ROOFING
LIQUID APPLIED MEMBRANES SEAMLESS ROOFING SOLUTION

EASY, SAFE AND FAST APPLICATION – THE PERFECT SOLUTION FOR ROOFS

BUILDING TRUST

THE CHOICE FOR SEAMLESS ROOFING

What do architects think about Sika liquid applied roofing solutions? Here is one story:

Takeshi Hosaka is the epitome of contemporary Japanese architecture. Takeshi Hosaka's works are characterized by minimalist designs and balanced forms and held in dominant bright tones. When he was asked in an interview about what construction and material technologies he would use to realize his architectural concepts, he answered: "The choice of the best materials to bring my designs to life always demands very careful consideration."

In his project, the igloo-like noodle restaurant Hoto Fudo near Mount Fuji, Japan, the shape of the building reminds people of a cloud with its soft geometry. The design allows rainwater to dissipate across and wind to circulate under the reinforced concrete shell. The idea was to build a roof which is combined with walls without joints. The architect's viewpoint posed various challenges to the construction process. Sika liquid applied membrane was specified for this unique architecture. This is a perfect choice for seamless roofing.

CONTENT

SIKA LIQUID APPLIED MEMBRANES

Seamless roofing, easy application, perfect and durable solution for roofs

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 color options	■ Allow design freedom	■ More possible applications
■ High solar reflectance index when applied in white color	■ Ideal for cool roofs and solar roof	■ Energy efficiency improvement

APPLICATIONS OF SIKA LIQUID APPLIED MEMBRANES

Versatile waterproofing solution for a variety of roofs

SORTED BY FUNCTIONS, ROOF TYPES range from an exposed inaccessible roof to a roof garden or a parking deck. The different utilizations require specific system solutions and know-how. Sika is a major manufacturer of liquid applied roofing membranes, with a variety of technologies and systems suitable for almost every roofing project.

APPLICABLE ROOF TYPES

EXPOSED ROOFS

- Flat roofs
- Cool roofs
- Pitched roofs

UTILITY ROOFS

- Roof terraces
- Car parking

GREEN ROOFS

- Extensive green roofs
- Intensive green roofs

SOLAR AND COOL ROOFS

- Energy smart roofs

GRAVEL BALLASTED ROOFS

- Warm roofs
- Inverted roofs

HISTORIC ROOFS

Sika® liquid applied membranes are used for almost all types of roofs, especially for complex roof structures and roof details – seamless application is the best choice for functional, aesthetical and long lasting roofs.

APPLICATIONS OF SIKA LIQUID APPLIED MEMBRANES

Versatile waterproofing solution for a variety of substrates

ROOF REFURBISHMENT becomes more and more important in today's construction world as a sustainable way of extending existing roofs' life span. While typical buildings usually have an intended design life over 50 years, the roof might need maintenance or refurbishment at certain stages to ensure continuous protection against water ingress and other exposures caused by the climate. Sika liquid applied membranes can be used on a variety of existing roofing substrates as an economical refurbishment solution.

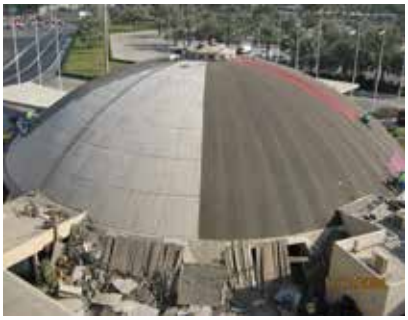
One of the big advantages of liquid applied membrane systems is that the existing old roofs don't need to be removed. Sika liquid applied membranes are applied in combination with suitable primers directly over the roof surface. The application procedure causes very little disturbance to the daily operation of the building. In addition, the application is completely free of fire compared with some of the other roofing materials such as bitumen, which means safety for the building below and for the applicators. Especially for the renovation of existing public buildings, such as schools, hospitals, kindergartens and office buildings, liquid applied membrane roofing systems are the right choice because safety is an important consideration.

In some cases, liquid applied membrane systems not only extend the life cycle of existing roofs, but also provide an opportunity to extend the functionalities and enhance the aesthetic aspects of a roof.

If applied in white (RAL 9016) color, the membrane systems provide excellent solar reflectance property to roofs, which result in so-called cool roofs that increase reflectance and reduce both the heat-island effect and the cooling energy consumption of buildings.

APPLICABLE SUBSTRATES

CONCRETE



METAL

BITUMEN

BRICKS AND STONES

FIBER CEMENT

SYNTHETIC MEMBRANES

WOOD

ROOF TILES

COPPER

ROOF COATING

GREAT FEATURE OF LAM:
VERSATILE!

SIKA'S GLOBAL TECHNOLOGY AND PRODUCTION COMPETENCE

SIKA – TECHNOLOGY LEADER FOR LAM

Since 1910 Sika has been widely known for high quality solutions in waterproofing and is today a major manufacturer of liquid applied membranes using, for example, the following technologies:

- Polyurethane
- Acrylic
- Polyurea
- Hybrid

Four regional technology centers develop liquid applied membrane formulations with locally available raw materials, ensuring the best quality and suitability of our products to meet the local climatic conditions and standards. Our global network of international scientists can look back on half a century of experience in the development of liquid applied roofing membranes. As a global market leader in liquid roof waterproofing, we aim to continuously improve our formulations and technologies with a focus on sustainability, health and safety as well as quality aspects.

INCOREZ – PART OF THE SIKA GROUP

One important milestone to protect our position as technology leader was the integration of Incorez in 2008.

Incorez is a global leader in oxazolidine chemistry, manufacturing a diverse range of products marketed under the Incozol® umbrella. The Incozol® range of additives has been widely adopted in one-component and two-component polyurethane coatings as well as one-component polyurethane sealants where they operate as moisture scavengers, reactive diluents and latent curing agents.

In addition, the company is a global partner in waterborne, low hazard technology, manufacturing a wide range of waterborne aliphatic polyurethane dispersions and an extensive range of waterborne epoxy curing agents. These materials, marketed under the Incorez® brand, are used extensively in high performance coatings across a broad spectrum of applications.

The manufacturing facility is located in Preston, England, where all production is carried out in accordance with ISO 9001 for quality assurance. The company also holds both BS OHSAS 18001 and ISO 14001 accreditations which demonstrates an ongoing commitment to health and safety and environmental management.

