WATERPROOFING SYSTEMS
Non-guaranteed waterproofing today
is a guaranteed problem for tomorrow

Diasen is a company that for more than 20 years has been creating and developing a wide range of innovative products and systems to waterproof every kind of surface, focalizing its attention to the best reliability of final result and to the drastic reduction of probability of committing mistakes by the applicator; following a research and production policy based on maximum respect of the environment.

Diasen mission is to provide specific solutions, being in direct contact with designers, distributors and companies, developing systems studied expressly for solving problems and satisfying the particular requirements of the yard from projecting phase to final construction.

Diasen has constantly combined quality of its products with an excellent technical service, providing a qualified assistance that is able to solve every kind problem of the building yard.

Continuos control and examination of its products, technical assistance, after sales service and customer satisfaction are principles that have always led Diasen action.

In these years our company has been proved, day by day, to believe strongly in research and continuous development, increasing constantly its investments in R&D and quality areas.

This, together with the certified quality guaranteed by ISO 9001 and ISO 14001 certifications, allowed Diasen products to be used in several national and international projects, in which have been firmed important partnerships and collaborations (UNESCO).
An appropriate waterproofing will allow your building to live longer without maintenance.
Acriflex® Winter

Waterproofing systems for every kind of surface

Water-based waterproofing product, composed by acrylic resin and modified cement, that guarantees long-lasting elasticity as well as an easy, simple and quick application, with very low margins of committing mistakes by applicator.

Acriflex Winter was born from a requirement and a need. More than 10 years ago we started to study new solutions to solve the problem of water infiltrations in civil and industrial buildings, and how to develop the inefficient technologies available at the time.

Our research has led to develop a single product that, with only one liquid coating, eliminates the main cause of failure of all old systems: seals between prefabricated waterproofing sheets.

A single products able to maintain, in the course of time, enough elasticity to withstand the most critical surface settings. A product of such quality to ensure decennal waterproofing, even if subjected to high and low temperatures and to continuous freezing - defrosting cycles.

A product easy to apply, that reduces risks of making mistakes for the user. A product, an idea that comes true: Acriflex Winter.

A unique system, thousands of solutions

Acriflex® Winter

Drinking water tanks
Epokoat Swimming
(pag. 11)

Drive-over
Floorgum Tyre Mono
(pag. 10)

Reflectance
Oriplast Reflex
(pag. 19)

Walk-over
Floorgum Paint
(pag. 22)
Key benefits

- Easy and fast application.
- It allows to waterproof applying low-thickness layers.
- It can be applied directly onto the existing floor (in combination with Grip Primer).
- Tiles can be glued directly on Acriflex Winter using a proper glue for outdoor.
- It can be quickly converted as a walkable surface applying Floorgum Paint, or as a drive-over surface applying Floorgum Tyre Mono.
- It can be coated with Diasen coatings.
- It can be applied also during winter season (up +5°C).
- Solvent free.

Uses

- Terraces, balconies, flat roofs or pitched roofs in combination with Polites (integrated system);
- Concrete tanks for water containment;
- Bathrooms, showers, swimming pools etc. before the application of tiles;
- Flashings;
- Foundations;
- Refurbishment of old bituminous membranes in combination with SBS-bond;
- Vertical concrete castings in presence of ground water (see Bentotelo and Bentonite Diasen System).

Mixing

If necessary dilute the first coat of product with at max one liter of water every 25 kg bucket. Add water directly on part A before mixing with part B. Mix well the two components (A+B) to obtain a homogeneous mixture, without clots.

Application

1. In presence of humidity problems apply WATstop as steam barrier (yield: 0,6 kg/m²).
2. Over smooth concrete surfaces or over existing floors apply Grip Primer and wait until it is completely dry (see technical data sheet).
3. Waterproof vertical joints using Safety-Joint Roll soaked with Acriflex Winter, applied by brush creating a “tank effect”.
4. Apply Polites net to obtain a 3 cm of overlapping over joints. Polites net must not present bubbles.
5. Apply a first coat of Acriflex Winter by brush, roll or airless. In case of rain on a non perfect dry product, carefully check the suitability of the next covering.
6. When the first coat of product is dry, apply a second one taking care to completely cover the net. At a temperature of 20°C and with relative humidity level of 40% the product dries in 4 hours.
Crack Bridging Ability
Resistant to surface micro-lesions and building structural movements.

