

# Specifications & Maintenance Manual



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# Concrete

# Self Compacting Concrete

Concrete is a composite material consisting of water, aggregates, cement and specific additives. Its high fluidity enables it to flow and fill every part of the mold under its own weight. Due to its viscosity, it envelops the steel reinforcement, reaching all corners of the mold through gravity alone, facilitating the creation of intricate geometries with a consistent finish. Through the incorporation of diverse aggregates and colorants, a variety of colors can be achieved without the need to paint the finished piece.

Properties

Basic technical features of self-compacting concrete manufactured by Escofet:

|                             |  |                             |
|-----------------------------|--|-----------------------------|
| Density                     |  | 2350 Kg/m <sup>3</sup>      |
| Compression strength        | UNE-EN 12390 / 2001                            | 30-45 Mpa                   |
| Young's modulus             |  | 40 Gpa                      |
| Flexural strength           | UNE-EN 12390 / 2001                            | 4-5 Mpa                     |
| Frost resistance            | UNE-EN 1339 / 2004                             | <0,1 Kg/m <sup>2</sup>      |
| Wear resistance by friction | UNE-EN 1339 / 2004                             | <21,5 mm                    |
|                             | <i>Footprint's average width</i>               |                             |
| Impact resistance           | UNE-EN 127748-1/2006                           | >200 cm                     |
|                             | <i>Height of breakage by a 1 kg steel ball</i> |                             |
| Minimum cement content      |  | 350 - 400 Kg/m <sup>3</sup> |

\* Characteristics according to the Testing Standard: UNE-EN-13198:2003

\* Technical properties depend on colour type, and differences may exist depending on each hue.



SCC Aggregate



SCC Concrete / Etched Grey / TWIG Bench

# Recycled Concrete

Formulated by substituting 60% of the aggregate used with a recycled and valorized aggregate derived from nearby construction and demolition waste, recycled concrete offers a more sustainable product with a lower environmental impact. After undergoing a recycling process, this aggregate becomes a high-quality raw material suitable for use in precast concrete. Thanks to a more efficient production process, a natural colour and texture finish is achieved that highlights subtle differences.

Properties

Basic technical features of recycled concrete manufactured by Escofet:

|   |                      |  |
|---|----------------------|--|
| Density   |                      | 2350 Kg/m <sup>3</sup><br>2650 Kg/m <sup>3</sup> |
| Compression strength  | UNE-EN 12390 / 2001  | 30-40 Mpa<br>45-55 Mpa                           |
| Flexural strength   | UNE-EN 12390 / 2001  | 4-5 Mpa  |
| Frost resistance  | UNE-EN 1339 / 2004   | <0,1 Kg/m <sup>2</sup>                           |
| Wear resistance by friction<br><i>Footprint's average width</i>     | UNE-EN 1339 / 2004   | <21,5 mm   |
| Impact resistance<br><i>Height of breakage by a 1 kg steel ball</i> | UNE-EN 127748-1/2006 | >200 cm  |
| Minimum cement content  |                      | 350 - 400 Kg/m <sup>3</sup>                      |



Recycled Aggregate





Recycled concrete / Eco-Grey® / PRAT table



# Slimconcrete® UHPC

A type of concrete with high compressive, flexural, and impact strength; it includes a high content of cement, fluid/liquid consistency, inorganic fibres, and features aggregates with a maximum size of 3mm. The aggregates' micro-granulometry allows for the reproduction of micro-reliefs with great surface finish detail; its homogeneous colouring enables consistent hues throughout its mass, and its low porosity reduces the loss of surface aggregates during cleaning processes.

