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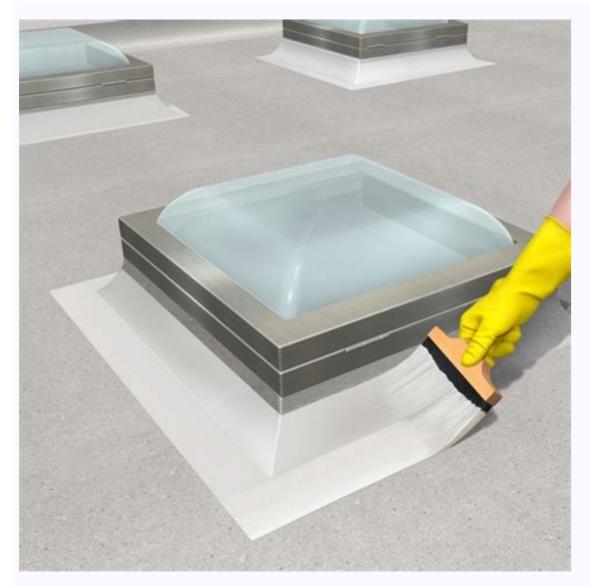
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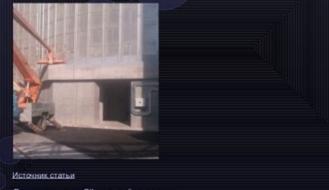
- Star





Рекомендации по покупке

Применение рубероида для устройства кровельных покрытий может оказаться малоэффективным и неэкономичным! При воздействии высоких температур (в жару) он начинает плавиться, а при воздействии низких — трескаться. Следовательно, срок его эксплуатации весьма ограничен!



Все материалы Sika на сайте дилера

Готовый к употреблению продукт Остаётся эластичным даже при низких температурах • Позволяет основанию «дышать» Не требует дополнительного тепла при укладке Устойчив к дождю (сразу же после нанесения) Система с армированием — простота выполнения узлов и сопряжений Имеется возможность нанесения дополнительных слоёв сверху



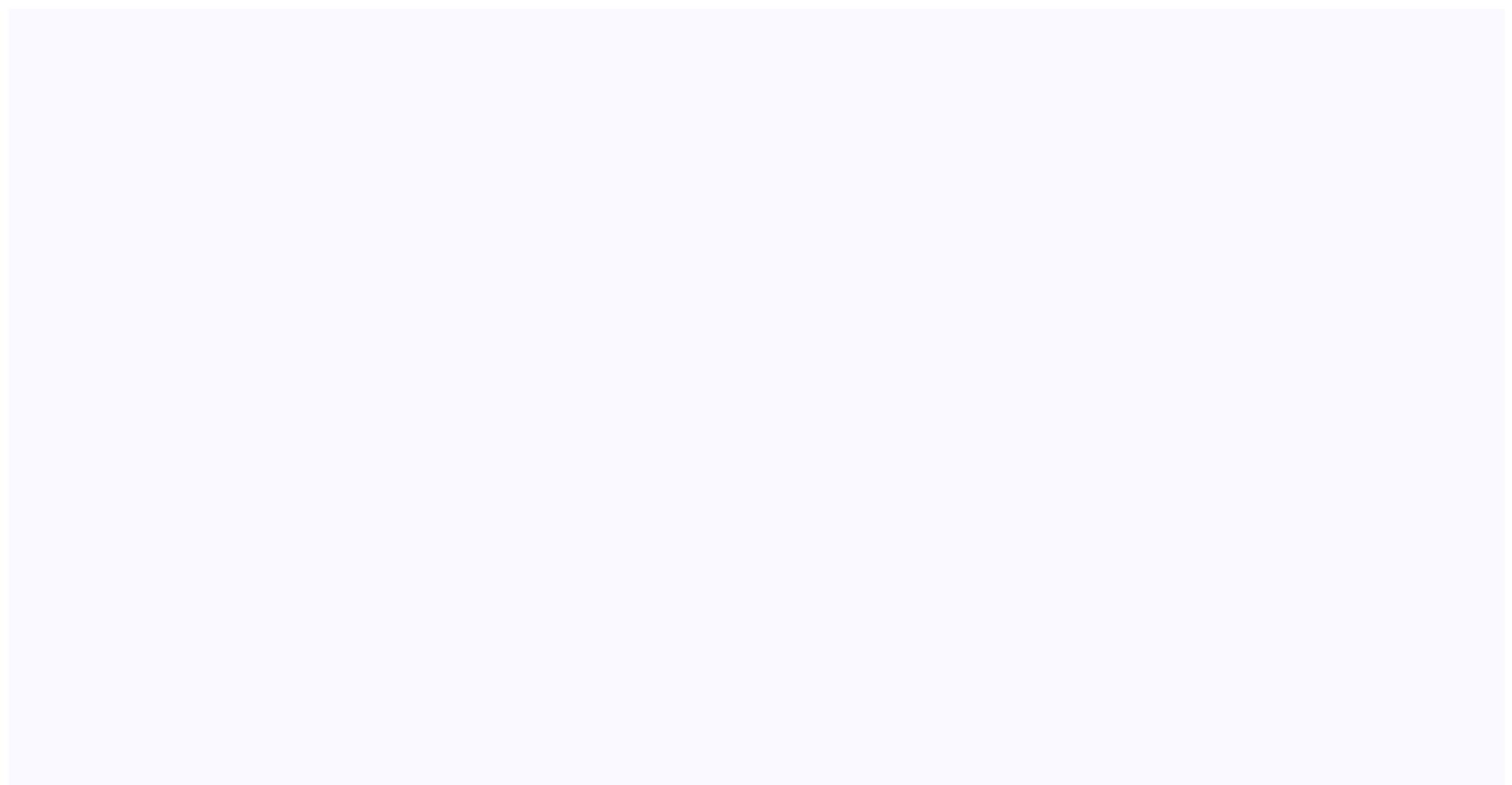




Sikalastic 641.

