A flat roof is constantly exposed to humidity, ultraviolet degradation, weathering, acid rain attack, mechanical wear and ongoing movement stresses, due to temperature changes. As a result, most flat roofs are leaking and require renovation.

The MARISEAL SYSTEM™ is a group of coatings based on Polyurethane resins, which used in combination, creates a seamless membrane on the flat roof that protects the building structure reliably and on a long term basis, even under the most difficult conditions.

Professional waterproofing applicators in over 45 countries, use the MARISEAL SYSTEM™ for demanding waterproofing. The reasons are:

- Simple application.
- When applied, forms a seamless membrane, without joints or leak possibilities.
- Resistance to water.
- Crack-bridging up to 2mm, even at -10°C.
- Maintenance of its mechanical properties, over a temperature span of -30°C to +90°C.
- Provides water vapor permeability.
- Provides full surface adhesion.
- Provides sun reflectivity, contributing to thermoinsulation.
- Provides anti-root properties.
- The waterproofed surface can be used for medium to heavy pedestrian traffic, depending on the MARISEAL SYSTEM top-coat.
- Resistant to detergents, oils and common chemicals.
- Easy local repair, if the membrane is mechanically damaged.
- Low cost.

The professional, long lasting, waterproofing solution is the MARISEAL SYSTEM™

The MARISEAL SYSTEM™ can be used on:

- Roofs, Balconies and Terraces
- Wet areas
- Water tanks
- Flowerbeds
- Public Walkways
- Foundations, etc.

Uses:
- BitumenFelt
- Metal
- PVC and EPDM Membrane
- Concrete
- Mortar
- Wood
- Concrete
- etc.
The **MARISEAL SYSTEM** consists of

### MARISEAL PRIMERS

**MARISEAL-710**
The MARISEAL 710 is a fast curing, one-component polyurethane primer, used to prepare absorbent surfaces like concrete, cement screed, mortar, wood, etc.

**MARISEAL-AQUA PRIMER**
The MARISEAL AQUA PRIMER is a two-component epoxy waterbased primer, used to prepare the majority of construction surfaces including absorbent and non-absorbent surfaces like bitumen-felts, ceramic tiles, moist concrete, etc.

### MARISEAL WATERPROOFING COATINGS

**MARISEAL-250**
The MARISEAL 250 is a premium, one-component, permanent elastic, liquid applied polyurethane coating, that cures to a seamless, highly elastic waterproofing membrane. Used on most waterproofing applications, as roofs, balconies, terraces, etc.

**MARISEAL-DETAIL**
The MARISEAL DETAIL is a one-component, permanent elastic, liquid applied polyurethane coating, reinforced by fibers. It is used to waterproof details on the roof like exhaust pipes, light domes, etc.

**MARISEAL-270**
The MARISEAL 270 is a one-component, permanent elastic, liquid applied polyurethane coating that cures to a seamless, elastic waterproofing membrane. Used on wet areas, foundations, balconies (below tiles), etc.

**MARISEAL-300**
The MARISEAL 300 is a two-component, solvent free, liquid-applied, permanent elastic polyurethane coating that cures to a seamless, elastic waterproofing membrane. Used in potable water tanks, water channels, sewage tanks, etc.

### MARISEAL TOP COATS

**MARISEAL-400**
The MARISEAL 400 is a pigmented, colorfast, UV-stable, permanent elastic, one-component aliphatic polyurethane coating used as a top-coat over exposed polyurethane waterproofing coatings. Used on roofs and terraces where a medium pedestrian traffic is expected.

**MARISEAL-420**
The MARISEAL 420 is a pigmented, colorfast, UV-stable, permanent hard-elastic, one-component aliphatic polyurethane coating, used as a top-coat over exposed polyurethane waterproofing coatings. Used on public walkways and areas where a heavy pedestrian traffic is expected.

### MARITRANS

The MARITRANS is a transparent, UV-stable, permanent hard-elastic, one-component aliphatic polyurethane coating, used as a sealer over decorative polyurethane waterproofing coatings. Used on balconies and terraces where a medium pedestrian traffic is expected. The MARITRANS can be also used as a transparent coating to waterproof ceramic tiles surfaces.

### MARISEAL SYSTEM AUXILIARY PRODUCTS

**MARISEAL-FABRIC**
Polyester, non-wooven, reinforcing geotextile. Used for reinforcing roofing details or the entire surface.

**MARISEAL-KATALYSATOR**
Accelerator for use with the MARISEAL 250 and MARISEAL 270.

**MARIFLEX-PU30**
Low modulus Polyurethane sealant used to seal joints and cracks.

**application tools**

- Roller
- Brush
- Electric paddle drill
- Sealant application gun
No Problem with Details

All the waterproofing coatings of the MARISEAL SYSTEM cure to form permanently elastic, seamless membranes providing waterproofing on a long-term basis, even to the most difficult and problematic details.

