

# What makes the ALCHIMICA<sup>™</sup> waterproofing solutions different: Read on!

## How We View Waterproofing.

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Finding the most durable, economic and timesaving waterproofing system for roofs is a major challenge nowadays. Whether flat or inclined, they are subject to rain and snow. It is more serious for flat roofs since water can stagnate on the roof surface. Water resistance (as well as resistance to UV, acid rain and the daily or seasonal thermal cycle) is the main factor that determines the exterior durability of many types of coatings. It is detrimental to the durability of coatings used on flat (or low slope) roofs, where pond formation occurs. Further challenges may materialise in the form of complex roof shapes and installations such as air-conditioning units, pipe supports, antennas, solar heaters etc.

During the last couple of decades, manufacturers have turned to new innovations based on high technology synthetic membranes, the so-called liquid membranes. This new school of thought has abandoned the idea that only with multi-layer systems is water-tightness guaranteed. They are based on state-of-the-art polymers (modified bitumen, PVC, EPDM, Hypalon, polyurethane) of which a thicknesses of 2mm maximum can provide long term waterproofing and protection. Furthermore, being synthetic, they are produced under strict quality guidelines and standards and, therefore, a constant and reproducible quality is ensured.

As such, polyurethane liquid membranes combine low thickness application with completely seamless membrane formation, regardless of roof surface complexity.

### Polyurethane Liquid Membranes: Seamless Waterproofing.

Polyurethane systems are applied in liquid form. They cure to yield seamless membranes with long-term flexibility. Sealing around even the most complex protrusions is easy. Application of liquid polyurethane systems is easy and economic for any type of roof surface:

- 2 mm coat thickness in 2-3 layers at most,
- no significant load increase on lightweight decks and roofs,
- UV resistant, no coat protection required,
- easy to repair, even locally,
- long term maintenance is quick and low cost. Membrane removal will not be necessary, whatever the kind of maintenance,
- application on top of existing waterproofing systems is possible.





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Does it sound too good to be true? Actually, there is a catch:

### Choosing the right polyurethane system!

In order to have effective waterproofing, the polyurethane liquid membrane must have the following attributes:

- **Impermeability.** Obviously, zero water penetration is required.
- **Flexibility.** They must withstand the normal movements of building structures (e.g. distortion, contortion, earthquake activity etc.).
- **Durability.** They must be able to retain their integrity for long periods of time.
- **Breathability** (sometimes required). Membranes must be able to breathe so that moisture vapours from building interiors and substrates can escape freely.
- **Humidity barrier** (sometimes required). Essential in hot and humid climates.
- **Resistance.** The membrane must withstand environmental and climatic conditions.

### Not all polyurethane membranes on the market satisfy these criteria!

A good polyurethane coating will display the following:

- Zero water swelling rate and high retention of tensile strength, hardness and elasticity under prolonged exposure to harsh climatic conditions (UV, wetness, heat, ozone etc.)
- Constant adhesion to the substrate when periodically exposed to harsh climatic conditions.
- Superior performance in an environment which combines all possible climatic conditions.

ALCHIMICA offers a wide range of Polyurethane Liquid Membranes which fulfil the above requirements. We have developed products which will suit any roof waterproofing need. The waterproofing products available from ALCHIMICA are tailor made to provide long term protection against all natural elements. From waterproofing below grade walls and foundations to highways and bridges or simple under-tile roof waterproofing of residences, the bottom line is one:

### ALCHIMICA is the only provider you need!



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## Case Study: Waterproofing of Hospital Roof Using the HYPERDESMO® System (Slovenia)

STEP 1 – Waterproofing around roof fixtures:



STEP 2 – Waterproofing the main roof surface:





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Final appearance:



Details:



# What makes the ALCHIMICA™ waterproofing solutions different: Read on!

A seamless waterproofing membrane:



Waterproofing complex shapes:

