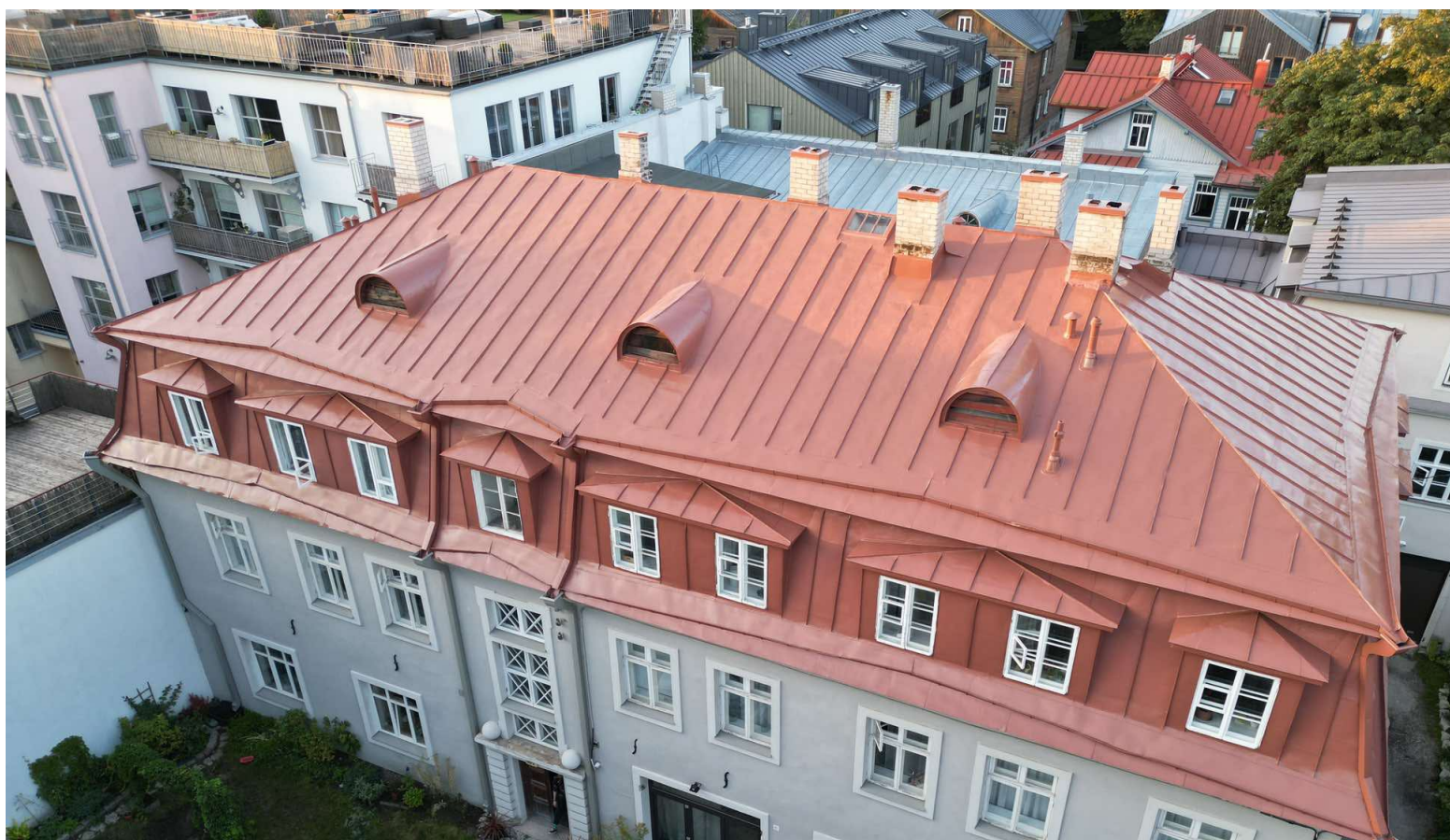




# HYPERDESMO®-POLYUREA-2K-

# HC/ELASTIC.

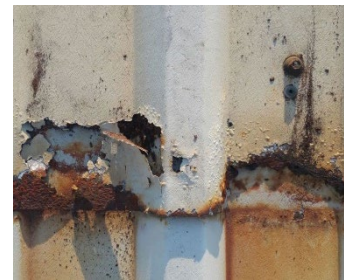


## TABLE OF CONTENTS

|   |    |
|---|----|
| WHY CHOOSE ALCHIMICA IN EXPOSED METAL ROOF WATERPROOFING PROJECTS? .....                          | 4  |
| ALCHIMICA'S POLYURETHANE LIQUID MEMBRANES .....   | 6  |
| COOL ROOFS: ENHANCING URBAN ENERGY EFFICIENCY IN BUILDINGS THROUGH HEAT ISLAND<br>REDUCTION ..... | 8  |
| FROM ETAG 005 (PART 1&6) TO EAD 030350-00-0402 .....  |    |
| PREPARATION .....   | 12 |
| PRIMER SELECTION .....  | 13 |
| SEALING SOLUTIONS .....   | 15 |
| REINFORCEMENT OF WATERPROOFING MEMBRANES WITH GEOTEXTILE .....                                    | 18 |
| <b>METHOD STATEMENT</b>   |    |
| <hr/>   |    |
| GENERAL SYSTEM CONDITIONS .....   | 20 |
| SYSTEM PRODUCTS BUILD-UP .....  | 23 |
| SUBSTRATE PRIMING .....   | 24 |
| DILATATION JOINTS, INNER ANGLES, SMALL CRACKS, SCREWS AND BOLTS .....                             | 26 |
| TREATMENT OF DETAILS .....  | 28 |
| MAIN WATERPROOFING MEMBRANE .....   |    |
| TOPCOAT .....   |    |
| CLEANING .....  | 41 |
| ADDITIVES FOR THE HYPERDESMO® SYSTEM .....  |    |
| REPAIR AND OVERLAPS PROCESSES .....   | 42 |
| REFERENCES .....  | 42 |
| HEALTH AND SAFETY .....   | 44 |
| PRECAUTIONS AND VARIATIONS. ....  | 44 |
| LEGAL NOTES AND CITATION .....  | 45 |

## WHY CHOOSE ALCHIMICA IN EXPOSED METAL ROOF WATERPROOFING PROJECTS?

Waterproofing exposed metal roofs in building structures is essential due to the nature of metal and its vulnerability to corrosion and water damage. Without proper waterproofing, water infiltration can accelerate rusting and degradation, particularly in metal structures that are exposed to harsh environmental conditions. Waterproofing serves as a protective barrier, preventing water from seeping into and underneath the metal panels, preserving their integrity. It also extends the lifespan of the structure by shielding it from the damaging effects of moisture and environmental elements, such as UV radiation and temperature fluctuations.



### WHY WATERPROOF YOUR STRUCTURE?



Waterproofing prevents mold and mildew growth, which pose health risks and further structural issues. By inhibiting their development, waterproofing contributes to a healthier indoor environment. Furthermore, waterproofing

enhances energy efficiency by preserving insulation properties and reducing energy consumption for heating and cooling. The initial investment in waterproofing may seem significant, but it is justified compared to the future costs of repairing corrosion and water damage. Proactively addressing waterproofing can avoid costly repairs and replacements, making it a cost-effective long-term strategy. Compliance with building codes and regulations is essential for ensuring the safety and longevity of structures.



In

VERSATILE  
INSTALLATION  
ALTERNATIVES

ROLLER

BRUSH



AIRLESS SPAY



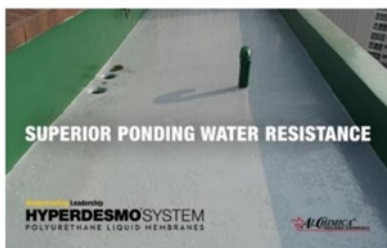
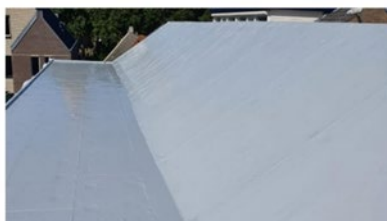
SPATULA

metal structures, the importance of waterproofing is critical due to the high risk of

corrosion. Waterproofing acts as a barrier, preventing water and corrosive agents from reaching the metal and reducing the risk of corrosion-induced damage. Waterproofing exposed metal roofs is a crucial aspect of construction that protects structural integrity, enhances durability, promotes energy efficiency, and ensures compliance with building standards.

Liquid-applied membranes offer ease of application and installation, conforming to the shape of the structure, sealing joints and overlaps, and filling voids, resulting in a seamless, elastic membrane that continues to provide waterproofing even after minor seismic activity, with self-leveling properties and versatile installation alternatives. They are a cost-effective investment compared to the costs of repairing corrosion and replacing damaged panels.

Metal roofs, especially those with inadequate design, often face issues of water pooling. This phenomenon occurs when water remains on a roof surface longer than 48 hours after the last rain event, leading to long-term water leakage and costly repairs. It can also lead to rust formation and degrade the roof's existing waterproofing



system. Liquid-applied waterproofing systems can prevent these problems and are beneficial for post-repair actions. These membranes with high resistance to standing water can bond effectively with the metal substrate, providing protection against puddles formed due to inadequate slope design. To test the adhesion of the existing membrane, it should be pressed on the ponding areas. Without proper resistance properties, a waterproofing membrane can start blistering and

peeling, leading to deterioration of the roof system. HYPERDESMO® waterproofing membranes offer excellent water resistance, with zero water swelling rate, high UV, chemical, and mechanical resistance, and protection against harsh environmental conditions.

ALCHIMICA is a pioneer and a global leader in complete polyurethane waterproofing solutions. With pedigree and expertise in this field, ALCHIMICA overcomes challenges that others deem impossible. The technological depth and know-how of ALCHIMICA allow the formulation of innovative PU-based materials that can achieve performance levels not typically met. ALCHIMICA has been active in the research, development, and production of building chemicals for 42 years, providing solutions for liquid waterproofing, reparations, sealing, flooring, and ETICs. The expertise of ALCHIMICA in Research and Development laboratories in construction, repair, and renovation solutions of buildings and infrastructure meets international industry standards.

## ALCHIMICA'S POLYURETHANE LIQUID MEMBRANES

To ensure effective waterproofing, it is crucial to select PU membranes that meet specific criteria: impermeability, flexibility, durability, breathability, and resistance to environmental factors such as UV radiation, heat, humidity, and chemical exposure.

ALCHIMICA is a leader in the waterproofing industry, pioneering the use of liquid applied polyurethane membranes. With a commitment to high performance and durability, ALCHIMICA's products excel in applications where seamless systems are paramount, whether for structural integrity or aesthetic appeal. These membranes offer decisive advantages, particularly in complex scenarios like geometrically complicated connections with ventilation outlets or upturns.

Throughout its history, ALCHIMICA has continuously expanded its range of polyurethane liquid membranes to provide versatile installation alternatives and long-lasting solutions. From one and two-component polyurethane liquid membranes to bitumen-extended polyurethanes, water-based liquid polyurethane membranes, and advanced technology polyurethane dispersion (PUD) products, each solution is

meticulously designed to address a wide array of waterproofing challenges with optimal performance and durability.



