



# DAS

## DAR AL SAHRA

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# WATERPROOFING SERVICES

We rated amongst the best service provider of Water-Proofing Engineers & Consultants, Basement Waterproofing, Terrace Waterproofing, Water Tank Waterproofing, Seepage Waterproofing, Swimming Pool Waterproofing.

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

# What we do ?

## ROOFING SYSTEM :

- Combo roofing system
- Inverted roofing system
- Exposed roofing system
- Steel deck roofing system - Acrylic/Pu based

## INDUSTRIAL SYSTEM :

- Poly urea system
- GRP Lamination

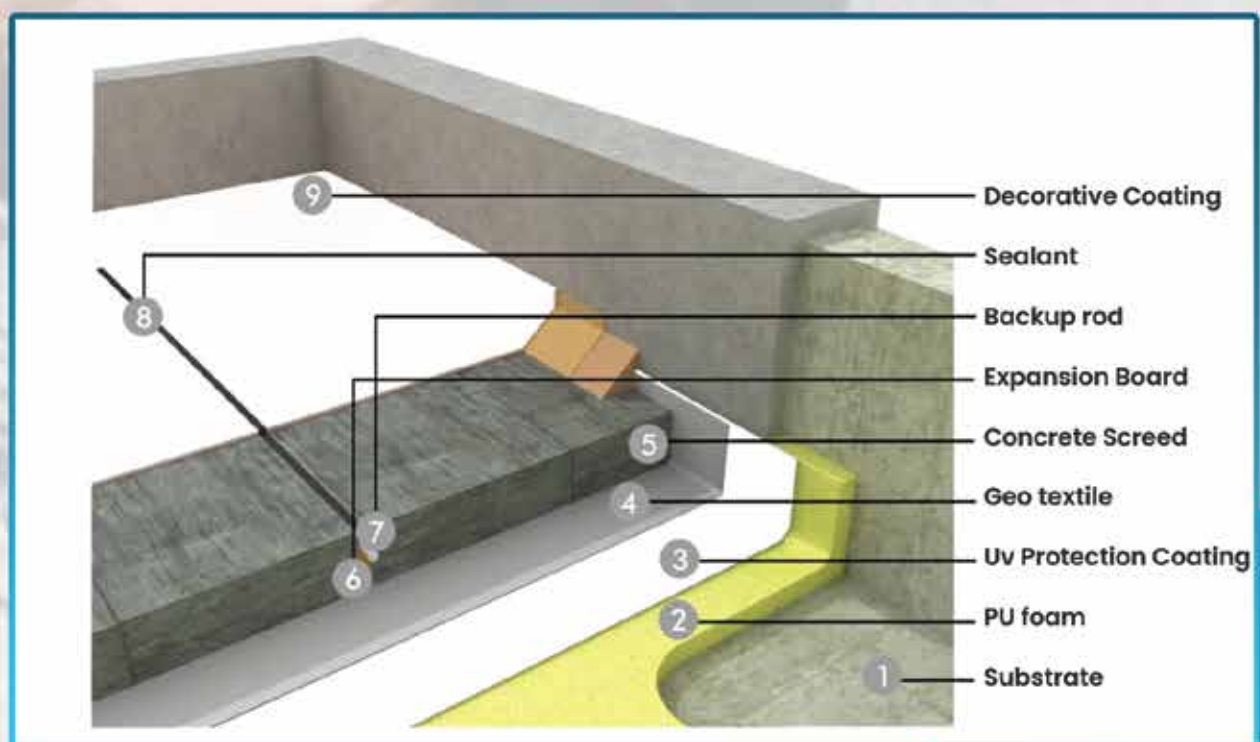
## WET AREA SYSTEM :

- Bituminous system
- Cementitious system
- Acrylic /Pu based system



# 1.Combo roofing system

ComboRoof is a comprehensive roofing system comprising of waterproofing, thermal insulation and finishing, for the roof. This unique system is technologically advanced, fast curing and certified by Dubai Central Laboratory (DCL) for its joint free waterproofing and thermal insulation characteristic, that is fully bonded to the roof slab. ComboRoof system is one of the most efficient solutions for energy efficiency on buildings. This system provides a manufacturer's Guarantee of 30 years against any leakage. The uniqueness of this system is that the manufacturer and the applicator is the same. The system meets all latest thermal insulation standards and regulations in UAE and is accepted by all major property developers, consultants and contractors. The system is also approved by various authorities like Dubai Municipality, Sharjah Municipality, Sharjah Water and Electricity authority and Trakhees; Combo Roof system is an assured solution for your roof.