Incorez
custom chemistry

PRODUCTION AND RESEARCH & DEVELOPMENT FACILITIES

Sika's priority has always been customer focus, local integrity and a consideration of local construction methods. One of the main pillars of Sika's strategy is local production of construction materials developed by a well-established network of Sika Corporate, regional and local technology centers.

More than 20 local production plants for liquid applied membranes spread around all regions ensure short transportation and lead times and contribute to CO_2 emissions reduction.

Our technology centers and production facilities are located around the world. Due to different climatic conditions, the requirements and standards on roofing membranes vary from region to region. Our products and systems are designed to meet those local standards to provide our customers with economical and durable solutions.

GLOBAL BUT LOCAL PARTNERSHIP

COOL ROOFS WITH LIQUID APPLIED MEMBRANES

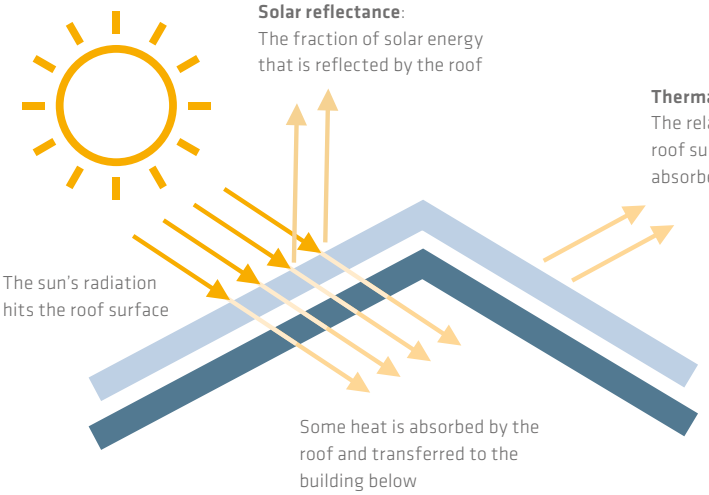
COOL ROOFS ALLOW BUILDING owners, architects, civil engineers, and energy consultants to optimize the energy and environmental performance of a building and contribute to a significant reduction of the “urban heat island effect” in metropolises.

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)

Cool Roof aircraft factory, Cadiz, Spain.

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		Thermal Emittance		Solar Reflectance Index (SRI)	
	Initial	3-Year	Initial	3-Year	Initial	3-Year
Sika® SolaRoof® MTC 15	0.85	0.71	0.9	0.88	107	87
Sikalastic®-560 White	0.84	0.73	0.9	0.89	106	90
Sikalastic®-570 White	0.86	Pending	0.89	Pending	108	Pending
Sikalastic®-641 White	0.86	Pending	0.87	Pending	108	Pending
Sikalastic®-650 White	0.81	Pending	0.88	Pending	100	Pending

TECHNOLOGIES & PRODUCTS

Water-based liquid applied membranes

WATER-BASED liquid applied membranes and roof coatings were one of the first technologies for liquid applied roof waterproofing, and still have significant importance in the market. Due to their low hazards characteristics, the excellent UV stability and the ease of application, acrylic emulsions and polyurethane modified dispersions are becoming popular, particularly in regions with moderate climates.

Tijani Ukay residential, Kuala Lumpur, Malaysia.

FEATURES	ADVANTAGES	BENEFITS
■ Solvent free	■ Virtually odorless ■ Low hazards classification	■ Non disturbing application ■ Low health and safety risk
■ UV stable and resistant to yellowing	■ Keeps high solar reflectance index (SRI)	■ Constant energy efficiency performance
■ One-component	■ Easy and ready to use	■ Time saving in application ■ No risk of mixing errors
■ Simple technology	■ Economical	■ Cost saving
■ Convenient packaging in tins	■ Handy transportation ■ Easy handling	■ Flexibility in application ■ Cost saving for site handling

CET TECHNOLOGY

Sika's CO-ELASTIC TECHNOLOGY (CET) is modified acrylic and combines the high performance of a polyurethane and other dispersions with the well-known properties of an acrylic. As a result this technology has a significantly lower water uptake and higher mechanical properties than conventional acrylics, which leads to a higher durability.

Sika's co-elastic technology is solvent free and virtually odor free, making applications also possible in situations where a low odor and low hazardous material is required. In addition it has an excellent UV-stability and a high Solar Reflectance Index (SRI) if applied in white color (RAL 9016), which contribute to achieving conformity with LEED v2009 (SSc 7.2)/ v4 (SSc 5).

PRODUCTS

Sikalastic®-560
Economical liquid applied coating/membrane based on Sika Co-Elastic Technology (CET)

Goverment building, Buenos Aires City, Argentina

TECHNOLOGIES & PRODUCTS

One-component polyurethane based liquid applied membranes

ONE-COMPONENT POLYURETHANE based liquid applied membranes and roof coatings were invented in 1960s and represent an indispensable technology in today's roofing industry. Due to their high mechanical properties and flexibility, particularly at lower temperatures, as well their capability to cure under a wide range of conditions, polyurethane based liquid applied membranes can also be used in climatically challenging environments.

Congress Hall, Germany.

FEATURES	ADVANTAGES	BENEFITS
■ Fast curing	■ Rain resistant almost immediately after application ■ Fast overcoating	■ More flexibility of application in unstable weather situation ■ Time saving
■ UV stable and resistant to yellowing	■ Keeps high solar reflectance index (SRI)	■ Constant energy efficiency performance
■ One-component	■ Easy and ready to use	■ Time saving in application ■ No risk of mixing errors
■ Convenient packaging in tins	■ Handy transportation ■ Easy handling	■ Flexibility in application ■ Cost saving for site handling

MTC TECHNOLOGY

Sika's MOISTURE TRIGGERED CHEMISTRY (MTC) systems incorporate a unique technology that allows the material to use atmospheric moisture to trigger the curing process. This means the waterproofing 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.

PRODUCTS

Sikalastic®-612
Economical, one-component liquid applied polyurethane coating/membrane based on Sika MTC Technology

Sikalastic®-614
Economical, one-component liquid applied polyurethane membrane based on Sika MTC Technology

Sikalastic®-601 BC
High performance, one-component liquid applied polyurethane base coat for SikaRoof® MTC systems

Sikalastic®-621 TC
High performance, one-component liquid applied polyurethane top coat for SikaRoof® MTC systems

i-CURE TECHNOLOGY

Sika's i-CURE based liquid applied membranes represent the new generation polyurethane liquid applied membrane technology. Featuring a reduced solvent content and a new Sika patented i-Cure hardener for lower odor development during and after the curing process, this technology has overall reduced odor emission and makes the products suitable for sensitive projects such as hospitals, schools, food and pharma industries, etc..