### FULL COVERAGE AT EDGE



ALCHIMICA's liquid membranes offer durability upon application, elasticity to withstand various stresses and traffic, and resistance to chemicals, and ponding water. These properties meet stringent technical

specifications, making them suitable for a diverse range of applications. The core objective of ALCHIMICA is to develop waterproofing systems that are competitive, simple to apply, and accessible to all professionals. By prioritizing ease of application and reliability, ALCHIMICA empowers users to achieve effective waterproofing solutions efficiently and effectively. The membranes are seamless, durable, and flexible and provide superior waterproofing performance, waterproof and moisture permeable, preventing water penetration, allowing moisture to escape, and reducing the risk of degradation and failure over time. With mechanical, thermal, and chemical resistance properties and breathability, ALCHIMICA's PU membranes ensure the longevity and efficiency of waterproofing systems.

ALCHIMICA's commitment to innovation and excellence has revolutionized waterproofing technologies globally. With a comprehensive range of polyurethane liquid membranes tailored to meet the demands of modern construction projects, ALCHIMICA remains the premier choice for effective, long-lasting waterproofing solutions.

## ALCHIMICA'S HOT CURE POLYUREA COATINGS

ALCHIMICA's hot cure polyurea coatings are a revolutionary solution for protective coatings, designed to withstand extreme temperatures and harsh environmental conditions. These coatings form a seamless, impermeable barrier on surfaces, providing superior protection against moisture ingress, chemical exposure, and

mechanical damage. They are suitable for roofs, industrial floors, and infrastructure projects, ensuring structural integrity and longevity.

Polyurea coatings offer advantages such as fast setting, rapid return to service, and high abrasion resistance. They can be applied in various temperatures, built up to any thickness, and are flexible enough to be used across various applications. They form a strong bond to most structures and materials, making them suitable for sectors like water engineering, power engineering, and construction-infrastructure engineering.

There are two versions available: a pure polyurea version and a hybrid version. The standard version provides a hard, durable finish, while the elastic version offers additional elasticity and flexibility. Both are suitable for waterproofing coatings, but the choice depends on the application. The standard version is ideal for high traffic or chemical environments, while the elastic version is better suited for dynamic environments with substrate movement or expansion. The choice between the two depends on the specific requirements of the application, with the standard version preferred for its robustness and the elastic version for its adaptability to dynamic conditions.

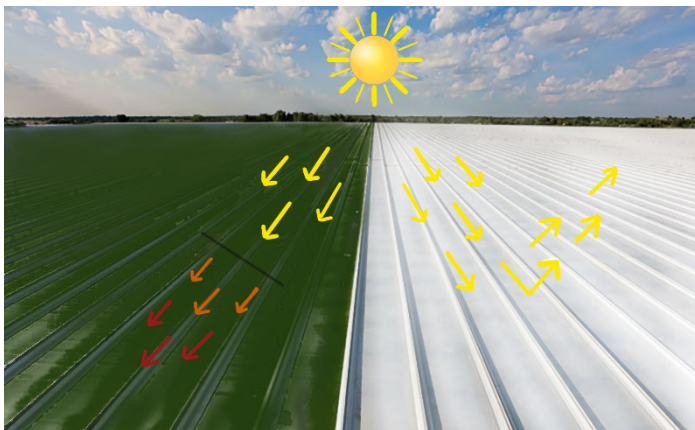


## COOL ROOFS: ENHANCING URBAN ENERGY EFFICIENCY IN BUILDINGS THROUGH HEAT ISLAND REDUCTION

Urban heat islands (UHIs) pose a significant challenge in cities, with temperature disparities of up to 4°C between urban and rural areas. The primary culprits are concrete infrastructure and high-density materials in urban environments, which absorb and release heat more than natural landscapes. The low solar reflectance of urban surfaces adds to this heat absorption, contributing to the urban heat island effect.

Cool roofs emerge as a cost-effective solution to combat UHIs, enhancing thermal comfort and reducing cooling costs, especially in hot climates with high solar radiation. By incorporating cool roofs into urban design, we can mitigate the heat absorption and release associated with traditional urban surfaces. However, the transformation of land surfaces exacerbates UHIs, as natural vegetation is replaced by structures with low solar reflectance and high impermeability, intensifying the heat island effect.

Human activities, including the use of vehicles and air-conditioning units, further escalate thermal energy in urban spaces, particularly in residential and commercial sectors. Acknowledging and addressing UHIs is crucial for creating resilient and sustainable cities. Mitigating UHIs requires the widespread adoption of cool roofs and reflective materials in urban construction, coupled with urban planning that prioritizes green spaces and sustainable design. By comprehensively understanding and addressing UHIs, we can contribute to the development of cooler, healthier urban environments capable of withstanding the challenges posed by a changing climate.



#### COOL ROOF

Roofs are one of the most exposed areas in buildings absorbing a high amount of heat. In this respect, cool roofs are considered one of the most sustainable and cost-effective solutions to reduce the heat island effect in cities and create at the same

time the right thermal comfort in buildings.

Cool roofs, which reflect over 65% of the sun's rays, play a crucial role in mitigating the urban heat island effect. These roofs, often white, repel heat due to the high solar reflectance of the materials used in their coating. By reflecting sunlight and minimizing heat absorption, cool roofs effectively reduce the heat island phenomenon, positively impacting the microclimate and environment of urban areas. Modern cool roofs employ highly reflective thermoplastic and liquid-applied membranes and coatings, offering long-term benefits.

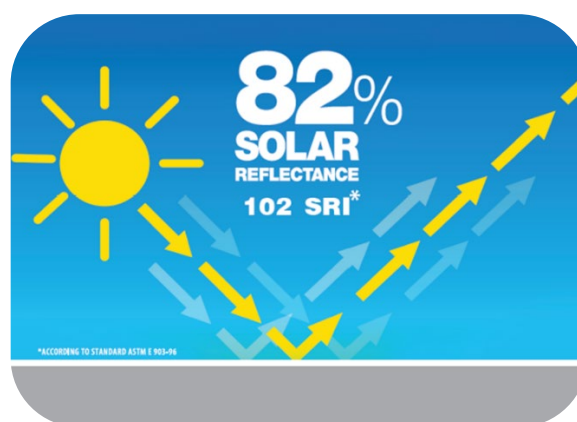
White cool roofs, compared to traditional dark roofs, offer lower surface temperatures and substantial energy savings, with an average flat roof replacement rate of 5-7% per year. Beyond environmental benefits, cool roofs prove economically attractive to building owners. They foster cooler, healthier cities, enhancing air quality, mitigating climate change, and significantly reducing overall energy consumption. Energy savings range from 15% to 35.7% in diverse climates, and cool roofs reduce roof surface temperatures by 1.4 °C to 4.7 °C, impactful in urban environments. Serving as a passive solution to minimize heat gain, improve indoor conditions, and cost-effectiveness, cool roofs' economic and ecological advantages depend on location, climate, and energy usage. Their versatility aligns seamlessly with sustainability, energy efficiency, and environmental well-being goals, making cool roofs a practical measure for cooler, healthier, and more sustainable urban environments.

How is the efficiency of cool roofs measured:

- **SOLAR REFLECTANCE (SR):** The ability of the roofing material to reflect solar radiation (%).
- **THERMAL EMITTANCE:** It shows how long a roof holds onto the energy when the sun heats the roofing material. The thermal emittance ranges from 0-1.
- **SOLAR REFLECTIVE INDEX (SRI):** The SRI is calculated based on solar reflectance and thermal emittance in conjunction with ambient air temperature, sky temperature, and wind factors. The solar reflective index is reported as a value from 0 to 130 ranging from least reflective at 0 to most reflective at 130.

Cool roofs play a pivotal role in advancing energy efficiency and urban sustainability, fostering cooler and healthier environments with improved air quality, specifically addressing the urban heat island phenomenon. Solar-reflective materials, crucial in warmer climates and densely populated areas, reduce cooling loads in

regions with high solar radiation and elevated temperatures. Simple measures like applying white membrane systems can yield substantial annual energy savings of 10%



or more, contributing to individual building energy efficiency and mitigating the broader urban heat island effect.

These roofs offer economic benefits by reducing energy bills, enhancing indoor comfort, and potentially extending the roof's service life. Moreover, they contribute to environmental well-being by lowering local air temperatures, peak electric power demand, and power plant emissions. Cool roofs also play a crucial role in reducing heat trapping in the atmosphere by reflecting sunlight, mitigating the demand for air conditioning and overall heat load. In contrast, dark roofs contribute to increased cooling energy needs. Cool roofs stand as an environmentally preferable roofing solution that aligns with economic concerns, offering a practical and sustainable response to the challenges of urban heat islands and energy consumption.

ALCHIMICA's advanced roof waterproofing system with reflective materials based on the HYPERDESMO® System offers an SRI value of 102 tested according to ASTM E1980-01 and offers all the benefits of cool roofs. The system of HYPERDESMO® + HYPERDESMO® – ADY-E was submitted to the TECNALIA Testing Institute in Spain with the objective of testing the material's Solar Reflective Index (SRI) according to ASTM E1980-01. The results are shown below:

- **Solar Reflection (%): 82,2±0.1**
- **Emittance: 0.87±0.02**

SRI (ASTM E1980-01) Result:

| CONVECTION COEFFICIENT | SRI       |
|------------------------|-----------|
| Low (0-2m/s)           | 101,8±0,2 |
| Medium (2-6m/s)        | 102,1±0,2 |
| High (6-10m/s)         | 102,3±0,2 |

Cool roofs are recognized by green building certification systems like LEED, which verify a building's sustainability performance. LEED certification recognizing energy-efficient roofing, water run-off management, and renewable energy as key factors for building credits. Cool roof membranes can earn Credit 5, Option 1 "Heat Island effect – Roofing" in the Site Sustainability category of the LEED protocol.

Thanks to its high solar reflectance the HYPERDESMO® System contributes to the reduction of air conditioning usage which can lessen energy costs by up to 15%. Reduction of the urban heat island effect in cities and suburbs, minimizing thermal impact on the microclimate and local environment. High thermal emissivity to release the absorbed heat. Minimizes heat gains inside buildings, improving occupant

comfort. Enhances the durability and the appearance of roofs by significantly lowering material temperatures and extending their life cycle.

## ETAG 005 (PART 1&6)

ETAG 005 is a European technical guideline for liquid-applied roof waterproofing systems (kits). The ETAG 005 outlines specific stipulations for liquid-applied roof waterproofing kits based on polymer-modified bitumen emulsions and solutions, glass-reinforced resilient unsaturated polyester, flexible unsaturated polyester, hot-applied polymer-modified bitumen, polyurethane, bitumen emulsions and solutions, and water dispensable polymers. These guidelines aim to ensure the safety and effectiveness of roof waterproofing systems. Since the LARWKs (Liquid Applied Roof Waterproofing Kits) are based on different materials, which might necessitate additional specific verification and/or assessment, the kits are divided into families of products, dealt with in Complementary Parts. Part 1 provides general requirements for the assessment of liquid-applied roof waterproofing kits and Part 6 is a complementary part of ETAG 005 that specifies specific stipulations for kits based on polyurethane.