While other waterproofing membranes or systems fail at these difficult detail areas, the MARISEAL SYSTEM has proven itself to perform, even in the most extreme climatic zones on the planet.

The MARISEAL SYSTEM creates a seamless membrane with full surface adhesion to the surface, so no additional mechanical fixings or additional flashings are required.
The **MARISEAL 250** is the backbone of the MARISEAL SYSTEM functioning as the main elastic and waterproofing membrane of the system. The **MARISEAL 250** is a one-component, liquid-applied, cold applied and cold curing, polyurethane coating that cures to a seamless, highly permanent elastic waterproofing membrane.

The **MARISEAL 250** is used on most waterproofing applications as:
- **ROOFS**
- **BALCONIES**
- **TERRACES**
- **WET AREAS**
- **PUBLIC WALKWAYS**
- **FLOWERBEDS**
- **POLYURETHANE FOAM PROTECTION**

The **MARISEAL 250** has been tested by the German State Testing Institute for Construction Materials MPA-Braunschweig according the European Union Directive for liquid-applied roof waterproofing ETAG 005, and was found conforming.

The **MARISEAL 250** was tested by the French Testing Institute for Construction Materials BUREAU-VERITAS according the French Norms and was found conforming.

The **MARISEAL 250** was certified by the German State Institute for Construction Techniques DIBt-Berlin, with the European Technical Approval (ETA) and with the CE mark and certification.

**LEVELS OF USE CATEGORIES ACCORDING ETAG 005:**

<table>
<thead>
<tr>
<th>Working Life</th>
<th>W2</th>
<th>10 years minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate zone:</td>
<td>M and S</td>
<td>North and South Europe</td>
</tr>
<tr>
<td>Imposed loads:</td>
<td>P1 to P3</td>
<td>Up to high pedestrian traffic</td>
</tr>
<tr>
<td>Dachneigung:</td>
<td>St bis S4</td>
<td>Roof slope from &lt;5° to &gt;30°</td>
</tr>
<tr>
<td>Lowest surface temperature:</td>
<td>TL3</td>
<td>-20°C</td>
</tr>
<tr>
<td>Highest surface temperature:</td>
<td>TH9</td>
<td>90°C</td>
</tr>
<tr>
<td>Reaction to fire:</td>
<td>Class E</td>
<td>EN 13501, DIN 4102-1 und 7</td>
</tr>
<tr>
<td>Resistant to wind loads:</td>
<td>&gt;50 kPa</td>
<td>Resistant to all wind loads</td>
</tr>
</tbody>
</table>

The **MARISEAL 250** was additionally tested and approved according:
- DIN 1928, which classifies it as a waterproofing coating.
- DIN 4102 part 1, which classifies it as a B2 fire rating construction material.
- DIN 4102 part 7, which classifies it as a surface coating resistant to flying sparks and radiating heat.

The **MARISEAL 250** has also been tested and certified in many countries around the world according to local and national regulations and norms.

The **MARISEAL 250** was tested according EN 53420 which classifies it as a root-resistant coating, suitable to be used in green roofs, flowerbeds and planters.
The **MARISEAL 270** is the elastic and waterproofing coating of the system for concealed areas and below ground applications.

The **MARISEAL 270** is a one-component, liquid-applied, cold applied and cold curing, polyurethane coating that cures to a seamless, permanent elastic waterproofing membrane.

The **MARISEAL 270** is used on waterproofing applications as:
- **WET AREAS (under tile)**
- **FOUNDATIONS**
- **RETAINING WALLS**, etc.

The **MARISEAL 270** was specially developed to meet the economical demands of today’s construction industry, by providing the highest product quality matched with a very interesting pricing.

The **MARISEAL 300** is the elastic and waterproofing coating of the system for potable water tanks, water channels and sewage tanks.

The **MARISEAL 300** is a two-component, odourless, solvent-free, liquid-applied, polyurethane coating that cures to a seamless, permanent elastic waterproofing membrane.

The **MARISEAL 300** is used on waterproofing applications as:
- **WATER TANKS**
- **WATER CHANNELS**
- **SEWAGE TANKS**, etc.

The **MARISEAL 300** is certified for direct and permanent contact with potable (drinking) water.

The **MARISEAL DETAIL** is a liquid-applied, thixotropic, permanent elastic, fiber-reinforced, one component polyurethane coating used for long-lasting waterproofing of complex roofing details and connections.

The **MARISEAL DETAIL** is mainly used to waterproof details like:
- **PIPES**
- **FLASHINGS AND 90° ANGLES**
- **LIGHTDOMES**
- **CHIMNEYS**
- **PHOTOVOLTAIC SYSTEMS**
- **WALL-FLOOR CONNECTIONS**
- **GUTTERS**, etc.

By using the **MARISEAL DETAIL**, all complex roof details are quickly and securely waterproofed. **MARIS POLYMERS**, with over 60 years combined experience in developing polyurethane systems, have formulated the **MARISEAL DETAIL** to meet modern construction demands.
For perfect waterproofing as well as optimum optical result, the MARISEAL® top-coat is applied over the main MARISEAL® waterproofing membrane, to give a decorative and color-stable finish.