PRODUCTS

Sikalastic®-631 BC
High performance, high solids, one-component liquid applied polyurethane base coat with low odor for SikaRoof® i-Cure systems

Sikalastic®-641 TC
High performance, high solids, one-component liquid applied polyurethane top coat with low odor for SikaRoof® i-Cure systems

TECHNOLOGIES & PRODUCTS

Two-component polyurethane/polyurea based liquid applied membranes

THE DEMAND ON TWO-COMPONENT POLYURETHANE/POLYUREA based liquid applied membranes has risen in the last decade. The fast and efficient application method by two-component spray machines makes it particularly suitable for large surface application and industrial application. Once the product is mixed in front of the application nozzle and applied to the surface it cures within seconds, allowing a fast overcoating or early pedestrian traffic.

Power Station, Komotini, Greece.

FEATURES	ADVANTAGES	BENEFITS
■ Very fast curing	■ Trafficable almost immediately after application ■ Rain resistant almost immediately after application ■ Fast overcoating	■ More flexibility of application in unstable weather situation ■ Time saving
■ Fast application especially for large area	■ Fast project progress	■ Time saving
■ Solvent free and 100% solids	■ High material yield	■ Economical waterproofing solution: very cost saving

TWO-COMPONENT HOT SPRAY TECHNOLOGY

Sika's TWO-COMPONENT HOT SPRAY APPLIED roofing membranes are based on polyurethane/polyurea hybrid, and combine the high mechanical strength and abrasion resistance of a polyurea with the flexibility and low modulus of elasticity of a polyurethane, making the systems ideal for roof waterproofing, were a durable and flexible membrane is required.

Sika's two-component hot spray applied roofing membranes are solvent free with solid content of 100%, resulting in efficient consumption rates without any material loss due to evaporation of water or solvents. Combined with its fast application method with two-component spray equipment this type of technology is very efficient and economic, particularly for large surface applications. In addition the fast curing of this technology allows pedestrian traffic and the application of a UV protective top coat on exposed roofs after a few minutes and makes it ideal for projects where a fast progress is important.

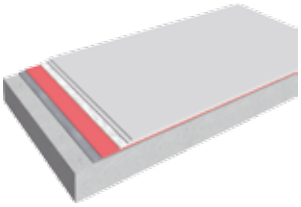
PRODUCTS

Sikalastic®-851 R
Rapid curing, two-component, hot spray applied liquid applied membrane based on polyurethane/polyurea hybrid.

Blue Water Island, Dubai, United Arab Emirates.

LAM SYSTEMS FOR EXPOSED ROOFS

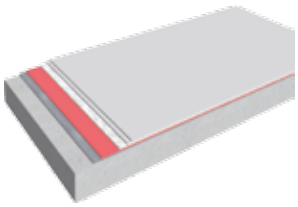
SYSTEMS WITHOUT THERMAL INSULATION



REQUIREMENTS
- Seamless waterproofing
- Fast curing
- No penetration of the roof deck
- Extended guarantee (from your local Sika organization)
- Increased fire resistance
- No water underflow

SIKA SOLUTION
Cold roof waterproofing with SikaRoof® MTC Systems

SIKA SYSTEM
SikaRoof® MTC 12/15/18/22
- 1 or 2 top coats of Sikalastic®-621 TC
- Reinforcement with Sikalastic® Reemat
- Base coat Sikalastic®-601 BC
- Sika® Concrete Primer
- Concrete deck



REQUIREMENTS
- Seamless waterproofing
- Low odor
- No penetration of the roof deck
- Extended guarantee (from your local Sika organization)
- Increased fire resistance
- No water underflow

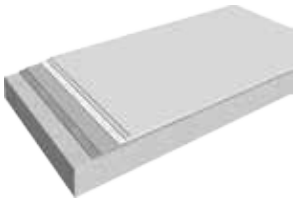
SIKA SOLUTION
Cold roof waterproofing with SikaRoof® i-Cure Systems

SIKA SYSTEM
SikaRoof® i-Cure 12/15/18/22
- 1 or 2 top coats of Sikalastic®-641 TC
- Reinforcement with Sikalastic® Reemat
- Base coat Sikalastic®-631 BC
- Sika® Concrete Primer
Concrete deck

REQUIREMENTS
- Seamless waterproofing
- Fast application
- No penetration of the roof deck
- Extended guarantee (from your local Sika organization)
- No water underflow

SIKA SOLUTION
Cold roof waterproofing with Sikalastic®-851 R

SIKA SYSTEM
Sikalastic®-851 R System
- 1 top coat of Sikalastic®-445 or Sikalastic®-621 TC
- Base coat Sikalastic®-851 R
- Sikafloor®-156/161 or Sika Concrete Primer
- Concrete deck

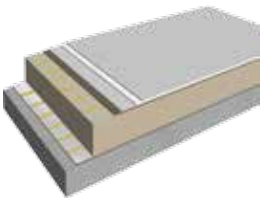


REQUIREMENTS
- Seamless waterproofing
- Low odor
- Solvent free
- No penetration of the roof deck
- No water underflow

SIKA SOLUTION
Cold roof waterproofing with Sikalastic®-560 Systems

SIKA SYSTEM
Sikalastic®-560 Systems
- 1 – 3 top coats of Sikalastic®-560
- Reinforcement with Sikalastic® Fleece-120
- Base coat Sikalastic®-560
- Sikalastic®-560 diluted with 10% water
- Concrete deck

SYSTEMS WITH THERMAL INSULATION



REQUIREMENTS

- Additional thermal insulation
- Seamless waterproofing
- No penetration of the roof deck
- Extended guarantee (from your local Sika organization)
- No water underflow