By choosing a LARWK that is certified according to ETAG 005, you can be confident that the product meets the required EU standards and provides long-term protection against water penetration, thus extending the roof's service life.

## PREPARATION

For successful and safe waterproofing applications specific tools and equipment are required. Each application might have different requirements.

Minimum application equipment includes protective clothing, a 1KW slow-speed drill, and a brush, roller, or airless spray machine for mixing and application. Before installing the system, the weather working conditions should be considered in order to ensure the correct and safe application of the system. Overall, avoid extreme cold or hot surface conditions. In case of high heat, contractors may apply the products either in the morning or afternoon. The application temperature range is 5°C to 35°C, with no dew point conditions, a maximum 95% relative humidity, and substrate temperature above 3°C. Store materials cool, tools dry, and avoid application during hot hours.



**Substrate:** For a metal roof, it is imperative to prepare the substrate properly before applying any primers or waterproofing systems. If any areas show signs of deterioration such as flaking metal roof paint or the fading of anodized aluminum color, these must be addressed first. All old paints, previous waterproofing coats, signs of mold, and corrosion should be meticulously removed. This can often involve sanding, power washing, or using appropriate rust-removers and cleaners designed for metal surfaces. Once the roof is stripped of these defective layers and cleaned, it is ready for priming. Proper substrate preparation is key to ensuring that the new waterproofing system adheres securely and provides long-lasting protection for the metal roof.

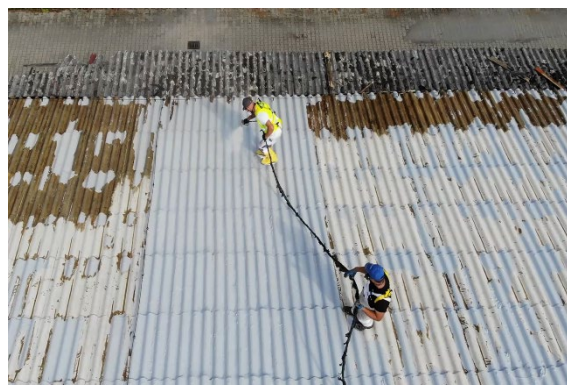
*In case of doubtful conditions, please contact ALCHIMICA's technical assistance for instructions.*

## PRIMER SELECTION

After checking weather conditions and completing substrate preparation, along with any necessary repairs, the build-up of the waterproofing system for metal roofs begins with selecting a suitable primer. Selecting the right primer for metal roofs is crucial, as these substrates are subject to corrosion and may have a non-porous surface that can challenge adhesion. Metal expands and contracts with temperature changes, and without proper preparation, this can lead to coating failure. Additionally, metal roofs

may have residues from previous coatings or atmospheric contamination that could hinder the adhesion of new waterproofing systems. For metal surfaces ALCHIMICA offers a specialized primer, MICROSEALER-50.

MICROSEALER-50 addresses these concerns with its low viscosity, polyurethane-based composition that is specifically formulated to provide excellent wetting and impregnation on non-porous surfaces such as metal. This one-component primer can be used on both dry and slightly damp substrates, allowing for



flexibility in various weather conditions. It offers strong adhesion even on challenging surfaces, making it an ideal base for subsequent waterproofing or protective coatings. The cured film of MICROSEALER-50 boasts remarkable mechanical properties, with elongation over 300% and tensile strength surpassing 30 N/mm<sup>2</sup>. This elasticity is particularly beneficial for metal roofs, accommodating the natural thermal movement without compromising the waterproofing integrity.

For application, surfaces should be clean and free from oil, grease, and wax contaminants. Any cement laitance, loose particles, mold release agents, and cured membranes must be removed to ensure a strong bond. The primer is easily applied with a brush, roller or airless spray machine and has been CE certified according EN 1504-2:2004 and to exceed the requirements of E.O.T.A.(European Organization of Technical Approval).

Once the MICROSEALER-50 has cured, the main membrane—such as the HYPERDESMO® waterproofing membranes—can be applied, ensuring a durable and effective waterproofing solution. ALCHIMICA’s primer not only enhances the durability and longevity of the waterproofing system but also adapts to the unique requirements of metal roofs, confirming ALCHIMICA’s position as a leader in polyurethane waterproofing solutions.

| SUBSTRATE AND CONDITIONS   | CONCRETE | HUMID CONCRETE | GYPSUM | METAL STEEL | POROUS CERAMIC TILES | GLASS / GLAZY TILES | PVC MEMBRANES | TPO MEMBRANES | BITUMEN MEMBRANES | LOW TEMPERATURE APPLICATION | VAPOR BARRIER | NEGATIVE PRESSURE / RISING HUMIDITY (Tank) |
|----------------------------|----------|----------------|--------|-------------|----------------------|---------------------|---------------|---------------|-------------------|-----------------------------|---------------|--|
| <b>PU PRIMERS</b>          |          |                |        |             |                      |                     |               |               |                   |                             |               |  |
| PRIMER-PU                  | X        | -              | -      | X           | -                    | -                   | -             | -             | -                 | -                           | -             | -  |
| MICROPRIMER-PU             | X        | -              | -      | X           | X                    | -                   | -             | -             | -                 | -                           | -             | -  |
| MICROSEALER-PU             | X        | X              | X      | X           | X                    | -                   | -             | -             | -                 | -                           | -             | -  |
| MICROSEALER-50             | X        | X              | X      | X           | X                    | -                   | -             | -             | -                 | -                           | -             | -  |
| GEODESMO 50                | X        | X              | -      | X           | -                    | -                   | -             | -             | -                 | X                           | -             | -  |
| UNIVERSAL PRIMER-2K 4060   | X        | X              | -      | -           | -                    | -                   | -             | -             | X                 | X                           | -             | -  |
| PRIMER T                   | -        | -              | -      | -           | -                    | X                   | -             | -             | -                 | -                           | -             | -  |
| PRIMER W                   | -        | -              | -      | -           | -                    | X                   | -             | -             | -                 | -                           | -             | -  |
| PRIMER TPO/FPO             | -        | -              | -      | -           | -                    | -                   | -             | X             | -                 | -                           | -             | -  |
| PRIMER PVC                 | -        | -              | -      | -           | -                    | -                   | X             | -             | -                 | -                           | -             | -  |
| <b>WATER-BASED PRIMERS</b> |          |                |        |             |                      |                     |               |               |                   |                             |               |  |
| AQUADUR                    | X        | X              | X      | -           | -                    | -                   | -             | -             | -                 | -                           | X             | X  |
| AQUASMART-DUR              | X        | X              | X      | -           | -                    | -                   | -             | -             | -                 | -                           | X             | X  |
| AQUASMART-PRIMER PU-2K     | X        | X              | -      | -           | -                    | -                   | -             | -             | -                 | X                           | -             | -  |

ALCHIMICA’s primers are designed to secure your waterproofing application in every substrate by strengthening the substrate, stabilizing, and sealing it, offering remarkable adhesion with their respective main membranes and sealants.

## SEALING SOLUTIONS



HYPERSEAL® range of PU sealants is essential in sealing applications on metal roofs due to its exceptional adhesion and elasticity, which ensures a durable seal even with the metal's natural expansion and contraction. Its robust formulation offers superior resistance to weathering and UV, making it an ideal choice for both repair and detail treatment in the harsh rooftop environment.

environment.

Additionally, HYPERSEAL® sealants provide a waterproof seal that prevents leaks, safeguarding the structure from water damage and corrosion, which is vital for maintaining the integrity of metal roofing systems over time. HYPERSEAL®-EXPERT-150 and HYPERSEAL®-EXPERT-60FC are both high-performance polyurethane sealants from ALCHIMICA, but they serve different purposes and conditions. HYPERSEAL®-EXPERT-150 is a low-modulus sealant, making it ideal for high humidity conditions and ensuring a bubble-free cure, which is critical in large expansion joints. With an impressive elongation of over 700%, it's designed to accommodate significant movement, making it well-suited for dynamic joints. On the

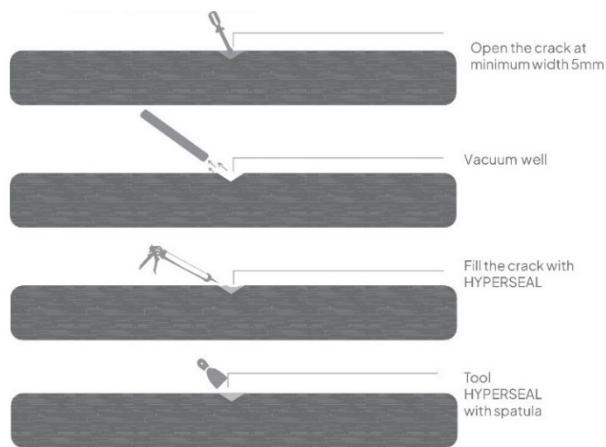
other hand, HYPERSEAL®-EXPERT-60FC is a fast-curing sealant with a higher hardness and chemical resistance, recommended for cold environments where contact with water polluting liquids occurs, such as petrol stations or secondary containment structures. Its fast tack-free time makes it preferable for projects requiring a quick return to service. Both products offer excellent adhesion to a variety of substrates including metal, but their different physical properties make them suitable for specific conditions encountered in metal roof applications. HYPERSEAL® sealants are available in various colors and compatible with a wide range of construction materials in general. Can be easily applied using standard caulking or gun techniques. Choose the suitable HYPERSEAL® sealant for your project requirements.

### HYPERSEAL®-EXPERT-150

HYPERSEAL®-EXPERT-150 is a low-modulus expansion and construction joints PU sealant designed to ensure a bubble-free cure even in high temperature and humidity conditions. It exhibits excellent thixotropy, making it suitable for large expansion joints. The ratio width to depth should be 2:1 subject to a minimum depth of 10mm. It cures by reacting with atmospheric humidity, producing a joint sealant with a 50% joint movement accommodation factor, elongation >700% (ASTM D412 / EN-ISO-527-3), and excellent adhesion to a variety of substrates (Adhesion to concrete >20 kg/cm<sup>2</sup> (>2 N/mm<sup>2</sup>) ASTM D4541) with or without the use of special primers. The sealant's extrusion rate and tooling remain consistent across various temperature and humidity conditions. HYPERSEAL®-EXPERT-150 is CE certified according to EN 15651-1:2012 (Sealants for Facades) and 15651-4:2012 (Sealants for Floor Joints with Foot traffic). HYPERSEAL®-EXPERT-150 is a highly flexible PU sealant, with elastic recovery of >70% (EN ISO 7389) allowing for the movement and expansion of structure components, preventing cracks, and ensuring a lasting seal. It adheres to various substrates, making it durable and able to withstand harsh environmental conditions and heavy traffic loads. As a PU sealant, it is also chemically resistant, protecting the structure from corrosion. Because of its excellent chemical and hydrolysis resistance, it is widely used for sealing joints in swimming pools and



chemically treated water environments. HYPERSEAL®-EXPERT-150 provides excellent waterproofing, preventing moisture ingress, and has high elasticity, allowing for flexibility and elasticity. It does not shrink as it cures, ensuring no gaps or openings in the sealed joint. Its excellent heat resistance makes it suitable for application where exposure to temperatures  $>60^{\circ}\text{C}$  takes place and its resistance to cold allows the sealant to remain elastic even down to  $-40^{\circ}\text{C}$  (service temperature range  $-40$  to  $+80^{\circ}\text{C}$ ). It has tack free time (@  $77^{\circ}\text{F}$  ( $25^{\circ}\text{C}$ ) & 55% RH) of 2.5-3.5 hours and a cure rate of 2-3 mm/day, low VOC content, and remains resistant and unaffected by microorganisms, fungi, and algae growth, making it the most versatile PU sealant, usable in a variety of applications.



