

ADVANCED  
POLYURETHANE SYSTEMS

C O M P L E T E

**Waterproofing Solutions**

# EDITORIAL



ALCHIMICA



## EDITORIAL

The transition to sustainable building methods and the need for advanced and durable solutions are the main challenges that the construction industry is facing concerning the development and maintenance of new or existing structures. The field of waterproofing has become of great importance for the protection and the energy efficiency upgrade of buildings avoiding in that way expensive and permanent damages. The ideal solutions should provide ease of application, durability and long-term performance which is directly linked to the development of sustainable products.


Innovation has been in the DNA of ALCHIMICA Building Chemicals for more than 40 years and our systems are applied to different structures and substrates providing excellent resistance to chemical and mechanical stresses in any environmental conditions.

It is ALCHIMICA's technological superiority with its improved polymerization methods that combine polyurethane with materials such as bitumen, water and polyurea and allows us to develop innovative liquid waterproofing membranes. Together with our specialized primers, sealants and topcoats we provide solutions that ensure seamless applications over all kinds of substrates in complex roof installations, foundations or water tank projects that require advanced waterproofing solutions.

Critical to success is the correct material selection from the various alternatives in the market. For any of your specific waterproofing protection requirements our technical support services provide the appropriate technical assistance on our products and systems.

From the smallest roof to the largest projects around the world ALCHIMICA provides high technological value waterproofing products for any solution.

In a world where the lifespan of structures matters, we set the standards for waterproofing.



# Cutting Edge Technology

## Systems for any Substrate

### Types and advantages of liquid PU waterproofing membranes and coatings

ALCHIMICA's waterproofing systems are designed to face and eliminate challenges, achieving high waterproofing performance and durability under all kinds of environmental conditions. Being the pioneer in liquid applied polyurethane waterproofing membranes, ALCHIMICA's products are the prime example, offer decisive advantages particularly where seamless systems are desired; either structurally or aesthetically, and for geometrically complicated connections with ventilation outlets or upturns. Throughout the years we have been continuing our tradition in innovation providing solutions with our extensive range of polyurethane liquid membranes which are the most versatile and long-term performing of the liquid applied membrane waterproofing category of products. Our vast product range contains one and two component polyurethane liquid membranes, bitumen extended polyurethanes, water-based liquid polyurethane membranes and advanced technology polyurethane dispersion (PUD) products that answer to any type of waterproofing problems. Being durable when they are applied, elastic to any stresses and traffic and resistant to UV rays, chemicals and ponding water meets the most required technical specifications. Our main purpose is to develop competitive, simple and quick to apply by everybody waterproofing systems.



Bitumen membranes



Tiled surfaces



Concrete substrates



Metal roofs

In ALCHIMICA we design and test our products in different kind of substrates taking into consideration various climatic conditions in order to be versatile to offer the ability to be applied effectively in different projects. Furthermore, our products hold European CE mark certifications that validate their high performance.

#### Concrete Substrates

Concrete substrates are used in the construction of roofs and foundations in modern architectural designs. However, because concrete is a porous surface exposed to different climatic conditions, it can absorb water which can then cause damages. Waterproofing is a basic need at almost all stages of construction work, in order to protect structures from the adverse effects of moisture and water. In the case of exposed concrete roofs, it is vital to avoid any water leakage in order to prevent any wear and corrosion of reinforcing steel in the concrete structure. ALCHIMICA's high quality concrete roof waterproofing and protection systems consist of quality products that hold excellent workability, durability, elasticity and resistance to weather, chemical, mechanical and thermal effects, as well as to UV radiation on either flat or sloping roofs.

#### 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.

#### Bitumen Membrane Substrates

When the bitumen membranes that protect a concrete roof show signs of deterioration and water infiltration and require repairs, it is mandatory to protect them and render the roof waterproof once again. ALCHIMICA's seamless and durable solutions for bitumen membrane refurbishment and protection offers high quality waterproofing performance while offering ease of application and hence being the least invasive solution for old roofs.

Beyond these types of substrates our complete range of primers allow for application over a multitude of different surfaces.

With the use of the HYPERDESMO® System we achieve high performance waterproofing, in the least invasive way and with great ease of application.

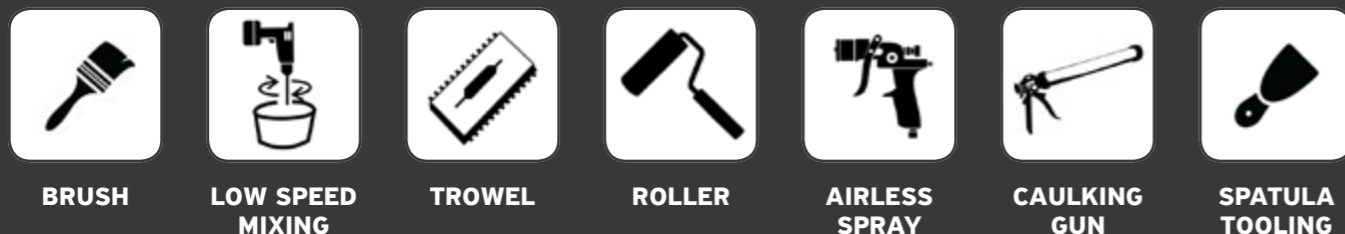


# Basic Principles of Waterproofing

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

## BASIC MINIMUM REQUIREMENTS

- Protecting clothing:** Protective overalls, masks and gloves
- Mixing equipment:** 1 KW slow speed drill, 400 or 500 rpm and suitably sized mixing vessel.
- Application equipment:** Notched trowel, squeegee or roller.  
Specific airless spray machine can be also used.



## SURFACE PREPARATION

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

- 1** New concrete or other cementitious substrate should be at least 28 days old.
- 2** The substrate should be clean and free of loose particles, oil, grease.
- 3** Substrate should be free of any irregularities and flat. If needed, it should be grated with the appropriate mechanical equipment in order to achieve a flat and sound surface.
- 4** The substrate should be free of dust. Vacuum treatment or/ and high pressure washing is recommended to remove dust.

# Working Weather Conditions

Before installing a waterproofing system, the working weather conditions should be taken into account in order to ensure the correct and safe application of the system. Overall, to avoid extremely cold or hot surfaces, apply the waterproofing coating either in the morning or evenings.

**Application temperature range:** 5°C to 35°C. Avoid dew point conditions during application. Relative humidity must be no more than 85% 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:**

- 1.** Store materials in a cool environment, avoiding exposure to direct sunlight
- 2.** Keep application equipment cool and dry.
- 3.** Try to avoid application during the hottest hours of the day.

*If temperature is lower than 5°C, please contact ALCHIMICA technical assistance team for instructions.*



# Select The Right Primer



# Basic Principles Of Sealing

After checking the weather conditions and having completed the substrate preparation you can start the waterproofing system's build up with the selection of the suitable primer. ALCHIMICA's primer range provide unique properties for different substrates. ALCHIMICA's range of primers secures your waterproofing application in every substrate by strengthening, stabilizing and sealing them and providing remarkable adhesion with their respective main membranes and sealants.

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 (tanks)
<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	-	-

## HYPERSEAL® Ultimate Polyurethane Sealing Technology

ALCHIMICA offers complete waterproofing solutions along with strong and reliable joint sealing, being a leading producer of both one and two component HYPERSEAL® polyurethane sealants. Through our experience and strong innovation in the development and production of polyurethane sealants, we have been able to offer excellent mechanical properties with the excellent universal adhesion, ease of application and UV resistance. HYPERSEAL® sealants guarantee the sustainable water tightness of a building while it allows users to benefit from their ease of application.

## HYPERSEAL® Application Guide

This method of application guide outlines the general requirements for the successful application of HYPERSEAL® products regarding joint sealants installation and ensuring maximum performance.

### JOINT DIMENSIONS

To make sure a sealing joint fulfils its requirements under all conditions it has to maintain a dimension ratio of 2:1 with a maximum joint depth of 3cm.

### SURFACE PREPARATION

Non-porous substrates such as metals, coated surfaces or plastics should be cleaned from any dust or dirt as well as for any oils or greases to be removed using an appropriate cleaner. For porous surfaces such as concrete, cement, cement boards etc. remove all loose particles such as dirt or laitance. In the event that the

substrate is contaminated with oils or other contaminants, power wash cleaning or abrasion cleaning needs to be performed. Surface should be dry prior to sealant application.

### INSTALLATION OF BACKING ROD

It is recommended to use closed-cell polyethylene backing rods for joint sealing. Make sure that the backing rod's skin is not damaged during the installation as this may influence the joint's quality. Check the position of the backing rod to maintain a 2:1 ratio on joint dimensions.

### APPLICATION OF PRIMER-T ON NON-POROUS SUBSTRATES

Apply masking tape to the surfaces next to the joint to keep excess primer from reaching other areas. Apply PRIMER-T with a clean lint free cloth or paper towel onto the surface. Let it cure for least 10-15 minutes.

### APPLICATION OF MICROPRIMER-PU ON POROUS SUBSTRATES

Apply masking tape to the surfaces next to the joint to keep excess primer from reaching other areas. Apply MIRCOPRIMER-PU with a clean brush at a consumption of 100-200gr/m2.

### APPLICATION OF HYPERSEAL® SEALANTS

Masking tape can be used to keep excess sealant from contacting adjacent areas and offer better aesthetic results.

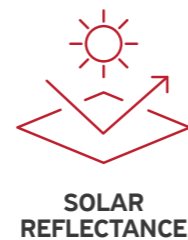
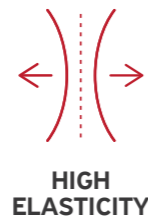
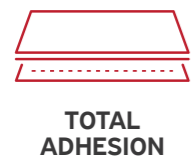
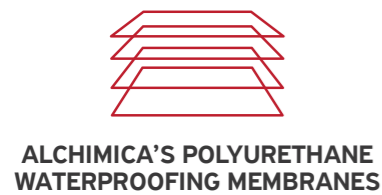
Apply the sealant using a caulking gun and make sure that the sealant is in full contact with the joint sides. Avoid air entrapment by keeping the tip of the nozzle on bottom of the joint.

Use a spatula to remove excess material and tool the sealant accordingly. Complete tooling and remove the masking tape.

# Complete systems for waterproofing and protection

INNOVATION  
DURABILITY  
SUSTAINABILITY

# CONTENTS



1

Exposed concrete roof  
waterproofing based on  
the HYPERDESMO® System

2

Same-day Concrete roof  
waterproofing based  
on HYPERDESMO® HAA

3

Exposed Concrete roof  
waterproofing based  
on HYPERDESMO® AQUA

4

Exposed car park  
waterproofing based on  
the HYPERDESMO® System

5.1

Inverted insulation  
and waterproofing covered  
with concrete screed

5.2

Inverted insulation  
and waterproofing covered  
with aggregate ballast

5.3

Inverted insulation  
waterproofing system  
covered with roof tiles

6

Bitumen membrane  
refurbishment and  
protection based on  
the HYPERDESMO® System

7

Water Tank  
waterproofing based  
on HYPERDESMO® -2K-W

8.1

Exposed Metal Roof  
waterproofing based on the  
HYPERDESMO® System

8.2

Exposed Metal Roof  
waterproofing based on  
HYPERDESMO® AQUA

9

Green Roof  
waterproofing based on the  
HYPERDESMO®-PB System

10

Below ground external  
waterproofing based on the  
HYPERDESMO®-PB System

11

Under Tiles Wet Room  
Waterproofing based  
on HYPERDESMO® S-WR

12

Under Tiles Balcony  
Waterproofing based on  
the HYPERDESMO® System

13

Stadium stands  
waterproofing based on  
the HYPERDESMO® System

14

Bridge Deck  
Waterproofing based  
on HYPERDESMO®-300

# 1

## Exposed concrete roof waterproofing based on the HYPERDESMO® System

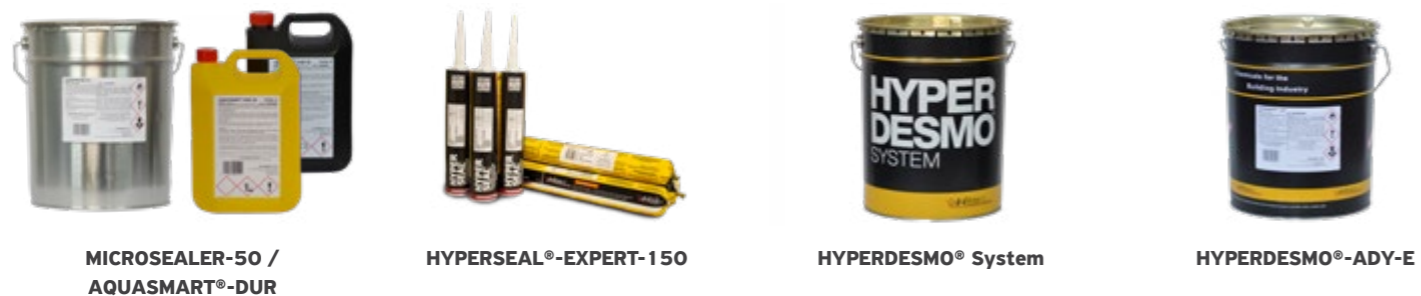
The exposed concrete roof based on the HYPERDESMO® System, offers high performance waterproofing with a CE certification for an expected working life of 25 years. Additionally, it offers cool roof performance and supports the development of cooler and healthier environments with better air quality, mitigating the urban heat island phenomenon.

- 1 PRIMING**  
MICROSEALER-50 / AQUASART®-DUR
- 2 SEALING**  
HYPERSEAL®-EXPERT-150
- 3 WATERPROOFING**  
HYPERDESMO® System
- 4 WATERPROOFING**  
HYPERDESMO® System
- 5 TOP COAT APPLICATION**  
HYPERDESMO®-ADY-E



HYPERDESMO® System offers a SRI value of 102 tested according to ASTM E 1980-01 and achieves cool roof performance.

### PRODUCTS



# 2

## Same-day Concrete roof waterproofing based on HYPERDESMO® HAA

In regions where unexpected climatic conditions occur, ALCHIMICA's same day waterproofing system based on HYPERDESMO®-HAA can be applied in a single coat, on a single day, hence allowing applications to take place in a tight schedule and thus eliminating the risk of uncured membrane damages due to rain.

- 1 PRIMING**  
GEODESMO-50 / AQUASART DUR
- 2 SEALING**  
HYPERSEAL®-EXPERT-150
- 3 REINFORCEMENT WITH GEOTEXTILE**  
GEOTEXTILE 50 PRESSED or 45 PRESSED
- 4 WATERPROOFING**  
HYPERDESMO®-HAA



HYPERDESMO®-HAA is a fast curing, bubble-free, thick layer membrane that can be applied in a single coat, hence it offers the reduction of labor costs while minimizing errors and interlayer adhesion failures.

### PRODUCTS



# 3

## Exposed Concrete roof waterproofing based on HYPERDESMO® AQUA

The sustainable system with its top elasticity, durability and high resistance is ideal application to roofs that are exposed to increasingly adverse weather conditions. HYPERDESMO® AQUA is a specialized elastomeric waterproofing membrane/coating of vertical and horizontal elements based on ALCHIMICA's unique water-based polyurethane technology.

- 1 PRIMING**  
AQUASMART®-DUR
- 2 WATERPROOFING (1st coat)**  
HYPERDESMO® AQUA
- 3 WATERPROOFING (2nd coat)**  
HYPERDESMO® AQUA

It fully ensures the external protection of buildings located in sea or mountainous areas while at the same time contributing to their aesthetic upgrade.



### PRODUCTS



AQUASMART®-DUR



HYPERDESMO® AQUA

# 4

## Exposed car park waterproofing based on the HYPERDESMO® System

ALCHIMICA's hard traffic, exposed car park system ensures the protection from water-ingress and allows for heavy traffic loads due to its exceptional mechanical properties and high crack-bridging capacity. At the same time, it offers high resistance to chemicals and automotive fluids along with high solar reflectance for cool roof results and energy efficiency.

- 1 PRIMING**  
MICROSEALER-50 / AQUASMART®-DUR
- 2 WATERPROOFING**  
HYPERDESMO® System
- 3 TOP COAT APPLICATION**  
HYPERDESMO®-ADY 810
- 4 SILICA SAND BROADCAST**
- 5 TOP COAT APPLICATION**  
HYPERDESMO®-ADY 810
- 6 TRAFFIC LINE MARKING**  
AQUASMART® -TC 2K Floor Protect

The system prevents the development of cracks and corrosion in the concrete avoiding in that way any deterioration.



### PRODUCTS



MICROSEALER-50 / AQUASMART®-DUR



HYPERDESMO® System



HYPERDESMO®-ADY 810



AQUASMART®-TC 2K Floor Protect

# 5.1

## Inverted insulation and waterproofing covered with concrete screed

The waterproofing solution that increases both the energy efficiency of a building and protects a roof as a complete solution because it combines the thermal insulation and waterproofing application.