3.2 mm

Cold flexibility
Minimum temperature in which the product resists to traction and flexibility stress.

-34°C

UV-rays resistant
Time before degradation.
1000 hours of Weathering test (UV rays cycle)
10 years of continuous sun-exposure.

9.5 atm

Positive thrust waterproofing
Maximum water pressure before cracking (frontal side): 9.5 atm.

10 years

Tensile strenght
Maximum pressure before cracking: 2.32 MPa.

2,32 MPa

Punching test
Maximum pressure before perforation: 68.7 N.

68.7 N

Resistance to water steam diffusion (µ)
The product does not allow the flow of steam and acts as a barrier.

2463

Resistance to aging test:
8 hours cycles of UVA radiation at 60°C
15 minutes cycles of warm rain at 50°C
8 hours cycles of fog at 60°C

2000 h
10 years
Waterproofing of new balconies and terraces

Safety Joint Roll - Polites - Acriflex Winter - Floorgum Paint

Key benefits
- No weldings.
- It does not need a covering screed.
- Tiles or synthetic resins can be applied directly over the product.
- The concrete floor is kept dry.
- Simple and quick system.
- Low probability of committing mistakes by applicator.

Application
2. Waterproof the horizontal surface with 2 coats of Acriflex Winter, applied directly on Polites mesh, previously layed on support (integrated system).
3. Apply tiles directly on the waterproofing (with a proper glue for outdoor) or, alternatively, apply the walkable coating made of synthetic resins (Floorgum Paint).
Waterproofing and refurbishment without removing the existing tiles

Grip Primer - Safety Joint Roll - Polites - Acriflex Winter - Floorgum Paint

**Grip Primer.** Multipurpose primer that guarantees non absorbent Acriflex Winter adhesion on particular substrate, such as old floorings or very smooth /non absorbant surfaces.

**Key benefits**
- It can be applied directly over old floorings, without any removal.
- Saving of demolition costs.
- Low-thickness waterproofing (primary and most important feature on restoring projects).
- After the treatment the surface appears completely renewed.

**Application**
1. Apply Grip Primer to increase the surface adhesion.
2. Waterproof and reinforce corners with Safety Joint Roll and Acriflex Winter.
3. Application of Polites armor.
5. Apply Floorgum Paint.
6. Apply tiles directly over Acriflex Winter.
Waterproofing and restoration of old bitumen membranes

SBS-Bond - Acriflex Fybro - Safety Joint Roll

Key benefits
- It can be applied directly on old bituminous membrane without any removal.
- It avoids demolition and disposal costs.
- It waterproofs definitively the old bituminous membrane.
- Suitable for many kinds of systems, such as walk-over or ultra-reflecting systems (see Floorgum Paint, Floorgum Tyre Mono, Polypark, Oriplast or Oriplast Reflex).

Application
1. Prime and regularize the surface with SBS-Bond.
2. Reinforce and waterproof joints using Safety Joint Roll and Acriflex Fybro.
3. Apply two coats of Acriflex Fybro.
4. Apply the walkable or reflective syntetic resin coating (see Floorgum Paint, Floorgum Tyre Mono, Polypark, Oriplast or Oriplast Reflex).
Waterproofing and coating system for parking areas

WATstop / Grip Primer - Acriflex Winter - Polites - Safety Joint Roll
Floorgum Tyre Mono / Polypark / Floorgum Paint

The safest system both for new and old parking lots with minimum thickness and minimum weight. Certified to be highly resistant to abrasion, UV rays and continuous freeze-thaw cycles.

Key benefits

• It can be applied both on new and old parking lots.
• Easy application.
• Drive-over.
• High protection against weathering agents.
• Excellent resistance to abrasion.
• Anti-slip.

Application

1. In presence of humidity problems apply WATstop as steam barrier (yield: 0.6 kg/m²).
2. Over smooth concrete surfaces or over existing floors apply Grip Primer and wait until it is completely dry (see technical data sheet).
3. Waterproof expansion joints with Diasel strong, Safety Joint Roll and Acriflex Winter applied by brush.
4. Waterproof through integrated system with Polites net and two coats of Acriflex Winter applied by roll, water squeegee or airless.
5. Apply by roll two coats of drive over coating Floorgum Tyre Mono or Polypark in all areas subjected to a high traffic density.
6. In those areas subjected only to pedestrians passage is enough the application of two coats by roll of the one component walkable coating Floorgum Paint.
Diasen has conceived a safe system to waterproof any kind of basin or swimming pools, both made up of concrete and metal; certified to be in direct contact with drinkable water or foodstuff.

**Key benefits**
- Suitable for direct contact with drinkable water or foodstuff.
- Excellent resistance to stagnant water.
- Waterproofing finishing.
- Long lasting.
- It is possible to apply mosaic directly over Acriflex Winter.

**Application**
1. In presence of humidity problems apply WATstop as steam barrier (yield: 0.6 kg/m²).
2. Waterproof of vertical and horizontal joints of the pool with Safety Joint Roll and Acriflex Winter applied by brush.
3. Spread Polites mesh only on the basin base and apply 2 coats of Acriflex Winter over the whole swimming pool surface.
4. Apply Epokoat Swimming (4A), an elastic waterproofing and coloured finishing, resistant to UV rays, directly on Acriflex Winter, or alternatively apply the mosaic flooring for swimming pools (4B) using a suitable glue (as an alternative to coloured paint).
**Waterproofing system for small surfaces**

**Acriflex Fybro**

Two component, water based and fiber reinforced liquid waterproofing, formulated with cement and acrylic resin, suitable also at low temperatures. Resistant to ponding water, UV rays, low and high temperatures and to freeze-thaw cycles. Suitable to waterproof terraces, flat roofs, walkable surfaces, parking areas, swimming pools, tanks, foundations, flashings, expansion joints and to restore old bitumen or slated membranes (in combination with SBS-bond). Thanks to its polypropylene fibers it can be applied without reinforcement mesh.

**Key benefits**
- No reinforcement mesh needed.
- Excellent elasticity: 150%.
- Excellent resistance to tensile stress.
- It can be coated with tiles or synthetic resins.
- Quick and easy application.

**Features**
Application without mesh.

**Packaging**
25 kg plastic bucket.
Each bucket contains the 2 components (A+B) already pre-dosed, ready to be mixed.

**Application fields**
Levelled surfaces smaller or equal to 20 m².
Vertical surfaces subjected to structural movements.

**Application**
1. In presence of humidity problems apply WATstop as steam barrier (yield: 0.6 kg/m²).
2. Over smooth concrete surfaces or over existing floors apply Grip Primer and wait until it is completely dry (see technical data sheet).
3. Waterproof vertical joints using Safety-Joint Roll soaked with Acriflex Fybro, applied by brush creating a “tank effect”.
4. Apply a first coat of Acriflex Fybro by brush, roll or airless. In case of rain on a non perfect dry product, carefully check the suitability of the next covering.
5. When the first coat of product is dry, apply a second one taking care to completely cover the net.

**Drying time**
At 20°C and 40% of relative humidity level, the product drying time is 4 hours.
- Drying time is influenced by relative humidity level and by temperature and may change significantly.
- Once the product is dry it is possible to apply tiles.
One component waterproofer for indoor wet areas

Acriflex mono

Liquid acrylic water-based waterproofing; resistant to UV rays and to high / low temperatures. Its elastic structure makes it capable to follow structure settlement movements and dilatations due to thermal stress. Suitable to waterproof bathrooms, showers, kitchens and every kind of wet areas. Available in different colors.

Key benefits
- Total waterproofing.
- One component, ready to use.
- Water based (solvent-free).
- Excellent elasticity and maximum versatility.
- It can be coated directly (using common glues).
- Application by roll or brush.

Features
Acrylic one-component waterproofing, ready to use.

Packaging
5 Kg or 25 Kg plastic bucket.

Application fields
Bathrooms, shower box, kitchen sand horizontal and vertical surfaces.

Application
Ready to use, if necessary dilute with maximum 5% of water.
1. Surface must be cleaned, consolidated, and with appropriate slope.
2. Spread Polites mesh over the surface, taking care to do overlapping on joints of at least 3 cm. Polites must not show bubbles or frills.
3. To obtain a good thickness apply Acriflex Mono in 2 coats.
4. It can be applied by brush, roll or airless. Total drying time is 12 hours at 20°C.
Waterproofing system for corners and vertical/horizontal angles

Safety-Joint Roll

TNT elastic band. Safety Joint Roll is a non-woven band to cover joints (100% polyester). Thanks to its practical removable anti-spot film, Safety Joint Roll is very handy, workable and quick to apply.

Key benefits
- Easy and quick to apply.
- It overcomes common PVC problems.
- Highly elastic.
- For safe joints.
- Perfectly integrated into the system.
- Total adhesion on the surface.
- Reduction of application time.
- It can be used both indoor and outdoor.

Features
Elastic.
Safe.
Quick application.

Uses
To waterproof vertical/horizontal angles and joints, combined with Acriflex Winter.
To waterproof expansion joints of terraces, balconies, pre-fabricated panels, floorings, etc.

Application
1. Apply by brush a first coat of Acriflex Winter on vertical/horizontal angles and joints.
2. Lay down Safety Joint Roll over wet product to achieve an excellent impregnation and a perfect adhesion to the base.
3. After the waterproofing coating has begun to set, remove the adhesive anti-spot film.
4. Apply a second coat of Acriflex Winter, caring to cover completely Safety Joint Roll.
Waterproofing system for expansion and building joints

Safety Joint Top - Diaseal Strong

Diaseal Strong is a one-component elastomeric polyurethane sealant suitable to seal both vertical and horizontal expansion and structural joints. Safety Joint Top is a self adhesive tape based on butyl rubber spread on a hydrophilic polypropylene.

Key benefits
- Easy to apply.
- Aging resistant.
- High elasticity.
- Optimum resistance to micro organisms
- Suitable for sealing of swimming pools joints.
- Perfect adhesion over almost any surfaces without primer.

Application fields
Construction joints sealing.
Water tanks.
Irrigation canals.
Foundation walls.
Pre-fabricated concrete components.
It can be applied on concrete, wood, marble, aluminium, steal, ceramic, plasterboards, etc.

Application
1. Clean accurately the joint and insert an appropriate containing neoprenic cord.
2. Apply Diaseal Strong by sealant gun, along all the external side of the joint.
3. Level and push down accurately Diaseal Strong into the joint.
4. Spread Safety Joint Roll, with the adhesive part facing downward and the woven part facing upward. The centre of the band needs to be at the centre of the joint.
5. Lay Polites net over the band, taking care not to cover the joint that should be free to move, expand and contract itself.
6. Apply 2 coats of Acriflex Winter to completely cover Polites net.
Aquabit is a water-based bituminous waterproofing product ready to use. Its polystyrene micro-spheres make it very workable and spreadable, allowing to fill up easily any leak and defect of concrete surfaces with just one coat. A very difficult result to reach using the traditional liquid waterproofing products.

**Key benefits**
- One coat application.
- Totally cold application.
- No primer needed.
- High elasticity and long-life.
- No weldings.
- Easy to apply: with a trowel.
- Quick drying.
- Odourless.
- UV rays resistant.
- Solvent-free. Neither toxic nor flammable.
- Excellent elasticity and resistance to crack bridging.
- Complete waterproofing up to 5 atm.
- It does not dissolve if in contact with water.

**Features**
No weldings.
Totally cold application; spatula is enough. It can be applied with just one coat. Application also by air-less.

**Application fields**
Waterproofing for foundations and walls in contact with the ground.
Suitable also to waterproof small surfaces under the concrete.

**Application**
1. Clean accurately the surface, caring to remove dust and all kind of debris that could compromise a perfect adhesion of the product. Restore with cement any eventual lesion.
2. Apply Aquabit in only one coat with a trowel to realize a thickness of at least 2 mm.
3. Aquabit could be applied by air-less in only one coat. Immediately after application, level the surface smoothing it with spatula.
4. After application, protect the waterproofer with root-inhibiting draining sheet.
Liquid waterproofing system for foundations and under screed applications

SBS-gum

SBS-gum is a liquid bituminous waterproofing, one-component and water-based, very elastic and resistant. Ideal for airless and roll application on wide vertical or horizontal surfaces to be fill in with earth, after application of root-inhibiting or to be covered with concrete slab, after suitable application of non-woven fabric.

Key benefits

- Application by roller or air-less.
- Totally cold application.
- No primer needed.
- No weldings.
- Quick drying.
- Excellent elasticity and resistance to crack bridging.
- UV rays resistant.
- It does not dissolve in contact with water.
- Completely waterproof up to 5 atm.

Features

- No weldings.
- Totally cold application by roller or air-less.

Application fields

- Waterproofing for foundations, cement structures and surfaces in contact with the ground.
- Waterproofing of flat surfaces (in combination with Polites TNT reinforcement) to be covered with concrete slabs.
- Restoration and localised repairing of old bituminous membranes (joined with Polites TNT reinforcement).

Application

1. Clean and dry the surface completely, repairing it if necessary. Apply SBS-Gum in two coats, by brush, roll or airless, caring to cover the whole surface.
2. Protect with PVC draining sheets. Drying time is about 48 hours.
WATstop is an epoxy-cement three component waterproofing product, based on special resins and inerts that make it a product very resistant against negative thrust and severe dampness, water infiltrations and salts.

Key benefits
- Easy application by brush, roller or spatula.
- Quick drying even in damp conditions
- Highly versatility.
- Excellent adherence also on smooth and low-absorption supports.
- Excellent salt resistance.
- Solvent-free. Neither toxic nor flammable
- Odourless.
- Cold application.
- To be coat with any traditional rendering or paint.
- Resistant up to 9.5 atm of negative thrust.

Features
Complete barrier against water and salts.

Application fields
Vapour barrier and adhesion primer to be used with Diasen Waterproofing Systems.
Osmotic coating for the restoration of surfaces subjected to humidity.
Waterproofing to eliminate infiltrations.
Waterproofing for elevator pits and flower boxes.
Waterproofing against rising dampness on concrete beds and floors.
It acts as a consolidating with Diasen Dehumidifying System (see "Diathonite" brochure).

1. Open the epoxy mortar contained into the plastic bag and pour it into the bucket.
2. Take the cement, pour it into the same bucket containing the mortar and mix the materials.
3. Take the catalyst, pour it into the same bucket and mix the 3 components (A+B+C) until obtain a homogeneous mix, without lumps. Use a professional mixing drill.
4. Add water with the following ratio:
   - 20% of total weight if the product is applied by trowel.
   - 40% of total weight if the product is applied by brush or roll.

The amount of water indicated on the packaging is merely indicative. It is possible to obtain a more or less fluid mixture depending on the application.
Oriplast Reflex

Oriplast Reflex is a coating for external use made with special synthetic water-based resins. Applied on existant bituminous membrane, it waterproofs and protects it against ageing due to weathering agents. Thanks to its high reflectance rate, Oriplast Reflex is able to reflect a high quantity of solar energy (more than 90%) decreasing the temperature on the treated surface and inside the room below the support, allowing remarkable saving on summer air conditioning costs.

Key benefits

- It reflects 90% of UV rays.
- Temperature 5°C lower (certified) on the room below the treated support.
- Excellent adhesion on slate bituminous membrane, oxidized bituminous membrane and synthetic resins. Available adhesion coadjuvant for non oxidized bituminous membrane or metal substrates.
- Excellent resistance to weathering agents and UV rays.
- Total waterproofing.
- It does not dissolve itself in contact with water.
- High elasticity: 327%.
- Waterproofing and long lasting alternative to aluminium paint.
- It allows to save on summer air conditioning costs.
- It rises living comfort in non conditioned building.
- It reduces Heat Island Effect phenomenon.
- Ageing resistant and it does not need maintenance.
- It prolongs the durability of waterproofing membranes, lowering maintenace costs for roofs.