### HYPERSEAL®-EXPERT 60FC

For metal roof sealing applications where quick return to service is crucial and chemical resistance is a priority, HYPERSEAL®-EXPERT-60FC is the sealant of choice, offering fast curing times and robust adhesion to a variety of

metal surfaces. HYPERSEAL®-EXPERT 60FC stands out as a fast-curing polyurethane sealant, designed for high-performance sealing, providing excellent early grab adhesion even on challenging substrates such as aluminum, steel, and polycarbonate found in metal roofing applications. With its remarkable chemical



resistance and resilience to microorganisms and fungus, it is an ideal sealant for metal roof joints exposed to harsh environmental conditions and those requiring contact with water or water-polluting liquids. Moreover, HYPERSEAL®-EXPERT 60FC assures a durable seal in metal roofing with an exceptional elongation rate over 600%, ensuring that the seal remains intact and flexible, accommodating the natural movement of the metal without compromise, even in the most demanding of sealing and repair scenarios. For metal roof applications, HYPERSEAL®-EXPERT 60FC offers a swift and dependable sealing solution with its fast-curing properties and high

hardness, ensuring quick return to service and long-lasting performance. Its exceptional adhesion capabilities make it suitable for a variety of metal surfaces, including challenging ones like aluminum and steel, eliminating the need for special primers in many cases. The sealant's robust chemical resistance and resilience to environmental factors, including UV exposure, provide a reliable defense against the elements, making HYPERSEAL®-EXPERT 60FC an advantageous choice for both the repair and detail treatment of metal roofs. It's fast curing profile, is making it ideal for cold climates and challenging weather conditions.

## REINFORCEMENT OF WATERPROOFING MEMBRANES WITH GEOTEXTILE

Geotextile reinforcement is a crucial component in the construction industry, providing long-term protective solutions for waterproofing systems. These fabric-made sheets are used in various applications, including drainage and construction projects. They are divided into two categories: non-woven and woven geotextiles. Woven geotextiles have high load capacity and tensile strength, making them ideal for stabilization and reinforcement applications. Non-woven geotextiles, on the other hand, offer durability and ease of application benefits. Nonwoven geotextiles are manufactured by binding short and long fibers together through needle punching or other alternative methods. The term “pressed” in relation to non-woven geotextiles usually refers to the process of needle punching. In this context, “pressed” refers to a non-woven geotextile that has undergone the needle punching process, while “unpressed” usually refers to a non-woven geotextile before this process. The needle-punching process can improve the strength of the geotextile. For cold climatic conditions, it is recommended to choose the PRESSED geotextile.

### UNSOUND SURFACES AND DETAILS



WOOD



BITUMEN MEMBRANES



SCREED



METAL SEAMS

Geotextiles protect and separate membranes from structures due to their higher pre-break elongation capacity than other materials like glass mesh or fiberglass mesh. They can follow the movement of elastomeric waterproofing

materials, achieving reinforcement and long-term durability. However, unsound substrates often have high movement or large cracks, which can cause problems on unarmed waterproofing membranes. Geotextiles can prevent future cracks by sealing and protecting details in areas like roofs, flashing, and joints, and repairing existing cracks and gaps. They are often made of Polyester, which is a strong fiber with excellent oxidation resistance and good mechanical stability. It offers strong oxidation or mildew resistance because it stays resilient when wet. It is used as a reinforcement material embedded between the waterproofing coats, so it does not have direct exposure to the conditions. In this case, any resistance concerns those materials that are in direct contact with the environment and conditions. The HYPERDESMO® System remains elastic at -40°C. Another very important advantage of our materials that are in the technology of liquid polyurethane waterproofing membranes is the fact that they can easily be reinforced with geotextile if needed.

ALCHIMICA offers a high-tensile strength range of non-woven geotextiles made of 100% polyester fibers, manufactured with the needle punching process. They can be applied on the full surface between the first two layers of the HYPERDESMO®-ADY-810, providing the required reinforcement for certain applications, such as over old bitumen membranes and unsound screeds.

They are suitable for solvent-based or water-based liquid waterproofing systems.

#### GEOTEXTILE-50 (1X200m)

GEOTEXTILE-50 is a non-woven geotextile, from 100% polyester fibers, manufactured with the needle punching process.

| COLOR | PACKAGING |
|-------|-----------|
| WHITE | 200m      |



#### GEOTEXTILE-50 PRESSED (1.02X100m) (0.17X100m)

GEOTEXTILE-50 PRESSED is a non-woven geotextile, from 100% polyester fibers, manufactured with spun-lacing process (hydro-entanglement).

| COLOR | PACKAGING |
|-------|-----------|
| WHITE | 100m      |
| WHITE | 100m      |



#### GEOTEXTILE-45 PRESSED (1.02X100m)

| COLOR | PACKAGING         |
|-------|-------------------|
| WHITE | 100m <sup>2</sup> |



## METHOD STATEMENT

### EXPOSED METAL ROOF WATERPROOFING BASED ON THE HYPERDESMO®-POLYUREA-2K-HC/ELASTIC.

The HYPERDESMO®-POLYUREA-2K-HC/ELASTIC is a high-performance waterproofing solution for exposed metal roofs, certified to last 25 years. It meets key standards for potable water tank waterproofing by being compliant with UNE-EN 12873-1/2014 and RD 140/2003 standards. With certifications for root barrier, radon gas resistance, fire safety, and no water contamination. It's a safe, reliable choice for demanding waterproofing applications. Additionally, it prevents water contamination, making it a robust choice for challenging waterproofing needs in environments prone to extreme weather conditions, which can cause metal corrosion and leaks.

#### GENERAL SYSTEM CONDITIONS

#### EQUIPMENT

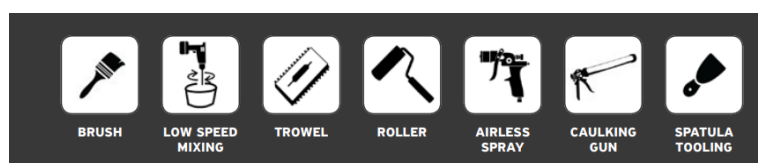
For successful and safe applications specific tools and equipment are required. Each application might have different requirements in terms of application and protection equipment.

The following application equipment is at minimum required:

- Protective clothing: Protective overalls, goggles, face mask and gloves.
- Mixing equipment: 1KW slow speed drill, 400 or 500 rpm, and suitably sized mixing vessel.
- When stirring (or pigmenting) take care not to introduce air into the fluid, which may result in bubbling on the cured membrane. Stirring can either be done manually or with a low speed (300 rpm) mixer.
- Application equipment for HYPERDESMO®-POLYUREA-2K-HC/ELASTIC: Plural component dispensing machines. All personnel working on site with these machines must wear double filter breathers with OSHA ratings. Hot-Applied polyurea systems must be applied using plural component spray systems that are specifically developed for such products. Please contact our technical department for further information.

- Application equipment for additional parts of the system: Brush, roller, notched trowel, squeegee, rubber spatula, caulking gun, spatula. Specific airless spray machines can also be used.
- Extra equipment: Digital scale or other measuring equipment

Products can be applied with a variety of equipment. Please choose the desired equipment and method of application according to your preferences and experience after consulting the proposed method of application on TDS of the Product.



**HYPERDESMO®-  
POLYUREA-2K-  
HC/ELASTIC**

**Applied with Plural  
Component Spray**

## WORKING WEATHER CONDITIONS

- Application temperature range: 5°C to 35°C.
- Avoid dew point conditions during application.
- Relative humidity must be a maximum of 95% and substrate temperature must be at least 3°C above measured dew point temperatures.
- Do not apply under rain or snow.
- If temperature is above 35°C, the following guidelines are recommended:
  - Store materials in a cool environment, avoiding exposure to direct sunlight.
  - Keep application tools cool and dry.
  - Try to avoid application during the hottest hours of the day.

## SURFACE PREPARATION

*THE FOLLOWING FACTORS PRIOR TO APPLICATION SHOULD BE CHECKED:*

- ✓ Substrate type and condition.
- ✓ Previous substrate mechanical preparations (sanding, polishing, shot blasting, or milling)
- ✓ Porosity of the surface
- ✓ Existing cracks or damaged areas.

- ✓ In existing dilatation joints, remove old material, clean it, and replace it with HYPERSEAL®.
- ✓ Existing membranes or coatings.
- ✓ The substrates must be both durable and cohesive. Check the substrate for contamination (oil, grease, etc.).

### *Metal Substrates*

Metal roofing is a common method for industrial or commercial buildings; however, climatic conditions have a great impact in the lifecycle of metal sheets, causing corrosion and damages that lead eventually to water leaks. ALCHIMICA's waterproofing system provides economical and durable refurbishment and protection for metal roofs in inclined and vertical substrates, easy coloring and high resistance to harsh weather effects with excellent UV resistance while preventing from corrosion and damages, extending the life cycle of the metal sheets.

### *PREPARATION*

Proper preparation of the concrete substrate is essential for complete adhesion and successful application.

#### Standard metal substrate conditions

- Humidity: W < 10%.
- Temperature: 5-35 °C.
- Relative humidity: < 85%

- The substrate should be clean and free of loose particles, oil, and grease.
- The substrate should be free of any irregularities. If needed, it should be ground with the appropriate mechanical equipment in order to achieve a flat and sound surface.
- If there are areas/spots that the original metal roof paint (or possibly anodized aluminium colour) has been damaged or worn out, you should remove these old paints or old waterproofing coats (if any), mold and/or corrosion before proceeding with priming.
- The substrate should be free of dust. High pressure washing is recommended to remove dust.
- Metal details should be free of rust, oils, and old paints.
- The surface of PVC pipes should be treated with sand paper in order to become rough.

- Primer application can be done over damp metal substrate too. But any ponding water should be removed before primer application.
- For more information about surface preparation please contact our technical assistance team.

**MANDATORY DISCLAIMER BEFORE APPLICATION:**

Testing the products to be used in this build-up application on the specific substrate and conducting mock-up tests are essential steps to ensure good adhesion. Mock-up tests replicate real-world conditions and provide a practical way to evaluate the performance of the products in situ. Pull-out tests conducted on these mock-ups help assess the bond strength between the products and the substrate, giving valuable insights into their adhesion capabilities.

By testing the products on the specific substrate and conducting mock-up tests, any potential issues or concerns regarding adhesion can be identified and addressed before full-scale implementation. This proactive approach helps mitigate risks associated with poor adhesion, ensuring the long-term durability and effectiveness of the build-up system.