- 1 ANGLE FILLET**  
HYGROSMART®-BUILDING-F  
HYGROSMART®-BUILDING-45-THIXO  
HYGROSMART®-FIX & FINISH

---

- 2 PRIMING**  
MICROSEALER-50 / AQUASARTM®-DUR

---

- 3 WATERPROOFING**  
HYPERDESMO®-PB-2K /  
HYPERDESMO®-PB-1K FC

---

- 4 PROTECTION GEOTEXTILE**  
GEOTEXTILE 50 PRESSED or 45 PRESSED

---

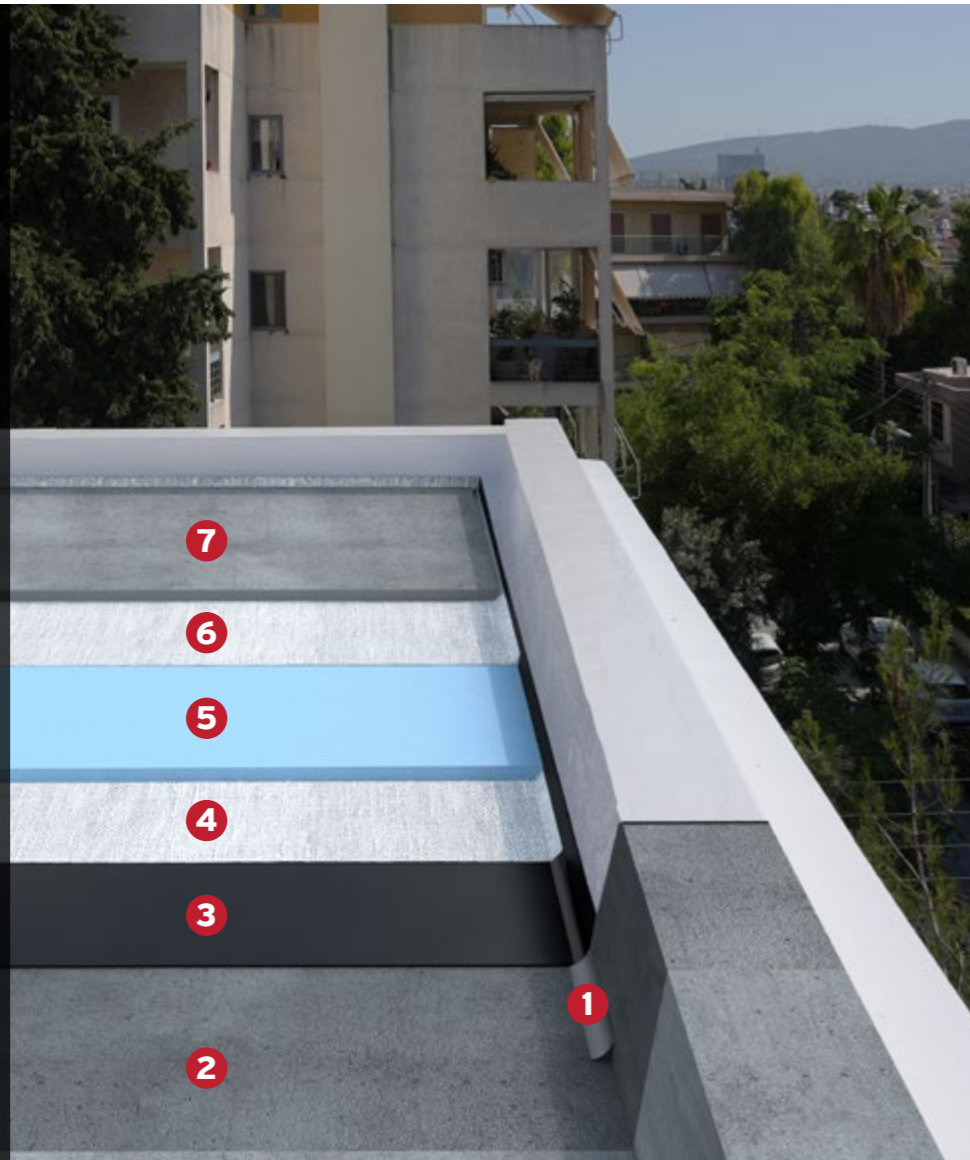
- 5 THERMAL INSULATION**  
INSULATION BOARDS

---

- 6 PROTECTION GEOTEXTILE**  
GEOTEXTILE 50 PRESSED or 45 PRESSED

---

- 7 PROTECTION**  
CEMENT SCREED



Complete environmental protection in any season, offering waterproofing and reducing heat losses at the same time, while providing accessibility to the roof.

### PRODUCTS



# 5.2

## Inverted insulation and waterproofing covered with aggregate ballast

The waterproofing solution that increases both the energy efficiency of a building and protects a roof as a complete solution because it combines the thermal insulation and waterproofing application.

- 1 ANGLE FILLET**  
HYGROSMART®-BUILDING-F  
HYGROSMART®-BUILDING-45-THIXO  
HYGROSMART®-FIX & FINISH

---

- 2 PRIMING**  
MICROSEALER-50 /  
AQUASARTM®-DUR

---

- 3 WATERPROOFING**  
HYPERDESMO®-PB-2K /  
HYPERDESMO®-PB-1K FC

---

- 4 PROTECTION GEOTEXTILE**  
GEOTEXTILE 50 PRESSED or 45 PRESSED

---

- 5 THERMAL INSULATION**  
INSULATION BOARDS

---

- 6 PROTECTION GEOTEXTILE**  
GEOTEXTILE  
50 PRESSED or 45 PRESSED

---

- 7 PROTECTION**  
AGGREGATE BALLAST



Complete environmental protection in any season, offering waterproofing and reducing heat losses at the same time, while providing accessibility to the roof.

### PRODUCTS

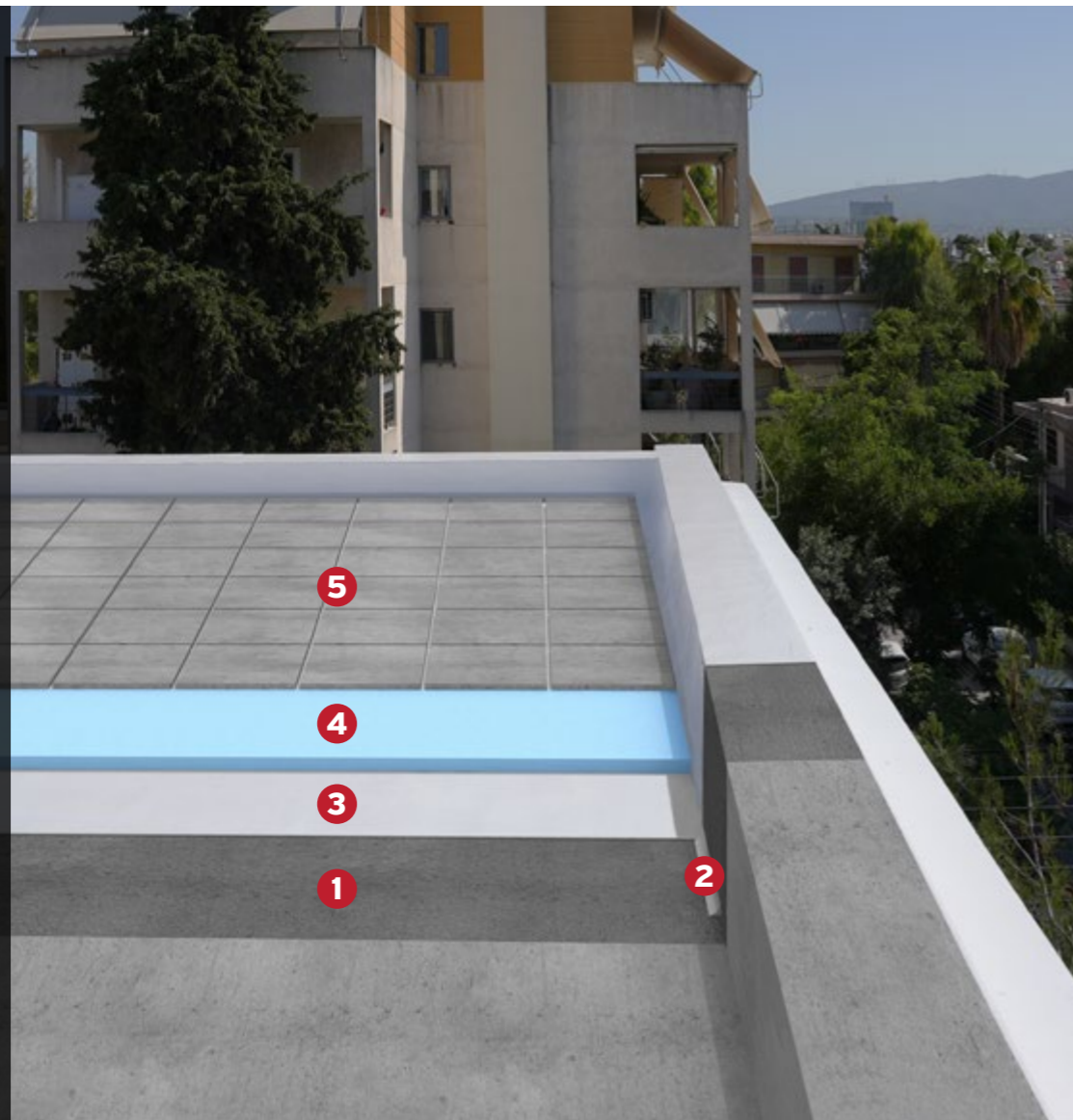


# 5.3

## Inverted insulation waterproofing system covered with roof tiles

The waterproofing solution that increases both the energy efficiency of a building and protects a roof as a complete solution because it combines the thermal insulation and waterproofing application.

- 1 PRIMING  
MICROSEALER-50 / AQUASMART®-DUR
- 2 SEALING  
HYPERSEAL®-EXPERT-150
- 3 WATERPROOFING  
HYPERDESMO® System
- 4 THERMAL INSULATION  
INSULATION BOARDS
- 5 PROTECTION  
ROOF TILES



Complete environmental protection in any season, offering waterproofing and reducing heat losses at the same time, while providing accessibility to the roof.

### PRODUCTS



MICROSEALER-50 / AQUASMART®-DUR



HYPERSEAL®-EXPERT-150



HYPERDESMO® System



INSULATION BOARDS

## CERTIFIED EXTERNAL THERMAL INSULATION COMPOSITE SYSTEM



# HYGRO SMART®

COVER OVER SYSTEM



**CERTIFICATION**  
High performance certified according to ETAG-004



**SHIELDING**  
Protection and durability of the system against mechanical and environmental stresses for new and old buildings



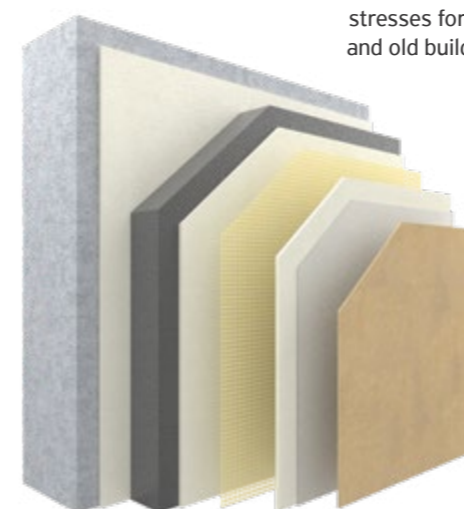
**SAVING**  
Energy saving consumption reduction



**WELLNESS**  
Improving indoor thermal comfort



**AESTHETIC PERFECTION**  
Finish coatings



# 6

## Bitumen membrane refurbishment and protection based on the HYPERDESMO® System

The exposure of old bitumen membranes to intense elements such as fluctuating temperatures, UV radiation and rain, often results in their aging and inevitably the creation of leaks that lead to substrate corrosion. The HYPERDESMO® System offers a unique solution that allows to restore watertightness without having to remove the bitumen membranes.

- 1 DETAILS TREATMENT & REPAIRS**  
HYPERDESMO®-PB-1K

---

- 2 PRIMING**  
UNIVERSAL PRIMER-2K-4060

---

- 3 WATERPROOFING (1st coat)**  
HYPERDESMO® System

---

- 4 REINFORCEMENT WITH GEOTEXTILE**  
GEOTEXTILE  
50 PRESSED or 45 PRESSED

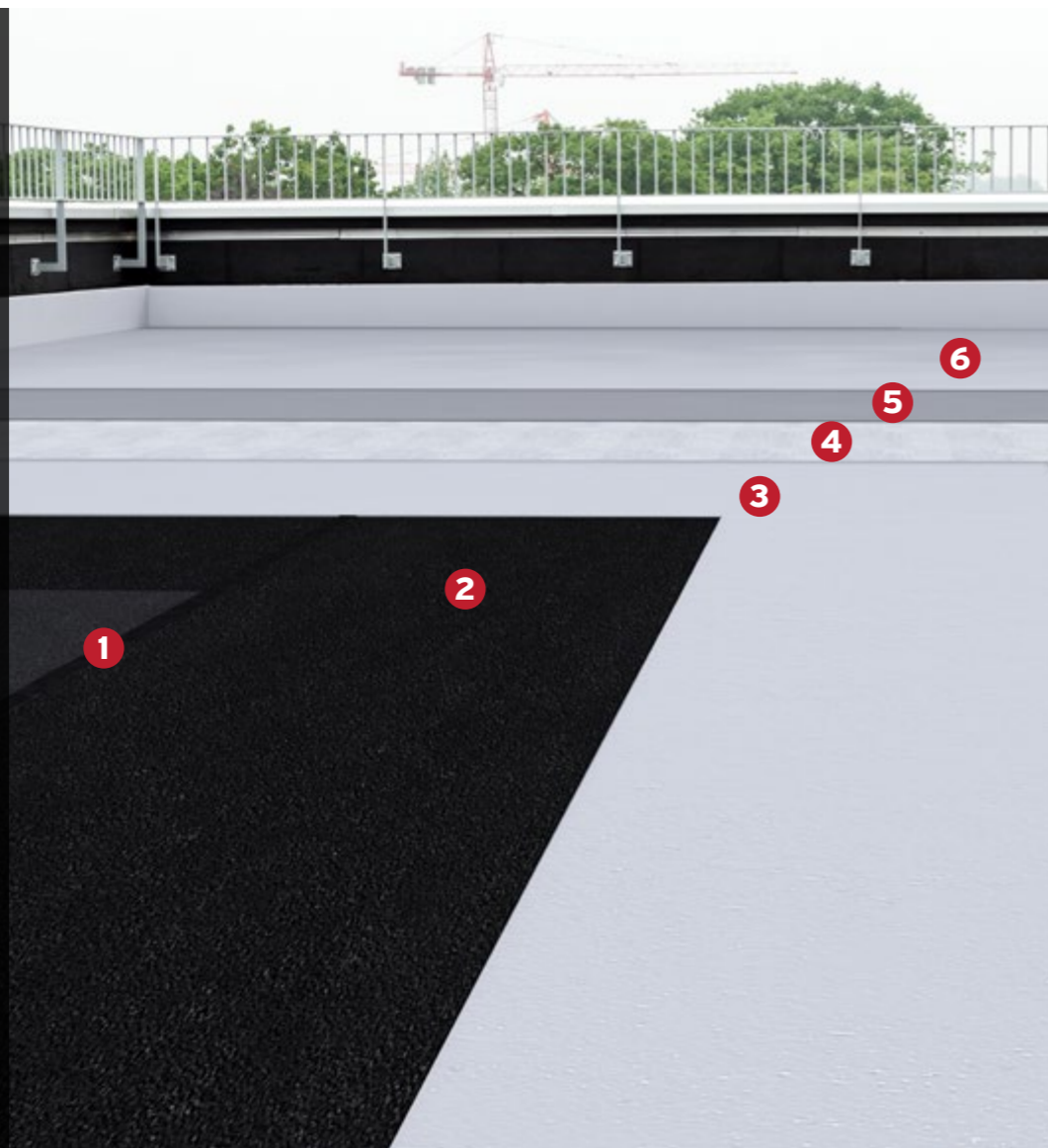
---

- 5 WATERPROOFING (2nd coat)**  
HYPERDESMO® System

---

- 6 TOP COAT APPLICATION**  
HYPERDESMO®-ADY-E

The HYPERDESMO® System may be used for the waterproofing protection and refurbishment while providing high UV reflectance, high elasticity and crack bridging even at low temperatures.



### PRODUCTS



HYPERDESMO®-PB-1K



UNIVERSAL PRIMER-2K-4060



HYPERDESMO® System



GEOTEXTILE  
50 PRESSED  
or 45 PRESSED



HYPERDESMO®-ADY-E

# 7

## Water Tank waterproofing based on HYPERDESMO® -2K-W

Water tanks face different types of threats and require excellent sealing and chemical resistance. To prevent cracks that can lead to water leaks, ALCHIMICA's potable water tank sealing system is based on the HYPERDESMO®-2K-W, a unique two-component thixotropic polyurethane membrane.



- 1 PRIMING**  
AQUASMART-DUR

---

- 2 SEALING**  
HYPERSEAL®-EXPERT-150

---

- 3 WATERPROOFING**  
HYPERDESMO® -2K-W

HYPERDESMO®-2K-W is certified for use in potable water tanks and offers durability by being extremely hydrophobic and hydrolysis resistant.

### PRODUCTS



AQUASMART-DUR



HYPERSEAL®-EXPERT-150



HYPERDESMO®-2K-W

# 8.1

## Exposed Metal Roof waterproofing based on the HYPERDESMO® System

Climatic conditions such as high temperatures, high moisture or heavy rains have a great impact in the lifecycle of metal sheets, causing corrosion and considerable damages that lead to water leaks.

- 1 PRIMING**  
MICROSEALER-50

---

- 2 SEALING**  
HYPERSEAL®-EXPERT-150

---

- 3 WATERPROOFING (1<sup>o</sup> coat)**  
HYPERDESMO® System

---

- 4 REINFORCEMENT WITH GEOTEXTILE IN DETAILS**  
GEOTEXTILE  
50 PRESSED or 45 PRESSED

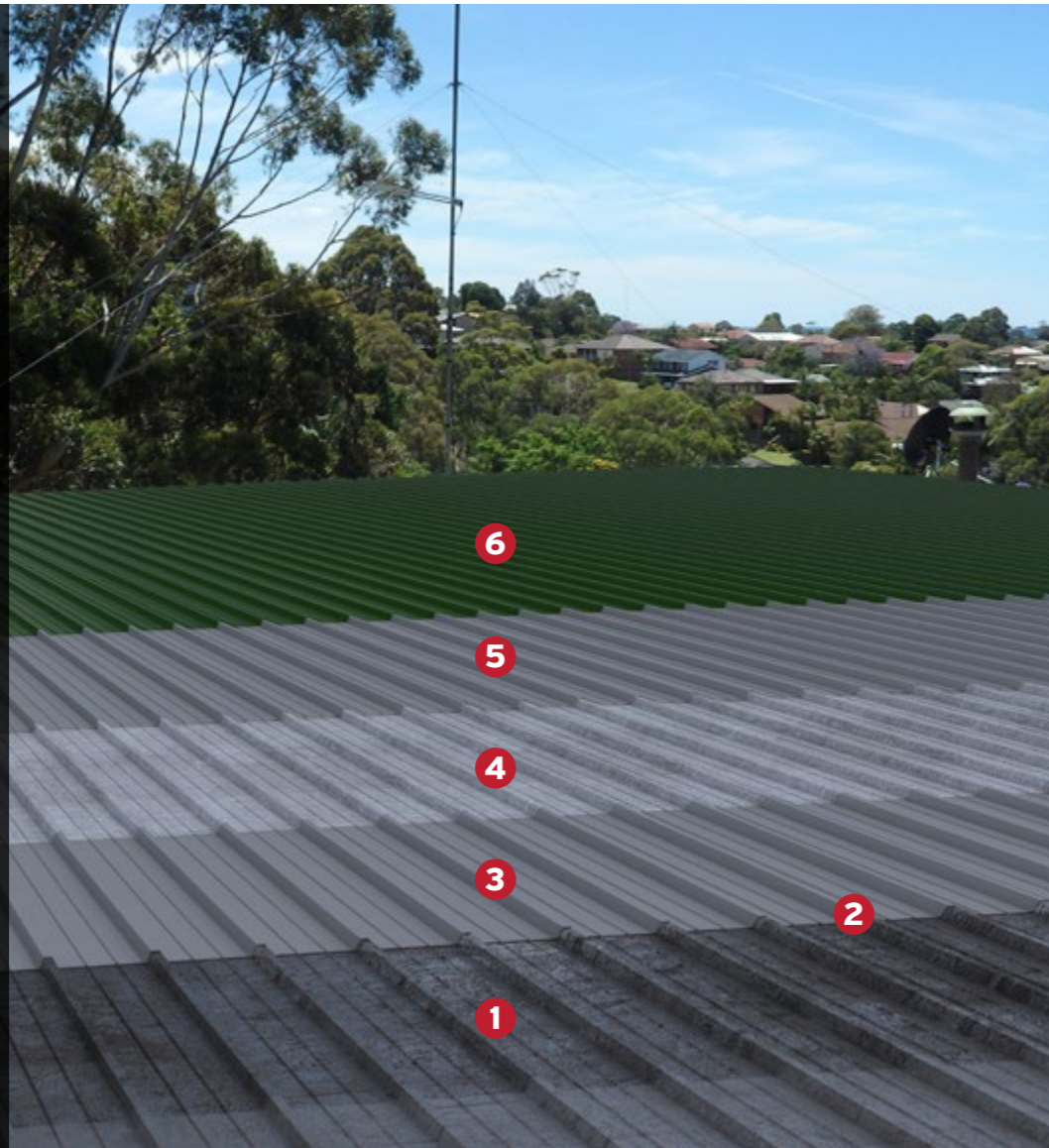
---

- 5 WATERPROOFING (2nd coat)**  
HYPERDESMO® System

---

- 6 TOP COAT APPLICATION**  
HYPERDESMO®-ADY-E

ALCHIMICA's waterproofing system provides economical and durable refurbishment and protection for metal roofs in flat, inclined and vertical substrates.



### PRODUCTS



MICROSEALER-50



HYPERSEAL®-EXPERT-150



HYPERDESMO® System



GEOTEXTILE  
50 PRESSED  
or 45 PRESSED



HYPERDESMO®-ADY-E

# 8.2

## Exposed Metal Roof waterproofing based on HYPERDESMO® AQUA

Metal roofing is a common method for industrial or commercial buildings, however, climatic conditions such as high temperatures, high moisture or heavy rains have a great impact in the lifecycle of metal sheets, causing corrosion and considerable damages that lead to water leaks.

- 1 PRIMING**  
MICROSEALER-50

---

- 2 WATERPROOFING**  
HYPERDESMO® AQUA

ALCHIMICA's water-based PU system, HYPERDESMO® AQUA provides an economical and durable solution for the waterproofing and protection for metal roofs in flat inclined and vertical substrates.



### PRODUCTS



MICROSEALER-50



HYPERDESMO® AQUA

## Green Roof waterproofing based on the HYPERDESMO®-PB System

A green roof contributes to the sustainability of a building while it offers many benefits to urban environments. Our bitumen extended PU products, HYPERDESMO®-PB offer unmatched performance with anti-root properties while at the same time allow for green roofs to upgrade buildings aesthetically without problems.



- 1 PRIMING**  
MICROSEALER-50 / AQUASmart®-DUR
- 2 WATERPROOFING**  
HYPERDESMO®-PB-2K
- 3 PROTECTION GEOTEXTILE**  
GEOTEXTILE  
50 PRESSED or 45 PRESSED
- 4 DRAINING MEMBRANE**

HYPERDESMO®-PB-2K reaches new waterproofing limits for the successful green roof construction and proves its durability by achieving an expected working life of 25 years with a W3 EAD 030350-00-0402 CE Certification.

### PRODUCTS



MICROSEALER-50 / AQUASmart®-DUR

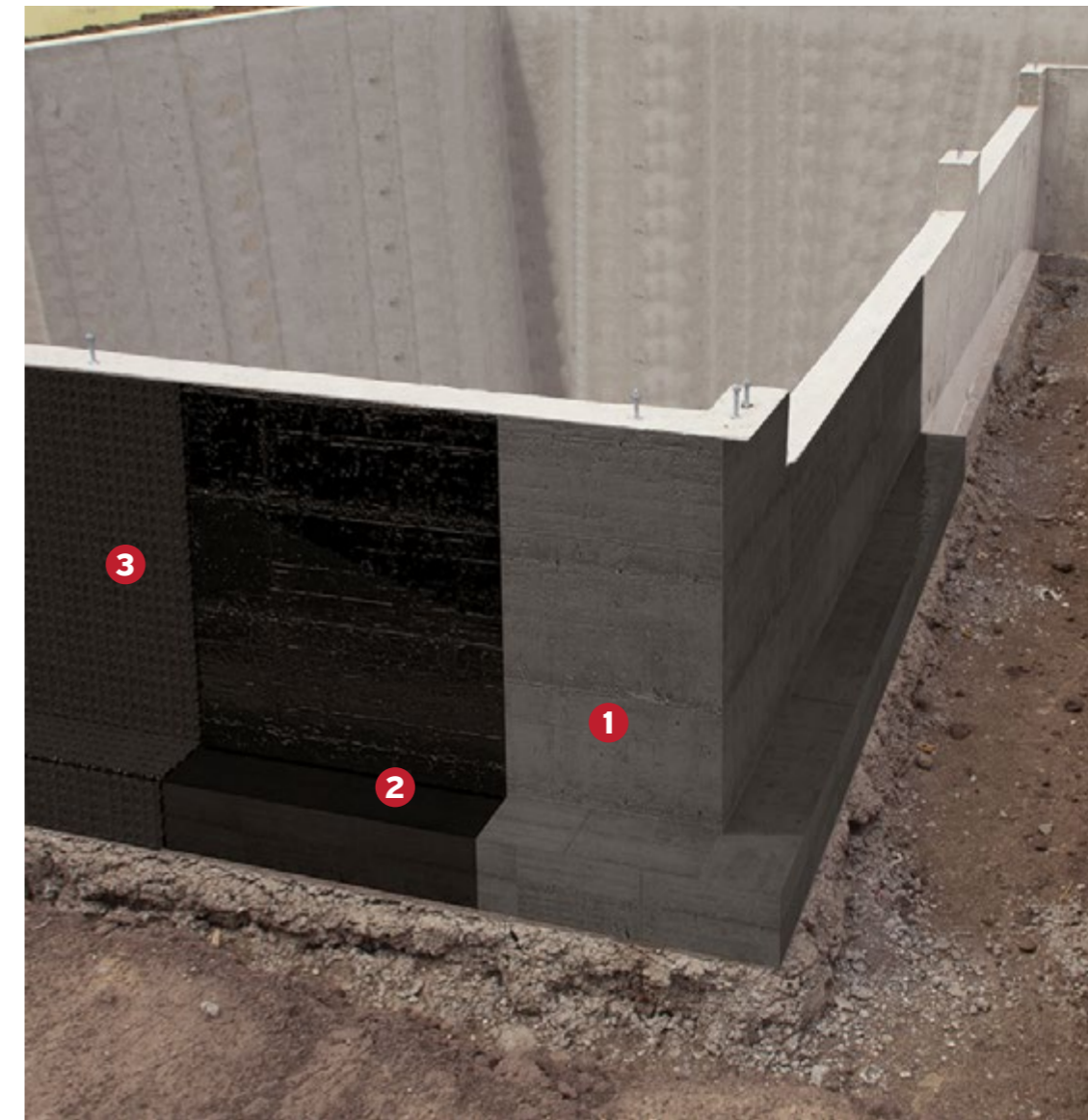
HYPERDESMO®-PB-2K

GEOTEXTILE  
50 PRESSED or 45 PRESSED

DRAINING MEMBRANE

## Below ground external waterproofing based on the HYPERDESMO®-PB System

Below ground waterproofing is the first and a necessary step before developing a construction project. It is critical to tackle it from the beginning threats as unequal static forces, water ingress, aggressive chemicals, gas penetration, external mechanical pressures, and temperature variations. ALCHIMICA provides below ground waterproofing solutions for foundations, tunnels and basements offering an excellent concrete protection in high performance applications.



- 1 PRIMING**  
MICROSEALER-50 / AQUASmart®-DUR
- 2 WATERPROOFING**  
HYPERDESMO PB-1K-FC / AQUASmart PB
- 3 DRAINING MEMBRANE**

Our certified HYPERDESMO®-PB systems based on bitumen-extended polyurethane liquid membranes are the industry standard for 20 years and display exceptional properties which efficiently combine the traditional benefits of bitumen with ALCHIMICA's polyurethane technology.

### PRODUCTS



MICROSEALER-50 / AQUASmart®-DUR

HYPERDESMO PB-1K-FC / AQUASmart PB

DRAINING MEMBRANE

## Under Tiles Wet Room Waterproofing based on HYPERDESMO® S-WR

ALCHIMICA's polyurethane under tile waterproofing system provides excellent workability and adhesion, crack-bridging abilities and high resistance to positive and negative pressures, offering long-term protection against water leaks.

- 1 PRIMING**  
MICROSEALER-50/  
AQUASMART®-DUR
- 2 SEALING**  
HYPERSEAL®-EXPERT-150
- 3 WATERPROOFING**  
HYPERDESMO®-S-WR
- 4 GLUING TILES**  
HYGROSMART®  
ADHESIVE ULTRA 2K

The HYGROSMART® tile adhesives guarantee maximum adhesion for complete system protection.



## Under Tiles Balcony Waterproofing based on the HYPERDESMO® System

ALCHIMICA's polyurethane under tile waterproofing system for balconies based on the HYPERDESMO® System, seals and acts as a barrier to prevent any water ingress that may lead to corrosion. It offers long-term protection thanks to its excellent elasticity, flexibility and hydrophobic features, while offering ease of application on horizontal and vertical substrates alike.

- 1 PRIMING**  
MICROSEALER-50/  
AQUASMART®-DUR
- 2 SEALING**  
HYPERSEAL®-EXPERT-150
- 3 WATERPROOFING**  
HYPERDESMO® System
- 4 GLUING TILES**  
HYGROSMART®  
ADHESIVE ULTRA 2K

The system assures the water tightness of the concrete substrate and eliminates problems that usually appear, over time, by the detaching or cracking of tiles in low temperatures.