## PROCEDURES

**1. Surface preparation** : Upon casting and complete curing of roof slab, engineer shall visit the site to inspect the roof and accept the roof for waterproofing and heat insulation works. A preliminary site inspection shall be carried out and any further preparation work if required shall be brought to the attention of the main contractor.

**2. PU Foam application** : Spray Applied Polyurethane Foam: Waterproof Insulation Polyfoam rigid polyurethane systems are two components based on blended polyol and polymeric MDI. PU form in the Combo Roof System acts as both waterproofing and thermal insulation. PU form systems are available in four nominal density grades 45-50 kg/m<sup>3</sup>

### ***3. UV protection coating :***

Single component, acrylic waterproofing and protective coating. It is durable, flexible and has a high level of resistance to U.V. exposure and aggressive weathering agents. It is resistant to dilute acids, alcohol, petrol, carbonation and chloride ions.

***4. Panelling and screeding :*** Geotextile- Non-Woven Polyester Separation Layer Geotextile separation layer is a high-quality geotextile fabric of non-woven polyester. It is intended to act as a separation layer between products and also to increase the puncture resistance of the waterproofing assembly.

Expansion board- Compressed Wood Fibers, Filler Board consists of compressed wood fibers from timber, impregnated with Bitumen Emulsion which complies in general with requirements of the American and British Standard Codes of Practice.

Screed Concrete - Protective fibre reinforced screed concrete SCREED CONCRETE with fibre reinforcement laid in slope 1:150, having 45mm thickness at drainage point and increasing away from the drain.





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**5. Angle fillet and joint sealant :** Sealant - One Part Polyurethane Joint Sealant is a single part low modulus high performance polyurethane sealant, which cures on absorption of atmospheric moisture to form a firm and flexible rubber watertight seal for moderate movement of control joints. PU sealant will be used in horizontal joints between screed panels.

**6. Finishing :** Highly efficient, energy saving flexible coating (SRI >78) is water-based pure acrylic resin providing efficient thermal protection for the roof which is a non-toxic, washable & environment friendly forming a seamless membrane that resists many harsh chemicals & bridges hairline cracks. This coating has high emittance & reflectance as well as a very low conductivity

## 2. Inverted roofing system

Inverted roofs increasingly are becoming a popular alternative to traditional roofs as their benefits have become more apparent. Simply defined as a type of roof construction where the waterproofing layer lies beneath the insulation instead of above it — as in other forms of roofing — inverted roofs ensure that the complete roof construction, including roof covering, is kept at warm temperatures during winter months and at moderate temperatures during the summer months. Also known as a “protected membrane” or “upside down” roof, inverted roofs employ insulation which can resist water absorption, provide excellent thermal performance, be unaffected by freeze and thaw cycles, withstand surface traffic and be protected from UV and mechanical damage, among others. While traditional roofs place the insulation under the protective membrane, inverted roofs are designed with the waterproofing layer, usually a liquid-applied membrane, beneath the insulation. Insulation boards are loose-laid on top of the membrane and then weighted down with paving slabs, gravel ballast or soil medium in the case of ‘green’ or vegetative roofs.



## Why Inverted roofing system ?

### 1. Cut total roof-life costs

Roofs are significant investments, as they impact nearly every other function and feature of a building. Inverted roofs typically last longer than traditional ones.