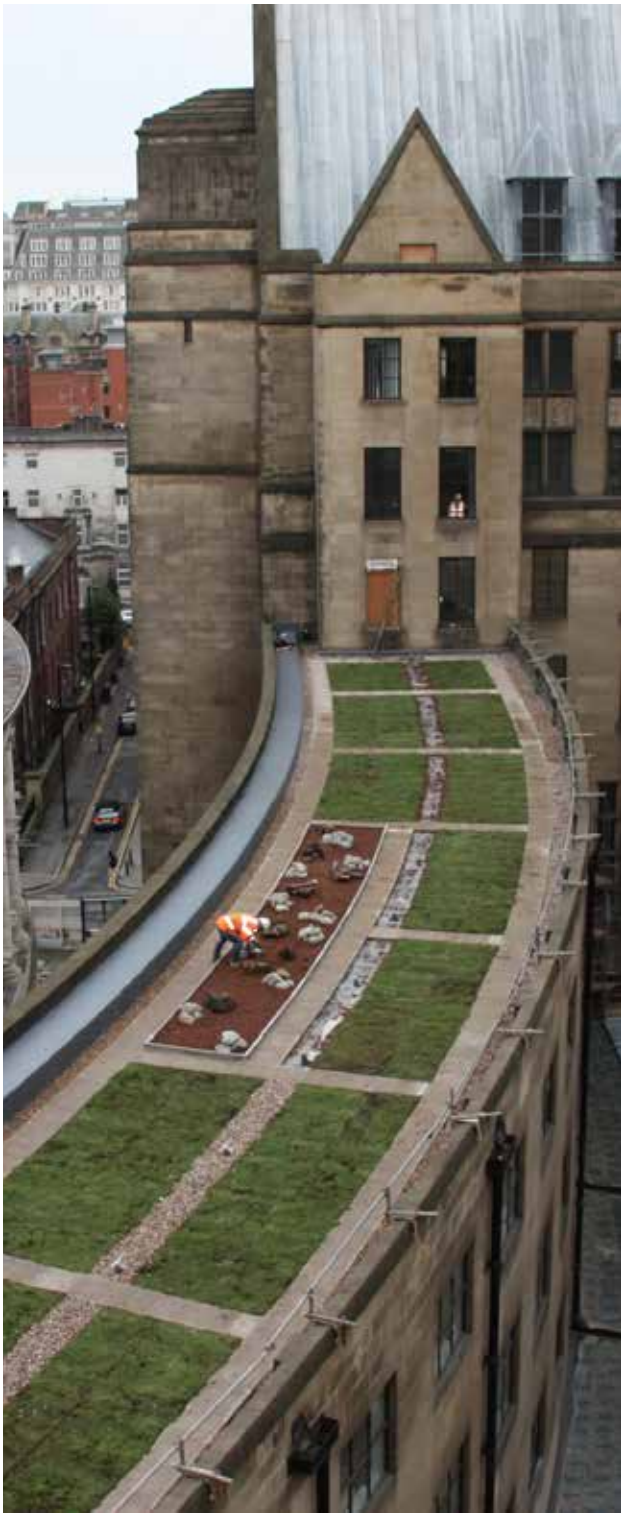
SIKA SOLUTION

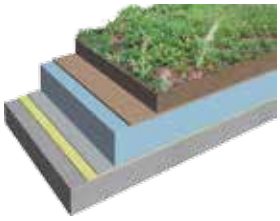
Warm roof build-up roofing system with Sikalastic® liquid applied membranes

SIKA SYSTEM

- Waterproofing system: SikaRoof MTC, SikaRoof® i-Cure, Sikalastic®-851 R or Sikalastic®-560
- Carrier layer Sikalastic® Carrier bonded with Sarnacol® 2162
- PIR or EPS insulation bonded with Sarnacol® 2162
- Vapor control layer Sarnavap® 5000 SA
- Concrete (or timber / steel) deck

LAM SYSTEMS FOR GREEN ROOFS





REQUIREMENTS

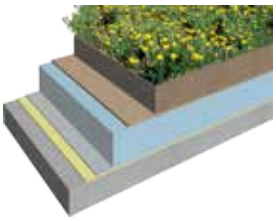
- Extensive green roof
- Fast machine application
- Extensive green roof with low maintenance
- Seamless waterproofing
- No water underflow

SIKA SOLUTION

Inverted build with 2-C PU

SIKA SYSTEM

- Soil with grass
- Drainage layer Sarnavert® Aquadrain 550
- XPS Insulation
- Coat of Sikalastic®-851 R
- Primer coat Sikafloor® 156/161 (or other as required)
- Concrete deck



REQUIREMENTS

- Intensive green roof
- Fast machine application
- Roof garden (intensive green roof)
- Seamless waterproofing
- No water underflow

SIKA SOLUTION

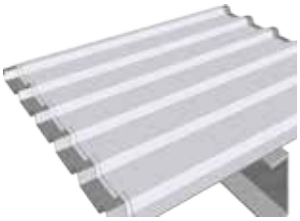
Inverted build with 2-C PU

SIKA SYSTEM

- Soil with plants
- Drainage Layer 30
- XPS insulation
- Coat of Sikalastic®-851 R
- Primer coat Sikafloor® 156/161 (or other as required)
- Concrete deck

LAM SYSTEMS FOR REFURBISHMENT OF OLD ROOFS

OLD METAL ROOFS



REQUIREMENTS

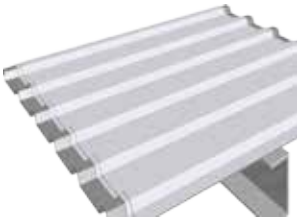
- Fast and easy installation (direct application on metal without any levelling layers)
- Seamless waterproofing
- No penetration of the metal deck
- Extended guarantee (from your local Sika organization)

SIKA SOLUTION

Metal roof waterproofing with Sikalastic®-621 TC

SIKA SYSTEM

- Sikalastic®-621 TC in 1 or 2 coats
- On overlaps reinforced with Sika Flexistrip & Sikalastic® Flexitape embedded in 1 coat of Sikalastic®-621 TC
- On bold heads reinforced with Sika Flexistrip & Sika Reemat embedded in 1 coat of Sikalastic®-621
- Sikalastic® Metal Primer, where required
- Metal deck



REQUIREMENTS

- Fast and easy installation (direct application on metal without any levelling layers)
- Seamless waterproofing
- No penetration of the metal deck
- Solvent free

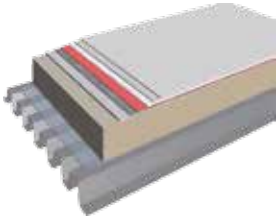
SIKA SOLUTION

Metal roof waterproofing with Sikalastic®-560

SIKA SYSTEM

- Sikalastic®-560 in 2 or 3 coats
- On overlaps reinforced with Sika Flexistrip & Sikalastic® Flexitape embedded in 1 coat of Sikalastic®-560
- On bold heads reinforced with Sika Flexistrip & Sika Reemat embedded in 1 coat of Sikalastic®-560
- Sikalastic® Metal Primer, where required
- Metal deck