ALCHIMICA advises the thorough testing of the system to be performed prior to proceeding with full surface application in order to determine the suitability of the system based on project requirements.

## SYSTEM PRODUCTS BUILD-UP

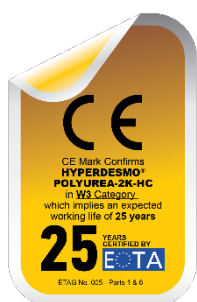
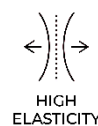
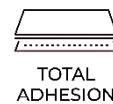


CERTIFIED  
PRODUCTS

|                  | PRODUCT                            | CONSUMPTION   |
|------------------|------------------------------------|---|
| 1. PRIMER        | MICROSEALER-50                     | 100-150gr/m <sup>2</sup>  |
| 2. SEALANT       | HYPERSEAL®-EXPERT-150              | Subject to project needs  |
| 3. MAIN MEMBRANE | HYPERDESMO®-POLYUREA-2K-HC/ELASTIC | Total consumption:<br>2 kg/m <sup>2</sup>                             |
| 4. TOP-COAT      | HYPERDESMO®-ADY-E                  | 0.2 -0.3kg/m <sup>2</sup> per coat, depending on traffic requirements |

HYPERDESMO®-ADY-810

0.7-1 kg/m<sup>2</sup> Per coat  
Subject to traffic needs

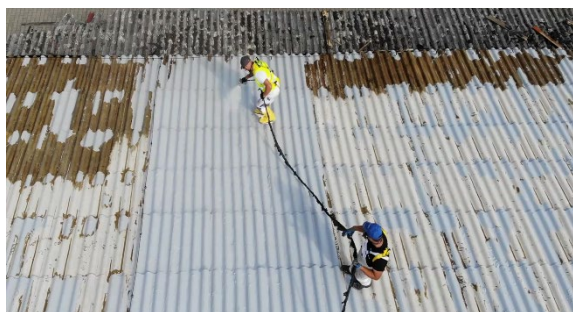


## SUBSTRATE PRIMING

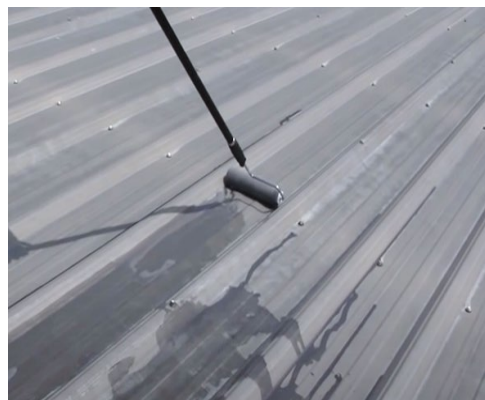
MICROSEALER-50 is a polyurethane based primer/concrete sealer suitable for both porous and non-porous substrates. It is specifically formulated to provide excellent wetting and impregnation on non-porous surfaces such as metal. It is a single component with low viscosity, deep penetration, and slow cure, offering excellent wetting, impregnation, and paint-over time on various substrates. It seals and stabilizes substrates, ensuring good adhesion of the main coat. It is suitable for concrete, humid concrete, metal/steel, porous ceramic tiles, and gypsum boards.

*Mixing:* Mix the product well manually or using a low speed (300 rpm) mixer.

|   |  |
|---|--|
| PRIMER                                  | MICROSEALER-50   |
| CONSUMPTION                             | - 100-150 gr/m <sup>2</sup> per coat<br>- do not exceed more than 100gr/m <sup>2</sup> |
| COMPOSITION                             | SOLVENT-BASED PU   |
| APPLICATIONS METHODS                    | brush, roller, airless spray   |
| TACK FREE TIME, @ 77 °F (25°C) & 55% RH | 6-12 Hours   |
| RECOAT TIME OF PRODUCT WHEN NEEDED      | 6-12 Hours   |
| NEXT COAT TIME (HYPERDESMO® MEMBRANE)   | 6-24 Hours   |
| RECOMMENDED DILUTION                    | X  |
| ADDITIVES                               | X  |
| COLORS                                  | TRANSPARENT  |
| POT LIFE                                | X  |
| COMPONENTS                              | SINGLE COMPONENT   |



*Application:* You choose this primer if your substrate is metal. MICROSEALER-50 primer will stabilize and seal the surface in depth. After MICROSEALER-50 application you should wait at least 12 hours in order to apply the main membrane. Apply the main membrane within a maximum of 3 days after primer application.



### Notes:

1. If it rains after the primer and before the main coat application, you may need to apply one coat of primer again.
2. More primers are available for special cases, surfaces, and weather conditions.

3. For more information about surface preparation please contact our technical assistance team.

#### DILATATION JOINTS, INNER ANGLES, SMALL CRACKS, SCREWS AND BOLTS

Metal roofs require robust and flexible sealing solutions for dilatation joints, inner angles, and small cracks to prevent leaks and maintain structural integrity. These components allow for thermal expansion and independent movement without inducing stress on the metal, which is crucial due to the material's susceptibility to expansion and contraction. For metal roofs, it is critical to waterproof and apply a durable sealant to dilatation joints, inner angles, wall-to-roof connections, small cracks, and areas around mechanically installed equipment such as air conditioning units, antennas, and photovoltaic systems. This ensures the roof remains flexible and functional despite environmental stresses.



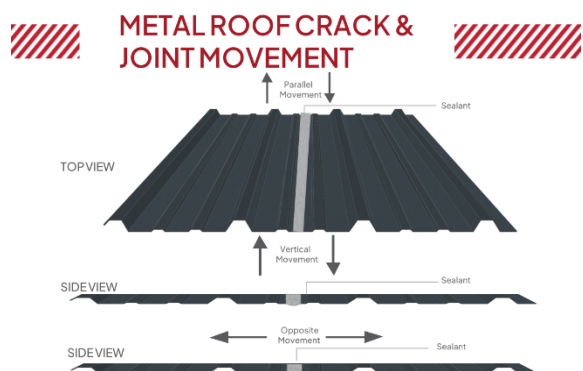
The recommended treatments for these areas are **HYPERSEAL®-EXPERT-150** or **HYPERSEAL®-EXPERT-60FC**, both polyurethane-based sealants designed for high performance and adaptability. Prior to application, all joints should be thoroughly cleaned to remove dust, oil, grease, wax, and any silicone residues. While a primer may not always be necessary, it becomes essential on

porous or moist substrates to prevent air bubbles, which can occur if the substrate temperature increases.

Apply **HYPERSEAL®-EXPERT-150** or **HYPERSEAL®-EXPERT-60FC** directly into the joints using a sealant dispensing gun. Cut the nozzle to match the required bead size and ensure no air is trapped during application. Immediate tooling after application is recommended to achieve a smooth finish, maintaining a width-to-depth ratio of 2:1 with a maximum depth of 25mm.

■ HYPERSEAL®-EXPERT-150 is a low modulus sealant, formulated to ensure bubble free cure even at very high temperatures and humidity climatic conditions. The product displays excellent thixotropy allowing its use even in very large expansion joints. It cures by reaction with atmospheric humidity to produce a joint sealant with a 50% joint movement accommodation factor and excellent adhesion on many types of substrates (concrete, fibrous cement, mosaic, cement roof tiles, wood, also glass, aluminum, steel, polycarbonate, etc.). The extrusion rate and tooling of the sealant remain the same throughout a very wide range of temperature and humidity conditions.

■ HYPERSEAL®-EXPERT-60FC is a high-performance sealant engineered to deliver exceptional sealing capabilities in diverse environments. This product is specially designed for fast curing and low modulus, making it ideal for applications requiring rapid turnaround without sacrificing quality. The sealant excels in bubble-free curing, even under extreme conditions of temperature and humidity, ensuring a consistent application every time. HYPERSEAL®-EXPERT-60FC reacts with atmospheric humidity to form a durable seal with a 60% joint movement accommodation factor, adhering superbly to a variety of substrates including concrete, aluminum, glass, and polymers. It maintains excellent extrusion rate and ease of tooling across a broad spectrum of climatic conditions, demonstrating its versatility in both indoor and outdoor settings.



HYPERSEAL®-EXPERT-150 is particularly effective in high humidity and temperature conditions, offering a 50% joint movement accommodation factor and excellent adhesion to a variety of substrates. HYPERSEAL®-EXPERT-60FC, known for its rapid curing and low modulus, is ideal for fast-

paced projects requiring durable and reliable sealing under extreme environmental conditions. Both sealants ensure consistent performance and adaptability across a wide range of climatic conditions, making them ideal for metal roofing applications.

Slide the sealant HYPERSEAL®-EXPERT-150 or HYPERSEAL®-EXPERT-60FC into the sealant dispensing gun, cut off the very end of the sealant packaging, and fit the

gun with the nozzle. The nozzle should be cut to deliver the right bead size. Extrude the sealant into the joint ensuring that no air is trapped in the joint. Tooling is recommended immediately after the application of sealant. The ratio width to depth should be 2:1 subject to a maximum depth of 25mm.

In addition to treating dilatation joints, it is crucial to address the sealing around screws and bolts on metal roofs to prevent potential leak points. These fasteners, integral to the structural assembly of metal roofing, can create pathways for water if not properly sealed. For optimal protection, **HYPERSEAL®-EXPERT-150** or **HYPERSEAL®-EXPERT-60FC** should be used to encapsulate the heads of screws and



bolts. Before application, ensure that all metal surfaces around the screws and bolts are clean and free from rust, debris, and oily residues. Application of a small bead of sealant directly over and around each fastener will create a waterproof barrier that conforms to the irregularities of the fastening points. This method not only seals against moisture ingress but also helps in preventing corrosion by isolating the metal fasteners from environmental elements. After applying the sealant, it is important to smooth it out around each fastener to ensure full coverage and a neat finish. This additional step fortifies the roof's defense against water damage and extends the longevity of the metal roofing system.

*NOTE:*

- Tool the sealant with a spatula.
- Do not use any solvent, alcohol, or soap to smooth the material.



#### TREATMENT OF DETAILS

For metal roofs, it is essential to thoroughly seal all connections, including sheet connections, screws and bolts, as well as any cracks, drainage elements, pipes, and mechanical equipment installations such as air conditioning units, antennas, and photovoltaic systems. Proper treatment of these components ensures the integrity and longevity of the roofing system by preventing leaks and corrosion. Select the preferable treatment using sealants **HYPERSEAL®-EXPERT-150** or **HYPERSEAL®-EXPERT-60FC**,

Before applying any sealant, it is crucial to clean all areas thoroughly to remove dust, oil, grease, wax, and any silicone residues. This ensures that the sealant adheres properly and performs effectively. Although a primer is not always required, it is crucial for damp substrates to prevent the formation of air bubbles in the sealant, particularly if temperatures are likely to rise during or after application. Choosing the right primer will depend on the type of substrate and the specific environmental conditions faced by the roof. Once the surface is prepared, apply the chosen sealant meticulously to all joints, inner angles, screws, bolts, and other critical details on the metal roof. Ensure comprehensive coverage to create a robust barrier against moisture and environmental factors, thus safeguarding the roof against potential damage and extending its operational life.