## Properties

Basic technical features of Slimconcrete® UHPC concrete manufactured by Escofet:

|                             |  |                             |
|-----------------------------|--|-----------------------------|
| Density                     |  | 2350 Kg/m <sup>3</sup>      |
| Compression strength        | UNE-EN 12390 / 2001                            | 60-90 Mpa                   |
| Young's modulus             |  | 40 Gpa                      |
| Flexural strength           | UNE-EN 12390 / 2001                            | 10-12 Mpa                   |
| Frost resistance            | UNE-EN 1339 / 2004                             | 0 Kg/m <sup>2</sup>         |
| Wear resistance by friction | UNE-EN 1339 / 2004                             | <18,3 mm                    |
|                             | <i>Footprint's average width</i>               |                             |
| Impact resistance           | UNE-EN 127748-1/2006                           | >200 cm                     |
|                             | <i>Height of breakage by a 1 kg steel ball</i> |                             |
| Minimum cement content      |  | 700 - 800 Kg/m <sup>3</sup> |

\* In-house testing: breakage height by 600g steel ball impact energy absorbed by the Slimconcrete® UHPC sample is 3 times higher than that of traditional self-compacting concrete.

\* Technical properties depend on the color type, with differences possible depending on each hue.



Slimconcrete® UHPC / Etched Beige / JULES ET JIM Planter



Slimconcrete® UHPC / Etched Grey / MOM Bench

# Comparative Table

|  | SCC Concrete                            | Recycled Concrete                       | Slimconcrete® UHPC                        |
|--|---|---|---|
| <b>01. Compression strength</b><br>UNE-EN 12390 / 2001   | 35-45 MPa                               | 30-40 MPa                               | 60-90 MPa                                 |
| <b>02. Flexural strength</b><br>UNE-EN 12390 / 2001  | 4-5 MPa                                 | 4-5 MPa                                 | 10-12 MPa                                 |
| <b>03. Frost resistance</b><br>UNE-EN 1339 / 2004<br><br><i>With anti-freeze salts, UHPC experiences 0 kg/m<sup>2</sup> loss of mass after 28 cycles of freeze-thaw.</i>   | <0,1 kg / m <sup>2</sup>                | <0,1 kg / m <sup>2</sup>                | 0 kg / m <sup>2</sup>                     |
| <b>04. Wear resistance by friction</b><br>UNE-EN 1339 / 2004<br><br><i>Footprint's average width</i>   | <21,5 mm                                | <21,5 mm                                | <18,3 mm                                  |
| <b>05. Impact resistance</b><br>UNE-EN 127748-1/2006<br><br><i>Breakage height by 1 kg steel ball</i><br><br><b>In-house tests.</b> Breakage height by 600g steel ball.<br><i>Energy absorbed by the UHPC sample upon impact is 3 times higher than that of traditional SCC.</i> | >200 cm<br><br>750 mm<br>Ep = 4,5J (Nm) | >200 cm<br><br>750 mm<br>Ep = 4,5J (Nm) | >200 cm<br><br>2250 mm<br>Ep = 13,5J (Nm) |
| <b>06. Minimum cement content</b>  | 350-400 kg / m <sup>3</sup>             | 350-400 kg / m <sup>3</sup>             | 700-800 kg / m <sup>3</sup>               |



# Steel Reinforcement

We analyse each element to determine whether it requires reinforcement, the material it should be made of, and its quantity (diameters, shapes, and number of rods). Depending on the element's design, thickness, geometry, and function, we differentiate between stainless steel, galvanized steel, or carbon steel reinforcement.

| Types |                  |   |
|-------|------------------|---|
|       | Stainless steel  | Reinforcement in corrugated stainless steel, AISI 304, adequately shaped to the structure of the piece, at a quantity of 50 Kg/m <sup>3</sup> and at a minimum distance of 2.5 cm from the surface. |
|       | Galvanized steel | Reinforcement in galvanized steel B 500 S, adequately shaped to the structure of the piece, at a quantity of 50 Kg/m <sup>3</sup> and at a minimum distance of 2.5 cm from the surface.             |
|       | Carbon steel     | Reinforcement in B 500 S steel, adequately shaped to the structure of the piece, at a quantity of 50 Kg/m <sup>3</sup> and at a minimum distance of 2.5 cm from the surface.                        |



# Finishes, colours and coatings

According to project needs and concrete type, we provide a colour chart for mass colouring, various surface finishing processes, and protective coatings that enhance the product's character and uniqueness.