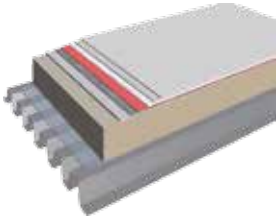
OLD POLYMERIC ROOFS – EPDM, PVC, FPO



REQUIREMENTS
- Seamless waterproofing
- Possibility of partial repairs
- Fast curing
- No penetration of the roof deck
- Extended guarantee (from your local Sika organization)
- Increased fire resistance
- No water underflow

SIKA SOLUTION
Roof waterproofing with SikaRoof® MTC Systems

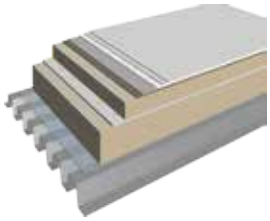
SIKA SYSTEM
SikaRoof® MTC 12/15/18/22
- 1 or 2 top coats of Sikalastic®-621 TC
- Reinforcement with Sikalastic® Reemat
- Base coat Sikalastic®-601 BC
- Primer
- Sikalastic® Primer PVC for PVC, Sikalastic® Primer FPO for FPO or Sikalastic® EPDM Primer for EPDM
- Existing build-up on steel deck



REQUIREMENTS
- Seamless waterproofing
- Possibility of partial repairs
- Low odor
- No penetration of the roof deck
- Extended guarantee (from your local Sika organization)
- Increased fire resistance
- No water underflow

SIKA SOLUTION
Roof waterproofing with SikaRoof® i-Cure Systems

SIKA SYSTEM
SikaRoof® i-Cure 12/15/18/22
- 1 or 2 top coats of Sikalastic®-641 TC
- Reinforcement with Sikalastic® Reemat
- Base coat Sikalastic®-631 BC
- Sikalastic® Metal Primer
- Sikalastic® Primer PVC for PVC, Sikalastic® Primer FPO for FPO or Sikalastic® EPDM Primer for EPDM
- Existing build-up on steel deck



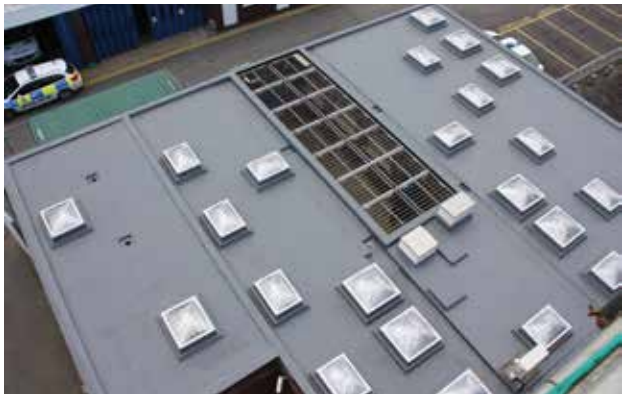
REQUIREMENTS
- Additional thermal insulation
- Seamless waterproofing
- No penetration of the roof deck
- Extended guarantee (from your local Sika organization)
- No water underflow

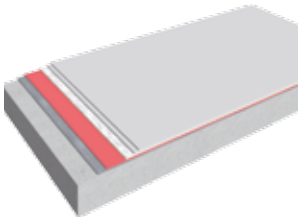
SIKA SOLUTION
Warm roof build-up roofing system with Sikalastic® liquid applied membranes

SIKA SYSTEM
- Waterproofing system: SikaRoof® MTC, SikaRoof® i-Cure Systems, Sikalastic®-851 R or Sikalastic®-560
- Carrier layer Sikalastic® Carrier bonded with Sarnacol® 2162
- PIR or EPS insulation bonded with Sarnacol® 2162
- Existing build-up on steel deck

LAM SYSTEMS FOR REFURBISHMENT OF OLD ROOFS

OLD BITUMEN ROOFS WITHOUT ADDITIONAL INSULATION

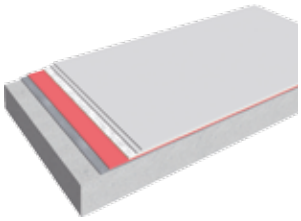




REQUIREMENTS
- Seamless waterproofing
- Fast curing
- No penetration of the roof deck
- Extended guarantee (from your local Sika organization)
- Increased fire resistance
- No water underflow

SIKA SOLUTION
Cold roof waterproofing with SikaRoof® MTC Systems

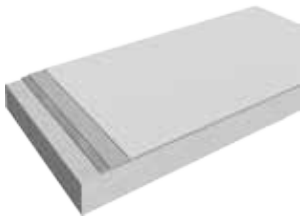
SIKA SYSTEM
SikaRoof® MTC 12/15/18/22
- 1 or 2 top coats of Sikalastic®-621 TC
- Reinforcement with Sikalastic® Reemat
- Base coat Sikalastic®-601 BC
- Sikalastic® Metal Primer
- Existing bitumen



REQUIREMENTS
- Seamless waterproofing
- Low odour
- No penetration of the roof deck
- Extended guarantee (from your local Sika organization)
- Increased fire resistance
- No water underflow

SIKA SOLUTION
Cold roof waterproofing with SikaRoof® i-Cure Systems

SIKA SYSTEM
SikaRoof® i-Cure 12/15/18/22
- 1 or 2 top coats of Sikalastic®-641 TC
- Reinforcement with Sikalastic® Reemat
- Base coat Sikalastic®-631 BC
- Sikalastic® Metal Primer
- Existing bitumen



REQUIREMENTS
- Seamless waterproofing
- Fast application
- Solvent free
- No penetration of the roof deck
- Extended guarantee (from your local Sika organization)
- No water underflow

SIKA SOLUTION
Cold roof waterproofing with Sikalastic®-851 R

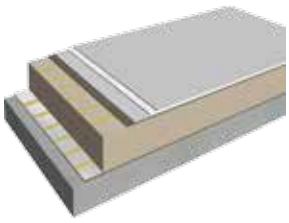
SIKA SYSTEM
Sikalastic®-851 R System
- 1 top coat of Sikalastic®-445 or Sikalastic®-621 TC
- Base coat Sikalastic®-851 R
- Sikafloor®-156/161 or Sika Metal Primer
- Existing bitumen

REQUIREMENTS
- Seamless waterproofing
- Low odour
- Solvent free
- No penetration of the roof deck
- No water underflow

SIKA SOLUTION
Cold roof waterproofing with Sikalastic®-560 Systems

SIKA SYSTEM
Sikalastic®-560 Systems
- 1 - 3 top coats of Sikalastic®-560
- Reinforcement with Sikalastic® Fleece-120
- Base coat Sikalastic®-560
- Sikalastic®-560 diluted with 10% water
- Existing Bitumen