The old roofing system, two layers of bituminous membrane over mineral wool insulation, required upgrading. Ceiling profile. The tools show the estimated energy savings during the period of study and the break-even point of the site aims to preserve the architectural integrity of this landmark building, which is designated as a historic structure and listed on the National Register of Historic Places. (2) A roof surface having a maximum slope of 2:12. The vaulted concrete roofs of Hangars 3 and 4 and the flat roofs of the workshops at the company s Ezeiza Industrial Plant in Buenos Aires required new waterproofing. Coatings on metal have lower emittance than polymeric synthetic surfaces. Life Cycle Assessment (LCA) Sika roofing membranes and systems are manufactured in ISO certified production facilities. In terms of GWP, this amounts to an equivalent reduction of 595 tons of CO2 over the 20-year period. The higher the SRI value, the more suitable the material for use on a cool roof. 56 SIKA TECHNOLOGIES Single-ply and bituminous membranes TYPE PVC FPO BITUMINOUS PVC membranes BRANDS Sarnafil, Sikaplan Sarnafil, Sikaplan Sarnafil, Sikaplan Mineral Flexter Testudo Reflex White ADVANTAGES Established technology with the longest track record Availability of products for exposed roofing applications with high fire ratings / extended fire resistance Easy to repair Possibility of customized design solutions (colors, profiles, and roof graphics) Homogeneous hot air welded joints Easy to handle on site Suitable for use and exposure in different climatic conditions Fast installation independent of the weather Good vapor permeability Highly flexible Flame free installation Recyclable Proven technology for more than 50 years High chemical resistance Suitability for direct applications with high fire ratings / extended fire resistance Long life expectancy Easy to repair Homogeneous hot air welded joints Easy to handle on site Suitable for use and exposure in different climatic conditions Fast installation independent of the weather Outstanding ecological profile Flame free installation Recyclable Proven track record since 1989 High chemical resistance Resistant to the most extreme weather conditions Good life expectancy High resistance to mechanical damage and puncturing Fully adhered Easy maintenance Dimensional stability Easy to repair Highly flexible 67 Membrane systems with high solar reflectance Examples of mechanically fastened systems for new construction or reroofing on steel or concrete decks. After the tear-off was completed, two layers of two-inch isocyanurate insulation, 2 sensors were installed in the living room and the kitchen to measure the air temperatures in those rooms. The tiles were cleaned with high-pressure spray. Total coverage rate: ~ 2.1 kg/m² The flat roofs were coated with white Sikalastic 560 acrylic liquid membrane with polyurethane, applied with Sika Tex 75 reinforcement. Construction of these buildings will take another 3 years. Sikalastic RoofPro was fully adhered to the suitably prepared and primed substrate. Local climate change fundamentally differs from global warming. 1819 COOPERATIVA C. Thermal emittance ranges from 0 to 1, depending on the type of material. A new fruit packing plant being built in Onda, Castellón, Spain required a roof measuring 11,000 m². This temperature difference indicates that they are urban heat islands. Effective cooling strategies are urgently needed for these poorly insulated buildings in tropical climates, and upgrading the roof with Sikalastic -560 is a relatively lowcost option. The Sika solution met all these requirements and the very short deadline for execution as well. Sikalastic -560 IS AN ECONOMIC, ECO-FRIENDLY LIQUID APPLIED WATERP MEMBRANE, with high reflectance properties. Built in 1914 to manufacture Model T automobiles, this concrete-and-masonry building was the second Ford Motor plant to be built west of the Mississippi. URBAN HEAT ISLANDS Many urban and suburban areas have higher temperatures than their rural surroundings. The old roofing, measuring 8,000 m², consisting of bituminous sheets and thatch, needed regularly by the regional OSHA (Occupational Safety and Health Administration) office, and all inspections were passed without citation. The use of a cool roof membrane can earn Credit 5, Option 1 Heat island effect Roofing in the Site Sustainability category (SS) of the LEED v4 protocol. The system provides excellent weathering resistance, solar reflectance and suitable uplift resistance to withstand typhoon winds. The flat roof measures 36 m², and the thermal transmittance (U-value) of the roof assembly was 5.68 W/m²K. on 13 March and 38.2 C max. Preliminary measurement began in September 2016, and all the monitoring sensors were in place by January Even though the average solar radiation and average outdoor temperatures are higher in April than in March, a significant decrease in roof temperature and indoor air temperature and indoor air temperature and indoor air temperatures. The first day (13 March) was before the cool roof was applied, and the second (24 April) was after the application. COOL ROOFS AND GREEN BUILDING CERTIFICATION SYSTEMS The importance of cool roofs and their value to communities, the environment and building certification systems such as LEED (Leadership in Energy and Environmental Design). The special surface finish with granules makes for high color stability and longevity helping to further extend the long service life of the roof. SRI values are calculated using the SR and IE values defined by the ASTM E 1980 standard Calculating Solar Reflectance Index of Horizontal and Low-Sloped Opaque Surfaces. the solution from typical roofing systems used in Colombia. These are typically white roofs and they reduce the heat island phenomenon, minimizing thermal impact on the microclimate and on the local environment. 