### PRODUCTS



MICROSEALER-50 /  
AQUASMART®-DUR

HYPERSEAL®-EXPERT-150

HYPERDESMO®-S-WR

HYGROSMART®-ADHESIVE  
ULTRA 2K

### PRODUCTS



MICROSEALER-50 /  
AQUASMART®-DUR

HYPERSEAL®-EXPERT-150

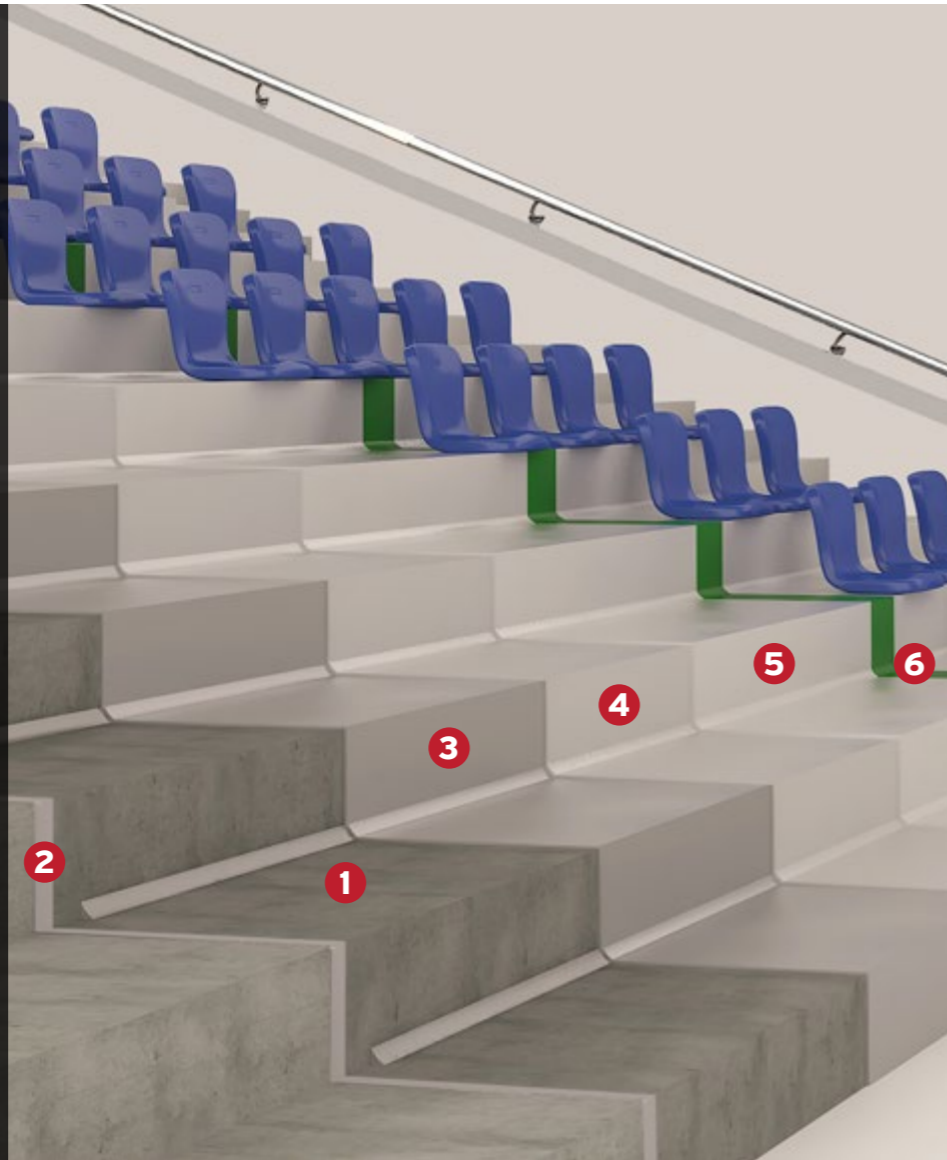
HYPERDESMO® System

HYGROSMART®-ADHESIVE  
ULTRA 2K

## Stadium stands waterproofing based on the HYPERDESMO® System

Stadiums are stunning structures that are subject to many different loads, mechanical stresses and heavy pedestrian traffic. They require advanced waterproofing solutions for the exposed stand areas to avoid damages to the concrete and its structural integrity. Moreover, the sealing of construction joints is extremely important in order to accommodate the structure's movement.

- 1 PRIMING  
MICROSEALER-50 / AQUASMART®-DUR
- 2 SEALING  
HYPERSEAL®-EXPERT-150
- 3 WATERPROOFING (1st coat)  
HYPERDESMO® System
- 4 WATERPROOFING (2nd coat)  
HYPERDESMO® System
- 5 TOP COAT APPLICATION  
HYPERDESMO®-ADY-E
- 6 TRAFFIC LINE MARKING  
AQUASMART® -TC 2K Floor Protect



ALCHIMICA offers waterproofing, sealing and concrete protection solutions for hard traffic requirements, based on the HYPERDESMO® System liquid applied waterproofing membranes which are highly suitable for stadium stands, increasing their durability and offering waterproofing protection.

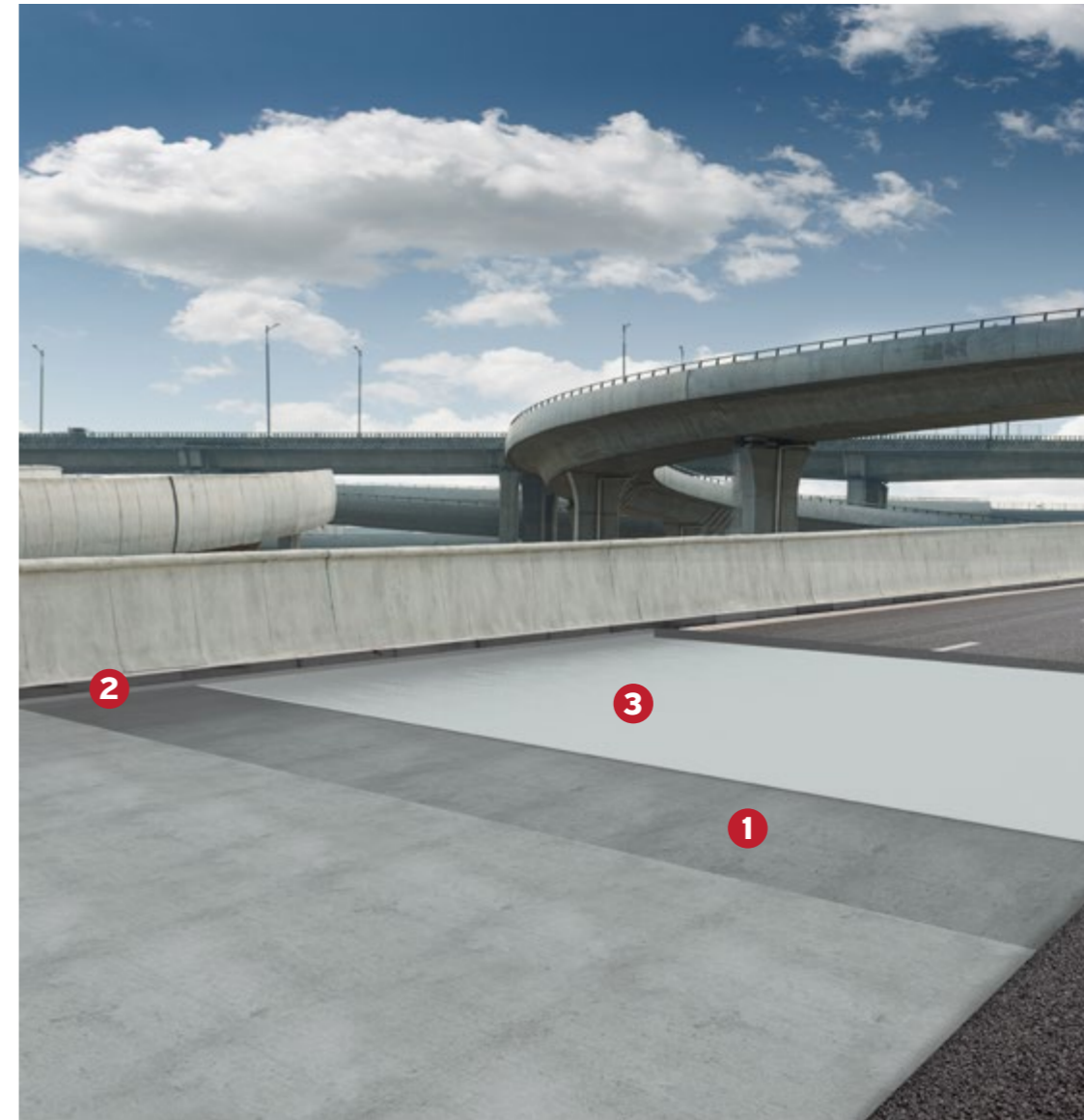
### PRODUCTS



## Bridge Deck Waterproofing based on HYPERDESMO®-300

Bridge decks are the most demanding waterproofing application, as protecting the structure from salts and water ingress is essential for their safe use. HYPERDESMO®-300 is the only cold-applied, single component polyurethane waterproofing membrane certified for the waterproofing of bridge decks according to the European standard ETAG-033.