## Finishes

### Etched Finish

Process consisting of applying diluted hydrochloric acid to the surface of concrete to remove the superficial layer, revealing the natural appearance and color of the aggregates within. The result is a smooth surface with a sandy texture in different degrees of roughness. Through stripping, a stony surface is achieved that remains consistent throughout its lifespan.



### Polished Finish

Through a process of leveling the piece, the surface is smoothed using diamond abrasives to make it smooth, shiny, and free of pores. This process is only applied to the smooth and superficial surfaces of the concrete element.



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**Cast Finish**

The cast finish produces a surface with the natural colour and texture of concrete, without altering its smooth surface that incorporates small irregularities. Depending on the geometry of the moulded element, as well as the intended texture, this finish is both less expensive without detracting from its material or structural quality.



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**Waterproofing**

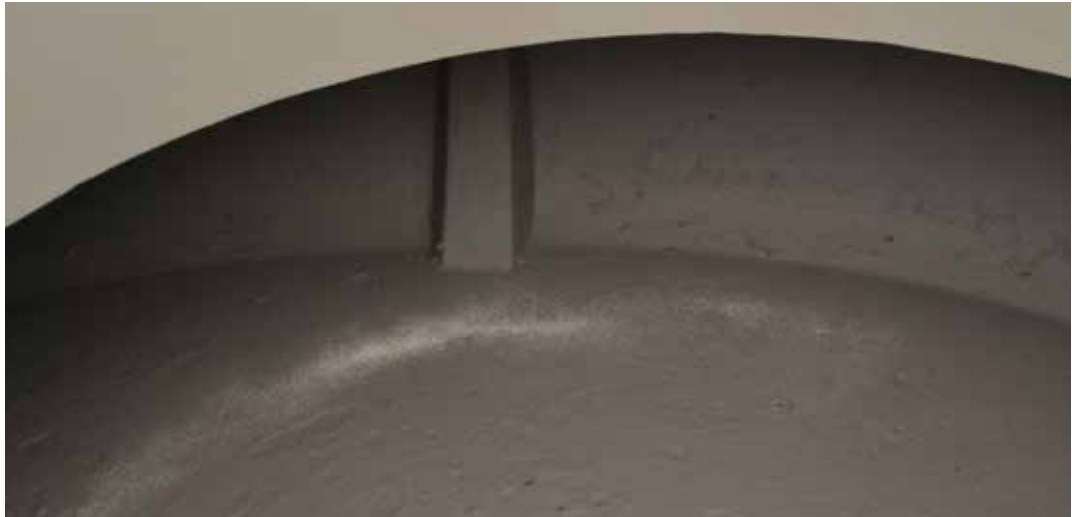
Surface treatment that prevents moisture from passing through, thus avoiding water leaks, while remaining breathable and allowing the evaporation of water from the interior. Once applied, it does not impart shine or color to the piece. It provides the treated concrete surface with an oleophobic and water-repellent effect that helps keep surfaces clean for longer and facilitates maintenance processes.



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**Impermeabilización**

Revestimiento interior transpirable y flexible junto a una lámina drenante que deja las paredes del hormigón libres del contacto y humedad de las tierras. Esto permite una mayor durabilidad de las piezas sometidas a grandes volúmenes de tierra y humedad, o expuestas a elevadas temperaturas en su cara exterior, favoreciendo además la supervivencia de las especies plantadas y facilitando futuras tareas de sustitución de tierras.



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**Bush Hammered Finish**

It is a rough finish, with small craters that leave the piece with a rustic appearance. It is applied by repeatedly hitting with a bush hammer that punctures and works the surface of the stone until it achieves the desired texture.





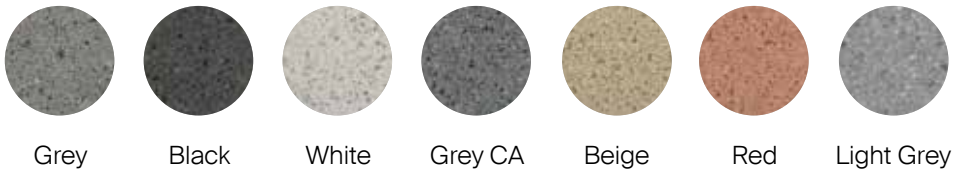
## Colours & Finishes Table

### SCC Concrete

#### Etched



#### Polished



### Recycled Concrete

#### Eco-Grey®



### Slimconcrete® UHPC

#### Etched



#### Soft Polished



# Visual Aspects

Products made of concrete, due to the natural origin of their components, manufacturing process, handling, and installation, as well as the natural wear of the material itself, may exhibit aesthetic variations and undergo a gradual process of natural aging.

Types

Colour uniformity

Natural origin of aggregates and concrete components, in which 100% color uniformity cannot be guaranteed. Finishes may present slight differences in texture, color, hue, or luminosity.



Surface appearance

Manufacturing process using gravity molding, which may result in the appearance of pores and air bubbles depending on the geometric complexity.



Parting line

Unavoidable mould joints and at the vertices that may result in discontinuities in the elements.



Resistance to weather conditions

Conditions of humidity and thermal or support exposure that may generate overloads or tensions not foreseen in the elements.



Durability

Natural aging of the material, dirt, and wear due to the use of the elements.





**Colour recommendation for benches**

It is recommended to avoid using white colour on concrete benches in high-traffic areas and children's zones, or to propose a more frequent maintenance and cleaning plan, as light colours tend to show dirt more visibly. In children's areas, light-coloured benches are prone to stains from food and drinks. Without constant maintenance, they can quickly appear deteriorated and unattractive. More frequent reapplication of a water-repellent in the maintenance plan will improve cleanliness and enhance the appearance of the elements over time, helping to maintain the initial look of the furniture.



**Colour recommendation for planters**

It is recommended to avoid using black on concrete planters and modular benches intended for green islands and retaining walls. Contact with moisture and thermal contrasts between the interior and exterior can cause unexpected degradation in the concrete, as well as excessive temperatures in the soil and plants in the planters, which will increase drying and reduce the lifespan of the plant species.



# Instalación

Escofet is not responsible for the installation of the elements. It is recommended to follow the placement steps indicated in the technical data sheets; any modifications will be the responsibility of the customer.

Types

## Anchoring

Anchoring to the ground is necessary when indicated in the technical sheet, even if the piece is self-stable. If the ground is not solid (sandy, gravel, grass, etc.), appropriate foundations must be made according to the weight of the element and the quality of the terrain. It is not Escofet's responsibility to define the foundations for all types of soil conditions.



## Leveling

The condition of the ground can affect the installation of benches, especially in the case of modular ones that need to fit together well, leaving a gap of between 5 mm and 8 mm between them. A flat and firm surface, with proper leveling and no inclines, will ensure a good fit between the modules. In the case of uneven surfaces, spacers can be used to level the benches and ensure a stable installation.



# Maintenance

As a general rule, cast concrete products do not require specific maintenance throughout their lifespan. Nevertheless, some considerations must be respected.

Types

## Packaging

It is recommended not to keep the pieces packaged for an extended period of time, exceeding 60 days from the date of shipment, as the packaging materials protecting the product may deteriorate over time and affect the surface quality of the supplied elements.



## Cleaning

Regular cleaning and periodic inspection of the element with non-alkaline and non-abrasive products that could alter its coatings and finishes are necessary. The cleaning process involves using high-pressure water (120-140 bars) with a frequency that varies according to exposure conditions (pollution, rain, temperatures, etc.). In case of stains, the protocol recommends proceeding with hot water pressure at 90°C.





**Waterproofing**

Replenishment of the protective hydrophobic treatment applied to stripped or polished surfaces. To reapply the hydrophobic treatment, the surfaces to be treated must first be cleaned. If the surfaces are not completely clean, a fine-grit sandpaper can be used without eroding the piece, followed by cleaning the dust residue with a cloth. Next, two coats of hydrophobic treatment are applied using a foam palette, allowing half an hour between coats. For elements using colored hydrophobic treatment and desiring to enhance the color, a third coat will be applied.



**Repair**

In case of repair needs due to impacts, vandalism, or accidental blows, small material losses or chippings will require restoration using a "Repair Kit" with a specific formula for each color and a specific procedure. The mixture is dosed to harmonize the color and texture of the concrete. Steps to follow:

- 1.** Moisten the area to be repaired with water.
- 2.** Carry out the repair, leaving it slightly more protruding than the rest, ensuring good compaction.
- 3.** Cover the repair with a damp cloth for 8 hours to achieve uniform curing of the paste.
- 4.** Allow 2 to 3 hours to pass before proceeding with the acid wash.
- 5.** For the acid wash, protect your hands with plastic gloves and rinse the repaired area and the pavement immediately afterward with plenty of water. Mix hydrochloric acid with water in a ratio of 1 part acid to 4 parts water.







# Metal

All products made with alloyed materials are protected to ensure optimal corrosion resistance and durability against all types of weather. We work with a wide range of materials and finishes, such as anodized aluminum, AISI 316 stainless steel, hot-dip galvanized steel, zinc-plated steel, and Corten steel.

| Types                           | S235 -JR Steel  | Hot-rolled non-alloy structural steel; it possesses favorable characteristics such as plasticity, toughness, and weldability, along with adequate strength and the ability to be bent when cold. Its density is 7850 kg/m <sup>3</sup> , and it melts at a temperature between 1420-1460°C.  |
|---------------------------------|---|--|
| S355 - J0W Corten Steel         | <p>Escofet doesn't speed up the natural process of forming the protective layer. As such, the material can be received while still undergoing surface transformation process.</p> | <p>Corrosion-resistant common steel. Its unique chemical composition shields it from atmospheric corrosion without compromising its mechanical properties significantly. The steel surface develops a waterproof oxide film, halting further oxidation penetration. The duration of this natural oxidation process fluctuates with climatic and environmental conditions. This type of steel has a density of 7850 kg/m<sup>3</sup> and a melting point of 1375°C.</p> |
| AISI 316 / 316L Stainless Steel |   | <p>Iron castings are alloyed materials known for their brittleness and relatively high hardness. They withstand thermal shock and corrosion well while effectively dampening vibrations. Cast parts excel in compression rather than tension. Additionally, they facilitate chip removal, making them easy to machine. The density of this steel ranges from 6950 kg/m<sup>3</sup> to 7350 kg/m<sup>3</sup>, with a melting point of 1300°C.</p>                       |
| GG20 Cast Steel                 |   | <p>AISI 316 / 316L stainless steel is a type of steel characterized by its austenitic structure, comprising chromium, nickel, and molybdenum. The addition of molybdenum enhances its corrosion resistance and high-temperature strength. It has a density of 8030 kg/m<sup>3</sup> and a melting point ranging from 1370 to 1398°C.</p>   |



Types

**Rolled Aluminum Sheets**

Aluminum is a non-magnetic metal, resembling silver in color, and widely available in the Earth's crust. Noteworthy properties of aluminum include its lightweight nature, ductility, low melting point, and recyclability. It has a density of 2700 kg/m<sup>3</sup> and melts at 660°C.

**Extruded Aluminum**

Extrusion is a process used to manufacture objects with a specific and unchanging cross-sectional shape. Material is pushed or pulled through a die, resulting in the desired cross-section. The primary advantages include the ability to produce intricate cross-sectional shapes and the excellent surface finish of the final products. The density of extruded materials typically ranges around 2700 kg/m<sup>3</sup>.



**Aluminum Casting**

Aluminum casting alloys are developed to possess specific characteristics such as castability, fluidity, and mold-filling ability. Additionally, their properties, including strength, toughness, and corrosion resistance, are optimized for various applications. These alloys typically have a density of 2630 kg/m<sup>3</sup> and a melting point ranging from 570 to 700°C.