3. Lawrence Berkeley National Laboratory (LBNL) developed mathematical modeling and pioneered the promotion of cool roofs to reduce cooling energy usage and peak-power demand of air-conditioned buildings. Temperatures had to be monitored closely because the adhesive for the membrane and insulation could be used only when temperatures were 2 C or greater. The highly sustainable construction, and they are analyzed and evaluated with a fully comprehensive life cycle assessment (LCA). This represents potential savings of 1,600 MWh/year in electricity consumption. The record largest cooperative in Brazil, it is active in the production of Sikalastic -560, a highly reflective liquid-applied waterproofing membrane for roofs. Sika s 2-layer PIR system displays very low water absorption, helping to minimize this potential problem and better reach the owner s target. Total coverage rate: ~ 2.5 / 3.0 kg/m² Sikalastic 560 provides not only waterproofing but a superior SRI value. The owner, Frutinter Company, specifically wanted a durable and high-quality roofing system. This durable solution nicely renders the architectural forms of the complex roof and respects the historical character the building. Sika s product lines feature concrete admixtures, mortars, sealants and adhesives, structural strengthening systems. This provided a better U-value than required and the same grade of fire resistance according to FM. The distinctive design features thinly tapering roof slabs that required a durable high-performance waterproofing solution. The surface is finished with special reflectance granules that reduce the temperature inside the building, providing a sustainable solution. (3) Roughly equivalent to e.g. reflectance of 0.65 and thermal emittance of SIKA COOL ROOF SYSTEMS -WHAT MAKES A GOOD PRODUCT? It recognizes several options for roofing solutions in new buildings or renovation projects that can earn LEED credits: energy-efficient roofing, water run-off management and renewable energy are all important points to consider. Universität Zürich Zürichberg Seefeld Hirslanden Temperature ENERGY SAVINGS Energy used to cool buildings in summer represents a major portion of the overall energy consumption, resulting in the high CO2 emissions. Indoor air temperature measurements show that after the application of Sikalastic -560 the living room was cooler by a maximum of 5.1 C and an average of 2.3 C 4 sensors were installed on the rooftop to measure external roof temperatures and 4 on the ceiling to measure surface temperatures inside. Warming due to urban heat islands in specific areas such as cities is an example of local climate change. The total system buildup was ~ 1.4 kg/m². Due to the softness of the mineral wool, the membrane would have to possess good elongation to follow any movement. The effects are limited to the local scale and decrease with distance from the source. Sika products suitable for cool roof applications can be found in the publicly accessible Product Rating Databases of the CRRC and ECRC. C. Solar reflectance is the most important characteristic of a roofing membrane to achieve the highest energy savings during warmer months. In this project, Sika demonstrated its competence and expertise in sustainability, including crucial contributions to a sustainability, including crucial contributions to a sustainability, including crucial contributions to a sustainability. consumption of the building, since the black bituminous sheets significantly heated up the building in summer. But in Taiwan, Sika proposed a roofing system using 2-layer PIR insulation (100 mm). The annual mean air temperature in a city of a million or more people can easily be 1 to 4 C warmer than in the rural surroundings and on a clear, calm night the difference can measure 12 C or more. The buildup consists of 3 layers: Sikalastic -601 BC (base coat), Sika Reemat Premium reinforcement and Sikalastic -621 TC (top coat). This dramatically reduced the indoor temperature compared with the previous dark roof with bituminous sheets and thatch. The owner chose Sarnafil S 327 White membrane, which, compared with conventional systems, provides decisive advantages such as high durability and energy saving costs. Black bituminous roofs are typical in Spain. Today the roof is LEED Gold certified and performing well. The extremely long life expectation of this system is certified by BBA. By significantly lowering material temperatures, they enhance the durability and the appearance of roofs. 1718 CASE STUDIES LAM / COATINGS INDUSTRIAL BUILDING, BRESCELLO, ITALY THE OLD FORD FACTORY, LOS ANGELES, UNITED STATES This 4,000 m² factory in Brescello, Reggio Emilia produces kitchen equipment. BENEFITS OF COOL ROOFS Cool roofs minimized states and the appearance of roofs. 1718 CASE STUDIES LAM / COATINGS INDUSTRIAL BUILDING, BRESCELLO, ITALY THE OLD FORD FACTORY, LOS ANGELES, UNITED STATES This 4,000 m² factory in Brescello, Reggio Emilia produces kitchen equipment. heat gain inside buildings, improving occupant comfort. Despite all the demands and challenges, the roofing contractor completed the installation work on schedule and within budget. This reduced air-conditioning focused on the surface temperature of the roof and ceiling and the air temperature inside the house. This type of membrane can be used to earn LEED credit 7.2: Heat Island Effect: Roofs. Hardhof Altstetten Werd Triemli Uetliberg 31°C 32°C Allmend 34°C 35°C HB Mythenquai Heat Map Zurich, Switzerland (June 22, 2016). Aesthetic considerations were also important because aerial photos are used in presentations to customers around the world. Natural vegetation is replaced by the built environment, with most surfaces characterized by low solar reflectance and high impermeability along with high-density materials that absorb great amounts of thermal energy and release it as heat. The requirement for reduced indoor temperatures was met by applying a White Reflex Ultra coating, creating a cool roof. Replacement with a generic roofing membrane, was considered first. The new building is made of concrete, with the insulation layer on the interior. Vale maintains a poultry complex with a slaughtering capacity of 600,000 chickens per day, with exports to several countries. They reduce the need for mechanical air conditioning. What s more, the system is lighter and faster to install than the design used in Europe. Global climate change, caused by increased solar exposure or greenhouse gas concentrations, is not locally or regionally confined. Using an integrated approach for roof and facade, the high expectations for aesthetics and integration of the building. The main cause of urban heat islands is the modification of the land surface in cities. on 24 April) and similar averages for the whole building. global solar radiation intensity during the day-time (416 W/m² on 13 March and 428 W/m² on 24 April). Sikalastic -641 Lo-VOC was chosen because it best met all the specific project requirements. 23 COOL ROOFS CONTRIBUTE POSITIVELY Reduction of energy demand and indoor temperature WHAT ARE COOL ROOFS HOW DO THEY WORK? TECHNICAL BACKGROUND The California Department of Energy (DOE) began research on the benefits of cool roofs for energy and Buildings, Volume 176, 1 st October SRI >12 CASE STUDIES MEMBRANES SHOPPING CENTER CAMPANIA, ITALY FRUIT PACKAGING HOUSE ONDA, SPAIN This shopping center in Campania, Italy needed the roof replaced. Jamaica Fig. SOME TYPICAL COOL ROOF COLORS AND INITIAL SRI VALUES SRI Black Tan/Beige Reflective and light Gray Bright White Solar Reflective and light Gray Bright White Solar Reflective and light Gray Bright White Solar Reflective White Solar Reflect (CRRC) with the following initial values: Solar Reflectance: 0.82 Thermal Emittance: 0.90 Solar Reflectance Index (SRI): 106 This study was conducted as part of the EPSRC Global Challenges Research Fund Institutional Sponsorship Award 2016 Brunel University (EP/P510749/1). Vale is an agro-industrial cooperative operating in Brazil and Paraguay with over 9,000 employees. A 4 mm bituminous membrane, polyesterreinforced and modified with elastomers and polyolefin copolymers, was selected. The analysis showed that the white membrane would save nearly 119,000 GJ of energy (CED) over a black roof over a 20-year period. With a roof height of 60 meters, subjected to high wind speeds the location next to Interstate 25 required special measures for safety of the roofers and protecting the environment around the building. This represents a savings of 110 MWh/year, which translates into lower cooling/heating costs. 1415 ZONAMERICA BUSINESS PARK, CALI, COLOMBIA This project is the first free zone in Cali, Colombia that is dedicated to services and technology, and it is to become an important hub to attract businesses. The SRI value of White Reflex Ultra is 110, emissivity is 0.91, and reflectance is With these properties, it was possible to reduce the rooftop temperature to 39 C and the indoor temperature by about 5 C. VALE, BRAZIL C. SRI values can even exceed 100 The estimated savings will outweigh the cradle-to-gate energy and carbon impacts of the roofing system in less than 5 years. Along with appropriate primers for various substrates, these products make up the Sikalastic RoofPro membrane system in less than 5 years. The building complex was designed to European standards, and the waterproofing of the metal cladding required a system with a guarantee of at least 10 years. They can help reduce the number of buildings with cool roof versus a standard roof. To avoid unnecessary costs, the new membrane was fully adhered over the old one, which