OLD BITUMEN ROOFS WITH THERMAL INSULATION



REQUIREMENTS

- Additional thermal insulation
- Seamless waterproofing
- No penetration of the roof deck
- Extended guarantee (from your local Sika organization)
- No water underflow

SIKA SOLUTION

Warm roof build up roofing system with Sikalastic® liquid applied membranes

SIKA SYSTEM

- Waterproofing system: SikaRoof MTC, SikaRoof® i-Cure, Sikalastic®-851 R or Sikalastic®-560
- Carrier layer Sikalastic® Carrier bonded with Sarnacol® 2162
- PIR or EPS insulation bonded with Sarnacol® 2162
- Vapor control layer Sarnavap® 5000 SA
- Existing Bitumen

DETAILING WITH SIKA LAM

An efficient solution for complicated roof details

THE DEVIL IS IN THE DETAIL – especially on the roof! There are always difficult details that can challenge the most experienced roofer with time and cost consumption.

DIFFICULT AREAS TO BE WATERPROOFED

No single topic in roofing takes more time, leads to more leaks and presents a bigger challenge to installing and maintaining a watertight roof than the details, such as:

- Thresholds/sills
- The connection between multiple levels / unique shapes
- Tight spaces where it is impossible to work with single ply or bituminous membranes and equipment
- Areas congested with many penetrations which means higher costs and increased risk of leaks
- Drains and overflows which are responsible for the majority of reported roof leaks, etc.
- Pipe penetrations

SOLUTIONS WITH SIKA LAM

With Sika liquid applied membranes which require no special tools, you can waterproof the details without a single seam. **No crane or lifting equipment required** – tins can be carried to the roof which means access is no problem.

Quick, long term fix for emergency calls and maintenance – **fix a leaky roof quickly and efficiently** – every building owner will thank you.

All in all, you are on and off the job quicker which means **increased capacity** with the same resources and reduced interruption for the building owner through faster installation.

Sika liquid applied membrane details can make an old roof watertight a while longer to allow your customer to plan and carry out a complete roof refurbishment at a later date.

SPECIAL DETAILING SOLUTIONS FOR SINGLE PLY MEMBRANE ROOFING SYSTEMS WITH LAM

Sikalastic® liquid applied membranes can also be used in combination with Sikaplan® and Sarnafil® single ply membranes. Especially for complicated details and roof penetration were welding of single ply membranes is difficult, the use of liquid applied membranes allows an efficient method to waterproof also the most complicated roofing detail.

As exclusive manufacturer of both, single ply and liquid applied membranes, Sika can offer a "one stop shop" system solution which has been proven for compatibility and long term performance.

DETAILING ON FPO/TPO MEMBRANES

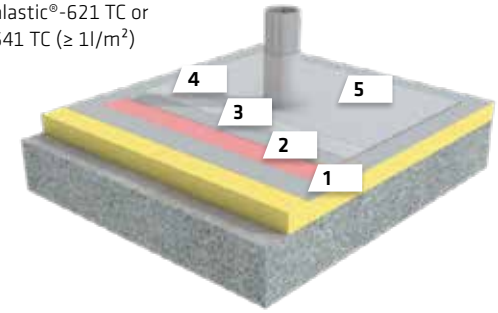
1 Substrate: Sarnafil®-TPO/FPO Membrane Cleaner: Sarna® Cleaner

2 Primer: Sikalastic® Primer FPO (70 – 140 ml/m²)

3 1st coat: Sikalastic®-621 TC or Sikalastic®-641 TC (≥ 1l/m²)

4 Reinforcement: Sika® Reemat Premium

5 2nd coat: Sikalastic®-621 TC or Sikalastic®-641 TC (≥ 1l/m²)



DETAILING ON PVC MEMBRANES

1 Substrate: Sarnafil® or Sikaplan®-PVC Membrane Cleaner: Sarna® Cleaner

2 Primer: Sikalastic® Primer PVC (70 – 140 ml/m²)

3 1st coat: Sikalastic®-621 TC or Sikalastic®-641 TC (≥ 1l/m²)

4 Reinforcement: Sika® Reemat Premium

5 2nd coat: Sikalastic®-621 TC or Sikalastic®-641 TC (≥ 1l/m²)

APPLICATION PROCEDURES – LIQUID APPLIED MEMBRANES

SIKA PROVIDES DETAILED GUIDE-LINES for installing all of our liquid applied membrane systems. These include Method Statements and Application Manuals which contain full information regarding all of the installation methods and the correct execution of details, such as those at terminations and upstands, etc. They also include our recommendations and useful checklists for site safety and quality control procedures.

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)

For example:
Wagner Heavycoat HC 940 E SSP Spraypack

TROLLEY CART APPLICATION

To speed up the application of one-component liquid membrane applications on large areas, a special tool – the Sikalastic® Applicator has been developed. By using this innovative Sika equipment, roofing contractors can significantly increase their rate of application and reduce costs on large open roof spaces. The liquid is put into the Sikalastic® Applicator and as it is moved along the roof surface, the liquid applied membrane is poured in lines along the surface. The material is than spread with roller application, followed by embedment of the reinforcement into the base coat.

Equipment:

- Sikalastic® Applicator

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 machienes are for example:

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

PRODUCTS & ACCESSORIES

PRODUCTS

Sikalastic®-560

Economical, one-component, water-based liquid applied roof waterproofing membrane based on Sika Co-Elastic Technology (CET).

Sikalastic®-612

Economical, one-component liquid applied polyurethane membrane based on Sika MTC Technology (moisture triggered chemistry).

Sikalastic®-614

Economical, one-component, Reemat compatible liquid applied polyurethane membrane based on Sika MTC Technology (moisture triggered chemistry).

Sikalastic®-601 BC

High performance , one-component, liquid applied polyurethane base coat for SikaRoof® MTC Systems based on Sika MTC Technology.

Sikalastic®-621 TC

High performance , one-component, UV-stable liquid applied polyurethane top coat for SikaRoof® MTC Systems based on Sika MTC Technology.

Sikalastic®-631 BC

High performance, high solids, one-component liquid applied polyurethane base coat with low odor for SikaRoof® i-Cure systems.

Sikalastic®-641 TC

High performance , one-component, UV-stable liquid applied polyurethane membrane with low odor based on Sika i-Cure technology.

Sikalastic®-851 R

Rapid curing, two-component, hot spray applied liquid membrane based on polyurethane/polyurea hybrid.

PRIMERS

Sika® Concrete Primer

Two-component, rapid curing, high solids Polyurea/ Polyurethane Hybrid Primer for cementitious substrates.

Sika® Bonding Primer

Two-component water-based epoxy primer for cementitious substrates and water-based coatings.

Sikalastic®-Metal Primer

Two-component epoxy primer for exposed Metal and Bitumen substrates.

Sika® Reactivation Primer

One-component primer for reactivation of existing Sikalastic® MTC Systems.

Sikalastic® Primer PVC

One-component polyurethane primer for Sikaplan® and Sarnafil® PVC Membranes.

Sikalastic® Primer FPO

One-component polyurethane primer for Sikaplan® and Sarnafil® FPO Membranes.

REINFORCEMENTS

Sika® Reemat Standard / Premium

Sika® Reemat is a glass fiber mat reinforcement for Sikalastic® Liquid Applied Membrane systems.

Sikalastic® Fleece-120

Sikalastic® Fleece-120 is a polyester fleece used as reinforcement with Sikalastic® Liquid Applied Membrane systems.

Sika® Flexitape Light / Heavy

Sika® Flexitape is a flexible knitted polyamide used as localized reinforcement (e.g. on joints or overlaps of metal sheets) with Sikalastic® Liquid Applied Membrane systems.

OTHERS

Sikalastic® Flexistrip

Sikalastic® Flexistrip is a preformed strip sealant reel on a paper release liner for use as bond breaker (e.g. on joints or overlaps of metal sheets) with Sikalastic® membrane systems.

Sikalastic® Carrier

Sikalastic® Carrier is a bituminous felt incorporating a dimensionally stable glass reinforcement and a modified elastomer coating, providing a highly effective carrier membrane for application of Sikalastic® membrane systems on insulation boards.

Sika® PU Accelerator

Sika® PU Accelerator is designed to increase the cure rate of Sikalastic® products to facilitate a faster application and reduce downtime in areas where a rapid return to service is required.

CASE STUDIES

FACTORY IN DALIAN, CHINA

ROOF REFURBISHMENT WITH Sikalastic®-612

PROJECT DESCRIPTION
The roof of this factory in Dalian, China began leaking seriously due to poor maintenance over the course of 10 years of use. With about 1,000 m², the roof area includes three different substrates: bituminous shale sheet membrane, concrete and metal. Over a period of aging and long exposure to weathering, the existing waterproofing layers failed by peeling off and cracking. Increasing rust damaged the metal roof causing it to break and fail.

PROJECT REQUIREMENTS
Re-roofing was needed urgently. The owner requested to have a universal waterproofing system for all roof substrates. For the contractor, the application should be simple, fast and have the ability to be applied independently of weather conditions. Meanwhile, the complexity of the partial roof system presented more challenges with regards to compatibility, variable accommodation and the ease of detailing.

SIKA SOLUTION
Sikalastic®-612 reinforced roofing system was specified for the roof refurbishment. The base coat of Sikalastic®-612 was applied directly onto the bituminous substrate, and Sika® Reemat Premium was rolled firmly into the wet coating simultaneously. The top coat of Sikalastic®-612 was applied afterwards, according to the prescribed waiting time.

For the concrete substrate, it is necessary to apply Sika® Concrete Primer first in order to seal tiny holes and cracks on the concrete to eliminate offgassing which may have adverse effects on the curing process for the waterproofing membrane. After curing is complete, the base coat of Sikalastic®-612 was applied in combination with Sika® Reemat Premium. Finally, the top coat of Sikalastic®-612 was applied according to the prescribed waiting time.

For the metal substrate, Sika Flexistrip was applied on top of screw heads to protect its sharp edges from damaging the waterproofing layer. At the joints, the first coat of Sikalastic®-612 was applied and Sika Flexitape was embedded into the wet coating while it was in a liquid state. It was allowed to cure and then sprayed with a topcoat of Sikalastic®-612 over the entire metal roof.

FACTORY OF LEAF ITALY, S.R.L, ITALY

ROOF REFURBISHMENT WITH Sikalastic®-821 LV AND Sikalastic®-621

PROJECT DESCRIPTION
Leaf Italy S.r.l (Sperlari) is a leading Italian company in the confectionery industry. The old roof of the factory needed to be refurbished so that it is waterproofed, additionally increase of thermal efficiency would be needed by applying a solar reflective coating to reduce cooling costs of the factory. The substrate consisted of an aged slated bituminous felt which has shown local infiltration.

PROJECT REQUIREMENTS
This project is located in a particular geographical area where there is frequent and sudden rain, therefore a fast applicable system without the need to strip the existing waterproofing layer of the existing roof was required so that it wouldn't interrupt the manufacturing operation. Due to the extreme weather conditions at the foot of the Alps with large daily variations in temperature the specified system had to feature high elasticity to resists the loaded stress. In order to improve the thermal insulation of the roof, the specification required a preliminary insulation layer consisting of a two-component self-expanding polyurethane foam, followed by a fast curing, highly elastic waterproofing system, with a highly reflective top coat.

SIKA SOLUTION
After a prior cleaning using high pressure hydro washing, in order to improve the thermal insulation properties of the roof, approx. 20 mm self-expanding polyurethane foam was applied to the full area, before the basecoat was applied. As basecoat Sikalastic®-821 LV was applied with a thickness of approx. 2 mm by means of suitable equipment which is used for spraying two-component products. For a UV-resistant and highly solar reflective top coat, Sikalastic® -621 was applied only 30 min. after the basecoat was finished by means of airless spray. Due to the fast curing progression of Sikalastic®-821 LV and the high efficiency of spray application the contractor was able to waterproof the entire roof area on only one day. Subsequent measurements of the roof surface temperature have shown that Sikalastic®-621 can significantly reduce the surface temperature up to over 30°C compared to the uncoated areas.

Sikalastic®-621 (RAL 9016 Traffic White) contributes to achieving conformity with LEED v2009 (SSc 7.2)/ v4 (SSc 5).

ROTUNDA ROOF, TATE BRITAIN, LONDON

ROOF REFURBISHMENT WITH SikaRoof® MTC 22

PROJECT DESCRIPTION
Tate Britain is a renowned art gallery and part of the British Tate gallery network. It is located in the Tate's original premises on Millbank, London on the site of Millbank Prison and is the oldest gallery in the network, opening in 1897.