*Dilatation joints, inner angles, and small cracks should be treated with HYPERSEAL®-EXPERT- 150 polyurethane-based sealant or any other suitable HYPERSEAL® sealant as described above.*



**NOTE:**

- Clean tools and equipment first with a paper towel and then using SOLVENT-01.

|                      | HYPERDESMO®-POLYUREA-2K-HC           | HYPERDESMO®-POLYUREA-2K-HC-ELASTIC   |
|----------------------|--------------------------------------|--------------------------------------|
| CONSUMPTION          | 2-2,5 Kg/m <sup>2</sup>              | 2-2,5 Kg/m <sup>2</sup>              |
| COMPOSITION          | PURE POLYUREA                        | HYBRID POLYUREA                      |
| APPLICATIONS METHODS | plural component spraying equipment. | plural component spraying equipment. |
| GEL TIME             | 20-30 SEC                            | 20-30 SEC                            |

**MAIN WATERPROOFING****MEMBRANE****HYPERDESMO®-****POLYUREA-2K-HC**

and

**HYPERDESMO®-****POLYUREA-2K-HC-**

|   |                                  |                                  |
|---|----------------------------------|----------------------------------|
| CURE TIME                               | 24 Hours                         | 24 Hours                         |
| APPLICATION OVER PREVIOUS COAT (PRIMER) | Depending on primers curing time | Depending on primers curing time |
| NEXT COAT TIME (TOP COAT)               | 1-24 Hours                       | 1-24 Hours                       |
| COLORS                                  | GREY                             | GREY                             |
| COMPONENTS                              | TWO COMPONENTS                   | TWO COMPONENTS                   |

**ELASTIC** are based on the same polyurea technology of **ALCHIMICA**, however, the standard version provides a hard, durable finish, while the elastic version offers additional elasticity and flexibility. Both are suitable for waterproofing coatings, but the choice depends on the application. The standard version is ideal for high traffic or chemical environments, while the elastic version is better suited for dynamic environments with substrate movement. The elastic version may also be better compatible with substrates prone to movement or expansion, reducing the risk of cracking or delamination. Choose the suitable version depending on your project requirements.

The **HYPERDESMO®-POLYUREA-2K-HC** is a two-component, 100% solids, pure polyurea coating with excellent mechanical properties like high tensile strength and abrasion resistance. It provides a hard, durable surface finish suitable for impact and chemical resistance applications. Typically used for protective coatings on concrete floors and industrial surfaces, it is suitable for high traffic or harsh chemical environments.

**HYPERDESMO®-POLYUREA-2K-HC-ELASTIC** is a two-component polyurea coating with increased elasticity compared to the standard version. It retains mechanical properties like high tensile strength and chemical resistance but offers greater flexibility and elongation. This increased elasticity makes it suitable for applications requiring substrate movement or expansion, such as temperature fluctuations or structural movement. It can accommodate slight substrate movement without cracking or delamination, providing a durable, long-lasting finish in dynamic environments. Common applications include waterproofing and protective coatings on surfaces with flexibility and crack-bridging properties.

**IMPORTANT NOTES:**

Drums of components should be pre-heated to 25° C prior to mixing or dispensing.

In cold weather conditions, it is recommended that the drums be protected with a heating jacket prior to use.

Please contact our technical department for information on setting up plural component dispensing machines.

Do not walk on membrane for 24 hours after application.

**APPLICATION GENERAL GUIDELINES**

|                                   |                                      |
|-----------------------------------|--------------------------------------|
| APPLICATIONS METHODS              | plural component spraying equipment. |
| COMPONENT A (ISO) TEMPERATURE:    | 70-75 °C                             |
| COMPONENT B (POLYOL) TEMPERATURE: | 60-67°C                              |
| HOSE TEMPERATURE:                 | ±70 °C                               |
|                                   | 2.500-3.000psi                       |
| WORKING PRESSURE:                 | 170 to 205 bar                       |

**HYPERDESMO®-POLYUREA-2K-HC**

HYPERDESMO®-POLYUREA-2K-HC is a two-component pure polyurea system for waterproofing and protection, composed of 100% solids. It is applied using plural component spraying equipment and is elastic with a polymerization profile designed for enhanced adhesion. This system is highly recommended for commercial and industrial applications requiring high levels of abrasion resistance and impact strength. The product is quick curing, with a gel time of around 20-30 seconds, and offers excellent mechanical properties such as high tensile and tear strength and high abrasion resistance. It is suitable for use in environments with high traffic or exposure to harsh chemicals.

| HYPERDESMO®-POLYUREA-2K-HC              |                                      |
|---|--------------------------------------|
| CONSUMPTION                             | 2-2,5 Kg/m <sup>2</sup>              |
| COMPOSITION                             | PURE POLYUREA                        |
| APPLICATIONS METHODS                    | plural component spraying equipment. |
| GEL TIME                                | 20-30 SEC                            |
| FULL CURE TIME                          | 24 Hours                             |
| APPLICATION OVER PREVIOUS COAT (PRIMER) | Depending on primers curing time     |
| COLORS                                  | GREY                                 |
| COMPONENTS                              | TWO COMPONENTS                       |

The product is fast curing, bubble, and defect-free membrane, and contains no plasticizers or heavy metal toxic catalysts. It offers excellent thermal resistance, with a maximum service temperature of 80°C and a maximum shock temperature of 350°C. The film remains elastic even down to -40°C, and it has excellent mechanical properties, including high tensile and tear strength and abrasion resistance. It also has good chemical resistance and moisture vapor transmission, preventing humidity accumulation under the coat. HYPERDESMO®-POLYUREA-2K-HC is certified for potable water tanks and is used in various applications such as PU and polystyrene insulation foams, floors, roofs, tanks, drinking water tanks, and pipes. It is applied using plural component spraying equipment.

*Application:* Spray apply HYPERDESMO®-POLYUREA-2K-HC with minimum total consumption of 2.0 kg/m<sup>2</sup>. However, in these systems as they are spray applied, always keep in mind of a material loss of up to 5%-15 due to winds (depending how strong they are). In such systems, the minimum thickness is usually 2mm and this can be achieved in 1 coat and an approximate consumption of 2-2.5.5kg/m<sup>2</sup>. It can also be

applied in more layers if needed. This can be done within the same hour as the application of the first coat.

The product has a CE certification and declared performance W3 (25 years expected working life) if applied at minimum thickness 1.6 mm with estimated total consumption 1.6kg/m<sup>2</sup>.

## HYPERDESMO®-POLYUREA-2K-HC-ELASTIC

### HYPERDESMO®-POLYUREA-2K-HC-ELASTIC

is a two-component hybrid polyurea product for waterproofing and protection, composed of 100% solids. It is applied by plural component spraying equipment and is highly elastic and has a polymerization profile formulated for enhanced adhesion. It is highly recommended for commercial and industrial applications requiring high levels of abrasion resistance and impact strength. The product is quick curing, with a gel time of around 20-30 seconds and is unaffected by

humidity and weather. It is highly elastic, with good chemical resistance and excellent thermal resistance. It also has excellent mechanical properties, including high tensile and tear strength and high abrasion resistance.

HYPERDESMO®-POLYUREA-2K-HC-ELASTIC is formulated to provide additional elasticity compared to the standard version, offering greater flexibility and elongation. This increased elasticity makes it suitable for applications where substrate movement or expansion is expected, such as in environments with temperature fluctuations or

| HYPERDESMO®-POLYUREA-2K-HC-ELASTIC      |                                      |
|---|--------------------------------------|
| CONSUMPTION                             | 2-2,5 Kg/m <sup>2</sup>              |
| COMPOSITION                             | ELASTIC POLYUREA                     |
| APPLICATIONS METHODS                    | Plural component spraying equipment. |
| GEL TIME                                | 20-30 SEC                            |
| FULL CURE TIME                          | 24 Hours                             |
| APPLICATION OVER PREVIOUS COAT (PRIMER) | Depending on primers curing time     |
| COLORS                                  | GREY                                 |
| COMPONENTS                              | TWO COMPONENTS                       |

structural movement. Common applications include waterproofing and protective coatings on surfaces where flexibility and crack-bridging properties are crucial, such as roofs and moderate traffic decks. The product is a two-component, 100% solids, aliphatic, hybrid polyurea coating, offering excellent mechanical properties, such as high tensile strength and abrasion resistance. It is typically used for protective coatings on concrete and industrial surfaces, or other areas requiring a robust and durable coating.

*Application:* Spray apply HYPERDESMO®-POLYUREA-2K-HC-ELASTIC with minimum total consumption of 2.0 kg/m<sup>2</sup>. However, in these systems as they are spray applied, always keep in mind of a 5-15 % material loss due to winds (depending how strong they are). In such systems, the minimum thickness is usually 1,5-2mm and this can be achieved in 1 coat and an approximate consumption of 2-2.5kg/m<sup>2</sup>. It can also be applied in more layers if needed. This can be done within the same hour as the application of the first coat.

The product has a CE certification and declared performance W3 (25 years expected working life) if applied at minimum thickness 1.6 mm with estimated total consumption 1.6kg/m<sup>2</sup>.



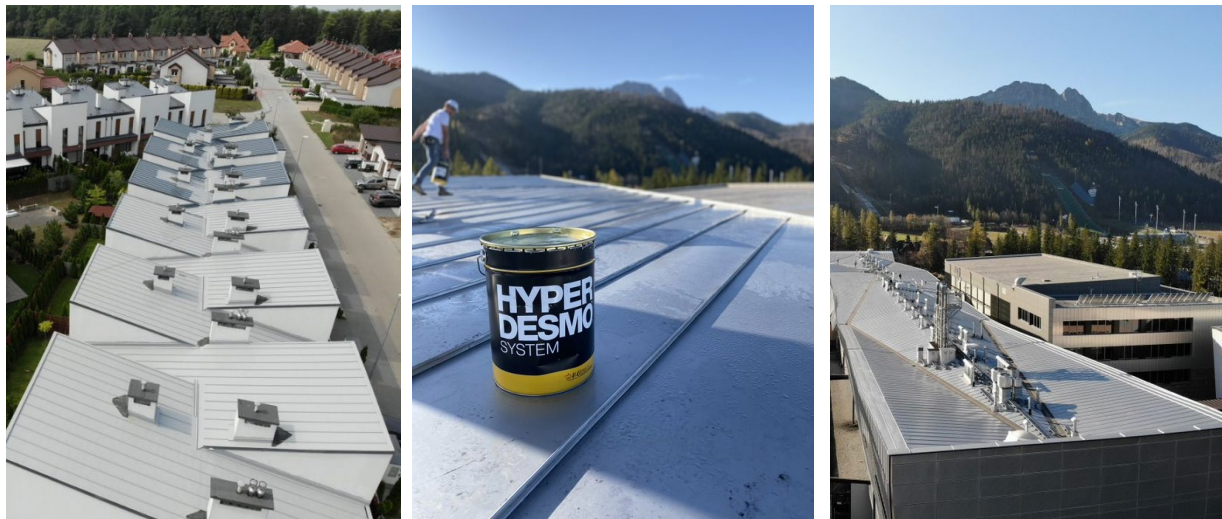
#### TOPCOAT

For abrasion resistance, UV and colour protection, you should finally apply an aliphatic topcoat. Choose the suitable aliphatic top coat for your project's traffic requirements and needs.