was still in serviceable condition. White surfaces have low reflectance and high absorption. Although cool roofs are one of the most cost-effective ways to reduce indoor temperatures in summer, they have not yet been widely adopted in western architecture. Solar reflectance ranges from 0 for black surfaces to 1 for white surfaces to 1 for white surfaces. In consideration of the tropical climate, the roof system was specified to meet strict European standards for high durability and extremely low thermal transmittance (U-value 0.3 W/m²K). A solution with a reflective PVC membrane system was offered, which earns points for the urban heat island credit for LEED certification. They take project location and energy rates into account, as well as soiling of the membrane or coating over time. S It was decided to apply a new membrane over the old roofing system. 1920 GLOBAL BUT LOCAI PARTNERSHIP FOR MORE SIKA INFORMATION: WE ARE SIKA Services and products for bonding, sealing, damping, reinforcing and protecting in the building sector and the motor vehicle industry. SIKA SERVICES AG / SIKA SERVICES AG Tueffenwies 16 CH-8048 Zurich Switzerland Contact Phone CRRC lists the measured radiative property values in its Rated Products Directory (The European Cool Roofs Council), active since 2011 (It maintains a Rated Product Directory as well. That s why cool roof buildups are most effective in reducing cooling loads in locations with high solar radiation and air temperatures. The satisfied company has since adopted this solution for a number of its other hangars and airports. The buildup: primer + 4 layers and Sika Tex 75 polyester reinforcement. This type of system can qualify for LEED credit Heat Island Effect: Roofs and credit 5 Heat Island Effect, Green Roofs or High-Reflectance Roofs. The old waterproofing was a bituminous-based adhered system. Sarnafil S EnergySmart grey provides an adequate initial SRI, and the U-value of the system (0.27 W/m²K) with 2-layer PIR insulation reduced the air-conditioning load, saving energy and making for a low GWP. These have been traditional architectural characteristics for thousands of years and these roofs. Then, 3 coats of the roofing product were applied within the over-coating times. Many vacation photos from the Middle East show a townscape of light-colored buildings with white roofs. Airless equipment was used to increase productivity and maintain regularity between the layers, allowing application of the primer and two layers of SikaFill Reflex Pro. The first building measures 5,000 m² and the 17 buildings to follow total 60,000 m². White roofs in Greece. Specified was a new cold-applied roofing system on the top of the old roofing, to be applied without using flames. SikaRoof MTC-15 liquid-BR at details and roof penetrations. Sika s Global Product Sustainability Group performed a life cycle assessment (LCA) of three roofing solutions with similar performance, including a beige and white membrane, to show the owner the additional benefits of a cool roof. Please consult the most current local Product Data Sheet prior to any use. 45 Sika roofing systems with high solar reflectance REGULATORY DEFINITIONS OF COOL ROOF PRODUCTS USGBC LEED, v4 (2) Low slope (1) > 64 Low slope (1) > 64 Low slope (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR Situation SR IE SRI Initial > 82 Aged (1) > 64 Low slope (2) ENERGY STAR SITUATION SITUAT average annual temperature is 29 C. 1. Location of the case-study. 5. Reflection and energy flow on flat roofs with different colors. The high solar reflectance of white SikaRoof MTC reduce cooling loads of the building. It provides services and maintains a network of supermarkets with eight stores in Paraná, Mato Grosso do Sul. Ou large product portfolio of waterproofing membranes for flat roofs includes suitable solutions for virtually any application: Requirements High initial Solar Reflectance until constant color is reached) The benefits of cool roofs (significantly reduced energy consumption) is maintained throughout the service life Good cleaning properties allow regaining SRI values close to 100% of the initial value Suitability of all technologies for the specific climate must be respected LEED requirements for Single ply membranes (FPO and PVC) Liquid-applied membranes and coatings (several technologies) Compatibility with the entire roof system, including accessories Proven performance and reliability, high durability Lower surface temperatures increase life expectancy Environmental Product Declarations (EPD) available Sika Cool Roof systems available? Cool roofs have the ability to reflect sunlight and repel heat because the roofs are prepared, covered or coated with Materials that have special characteristics. S Sikalastic -570 TC was evaluated as the most economic, durable and effective system to meet the requirements of the owner. The reduced rooftop temperature also increases the life expectancy of the roofing system. Measured results of solar radiation internal ceiling surface temperature before and after application of the Sikalastic h 6 h 12 h 18 h 24 h 0 h 6 h 12 h 18 h 24 h 13/03/ /04/ Internal ceiling temperature External air temperature Internal air temperature Solar radiation 1011 High Solar Reflectance Index Fig. At the same time, radiation is reflected from the roof surface, enhancing the performance of the photovoltaic system even during dimmer daylight hours. The white 1.5 mm Sarnafil G 410 Energy Smart membrane was then adhered to the gypsum board, followed by sheet metal edge strips and counter flashing. 1516 CASE STUDIES LAM / COATINGS CONSTANCE BELLE MARE, MAURITIUS Constance Belle Mare Plage Hotel is located in Belle Mare Plage Hotel is located in Belle Mare. would meet all the technical, economical and environmental requirements. The owner chose Sarnafil TS RAL 9016 SR, a white membrane with high solar reflectivity and white color enhance thermal comfort within the structure and enhances the building appearance, making the complex more visually appealing. The subject of study was the typical uninsulated cast-in-place concrete roof of a low-income house in Jamaica. Vale needed to replace the waterproofing of several units of its industrialized facility and feed factory, totaling more than 23,000 m² of coverage. 1617 POSTO TOURISMO, LOUSADA, PORTUGAL HANGARS AEROLINEAS ARGENTINAS, BUENOS AIRES, ARGENTINA The expansion of the Lousada Tourist Office aimed to reflect the unique character of the county, playing an important role in the local tourism sector. This product is a single-component moisture-triggered aliphatic polyurethane, used here in conjunction with Sika Reemat Premium random fiberglass reinforcing scrim. This was chosen over a bituminous membrane due to lower overall environmental impact and thus lower costs (financial and environmental) in the industrial segment, C. 0 (initial value) SRI ca (initial requirement SRI > 82 (initial value) to qualify for LEED credits. The waterproofing system admirably meets the project requirement by the design team and the building owner. 1 SOLUTIONS FOR ENERGY-EFFICIENT FLAT ROOF BUILDUPS2 CLIMATE-RELATED CHALLENGES Urban heat islands and increasing energy consumption URBAN HEAT ISLANDS have a warming effect on the local or micro-climate caused by modification of the land surface in urban areas. Temperature distribution in cities. It demonstrated the highest savings through reduced cooling loads. A/C units on a flat roof. Both days had similar air temperatures (37.4 C max. Increased indoor temperatures in summer reduces general comfort and people s productivity, so passive solutions like cool roofs can be cost-effective in multiple ways. S At its factory in Europe, the company used a roofing system incorporating 3 layers of mineral wool insulation (150 mm). SIKA S COOL ROOF SOLUTIONS SAVE ENERGY AND REDUCE THE URBAN HEAT ISLAND EFFECT. The results of the evaluation were decisive. Applicators. SOLAR REFLECTANCE INDEX (SRI) The solar reflectance index (SRI) expresses the ability of a roofing material to reflect solar energy. Sika at work Aerolíneas Argentinas is Argentinas is Argentina s flagship airline and one of the leading airlines in Latin America. Brunel University London, in cooperation with the European Cool Roofs Council, Sika Services AG and the University of Technology in Kingston, evaluated a project in Jamaica to study how the application of a solar roof can affect the thermal comfort of residential buildings in hot climates. LEED v4 is the latest version. The owner wanted a long-lasting and high-quality solution for the total roof area of 35,000 m². An industrial buildings in Brendola, Vicenza, needed a new 10,000 m² roof for installation of rooftop photovoltaic equipment. With this roofing system, boasting an initial SRI value of 104, radiation is reflected from the roof temperature is kept relatively low, allowing the owner to earn a Heat Island Effects credit under the LEED system. 1213 NEW MANUFACTURING PLANT TAINAN, TAIWAN To expand its production capacity for the Asian market, a manufacturing company planned to build a new 35,000 m² factory in Tainan, Taiwan. INTERNATIONAL ASSOCIATIONS ON COOL ROOFS (WITH INVOLVEMENT OF SIKA) CRRC AND ECRC (Cool Roof Rating Council) is a nonprofit organization established in the USA in It has developed a product rating program under which companies can label roofing surface products with radiation property values. Example of a typical cool roof in the USA. Highly elastic and crack bridging retains flexibility even at low temperatures Good adhesion to most substrates Strong resistance to common atmospheric chemicals Polyurethane/Polyurea Hybrid 2 component Polyurethane/ Polyurea Sikalastic -851 R Sikalastic -701 Fast application with 2-part hot spray equipment Fast curing walkable on after 4 minutes Solvent free High solids Seamless waterproofing membrane Highly elastic and crack bridging Low viscosity Vapor permeable allows the substrate to breath Good adhesion to most substrates 12-month shelf life 89 LAM / Coating systems with high solar reflectance Examples of roof buildups with Sika systems for new construction or reroofing Low odor Solvent free No penetration of the roof deck No water reflectance examples of roof buildups with Sika systems for new construction of the roof deck No water reflectance examples of roof buildups