Inverted roofs have significantly lower maintenance costs than conventional low-slope roofs, thanks in large part to the insulation in the inverted assembly protecting the roof membrane from mechanical damage during and after construction, as well as temperature extremes that cause stress. It also protects against ultraviolet radiation that can lead to premature failure. This enhanced durability, combined with reduces annual energy costs, can reduce total roof-life costs up to 22 percent.





## 2. Improve environmental performance

While the enhanced longevity and energy efficiency afforded by inverted roofs is good for the wallet, it's also good for the planet. Due to the fact that the insulation, fabric and ballast are loose-laid and therefore can be more easily reused, inverted roofs help reduce downstream waste during construction, maintenance and demolition phases of a building's life..

Because inverted roofs place insulation on top of the membrane, this provides a perfect foundation for a terrace, garden or green roof on the top of the building. Research shows that even on a hot and sunny day, the temperature of the roof surface below a green roof can be cooler than the ambient air around it — greatly reducing the effects of the sun's energy on the interior temperature of the building and reducing the urban heat island effect compared to conventional roofing. Reduced energy demands lightens the burden on the grid — which in most regions means reducing the amount of fossil fuels or natural gas that must be burned to generate power. Alleviating the urban heat island effect means that less of the sun's energy is reflected back into the atmosphere, which is a contributor to global warming.

### **3. Better storm water management**

As the impacts of climate change make weather patterns more unpredictable — often resulting in too little or too much rain — building resilience increasingly is relying on the ability to handle storm water overflow. With even a fraction of an inch of rain being capable of overwhelming some combined sewer systems, cities are acting to prevent overflow from polluting local rivers and waterways.



#### **4. Improve occupant satisfaction**

As more people spend more time than ever before in urban environments, there is a growing need to reconnect with nature. While traditional buildings tend to make people feel cut off from natural environments, making the roof a usable, walkable space with natural amenities can help bridge this disconnect and make your building's occupants happier and more productive.

By adding more of an outdoor, park-like aesthetic to the building, occupants are more likely to be healthy, happy and helpful. Employees who work in environments with natural elements reported a 13 percent higher level of well-being and are 8 percent more productive overall, according to one report. Besides this being a good thing in and of itself, this also can help attract businesses and other tenants by serving as a key differentiator from traditional buildings.

## 5. Preserve local habitat

Just as green roofs can make people happier, they also can benefit the local wildlife. As cities swell and continue to encroach on nature, there is a growing need to infuse urban landscapes with the elements of natural environments. With the world on track to lose two-thirds of its wildlife by 2020, this is more important than ever.

A strong insulation choice is essential to extract the benefits and longevity of an inverted roof. An extruded polystyrene (XPS) insulation delivers the proven, long term performance for the life of the roof.



### 3.Exposed waterproofing system

Exposed waterproofing system consists of multiple layer membrane application either Hot or cold applied to concrete or steel roofing surface ,which provide seamless waterproofing for a longer period

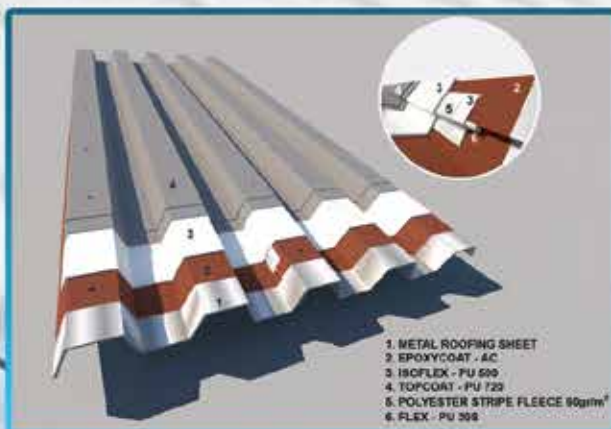


## 4. Steel deck roofing system

The coatings based on 100% polyurethane resins, which used in combination, create a seamless membrane on the roof, terrace or deck that protects the building structure reliably and on a long term basis, even under the most difficult conditions.