# Finishes, colours, and coatings

| Types               |   |  |
|---------------------|---|--|
| Galvanizing         | During the electroplating process, the steel acts as the cathode in the electrolytic cell. This results in the formation of a coating, typically an Fe-Zn alloy layer, on the surface of the steel. This process also deposits a pure zinc layer on the outer surface. The resulting alloy offers significant corrosion resistance and durability to the steel.   |  |
| Hot-dip galvanizing | The process in which steel is immersed in a bath of molten zinc to coat it with a protective layer is known as hot-dip galvanizing. This process provides excellent protection against corrosion, as zinc acts as a barrier between the base metal and the corrosive environment. It is a widely used method to protect steel against oxidation and other types of damage.  |  |
| Anodizing           | Electrolytic passivation is a process used to increase the thickness of the natural oxide layer on the surface of metal parts. This technique is often applied to aluminum to create an artificial protective layer using aluminum oxide, known as alumina. The layer is formed through electrochemical methods, enhancing the resistance and durability of the aluminum. The level of protection largely depends on the thickness of this layer, typically ranging from 5 µm to 20 µm, depending on the intended environmental conditions.   |  |
| Painting            | Our painting process involves liquid coating formulated with polyurethane. This process offers durability in outdoor conditions, providing greater longevity for both color and gloss, as well as good chemical resistance, UV radiation resistance, and corrosion resistance, surpassing 1480 hours of salt spray and offering protection levels C5 and C5M according to our clients' needs. It is an elastic paint that accommodates deformations of the base material without damaging the protective layers. This coating is applied over a zinc-rich primer formulated to meet the resistance, durability, and finish requirements set by Escofet. |  |



Reseda Green / BAND



Reddish Orange/ MOOK



Galvanized steel support painted in oxide red color RAL 3009 / SISA

## Colour and Finish Chart

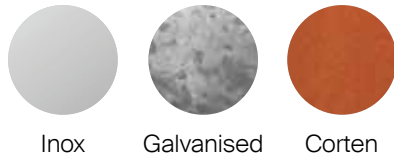
### Steel

#### Colours



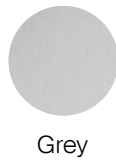
Standard color chart. Escofet can provide other RAL colors upon request.

#### Finishes



### Aluminium

#### Anodisation







Column in white aluminum RAL 9006; Bench supports in textured silver gray / FUL & VILNIUS

Tipos

## Zincado / Galvanizado

It is recommended to carry out periodic inspections at least every six months to assess any damage caused by vandalism, weather conditions, or manipulation of the elements. The affected part will be removed, the area will be cleaned, and cold zinc will be applied.

## Anodisation

It is recommended to conduct periodic inspections at least every six months to assess any damage caused by vandalism, weather conditions, or manipulation of the elements. If the coating is affected and shows signs of rust (alumina), it is recommended to replace the element.

## Painting

Periodic inspections, ideally conducted every six months, are recommended to assess any damage caused by vandalism, weather conditions, or manipulation of the elements. If there are any instances of coating detachment, it is advised to sand the affected area, clean it thoroughly, apply primer, and repaint the affected part. Zinc-rich primers with high levels of protection and adhesion are recommended, along with epoxy-based paints in the same RAL color provided.



Aluminum casting rings painted wrought iron black / CARMEL 120

Escofet recommends periodic cleaning of its elements using non-alkaline and non-abrasive products to avoid altering their coatings and finishes.

It is also advised not to keep the pieces packaged for extended periods, as the bags used to protect the elements over time may cause stains on them.



Types

## Fountains

All of our fountains are supplied tested by our assembly personnel. During the reception and installation process, it's crucial to ensure that the air is properly drained from the pipes. Additionally, periodic maintenance of the drains is necessary to remove any foreign objects.

Regular cleaning of both the fountain nozzle and the drain is recommended, with the frequency depending on the location and installation conditions.

## Luminaires & Columns

Escofet recommends avoiding the use of alkaline cleaners on its columns and luminaires. Periodic inspection of our columns is advised, either semi-annually or annually depending on the installation area. If there are any defects in the surface layer, they will be repaired according to UNE 40-2 standards by the company responsible for their ownership or maintenance.