Features

Ultra-reflecting.
Total waterproofing.
Extremely elastic.

Application fields

Ultra-reflecting and UV rays protective waterproofing for bituminous membranes, synthetic resins, metals and bricks.

It is suitable for the application over old coatings without using special membranes with ultra reflective incorporated coating or coloured synthetic membranes that need to be applied by specialists.

Product for outdoor.

Application

1. The support must be completely hardened, dry and resistant enough and with the adequate slopes to let the flow of water.
2. The surface must be thoroughly clean, well consolidated, without debris or detaching parts.
3. If applied over metal, make sure to completely remove dust and prime with WATstop.
4. In case of application over non oxidized bituminous membrane, it is necessary to prime the surface with SBS-bond.
5. Mix the product well.
6. Apply Oriplast Reflex by airless, roll or brush, taking care to completely cover the surface.
7. When the first coat is dry, apply a second one using the same system. The product dries in 4 hours at 20°C and with relative humidity level of 40%.
Waterproofing system for foundations walls and slab

Bentotelo

Bentonite geo-compound made from sodium bentonite encased in a special self-hooking non-woven fabric and a strong polypropylene membrane tightly sewn together.

Key benefits

• High tear resistance.
• Easy application.
• Quick installation.
• Self-sealing and self-hooking.
• Unlimited storage, as long as kept in suitable condition.
• EU certified.

Application fields

Protection and waterproofing of under-level concrete structures or in presence of ground water (slab, foundation walls, etc). Garages, cellars, caveaux, tunnels. Artificial basins and lakes.

Legend

1. Diajoint
2. Safety Joint Roll
3. Acrylic Winter
4. Bentosend
5. Bentotelo
6. TNT 300 g/m²
Waterproofing system for concrete casting joints

Diajoint N

Diajoint is a hydrophilic rubber joint made of bentonite-butyl polymer for concrete casting joints or joined with bentonite plates or panels. The joint is made of 75% of natural sodic bentonite and 25% butyl polymer. Once in contact with concrete casting, the joint expands, sealing and waterproofing the concrete casting from eventual outside infiltration. The product is suitable to waterproof horizontal and vertical and underground concrete casting joints.

Key benefits

- Remarkable plasticity and flexibility.
- High resistance to tensile stress.
- Excellent free swelling capacity in water.
- High swelling power ensuring liquid sealing between concrete elements cast in place.
- High stability over time.
- No immediate concrete containment is needed; in normal conditions it can stay exposed up to 48 hours.
- The product does not contain any toxic substances. It can be handled with no risk for operators.
- Expansion up to 400%.
Floorgum Paint

Floorgum Paint is a syntethic coating made with water acrylic styrol resins suitable to any civil or sport walkable surface. It is resistant to weathering, ponding water, sudden changes in temperature, UV rays and wearing.

**Key benefits**

- Easy application.
- Excellent resistance to weathering agents, UV rays, brackish air and salts.
- It does not turn yellow.
- It realizes a walkable low thickness coating.
- It rises the durability of asphalt surfaces.
- It can be successively coated with tiles or other kind of coatings.
- High elasticity.
- Periodical maintenance not needed.
- It can be applied as finishing of resin-based waterproofing systems.
- Available in different colours.

**Features**

Applicable directly over the last layer of Acriflex Winter liquid waterproofing, avoiding the use of common tiles or any other more expensive coating.

**Application fields**

The product is suitable for:
- cycle tracks (ANAS certificate);
- to coat concrete or asphalt surfaces for sport floorings (tennis, basket and football);
- to coat asphalt or concrete surfaces to make them walkable and anti slip.

**Application**

Ready to use
1. Floorings to be coated have to be completely levelled and well cleaned.
2. If applied over concrete support with rising dampness, prime the surface with WATstop as vapour barrier (yield: 0,600 kg/m²) before applying Floorgum Paint.
3. If subgrade is damaged apply one coat of Floorgum Filler.
4. Apply Floorgum Paint in two coats.
Case History / References