### ADVANTAGE :

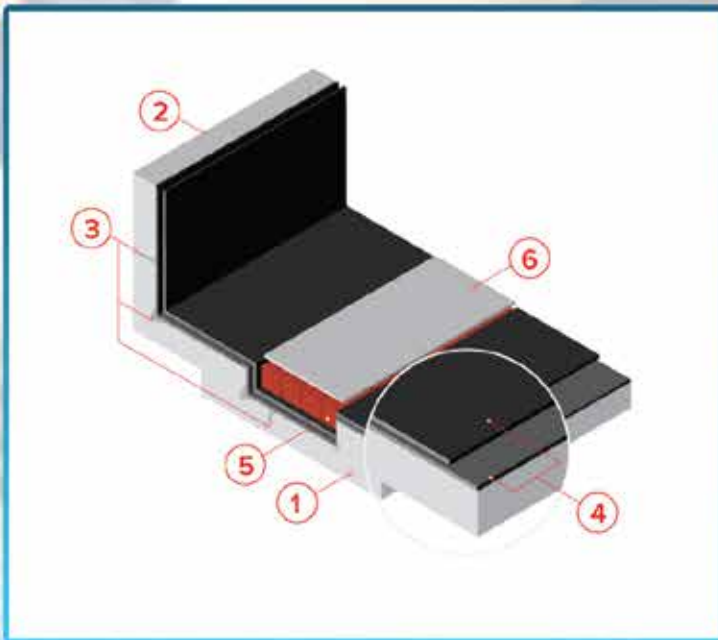
- Simple application.
- When applied, forms a seamless membrane without joints or leak possibility.
- Resistant to water.
- Crack-bridging up to 2mm, even at -10 °C.
- UV-resistant.
- Maintenance of its mechanical properties over a temperature span of -30 °C to +90 °C.
- Provides water vapor permeability.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



## WET AREA WATERPROOFING

**Our wet room solutions include products for:**

- Bathrooms & Toilets
- Under-tile applications
- Balconies
- Dry-wall wet areas
- Patios
- Sauna
- Thermal Pools



# INDUSTRIAL SYSTEMS

## POLY-UREA APPLICATION

### **Polyurea, an advanced waterproofing and protective coating solution**

Polyurea coating technology constitutes a superior system from the traditional ones used in waterproofing and protective coating applications. Its exceptional properties result to fast completion of work and immediate return to service, while making it capable for a wide range of applications, especially under highly demanding conditions.

polyurea's technology started back in the 1980s and is becoming extremely popular these days. It is a hot-spray applied membrane based on the reaction of an isocyanate component and an amino or amino-polyol resin in the case of pure and hybrid polyurea respectively. The isocyanate can be of aromatic or aliphatic composition. The combination of the two components takes place in high pressure and temperature.

What are the advantages of polyurea coatings?

- Ultra -fast curing
- Extra ordinary chemical resistance and mechanical properties
- Advance waterproofing properties
- East application and perfect adhesion
- Long working life





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## FIELD OF APPLICATION

Polyurea is used in a myriad of waterproofing and protection applications, especially those where high mechanical and chemical resistance, fast completion of works, and immediate return-to-service are critical considerations, e.g. industrial, residential, and infrastructure projects, wastewater treatment facilities, water tanks, the automotive industry, and even the ballistic industry.



## GRP Lamination

**Fiberglass sheet laminating** is the process of taking a thin fiberglass sheet and laminating it to another material in order to provide strength and support to that material.

Certain laminating techniques use two steps of applying the epoxy to form resin impregnated fiber glass sheets. In the first step there is a resin solvent mixture which is partially cured so it will not redissolve in a second coating of the same mixture. The same resin mixture is subsequently given to the covered fiberglass with moderately cured resin in the second step. This second glaze which covers the first fills in the empty spaces between the fibers. The second coating is also only partially cured. This partial curing of the second layer furthers the curing of the first epoxy layer. This process also produces a thin sticky layer. The first coating acts like a sealed insulating sheet, preventing glass fiber contact with conductive planes. The second coating fills the planes and can form adhesive bonds to cores and conductive layers.

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