When receiving luminaires with management systems, special care should be taken during the connection process, ensuring that the line inputs and management system inputs are respected. Regular inspection of all luminaire components is recommended for proper functioning, cleaning external agents that may affect dissipation, convection, or their correct operation.



Stainless steel fountain / PLAY



Galvanized Luminaire / CREAM M



# Wood

# Wood

We recognize that every environment is unique, so we offer a diverse selection of woods. We are constantly researching and innovating to achieve the best quality in textures and colors, offering technological finishes that add significant value.

Types

## Softwood

Conifers, also known as softwoods, have a simplified porous structure, distinct annual rings, and a regularly uniform pale color. They are generally easy to impregnate and rich in resins, essential oils, and tannins. Escofet works with high-performance woods, with a density ranging from 510 to 630 kg/m<sup>3</sup>. Our woods have a volumetric shrinkage of up to 0.44% and a maximum moisture content of 18%.



Nordid  
Pine



Nordic  
Fir

## Tropical Wood

Tropical wood provides several benefits: it has a high oil content, offering excellent protection for outdoor use, and a high density, leading to resistance to abrasion. It doesn't need treatment for outdoor applications. Escofet works with high-performance woods, with a density ranging from 670 kg/m<sup>3</sup> to 1070 kg/m<sup>3</sup>. Our woods have a volumetric shrinkage of up to 0.36% and a maximum moisture content of 7%.



Cumaru



Iroko



Louro  
Gamela



Teak

All woods sold by Escofet in its catalog have Chain of Custody certification according to FSC and PEFC standards.



La marca de la  
gestión forestal  
responsable

Escofet only works with top-grade woods.  
Escofet reserves the wood species used based on stocks and market needs.





Tropical wood slats / LONGO Bench



# Finishes and Coatings

Types

## Varnishes

The Protective Wood Stain offers decorative protection for wood by penetrating its pores instead of forming a surface layer like varnish. This allows the wood to breathe and prevents cracking. Additionally, it regulates moisture and protects against insects, fungi, and UV rays. Its composition of flexible resins adapts to weather changes, making it ideal for outdoor use and areas near the sea, although it shortens maintenance cycles. Its natural finish highlights the wood grain and details.



Tropical Glossy Stain / EQUAL



Pine Matte Clear Stain / SISA

## Natural Oils

They offer protection for all types of wood, especially tropical and exotic woods. Its natural components nourish and restore the wood, extending its durability. Ideal for outdoor woods, they protect against harmful UV rays, although over time it may acquire a grayish tone. Their original color can be restored by sanding and reapplying the oil. Additionally, its use repels water and protects against insects.



Tropical wood with Oil / ALPINE



Tropical wood with Oil / UNIVERSE UP

Types

Autoclave

The autoclave treatment is a wood preservation process that sterilizes and eliminates microorganisms to prevent decay and extend the wood's lifespan. This treatment involves three main steps: Firstly, a vacuum is created to remove air and water from the wood. Then, the treatment is applied under pressure to penetrate the wood cells. Finally, the wood is dried by creating a vacuum again, enhancing its finish. This process protects the wood from wood-boring insects and fungi, making it water-resistant and increasing its dimensional stability. Despite treatment, the wood retains all its original properties and appearance.



Autoclave Nordic Pine / TRAMET



Autoclave Nordic Fir / ZUERA

Natural

Teak wood is known for its exceptional qualities when used in outdoor applications, particularly due to its natural durability and good dimensional stability. Teak contains an antiseptic resin that protects it from attacks by termites and fungi. In addition to its stability, teak is highly resistant to water, cracking, and breaking, thanks to its natural oils, which make it waterproof.



Teak Wood / SERP



Teak Wood / BOX



# Visual Aspects

Wood that's left outdoors tends to age faster because of exposure to environmental elements such as sunlight, rain, wind, and temperature changes. This aging process can cause discoloration, loss of shine, and the development of cracks or fissures on the wood's surface over time. The natural aging of wood is a normal process that can contribute to the character and beauty of outdoor urban elements.

