur
- Nusmetro, ARTE Ampang Kuala Lumpur, Selangor
- One Amerin Residence Sdn Bhd, One Amerin Residence Persiaran Impian, Taman Impian Indah, Seri Kembangan, Selangor
- Pacific Star, Section 13, Petaling Jaya
- Perdana Botanical Garden, Kuala Lumpur
- PJ Central State, Petaling Jaya, Selangor
- PJKITA Community Centre, Selangor
- Plaza Arkadia , Desa Park City,Kuala Lumpur
- Pusat Sains Negara (National Science Centre), Persiaran Bukit Kiara Bukit Damansara, Bukit Kiara, Kuala Lumpur
- Putra Height, 5Q, Jln Putra Murni 3/1,Putra Heights, Selangor, Malaysia
- Quarza Mall, Taman Melawati, Kuala Lumpur
- Rafflesia International School at Kajang Utama Selangor, Malaysia
- Risda, Risda HQ Ampang, Kuala Lumpur
- Sekolah Sri Bestari, Bandar Sri Damansara, Petaling Jaya, Selangor
- Serai Saujana Development Sdn Bhd, The View, Shah Alam Selangor
- Seri Riana Residence, Jalan Wangsa Delima 8, Wangsa Maju, Kuala Lumpur
- Setia Eco Templer, 168 Units Semi D Bungalow Rawang, Selangor
- Sime Darby Property, Putra Heights, Damansara, Petaling, Selangor
- Sime Darby, Bandar Bukit Raja (BBR 111), Klang, Selangor, Malaysia
- Skyvilla, D' Island Residence, Persiaran Utara, D'island, Puchong, Selangor
- Setia Eco Templer, 168 Units Semi D Bungalow Rawang, Selangor
- Sime Darby Property, Putra Heights, Damansara, Petaling, Selangor
- Sime Darby, Bandar Bukit Raja (BBR 111), Klang, Selangor
- Skyvilla, D' Island Residence, Persiaran Utara, D'island, Puchong, Selangor
- SkyWorld, Bennington at Setapak, Kuala Lumpur
- South Ville City Toll, Bangi, Selangor
- SP Setia, 142 Units Setia Eco Park, Shah Alam, Selangor

- Sunsuria, Bell Suite SOHO 478 unit at Bandar Sunsuria, Ampar Tenang, Mukim Dengkil , Sepang . Selangor
- Sunway Kiara Sdn Bhd, Sunway Mount Residence, Kuala Lumpur
- Sunway Medical Centre, Sunway Nurse Quarter, Subang Jaya, Selangor
- Sunway University, Jalan Universiti, Bandar Sunway, Petaling Jaya, Selangor
- Sunway, Greenfield Residence, Petaling Jaya, Selangor
- Sunway, Sunway Palazzio, Taman Sri Hartamas, Kuala Lumpur
- Surau Al-Mustaqim PPR Pinggiran Bukit Jalil, Kuala Lumpur
- Technology Park Malaysia Business Center, Bukit Jalil, Kuala Lumpur
- Titijaya Land, H2O, Ara Damansara, Petaling Jaya, Selangor
- Top Glove Factory, Klang
- Tropicana, Riana Green Condominium, Petaling Jaya, Selangor
- Universiti Putra Malaysia (Universiti Putra Malaysia (UPM)), Serdang, 43400 Seri Kembangan, Selangor
- Waltz Residences, OUG Paradigm, Garden City,Taman
- WCT, Skyz Jelutong Residences, Bukit Jelutong, Shah Alam, Selangor
- WCT, Waltz Residences, Pradigm Garden City, OUG, Kuala Lumpur
- Wesley Methodist School Bandar Seri Coalfields, Selangor
- Western Digital (Malaysia) Sdn. Bhd, Petaling Jaya, Selangor
- YNH, K163 SOVO Jalan Kiara, Mont Kiara, Kuala Lumpur



Southern

- Aeon Co.M.Bhd, Aeon Kempas, Johor Bharu, Johor
- ASM Technology (M) Sdn. Bhd, Johor
- Bangunan Dato' Jaafar Muhammad, Muhammad Kota Iskandar, Johor Bharu Johor
- Country Land Realty, D'Garden, Batu Pahat, Johor
- Country View, 3539 Nusa Sentral Gelang Patah, Johor
- Hwa Hin, Setia Tropica Tesco, Kempas, 81200 Johor Bharu, Johor
- Ikea Tebrau, Johor Bharu
- Kota Iskandar Office, Johor Bharu
- Rumah Mampu Milik Johor (RMM), Impian Emas, Johor Bharu
- Sunsuria Medini, Iskandar Puteri, Johor
- UEM Sunrise Berhad, Puteri Harbour, Iskandar Puteri, Johor Bharu Johor