- HYPERDESMO®-ADY-E is a top coat designed for waterproofing applications and surface protection. It offers high elasticity, durability, and long-lasting protection. It provides a seamless, impermeable membrane, making it ideal for roofs, balconies, and terraces. Its excellent adhesion properties, ease of application, versatility, and aesthetic finish make it a suitable choice for various projects.

- HYPERDESMO®-ADY 810, on the other hand, is tailored for heavy-duty high traffic areas, offering exceptional abrasion, scratch resistance, and UV resistance. It's suitable as a top coat for exposed car parking decks and can be used in both single-layer applications or as a top coat over HYPERDESMO® systems. This product is recommended for areas subjected to vehicular traffic and where high durability and heavy-duty resistance are critical.

Choose HYPERDESMO®-ADY-E for projects where the traffic is moderate and color stability and UV protection are priorities, and HYPERDESMO®-ADY 810 for areas requiring heavy duty requirements, high abrasion resistance and durability under vehicular traffic.



## HYPERDESMO®-ADY -E

| HYPERDESMO®-ADY-E                       |   |
|---|---|
| CONSUMPTION                             | 0.2 -0.3kg/m <sup>2</sup> per coat<br>In Total: 0.2-0.6 kg/m <sup>2</sup> in one or more coats, depending on traffic conditions |
| APPLICATIONS METHODS                    | brush, roller, airless spraying   |
| TACK FREE TIME, @ 77 °F (25°C) & 55% RH | 6-8 Hours   |
| APPLICATION OVER PREVIOUS COAT          | It must be applied WITHIN 24 hours of HYPERDESMO®-  |

For abrasion resistance and colour protection, you should finally apply a topcoat of HYPERDESMO®-ADY-E pigmented at the desired colour. It is fully aliphatic and provides excellent color and UV protection with no yellowing effects. It increases traffic resistance, forming the highest level of protection. It can be part of both flooring and waterproofing systems. HYPERDESMO®-ADY-E is ideal for color and traffic protection of HYPERDESMO®-POLYUREA-2K-HC products, maximizing the system's working life.

|                            | POLYUREA-2K-HC/ELASTIC<br>depending on weather conditions. |
|----------------------------|--|
| RECOAT TIME OF THE PRODUCT | 24 Hours   |
| ADDITIVES                  | X  |
| COLORS                     | WHITE, GREY, NEUTRAL,<br>TRANSPARENT                       |
| COMPONENTS                 | SINGLE COMPONENT   |

HYPERDESMO®-ADY-E is a semi-glossy, fully aliphatic, high traffic polyurethane topcoat with excellent hiding power and high traffic resistance. It is suitable for anti-slip systems and has excellent UV, mechanical, and chemical properties. It is hydrophobic, strong, and durable, maintaining elasticity even at -40°C. It also offers excellent heat and ultraviolet/UV resistance, and outstanding resistance to chemicals and mechanical stresses.

*Mixing:* Use a low speed (300 rpm) mixer.

*Application:* Total consumption of HYPERDESMO®-ADY-E should be 0.2 -0.4 kg/m<sup>2</sup> in 1- 2 successive coats over the well cured HYPERDESMO®-POLYUREA-HC-2K/ELASTIC surface. Total consumption depends on traffic conditions and requirements.

#### TYPES OF APPLICATIONS

|                                      |  |
|--------------------------------------|--|
| APPLICATION BY COATS                 | Per coat: 0.2-0.3 kg/m <sup>2</sup> .<br>Apply more coats depending on traffic requirements and system build-up.   |
| APPLICATION WITH BROADCASTING FLAKES | For decorative colour chips finish, apply the first coat of HYPERDESMO®-ADY-E (PIGMENTED) at the consumption of 0.2 -0.3 kg/m <sup>2</sup> over the well-cured HYPERDESMO®-POLYUREA-HC-2K/ELASTIC surface. Over the fresh first coat of HYPERDESMO® ADY-E, you broadcast the color flake chips. Flakes broadcast at usually 1kg/m <sup>2</sup> (consumption depends on the result that the client wants) while the product is still wet.<br><br>The next day you remove the excess non-bonded flakes. Most applicators use a leaf blower in order to remove, but also recover any non-used flakes, instead of using a vacuum cleaner which would destroy the flakes. |

Then, you apply on top a second thin coat of HYPERDESMO®-ADY-E TRANSPARENT or HYPERDESMO®-T at 200gr/m<sup>2</sup> in order to encapsulate the flakes. Most applicators usually use a squeegee to spread the product and follow with a roller to smoothen it out. For traffic requirements, after this coat has cured, you can apply another coat of HYPERDESMO®-ADY-E TRANSPARENT or HYPERDESMO®-T at 400gr/m<sup>2</sup>.

#### APPLICATION WITH SILICA SAND BROADCASTING

If an anti-slippery effect is required, silica sand or corundum aggregates can be broadcasted over the ALCHIMICA topcoat that is used in order to protect the HYPERDESMO® waterproofing membrane.

Apply the first coat of HYPERDESMO®-ADY-E (PIGMENTED) at consumption of 0.2 -0.3 kg/m<sup>2</sup> over the well-cured HYPERDESMO®-POLYUREA-HC-2K/ELASTIC surface.

Broadcast natural dry quartz or corundum aggregates over the fresh first layer of HYPERDESMO® ADY-E. The next day you remove the excess non-bonded aggregates. Most applicators use a vacuum cleaner.

Then, you apply on top a second thin coat of HYPERDESMO®-ADY-E (pigmented or transparent) at 200-300 gr/m<sup>2</sup> in order to encapsulate the silica sand.

#### PIGMENTATION OF HYPERDESMO®-ADY-E NEUTRAL

HYPERDESMO®-ADY-E when used as a topcoat, for colour and UV protection of HYPERDESMO® products, it is either pre-pigmented from the factory in white/grey colour or it comes in NEUTRAL version that must be pigmented with ALCHIMICA's PIGMENT PASTES only (10% max).

At a maximum ratio of 10% by weight, the PIGMENTS PASTES are designed to be compatible with ALCHIMICA's products, offering high hiding power to the transparent or neutral versions of HYPERDESMO®-ADY-E. Pour the PIGMENT PASTE content of the pail into the product at a maximum ratio of 10% by weight. Mix thoroughly using a low-speed electric mixer until the product homogenizes. Apply the product as per standard application instructions.

#### APPLICATION WITH AIRLESS (200- 250 bar) SPRAY MACHINE.

1. Open the pail and stir it up to homogenize. Stirring can either be done manually or with a low speed (300 rpm) mixer.
2. If necessary, add up to 5% SOLVENT-01 into the pail and mix it with low-speed mechanical equipment.
3. Apply thin layers using an airless spray machine.
4. Wait for the recoat time.
5. Repeat this process until the desired or recommended thickness.

## HYPERDESMO®-ADY 810

| WATERPROOFING                           | HYPERDESMO-ADY-810  |
|---|---|
|   | 0.7-1 kg/m <sup>2</sup> . Per coat  |
| CONSUMPTION                             | 1.6-2 kg/m <sup>2</sup><br>>2 kg/m <sup>2</sup><br>Subject to traffic needs |
| APPLICATIONS METHODS                    | brush, roller, airless spraying   |
| TACK FREE TIME, @ 77 °F (25°C) & 55% RH | 6-12 Hours  |

HYPERDESMO®-ADY 810 is a fully aliphatic, one-component polyurethane liquid membrane designed for use as a waterproofing membrane or as a top coat for heavy duty and high traffic deck coating systems and roofs. It is based on ALCHIMICA's HAA - Humidity Activated Accelerator Technology (H.A.A) and it is

self-levelling, with a good viscosity profile over a large temperature range that will cure to form a bubble-free membrane that is recommended to be applied in only one coat. It is heavy-duty, fully aliphatic, with excellent mechanical, chemical, thermal, UV and natural element resistance properties, excellent abrasion, impact, and UV resistance, excellent mechanical properties, high elasticity, tensile and tear strength, and excellent chemical and hydrolysis resistance.

Usage for heavy-duty exposed waterproofing applications such as car parking decks and heavy-duty concrete roofs is recommended. The HYPERDESMO®-ADY 810 system is a must-have for top-coating HYPERDESMO® systems and HYPERDESMO®-POLYUREA-2K-HC/ELASTIC when traffic resistance is required, as well as for main membrane and top coat application in one layer in typical heavy-duty waterproofing applications. This 2-in-1 solution eliminates the need for an additional protective layer and saves on labor costs.

|   |   |
|---|---|
| APPLICATION OVER PREVIOUS COAT (PRIMER) | It must be applied WITHIN 24 hours of HYPERDESMO®-POLYUREA-2K-HC/ELASTIC depending on weather conditions. |
| RECOAT TIME OF PRODUCT                  | 24 Hours  |
| ADDITIVES                               | <ul style="list-style-type: none"> <li>• THIXO-TOOL</li> <li>• CHECK THE TDS FOR COMPATIBILITY</li> </ul> |
| COLORS                                  | WHITE, GREY   |
| COMPONENTS                              | SINGLE COMPONENT  |

#### TYPES OF APPLICATIONS

|   |   |
|---|---|
| APPLICATION BY COATS  | <ul style="list-style-type: none"> <li>- First coat: 0.7-0.9 kg/m<sup>2</sup>.</li> <li>- Second coat: 0.8-0.9 kg/m<sup>2</sup>.</li> </ul> Apply more coats depending on traffic requirements and system build-up. <ul style="list-style-type: none"> <li>- Minimum total consumption: 1.5-1.8 kg/m<sup>2</sup>.</li> </ul>  |
| SINGLE COAT APPLICATION   | HYPERDESMO®-ADY 810 can be applied in only 1 single coat, with a maximum consumption of up to 2kg/m <sup>2</sup> .  |
| APPLICATION WITH REINFORCEMENT  | You apply the 1st coat of HYPERDESMO®-ADY 810 with a minimum consumption of 0.8-1 kg/m <sup>2</sup> . When HYPERDESMO®-ADY 810 is still wet, you apply the reinforcement (GEOTEXTILE-50 PRESSED (non-woven geotextile of 50gr/m <sup>2</sup> )). Immediately, wet on wet, application of the 2nd coat of HYPERDESMO®-ADY-810 with a minimum consumption of 0.8-1 kg/m <sup>2</sup> takes place. |
| <ul style="list-style-type: none"> <li>✓ GEOTEXTILE</li> <li>✓ FIBER TEXTILE</li> </ul> |   |

**APPLICATION WITH  
BROADCASTING SAND**

If an anti-slippery effect is required, silica sand or corundum aggregates can be broadcasted over the HYPERDESMO®-ADY-810 waterproofing membrane.

Over the fresh and last coat of HYPERDESMO®-ADY 810 broadcast natural dry quartz or corundum aggregates, and let it cure. The next day you remove the excess non-bonded aggregates. Most applicators use a vacuum cleaner.

Then, you apply on top a thin coat of HYPERDESMO®-ADY 810 at 0.8 kg/m<sup>2</sup> in order to encapsulate the silica sand.