- 1 PRIMING  
GEODESMO-50 / AQUASMART DUR
- 2 SEALING  
HYPERSEAL®-EXPERT-150
- 3 WATERPROOFING  
HYPERDESMO®-300



The resistance of HYPERDESMO®-300 to salts as well as to thermal shocks (shock temperature) up to 225°C constitutes the most advanced and safe solution for the waterproofing of bridge decks.

### PRODUCTS



# Products

## WATERPROOFING MEMBRANES



### HYPERDESMO®

HYPERDESMO® is a simple solution for waterproofing and protection.

**Characteristics:** Single component, low viscosity, polyurethane fluid based on pure elastomeric hydrophobic polyurethane resin plus special inorganic fillers.

**Properties:** Excellent mechanical, chemical, thermal, UV and natural element resistance properties.

**Usage:** Exposed waterproofing applications such as concrete roofs, metal roofs, bitumen membranes refurbishment and protection.

**Apply with brush, trowel, roller or airless spraying in two coats.**



### HYPERDESMO®-ADY 810

HYPERDESMO®-ADY 810 is a heavy duty, fully aliphatic, polyurethane liquid membrane designed for use as a main and/or top coat for traffic deck coating systems. It incorporates Alchimica's HAA – Humidity Activated Accelerator technology that allows application in a single coat and it is an excellent way to save on labor costs but also to minimize errors that occur with multi-layer applications due primarily to interlayer adhesion failures.

**Characteristics:** Single component, fully aliphatic, self-levelling polyurethane fluid based on pure elastomeric hydrophobic polyurethane resins plus special inorganic fillers.

**Properties:** Excellent mechanical, chemical, thermal, UV and natural element resistance properties.

**Usage:** Heavy duty exposed waterproofing applications such as car parking decks, concrete roofs (top-coating HYPERDESMO®), top-coating HYPERDESMO POLYUREA 2K-HC®, as main membrane and top coat application in 1 layer in typical HYPERDESMO® applications.

**Apply using brush, trowel, roller or airless spraying.**



### HYPERDESMO®-HAA

HYPERDESMO®-HAA is based on ALCHIMICA's unique and innovative Humidity Activated Accelerator technology that incorporates the ACCELERATOR 3000 in a blocked fashion and upon contact with humidity, it is released and self-accelerates the curing of the material. HYPERDESMO®-HAA allows full thickness application in a single coat and eliminates bubbling.

**Characteristics:** Single component, polyurethane fluid based on pure elastomeric hydrophobic polyurethane resins plus special inorganic fillers.

**Properties:** Excellent mechanical, chemical, thermal, UV and natural element resistance properties.

**Usage:** Exposed waterproofing applications such as concrete roofs, metal roofs, bitumen membranes refurbishment and protection.

**Apply with brush, trowel, roller or airless spraying.**



### HYPERDESMO® AQUA

HYPERDESMO® AQUA is a specialized elastomeric waterproofing membrane/coating for vertical and horizontal elements, ideal for application on walls and roofs.

**Characteristics:** It forms a single, elastic membrane ensuring complete and long-lasting waterproofing, painting and protection.

**Properties:** Thixotropic, elastic, with excellent resistance to ponding water, UV radiation and extreme weather conditions for the protection of walls and roofs.

**Usage:** Easily applied in horizontal and vertical surfaces, it forms an elastic and hydrophobic film for waterproofing applications such as concrete roofs, walls, metal roofs, PU foams and more.

**Application by roller, spatula, brush and spray in two or more layers.**



### HYPERDESMO®-300

HYPERDESMO®-300 is a heavy duty single component liquid applied polyurethane/polyurea waterproofing membrane to have received the ETAGO33 CE mark for bridge decks.

**Characteristics:** Single component, thixotropic, with exceptional compatibility with asphalt overlays.

**Properties:** High mechanical, chemical and thermal resistance.

**Usage:** Heavy-duty applications, bridges, swimming pools etc.

**Apply with roller or airless spraying.**



### GEOTEXTILE 50 PRESSED or 45 PRESSED

GEOTEXTILE-45 PRESSED is a non-woven geotextile, from 100% polyester fibers, manufactured with the spun-lacing process (hydro-entanglement).



### HYPERDESMO®-PB-1K

HYPERDESMO®-PB-1K is a quick curing, thixotropic paste used for flashing, details and repairs on asphalt membranes and several other types of substrates.

**Characteristics:** Single component, polyurethane fluid based on a pure elastomeric hydrophobic polyurethane resins extended with chemically polymerized virgin bitumen.

**Properties:** Excellent mechanical, chemical, thermal and thixotropic properties with minimum bubbling formation.

**Usage:** Details treatment, flashing and asphalt membrane repairs.

**Apply with brush, roller or spatula.**



### HYPERDESMO®-PB-2K

HYPERDESMO®-PB-2K is a bitumen-extended polyurethane product, used for waterproofing and protection in horizontal non-exposed applications.

**Characteristics:** Two component, 1:1 by volume, polyurethane fluid based on a pure elastomeric hydrophobic polyurethane resins extended with chemically polymerized virgin bitumen.

**Properties:** Excellent mechanical, chemical, thermal and water vapor barrier properties. Certified anti-root resistance.

**Usage:** Non-exposed waterproofing applications such as foundations, basements, green roofs, inverted insulation applications, podiums and other.

**Apply with brush, trowel roller or airless spraying.**



### HYPERDESMO PB-1K-FC

HYPERDESMO®-PB-1K FC is a very fast throughout curing, one component, bitumen-extended polyurethane liquid membrane. The product although fast curing, does not exhibit bubbling during the curing process even at high temperatures and % of humidity. HYPERDESMO®-PB-1K FC although fast curing, displays excellent adhesion to most types of substrates even bituminous. It is based on pure elastomeric hydrophobic polyurethane resin and is extended with chemically polymerised virgin bitumen.



### HYPERDESMO®-S-WR

HYPERDESMO®-S-WR has been specially developed to offer excellent long term waterproofing, refurbishment and protection of substructures and any application not exposed to UV.

**Characteristics:** Single component, low solvent polyurethane fluid based on pure elastomeric hydrophobic polyurethane resins plus special inorganic fillers.

**Properties:** Excellent rheology that allows easy application without sagging on vertical substrates.

**Usage:** Ideal for wet rooms, under TILES applications, substructures and other.

**Apply with brush, trowel, roller or airless spraying.**



### HYPERDESMO®-2K-W

HYPERDESMO®-2K-W is a 100% solids and solvent-free product certified for waterproofing potable water tanks.

**Characteristics:** Two component, solvent-free, thixotropic coating based on high quality elastomeric polyurethane resins.

**Properties:** Excellent adhesion on most substrates, extremely hydrophobic and hydrolysis resistant, allows application on closed spaces.


**Usage:** Potable water tanks, water tanks made of concrete, steel and other materials, desalination and water treatment plants.

**Apply with brush or roller.**

# Products

## SEALANTS

### **HYPERSEAL®-EXPERT-150**



HYPERSEAL®-EXPERT-150 is a novel low modulus expansion joint polyurethane sealant.

**Characteristics:** One component, especially formulated to ensure bubble free cure even at very high temperature and humidity climatic conditions and can stay exposed to UV.


**Properties:** Thixotropic with a 50% joint movement accommodation factor and excellent adhesion on substrates such as e.g. glass, aluminum, steel, polycarbonate, etc.

**Usage:** In situ and precast concrete, expansion concrete panels, flooring applications, bricks and blocks work, swimming pools, metal frames, aluminium windows and panels, irrigation channels, glass, granite, marble.

The extrusion rate and tooling of the sealant remain the same throughout a very wide range of temperature and humidity conditions.

## PRIMERS

### **MICROSEALER-50**



MICROSEALER-50 is a polyurethane based primer/concrete sealer for both porous & non-porous substrates.


**Characteristics:** Single component with very low viscosity, deep penetrating, slow cure (next day) primer, which has excellent wetting, impregnation and paint-over time on different substrates, whether of high or low porosity.

**Properties:** Sealing and stabilizing the substrate, insuring good adhesion of the main coat.

**Usage:** Concrete, humid concrete, metal/steel, porous ceramic TILES, gypsum boards.

**Apply with brush, roller or airless spraying.**

### **AQUASMA™-DUR**



AQUASMA™-DUR is a revolutionary waterborne epoxy primer/coating and humidity barrier.


**Characteristics:** Two component, 1:1 by volume, zero VOC, suitable for application in closed spaces

**Properties:** Low odor and non-flammable with low viscosity and long pot life.

**Usage:** Concrete, humid concrete, metal/steel, aluminium, glass and wood.

**Apply with brush, roller or airless spraying.**

### **GEODESMO-50-PRIMER**



GEODESMO-50 is a polyurethane based primer with fast curing profile (same day primer), which allows it to be used more successfully in colder climates, and when rain is not very predictable.


**Characteristics:** Single component, fast curing, excellent wetting, impregnation and paint-over time.

**Properties:** Sealing and stabilizing the substrate, insuring good adhesion of the main coat.

**Usage:** Concrete, humid concrete, metal/steel.

**Apply with brush, roller or airless spraying.**

### **UNIVERSAL PRIMER-2K-4060**



UNIVERSAL PRIMER-2K-4060 is a solvent free polyurethane primer, bitumen and oil barrier.

**Characteristics:** Two component, zero VOC, ideal for use in cold climates.


**Properties:** Rapid curing.

**Usage:** Bitumen membranes refurbishment and protection, asphaltic membranes refurbishment and protection, concrete, humid concrete.