with Sika systems for new construction of the roof deck No water reflectance examples of roof buildups with Sika systems for new construction of the roof deck No water reflectance examples of roof buildups with Sika systems for new construction of the roof deck No water reflectance examples of roof buildups with Sika systems for new construction of the roof deck No water of the roof deck Extended guarantee (from your local Sika organization) Increased fire resistance No water underflow REQUIREMENTS Extended life expectancy of the bituminous roof Increased thermal comfort inside the building Good UV resistance Cold roof waterproofing with Sikalastic -560 and Sikalastic -560 and Sikalastic -560 and Sikalastic -580 Systems Cold roof waterproofing with Sikalastic -580 S Sikalastic -560 / 580 Reinforcement with Sikalastic Fleece-120 / Sika Reemat Premium Base coat Sikalastic -560 or -580 diluted with 10% water Concrete deck SIKA SYSTEM Sikalastic -560 or -580 diluted with 10% water Concrete Primer Concrete deck SIKA SYSTEM SikaRoof icure-12/15/18/22 1 or 2 top coats of Sikalastic -641 BC / Concrete deck 910 PROOF OF TECHNOLOGY Effective solutions to improve thermal comfort of buildings and reduce cooling costs in locations with high solar radiation and outdoor temperatures. Examples of adhered systems for new construction on steel or concrete decks. It has become one of the most iconic buildings in downtown Los Angeles. The following systems and are systematically assessed: Energy and carbon footprint Recycling Durability Air pollution High reflectance Energy Consumption Considerations Tools are available for quantifying the performance of a Sika cool roof solution versus conventional dark roofs. Finished roof with 3 coats of Sikalastic This study shows that the application of a cool roof solution versus conventional dark roofs. include highly reflective thermoplastic and liquid-applied membranes and coatings that provide a full range of benefits over a long service life. During construction in Taiwan it rained frequently, and exposed mineral wool would have absorbed water, dramatically increasing the U-value. cooling/heating of the building by using a white membrane instead of a black roof were calculated, and the energy and carbon break-even point of the roofing system was determined. REQUIREMENTS Fast and easy installation Highly chemically resistant waterproofing layer High fire resistance of the thermal insulation REQUIREMENTS Additional thermal insulation Highly chemically resistant waterproofing layer REQUIREMENTS Highest aesthetic appearance No penetration of the roof deck (when all roof build-up components are adhered) Special colors and design (décor profiles) REQUIREMENTS Increased thermal comfort inside building Fully adhered system High resistance to mechanical loads and puncturing High flexibility Good UV resistance FPO membrane with extended guarantee FPO membrane with SF 4.8 mm and Sarnafast Washer KT Mineral wool or PIR insulation Vapor control layer Sarnavap 1000 E, 2000 E or 4000 E SA Steel deck SIKA SYSTEM Mechanically fastened to the substrate with Sarnafast SBF 6.0 mm and Sarnafast Washer KTL New thermal insulation Existing build up on concrete deck SIKA SYSTEM PVC membrane Sarnafil G 410 EL Felt fully adhered to the insulation with Sarnacol 2142 S PIR, EPS/XPS insulation bonded to the vapor control layer with Sika RoofBond or mechanically fastened to the substrate Self adhesive vapor control layer Sarnavap 5000 E SA or bitumen Primer 600 or Primer 610 Spray where required Concrete (or timber/steel) deck SIKA SYSTEM Top sheet with White Mineral bituminous membrane Base sheet with smooth bituminous membrane Bas membranes (LAM) / Coatings TYPE ACRYLICS 1-C PU 1-C PU 2-C PU/PUA PRODUCTS ADVANTAGES Co-elastic Technology (CET) Hybrid Acrylic Coatings Sikalastic -560 Sikalasti Reemat Premium Good adhesion to most substrates Vapor permeable allows substrate to breath Easily re-coated if needed Moisture Triggered Chemistry (MTC) 1 component Polyurethane SikaRoof MTC systems with Sikalastic liquid membranes 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 Compatible with Sika Reemat Premium easy to detail Highly elastic and crack bridging retains flexibility even at low temperatures Easily recoated when needed no stripping required Good adhesion to most substrates Vapor permeable allows substrate to breathe Strong resistance to common atmospheric chemicals SikaRoof i-cure systems with Sikalastic liquid applied membranes Sikalastic -641 Minimal odor sensitive projects High solids One component ready to use Cold applied membranes Sikalastic -641 Minimal odor sensitive projects High solids One component ready to use Cold applied membranes Sikalastic -641 Minimal odor sensitive projects High solids One component ready to use Cold applied membranes Sikalastic -641 Minimal odor sensitive projects High solids One component ready to use Cold applied membranes Sikalastic -641 Minimal odor sensitive projects High solids One component ready to use Cold applied membranes Sikalastic Compatible with Sika Reemat Premium easy to detail Easily recoated when needed no stripping required Vapor permeable allows substrate to breathe. The initial SRI value of Mineral Flexter Testudo Reflex White is about 80, meaning the albedo is increased and roof surface temperatures are decreased. more opportunities to sustainably upgrade roofs than other surfaces of buildings or sites. The roof renovation, in particular the parapet waterproofing, was a major challenge for the designers because the waterproofing solution had to be applied over a variety of substrates without transition joints in order to preserve the aesthetic appearance of this historic landmark of the Arts District in Los Angeles. Compared with the beige membrane, the white membrane will save an estimated nearly 8,000 GJ of cooling/heating energy over a period of 20 years. They calculate the thermal energy flow through the roof assembly at a specific geographic location using local weather files that typically cover a period of 10 or 20 years. The buildup: primer + 3 layers.total thickness: ~ 0.8 mm. 1314 CASE STUDIES MEMBRANES ONE DENVER (COLORADO), USA INDUSTRIAL BUILDING, BRENDOLA, ITALY The office building at One Denver Technology Center was renovated with the aim to retain LEED Gold certification Rigid PIR and high-performance Sarnafil S make for very low maintenance costs and a good life cycle assessment (LCA) fully meeting the owner s expectations. S The old membrane, the thermal insulation and 16,000 pavers had to be removed from the roof. Flat roofs are generally replaced every years a replacement rate of 5 7% per year. Fig. 2. Due to the good performance of the first 2 buildings, the remaining buildings will use the same successful roofing membrane over beige thermoplastic or black bituminous roofing membrane. LEED is the world's best known and largest green building certification system, providing third-party verification that a building has been designed and built using strategies to improve its sustainability performance. S The design team determined that a liquid-applied membrane system would be the most suitable solution for this project. Sikalastic -612 is a fully reinforced, cold applied, seamless roof waterproofing membrane. Suffering from cracks and deterioration, the leaking waterproofing needed replacement. Annual energy savings of 10% or more are well possible with relatively simple measures. A chief requirement was to reduce the temperature inside the building, especially since the production activities generates significant heat. This will even increase as the outdoor temperatures rise. The result is a double-layer system with greatly enhanced performance and mechanical properties due to the synergy between the two layers. 34 SOLAR REFLECTANCE INDEX Definition and examples COOL ROOF MECHANISM The following illustration depicts the energy flow of sunlight hitting a conventional flat roof (left) and a cool roof covered with a white membrane or coating: SOLAR REFLECTANCE (SR) The ability of the surface of a material to reflect visible and non-visible sheets for waterproofing Solar Reflectance Index. S The vaulted roofs were coated with white Sikalastic 560 liquid acrylic membrane with polyurethane, applied as the top coat. The solution was to use Mineral Flexter Testudo Reflex White because it offers long service life. This reroofing project called for bituminous membrane roofing with long life expectancy because any future roof maintenance required benefits has been calculated at 3 years at the most. He had high expectations especially for durability, performance and benefits during use. Chief potential beneficiaries of this type of solution are low-income families who experience overheating of their houses, typically located near the equator in areas with high solar radiation intensity throughout the year (4 6

kwh/m²) and high outdoor temperatures. This product possesses high adherence to metal tile and it cures rapidly. THERMAL EMITTANCE (IE) The ability of a surface to emit thermal radiation in the infrared (heat) range is known as thermal emittance. The work took place during a very cold winter. The benefits of installing a cool roof go far beyond waterproofing: cooler and healthier cities, better air quality, mitigation of global climate change, and lower energy consumption are four important ones. The Sikalastic -560 was applied between 22 March and 16 April 2017, and monitoring continued until July In first phase of application, Sikalastic -560, diluted with 10% water, was applied as a primer. A single suitable finish coating was required for the building, including both the roof and the facades, measuring a total area of about 500 m². It is defined such that a standard black color (solar reflectance of 0.90) has a value of 0, whereas a standard white (reflectance of 0.80, emittance of 0.90) has a value of 0.90) has a value of 0, whereas a standard white (reflectance of 0.80, emittance of 0.90) has a value of 100. Thanks to the light color and the high SRI value of the top coat, a cool roof was installed which effectively reflects sunlight in the hot climate of Mauritius. 4. Tropic of Cancer Equator W/m 2 Fig. The higher the emittance, the lower the surface temperature will be.



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