If transparent top coat is needed in order to keep the sand aesthetic result, apply HYPERDESMO®-ADY-E TRANSPARENT or HYPERDESMO®-T at 200gr/m<sup>2</sup> in order to encapsulate the silica sand. For traffic requirements, after this coat has cured, you can apply another coat of HYPERDESMO®-ADY-E TRANSPARENT or HYPERDESMO®-T at 400gr/m<sup>2</sup>.

**ANTI-SLIP TRAFFIC COAT WITH  
SILICA SAND AND  
HYPERDESMO-ADY 810**

For traffic resistance and color protection, over the main waterproofing layer, you should apply an additional traffic coat of HYPERDESMO®-ADY 810 combined with silica sand.

In general: Total consumption of HYPERDESMO®-ADY 810 should be 1.5-2.0kg/m<sup>2</sup> in 2 successive coats over the intermediate waterproofing coat. The consumption of the silica sand for each layer of HYPERDESMO®-ADY-810 should be +/-1kg/m<sup>2</sup>, depending on the sand's granulometry.

Application of traffic coat should be as follows:

1. Apply the first layer of HYPERDESMO®-ADY 810 traffic coat at a consumption of 0.7kg-1kg/m<sup>2</sup> with roller, squeegee, notched trowel or air-less spray machine.
2. Immediately broadcast silica sand (recommended granulometry: 0.3-1mm).
3. Spread the sand as to homogenously cover the total surface.
4. Immediately rollback the surface with roller in order to homogenize the silica sand with HYPERDESMO®-ADY 810 and to achieve the above-mentioned consumption.
5. The following day, apply the second layer of traffic coat, repeating the same procedure and consumption of HYPERDESMO®-ADY 810, as per first layer (0.7kg- 1kg/m<sup>2</sup>).

**APPLICATION WITH  
BROADCASTING FLAKES**

For decorative colour chips finish, apply the last coat of HYPERDESMO®-ADY 810 and over the fresh coat, you broadcast the color flake chips. Flakes broadcast at usually 1kg/m<sup>2</sup> (consumption depends on the result that the client wants) while the product is still wet.

The next day you remove the excess non-bonded flakes. Most applicators use a leaf blower in order to remove, but also recover any non-used flakes, instead of using a vacuum cleaner which would destroy the flakes.

Then, you apply on top a second thin coat of HYPERDESMO®-ADY-E TRANSPARENT or HYPERDESMO®-T at 200gr/m<sup>2</sup> in order to encapsulate the flakes. Most applicators usually use a squeegee to spread the product and follow with a roller to smoothen it out. For traffic requirements, after this coat has cured, you can apply another coat of HYPERDESMO®-ADY-E TRANSPARENT or HYPERDESMO®-T at 400gr/m<sup>2</sup>.

APPLICATION WITH AIRLESS  
(200- 250 bar) SPRAY MACHINE.

1. Open the pail and stir it up to homogenize.
2. If necessary, add 5~10% SOLVENT-01 into the pail and mix it with medium-speed mechanical equipment.
3. Apply thin layers using an airless spray machine.
4. Wait for the recoat time.
5. Repeat this process until the desired or recommended thickness.

PIGMENTATION OF  
HYPERDESMO®-ADY 810  
NEUTRAL

HYPERDESMO®-ADY 810 is either pre-pigmented from the factory in white/grey colour or it comes in NEUTRAL version that must be pigmented with ALCHIMICA's PIGMENT PASTES only (10% max).

At a maximum ratio of 10% by weight, the PIGMENTS PASTES are designed to be compatible with ALCHIMICA's products, offering high hiding power to the neutral version of HYPERDESMO®-ADY 810. Pour the PIGMENT PASTE content of the pail into the product at a maximum ratio of 10% by weight. Mix thoroughly using a low-speed electric mixer until the product homogenizes. Apply the product as per standard application instructions.



## CLEANING

Clean tools and equipment first with paper towels. Polyurea machine and equipment clean up should be done as per manufacturers' instructions. Tools and equipment should be cleaned immediately using SOLVENT-01 (or water for water-based materials). Rollers will not be re-usable.

## ADDITIVES FOR THE HYPERDESMO®-ADY-810

### ADDITIVES

#### THIXO-TOOL

THIXO-TOOL is a unique additive used for Increasing the thixotropy (reducing the self-leveling characteristics) of the HYPERDESMO®-ADY-810. It was developed by ALCHIMICA in order to solve application difficulties of the HYPERDESMO® System Products in severely inclined, uneven, or completely vertical substrates.

The recommended addition ratio is 10-30% depending on the surface inclination, substrate condition, and desired final consumption.

Open the can of HYPERDESMO® and mix thoroughly before adding THIXO-TOOL. Open the sausage of THIXO-TOOL and empty the desired amount by hand into the pail (leftover material can be sealed and stored for later use).

The addition of THIXO-TOOL depends on specific project requirements, but the recommended amount is 10-30%. Mix the THIXO-TOOL with a low-speed mixer, careful not to introduce air. Apply final material as described in the Technical Data Sheet at the time of purchase.



PLEASE REFER TO THE TDS OF  
THIXO-TOOL TO MAKE SURE WHICH HYPERDESMO  
PRODUCTS ARE COMPATIBLE WITH THE ADDITIVE.

THIXO-TOOL can be used alongside ACCELERATOR 3000A when the use of the latter is recommended.

## REPAIR AND OVERLAPS PROCESSES

### LOCAL REPAIRS

One of the benefits of ALCHIMICA's liquid applied waterproofing systems is the ease of reparations to be carried out when spot problems occur. Nevertheless, it is always recommended to protect the membrane by ensuring that there are no foreign objects, sharp and heavy ones mostly, that they could fall and damage the membrane, to the best possible extent.



In cases where the membrane repair is caused by an accident or assembly procedures that are not covered by the installation, the following procedures must be followed:

- Grind the affected areas or remove the affected area and/or damaged surface by cutting.
- Sanding this area for overlapping, extending it about 20-30 cm around the perimeter.
- Clean the surface around the slit at a perimeter of 20-30cm depending on the repair length. Clean up thoroughly and remove all contaminants from the elements, such as dust or chippings, by mopping and/or vacuuming.
- If necessary, solvent wipe the area with a SOLVENT-01. Allow it to dry completely. The surface must be completely dry before the next steps.
- Apply a thin layer of primer MICROSEALER-50 at a consumption of 50-60gr/m<sup>2</sup> by overlapping the membrane at the prementioned perimeter.
- Fill the area by using HYPERSEAL®-EXPERT- 150, tool it to form a smooth patch, and the next day apply the same coat and topcoat that was applied to the rest of the membrane waterproofing system (if one was used) in order to ensure long term UV protection of the patch.
- In severe situations, the coating may have to be totally removed prior to system



re-application.

## REFERENCES

ALCHIMICA throughout the years, has a collection of completed projects from around the world. On our website, you can find where we have provided a variety of solutions and expert know-how, in case studies ranging from the smallest roof to the largest project. [www.alchimica.com](http://www.alchimica.com)



## HEALTH AND SAFETY

The system proposal contains volatile flammable solvents. Apply in well-ventilated, no-smoking areas, away from naked flames. In closed spaces use ventilators and carbon-active masks. Keep in mind that solvents are heavier than air, so they float near the floor. The MSDS (Material Safety Data Sheet) of the products are available on request.

This handling safety advice is required for the implementation procedure as well as in the pre- and post-exposure to the loading machinery.

- Protect your lungs by using an air-purifying respirator when handling or spraying.
- Use rubber gloves to protect your skin and remove them promptly after contamination. Wear clean undergarments. After work and before eating, drinking, or smoking, thoroughly wash your hands with soap and water.
- Wear safety goggles to protect your eyes and face from splashes and airborne particles.
- Waste generation should be avoided or reduced.
- Incinerate under well-controlled conditions in line with local and national rules and regulations.
- Re-occupancy of the work site without respiratory equipment is limited to 24 hours if proper ventilation for the sprayed area is provided.
- Contractors and applicators must follow all applicable and necessary storage and safety regulations.
- In any case, review the system's material and safety data sheets.

## PRECAUTIONS AND VARIATIONS.

The purchaser must determine the suitability of the products for the intended use and assume all related liabilities and risks. This information, recommendations, and any additional technical advice are given in good faith and are based on ALCHIMICA's present knowledge and experience of the products when properly stored, handled, and applied under normal conditions according to ALCHIMICA's recommendations.

However, ALCHIMICA assumes no liability for providing such information and advice including the extent to which such information and advice may relate to existing third-party intellectual property rights, especially patent rights, nor shall any legal relationship be created by or arise from the provision of such information and advice. ALCHIMICA reserves the right to change at any time the properties of its products. The purchaser of the product(s) must test the product(s) suitability for the intended application and purpose before proceeding with a full application of the product(s).

The performance of the products build up described herein should be verified by testing and carried out by qualified experts.

NOTE: This method statement is offered by ALCHIMICA as a 'summary proposal' for **EXPOSED METAL ROOF WATERPROOFING BASED ON HYPERDESMO®-POLYUREA-2K-HC/ELASTIC**. For projects' particularities and more precise technical support, please contact ALCHIMICA at: [alchimica@alchimica.com](mailto:alchimica@alchimica.com)

Please consult the above-referred products' technical data sheets (TDS) and safety data sheets (SDS). Under any circumstances, ALCHIMICA does not assume any responsibility for the performance of the waterproofing system given the conceptual flaws of the existing build-up. Imperative for the performance of the system is the correct cleaning, inspection, and maintenance of the waterproofing system. For projects' particularities and more precise technical support, please contact ALCHIMICA at: [alchimica@alchimica.com](mailto:alchimica@alchimica.com)

Where alternative systems are to be used, these must be submitted to ALCHIMICA for approval. ALCHIMICA will not accept responsibility or liability for variations to the above under any other condition.

## LEGAL NOTES AND CITATION

- This is a technical document, without legal value.
- No liability or warranty of product performance is created by this document.
- All the information included is collected from materials TDS, DoP, and certificates available at the moment of publishing.
- ALCHIMICA S.A. does not guarantee the accuracy of its instructions or specifications, nor do we assume any responsibility for damages resulting from the use or reference of the information provided. The company reserves the right to change the properties of its products at any time, and the current version of the technical data sheet is available on the website [www.alchimica.com/en](http://www.alchimica.com/en)
- Appropriate Technical Documentation and/or Specific Technical Documentation: The performance of the products identified in the DoP files conform with the set of declared performances. This declaration of performance is issued in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer.
- It is recommended to check the TDS and MSDS of all the materials before use and application.
- The use of these materials and products is beyond the scope and control of ALCHIMICA.
- Proper application is the responsibility of the Buyer and/or Contractor.
- It is forbidden to reproduce it in any form, totally or partially.
- All the above written and provided is subject to the terms and conditions of sale and marketing of ALCHIMICA S.A.

ALCHIMICA S.A.

7, Lampsakou Str.

115 28, Athens Greece

Tel.: +30 214 4167 700

Fax: +30 214 4167 701

[www.alchimica.com](http://www.alchimica.com)