**Apply with brush or roller.**

## TOP COATS

### **HYPERDESMO®-ADY-E**



HYPERDESMO®-ADY-E is an elastic fully aliphatic, high traffic polyurethane based top-coat for the HYPERDESMO® system.


**Characteristics:** Semi-glossy, single component, fully aliphatic, non-yellowing.

**Properties:** Excellent hiding power, high traffic resistance. Appropriate for anti-slip systems. Excellent UV, mechanical and chemical properties.

**Usage:** Top-coat over HYPERDESMO® products and flooring applications.

Apply with brush, roller or airless spraying.

### **AQUASMA™-TC 2K FLOOR PROTECT**



AQUASMA™ -TC 2K FLOOR PROTECT is unique waterborne coating, with anti-stain properties, highly recommended as a top coat for the protection of epoxy and polyurethane self-levelling floors.

**Characteristics:** Two component, fully aliphatic, non-staining


**Properties:** Excellent UV, chemical, water and abrasion resistance.

**Usage:** Flooring applications, car park final protective layer/traffic line marking, industrial paint.

**Apply with brush or roller.**

## CEMENTITIOUS PRODUCTS

### **HYGROSMART®-BUILDING-F**



HYGROSMART®-BUILDING-F is a fiber reinforced cementitious repair mortar.


**Characteristics:** One component, excellent adhesion and mechanical properties, easy application in horizontal / vertical substrates.

**Properties:** Long pot life, quick setting, allows application of thick coats without cracking. CE Certified as Class R3 repair mortar according to EN 1504-03.

**Usage:** General concrete repairs, repair of concrete structures damaged of oxidization, concrete carbonation, surface smoothing, blockwork and plaster repairs.

**Apply with trowel.**

### **HYGROSMART®-BUILDING-45 THIXO**



HYGROSMART®-BUILDING-45-THIXO is a fiber reinforced, thixotropic, high-strength cementitious repair mortar.


**Characteristics:** One component, excellent adhesion and mechanical properties, easy application in horizontal / vertical substrates.

**Properties:** Long pot life, allows application of thick coats without cracking. CE Certified as Class R4 repair mortar according to EN 1504-03.

**Usage:** General concrete repair, repair of concrete damaged reinforcement steel exposed in acidic environments and/or seawater, surface smoothing in high abrasion areas, repairs of highway bridge elements, blockwork and plaster repairs.


**Apply with trowel.**

### **HYGROSMART®-ADHESIVE ULTRA 2K**



HYGROSMART®-ADHESIVE ULTRA 2K is a specialized two-component cementitious adhesive with zero shrinkage that has been developed to offer superior adhesion over non-porous substrates. Thanks to its advanced technology, it is ideal for the installation of tiles over HYPERDESMO® liquid applied membranes, as well as existing tiles.

### **HYGROSMART®-FIX & FINISH**

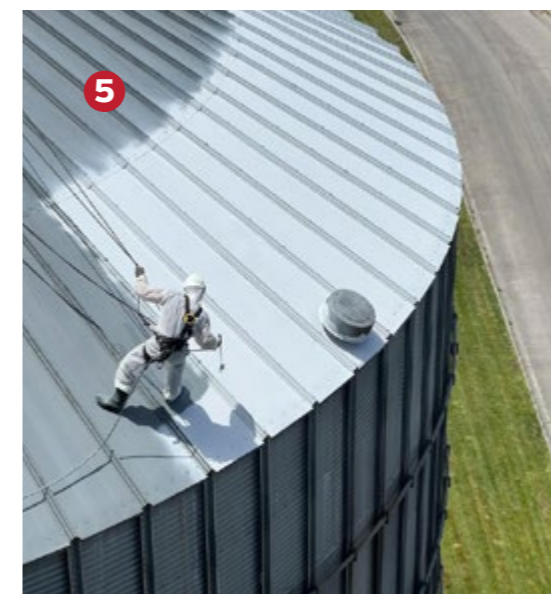
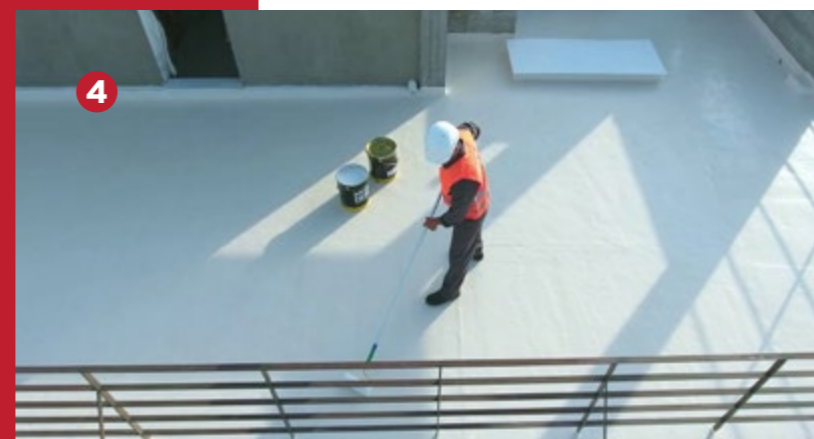
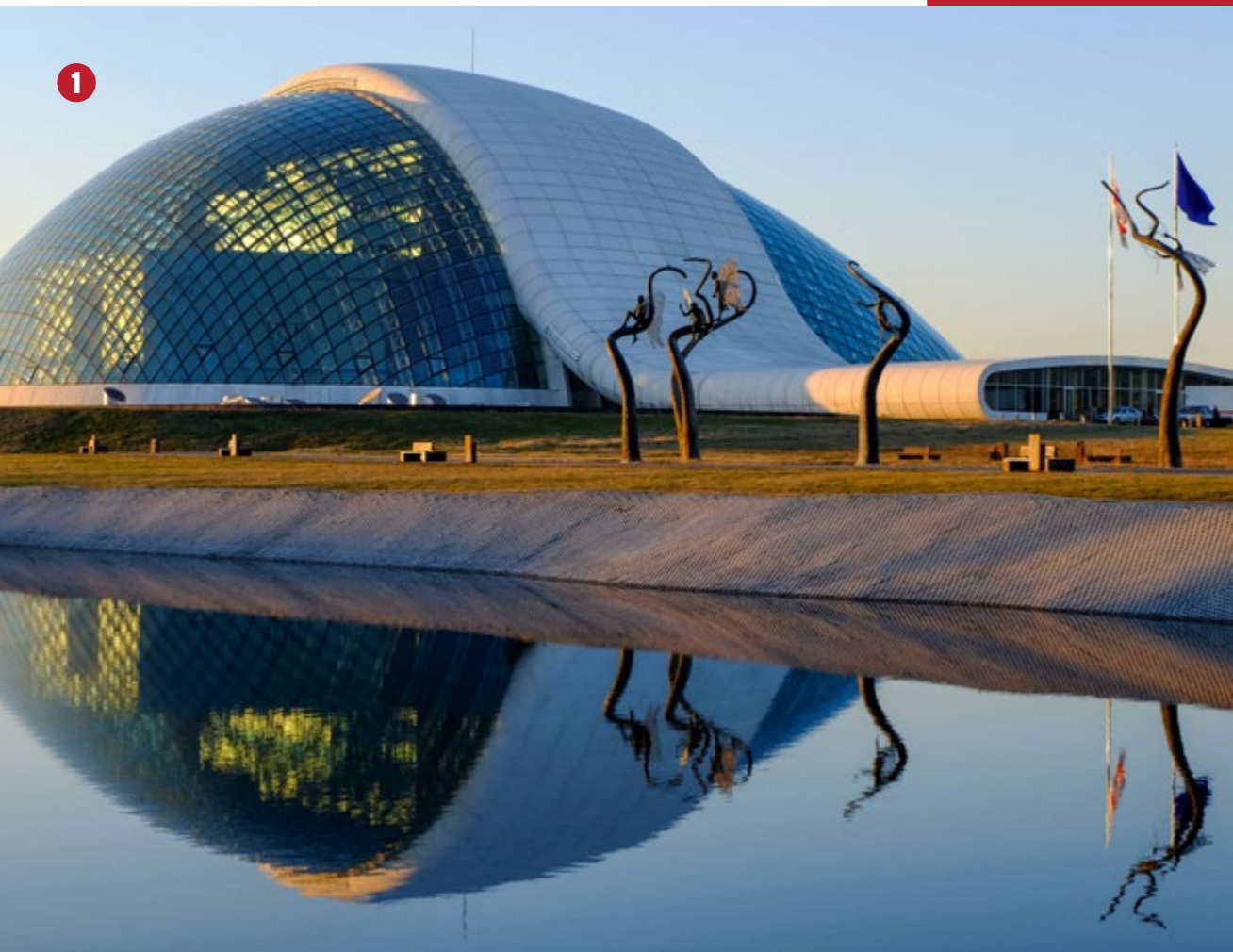


HYGROSMART®-FIX & FINISH is a rapid-curing revolutionary CLASS R4 repair mortar that offers unique ease of application, displaying low viscosity while being highly thixotropic. Rapid-setting, shrinkage compensated, thixotropic and fiber-reinforced it offers a smooth finish that makes it ideal for use in all kinds of concrete repairs, in both structural or non-structural elements.

- 1 Concrete roof in Georgia parliament house
- 2 Bridge deck in Portugal
- 3 Exposed car park in Athens
- 4 Exposed concrete roof in Athens
- 5 Metal silos in Portugal

## ALCHIMICA'S INTERNATIONAL PRESENCE

- 6 Green Roof in Mexico
- 7 Concrete waterproofing in Mexico
- 8 Stadium stands in Georgia
- 9 The foundations in Peru museum of archaeology





---

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)