The MARISEAL® is an elastic, pigmented, color stable, aliphatic polyurethane top-coat that is applied over the main waterproofing membrane, providing a glossy, decorative and easy-to-clean surface.

The MARISEAL® is color stable, UV-stable and weather resistant. It has been tested and certified by the German State Institute Materialprüfungsanstalt MPA-Braunschweig, as a non-yellowing, color stable and non-chalking coating.

The MARISEAL SYSTEM can be applied on surfaces that require a wear resistant and abrasion resistant finish, to withstand heavy pedestrian traffic conditions, as public pedestrian walkways, stadiums, etc. This is achieved by using the MARISEAL® over the main MARISEAL® waterproofing membrane.

The MARISEAL® is a hard-elastic, pigmented color stable, aliphatic polyurethane top-coat that is applied over the main waterproofing membrane, providing a wear resistant finish that can withstand heavy pedestrian and light vehicle traffic conditions.

The use of the MARISEAL® results in an abrasion resistant, glossy and easy-to-clean surface which is color stable, UV-stable and free of chalking.
After curing of the waterproofing membrane, the appropriate MARISEAL top-coat is being applied on the entire surface (step 11).

**Top-coat application**

After curing of the waterproofing membrane, the appropriate MARISEAL top-coat is being applied on the entire surface (step 11).

**Surface Preparation**

Cracks are filled with the MARIFLEX PU30 joint-sealant (step 1). The sealed crack is then covered with the MARISEAL waterproofing coating, and then reinforced with the MARISEAL FABRIC. The MARISEAL FABRIC is rolled over the still wet waterproofing coating and pressed in to soak (step 4, 5).

**Waterproofing of Critical Areas**

Critical areas, such as wall-floor connections, pipe outlets, chimneys, siphons etc. must first be waterproofed with the MARISEAL waterproofing coating and depending on the substrate.

**Surface Waterproofing**

Enough MARISEAL coating is then applied until full saturation of the fabric (step 6).

Then reinforced with the MARISEAL FABRIC. The MARISEAL FABRIC is rolled over the still wet waterproofing coating and pressed in to soak (step 4, 5).

**Cracks are filled with the MARIFLEX PU30 joint-sealant (step 1). The sealed crack is then covered with the MARISEAL waterproofing coating, and then reinforced with the MARISEAL FABRIC.**

**IMPRESSION REFERENCES IN ALL INDUSTRIES**

Some of the projects in which MARIS POLYMERS products were used:

- **Automotive**
  - Volkswagen
  - Audi
  - BMW
  - Citroën
  - Peugeot
  - Fiat
  - PSA
  - Alfa Romeo
  - BMW
  - Audi
  - Volkswagen

- **Food Industry**
  - Coca-Cola
  - Pepsi
  - Sugarcane Processing
  - Ketchup
  - Baked Goods
  - Fresh Juices
  - Beverages
  - Bakery Products
  - Pizzas
  - Kebabs
  - Frozen foods
  - Ice Creams

- **Textile and Clothing Industries**
  - Nissan
  - Mercedes-Benz
  - Audi
  - Volkswagen

- **Public Buildings**
  - Athens Olympic Stadium
  - Dubai International Airport
  - Hellenic Hospital
  - Egyptian Embassy
  - Bank of Greece
  - Descartes School Building Authority
  - Egyptian Embassies

- **Computers and Electronics**
  - Microsoft
  - Intel
  - NVIDIA
  - Logic Data
  - General Electric
  - IBM

- **Hotels and Touristic**
  - Intercontinental Hotel
  - Marriott Hotel
  - Ramada Plaza
  - Sheraton Hotel
  - Hilton Hotel
  - Marriott Hotel

- **Petrol, Chemical and Heavy Industry**
  - Esso
  - Raffin
  - Elf
  - Total
  - Elf

- **Industries in Several Categories**
  - Bayer
  - Ecolab
  - Nintendo
  - Interfactory

- **Printing Industries**
  - Omega
  - Stamatopoulos
  - Tzimopoulos

- **Wood and Furniture Industries**
  - IKEA
  - Domus
  - Bonaldo

- **Animal and Fish Breeding Farms**
  - Pireaus
  - Lefkada
  - Sea Farm

- **Freezers**
  - Armodis
  - General Air

- **Military**
  - Greek Army
  - Greek Navy

- **Textile and Clothing Industries**
  - Saint Lucia University
  - Texas A&M University

- **Cosmetics and Pharmaceutical Industries**
  - L’Oréal
  - Elen

- **Shipping**
  - Argo
  - Unia
  - Alfa Marine

- **Olympic Stadiums**
  - Athens Olympic Stadium
  - Dubai International Airport
  - Olympic Games

- **Oil and Gas**
  - Shell
  - PetroChina
  - ENI