Northern

- Aemulus Sdn Bhd Factory at Bayan Lepas, Penang
- Greenview Pavilion, Pavilion Residence, Penang
- Hospital Seberang Jaya, Penang
- Hotel Upper House, Batu Kawan, Pulau Pinang
- King Ong Group , The Venus Residence, Pangsapuri Sejati, Taman Sejati, 32000 Sitiawan, Perak
- Kinta Properties, Bandar Baru Sri Klebang, Ipoh Perak
- Mah Sing, Ferringhi 2 Residences, Batu Ferringhi, Penang
- MeHow Medical (M) Sdn Bhd Factory at Bukit Minyak, Penang
- Novotel,Taiping 34000 Taiping Perak
- PRIMA Housing Project at Seberang Jaya, Penang
- SanDisk, SanDisk Batu Kawan, Seberang Perai, Penang
- SMK Pokok Sena, Kedah
- Sri Manjung Specialist Centre Sdn Bhd, KPJ Manjung Hospital, Perak
- Sunset Villa, Vista Avenue Taiping 12 unit D/S Bungalow, Taiping, Perak
- TOWA-M Factory at Batu Kawan Industrial Park, Batu Kawan, Penang
- UiTM (UITM Seri Iskandar, Bota), Bandar Baru Seri Iskandar, Negeri Perak

East Coast

- ECERDC, Pekan Agropolitan Project, Pekan, Pahang
- KMM, Hospital Sultanah Nur Zahirah, Kuala Terengganu
- Lake Kenyir Hotel & Resort Pulau Poh, Tasik Kenyir, Kuala Terengganu, Malaysia
- Marina Resort, Kuala Terengganu, Malaysia
- Masjid Al Makmur Bt 10, Bt.10 Kuantan 25200 Kuantan, Pahang
- MSTS Asia Sdn Bhd, O&G Training Safety Centre, Kuantan
- MUIP, New Mosque, Bentong, Pahang
- Petronas, OGT Power Station, Paka, Terrenganu
- Petronas, TCOT Sub-station, Paka, Terrenganu
- Petronas. PRR4, Paka Terrenganu

- Resorts World Genting, First World Hotel Tower 3, Genting Highlands, Pahang
- RKAT TUDM Kuantan
- Symphony Life Berhad, Tijani Raja Dewa, Kota Bharu, Kelantan
- Tanah Makmur Kotasas Sdn Bhd, Kotasas Mixed Development, Kuantan
- THP, Mixed Developoment Tok Sira, Kuantan
- TNB Building, Taman Putra, Kuantan
- University Malaysia Terrengganu Bangunan Pentadbiran, Kuala Terengganu

East Malaysia

- CMS Development Sdn. Bhd, Proposed 78 Unist of Semi-Detached House at Stutong, Kuching, Sarawak
- Green Edible Oil Sdn Bhd, Biodiesel Plant at Sandakan
- Hap Seng Lang, Bandar Sri Indah Phase 5, Tawau
- Ibraco Berhad, Proposed 14 Storey SOHO cum Commercial at Jalan Canna, Kuching (Tabuan Tranquility 3/ TT3), Sarawak
- Institut Tadbiran Awam Negara Kampus Sabah (INTAN)
- JKR Sarawak, Aquatic Centre (Pandeleta Rinong Aquantic Centre), Kuching, Sarawak
- KPJ, KPJ Hospital, Miri, Sarawak
- Marriot Bonvoy, Le Meridian Hotel at Kota Kinabalu
- MINDEF, Clinics for Army Camp Penrissen, Kuching, Sarawak
- Moh, SMK Lingga, Sri Aman, Sarawak, Kuching
- MOH, Upgrading of Sarawak General Hospital Project, Private Public Partnership, Kuching
- Projek Perumahan Rakyat (PPR) Kionsom Inanam, Kota Kinabalu
- Sarawak State Government, New Sarawak Museum And Annex Building, Kuching, Sarawak
- Shangri-La Tanjung Aru Resort, Kota Kinabalu
- SHC Organisation, Sacred Heart Cathedral, Kota Kinabalu
- Spago Development, North Greenwich Condominium, Kuching, Sarawak
- Sunsea Development Sdn Bhd, Pelagos Designer Suite at Oceanus Waterfront, Kota Kinabalu
- Tectonics & Sons Sdn. Bhd, Proposed Galacity Apartments, Kuching, Sarawak
- Telekom Malaysia, TM at Jalan Were Kuching, Sarawak
- Telekom Malaysia, TM at Limbang Division, Sarawak
- University Malaysia Sabah, Kota Kinabalu
- Wisma Sabah, Kota Kinabalu



SIKA FULL RANGE SOLUTIONS FOR CONSTRUCTION:



CONCRETE



WATERPROOFING



ROOFING



FLOORING



SEALING & BONDING



REFURBISHMENT



BUILDING FINISHING

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