PROJECT REQUIREMENTS
The front part of the building has a classical portico and dome behind, including a lead rotunda roof which had ripped and split over the years. This roof presented a very complex re-waterproofing challenge due to the difficult details over the existing lead rolls, and required the installation of a product that was heat tolerant and able to deal with high levels of movement whilst maintaining the waterproof integrity.

SIKA SOLUTION
SikaRoof® MTC 22 was specified for the project. This is a cold applied, liquid membrane that cures to provide guaranteed waterproof protection. It is a seamless membrane that can be quickly and easily installed even around complex detail areas, making it ideal for use on complicated roofs. Once installed it meets the highest fire ratings available for a roof system. The color used is also very similar to that of lead and because it was applied over the existing lead work the finished aesthetics are very similar to that of the original roof.

TIJANI UKAY RESIDENTIAL PROPERTY DEVELOPMENT, KUALA LUMPUR, MALAYSIA

ROOF REFURBISHMENT WITH Sikalastic®-560

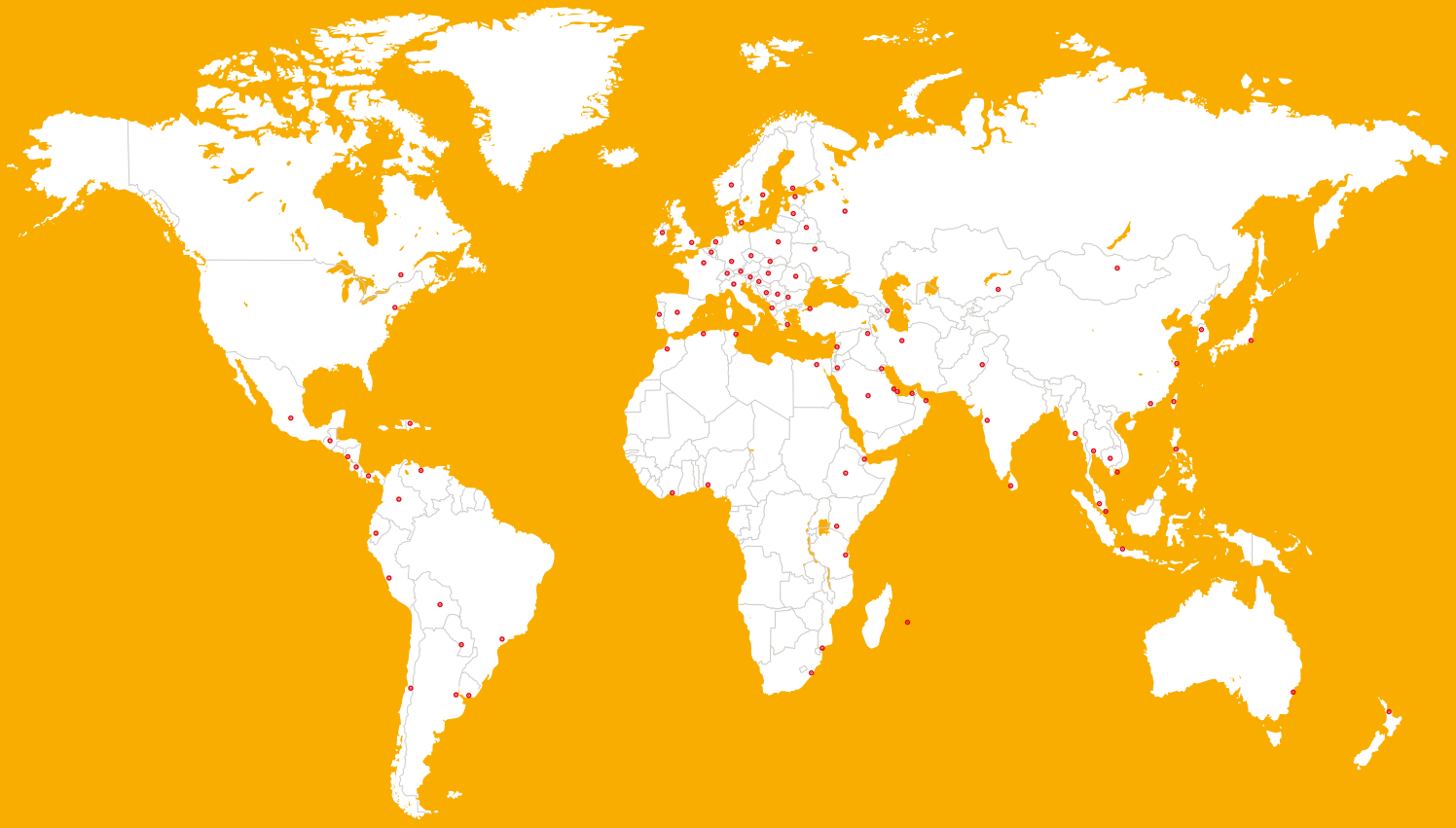
PROJECT DESCRIPTION
Completed in December 2015, Tijani Ukay is a residential complex of 118 luxurious bungalow units in Ampang, Kuala Lumpur.

PROJECT REQUIREMENTS
In this project, a total area of 18,000 m^2 roof needs to be waterproofed in October 2014. It required a cost effective and easy-to-apply elastic solution with high aesthetic and sustainable value as waterproofing for the main roofs and roof terraces of the 188 bungalow units.

Sika liquid applied membrane roofing systems offered a wide range of colors and was able to meet the architectural and aesthetic requirements. They are especially suitable for the sloped roofs and terraces, for which a seamless waterproofing system was highly recommended. For the use a water-based polyurethane-modified acrylic solution of a minimum of 3% slope degree was required.

SIKA SOLUTIONS
Sikalastic®-560 CET® is a one-component polyurethane modified acrylic system and is both economical based on Sika Co-Elastic Technology (CET). Sikalastic®-560 is ready-to-use, seamless, highly elastic and UV resistant. The build-up of one coat of primer Sikalastic®-560 (diluted with 10% water) and two coats of Sikalastic®-560 partially reinforced by Sika® Reemat Premium, a non-woven glass fiber mat, provides a 10-year lifespan. Both components are sustainable.

GLOBAL BUT LOCAL PARTNERSHIP



FOR MORE SIKA ROOFING INFORMATION:

WE ARE SIKA
Sika is a specialty chemicals company with a leading position in the development and production of systems and products for bonding, sealing, damping, reinforcing and protecting in the building sector and the motor vehicle industry. Sika's product lines feature concrete admixtures, mortars, sealants and adhesives, structural strengthening systems, industrial flooring as well as roofing and waterproofing systems.

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