Types

## Colour Uniformity

The natural origin of wood cannot guarantee 100% color uniformity. Slats may present slight differences in color, texture, hue, or brightness.



Pine Wood / TRAMET

## Wear and Tear

Wood can undergo gradual deterioration, especially in areas of frequent contact. Intensive use and friction can result in scratches, marks, and loss of shine on the surface in the contact area.



Tropical Wood / MOOK



Surface Appearance

The natural aging of wood is influenced by climatic agents, dirt accumulation, and wear caused by use. Over time, pine wood takes on a toasted hue, while tropical woods tend to become grayish. This color change process is part of the distinctive character of outdoor wood and can be accentuated by prolonged exposure to environmental elements.



Teak Wood / MARINA



Pine Wood / ALPINE



Tropical Wood / KIWI

Types

Autoclave / Natural

Requires minimal maintenance, mainly cleaning and periodic inspection of any cracks that may occur due to weather conditions and UV exposure where installed. Wood-restoring and rejuvenating products can be applied as needed.

Varnishes / Oils

We recommend conducting an inspection every 6 months and applying the appropriate finish if necessary, based on the supplied material. Maintenance may need to be accelerated or extended depending on the geographic location, UV exposure, or local climate conditions of the installation area. Wood-restoring or rejuvenating products can be applied before the relevant protective product.



Sanding Process



Finishing Process



Oil Application



Final Result / MARINA

| Period                        | Non-autoclaved Woods   |                        | Autoclaved Woods       |                        |
|-------------------------------|--|------------------------|------------------------|------------------------|
|                               | Mild Climate   | Severe Climate         | Mild Climate           | Severe Climate         |
| 6 months                      |  | Material Revision      |                        | Crack Inspection       |
| 12 months                     | Material Revision  | Material Revision      | Crack Inspection       | Repair and Maintenance |
| 18 months                     | Material Revision  | Repair and Maintenance | Repair and Maintenance | Crack Inspection       |
| 24 months                     | Repair and Maintenance   | Material Revision      | Crack Inspection       | Repair and Maintenance |
| <b>Crack Inspection</b>       | <i>Sanding or applying the restorer will be enough, as the protective layer will be applied based on the guidelines set by maintenance companies or municipal protocols.</i>   |                        |                        |                        |
| <b>Repair and Maintenance</b> | <i>Disassemble the slats from the bench and completely remove the protective layer using sandpaper. Then, apply a new protective layer. Escofet 1886 recommends that the new protective layer be the same type of product previously used on the wood. Varnishes, whether synthetic or water-based, are the traditional solution for protecting wood. When applied, they create a film over the fibers that seals the pores, preventing any kind of stain, dust, or moisture from penetrating.</i> |                        |                        |                        |

Consider this procedure as a guide for best practices. The final responsibility for the product and its maintenance lies with the customer or the person delegated with it. Severe climates or vandalism may affect what is mentioned in the table.

Escofet recommends periodic cleaning of its elements with NON-alkaline and non-abrasive products that may alter their coatings and finishes.

It is recommended not to have the pieces packaged for a long period of time as the bags protecting the element over time may cause stains on it.





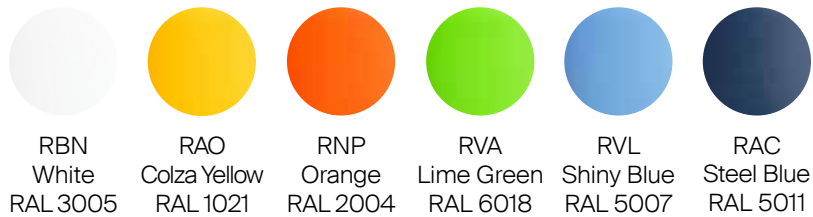
# Polymers

We work with materials produced artificially, manufactured through chemical or industrial processes that may include a high percentage of recycled material, such as plastic used in rotational molding and fiberglass reinforced plastic (FRP).

Types

### Rotational Moulding

Rotational molding or rotomolding is the process of transforming plastic used to produce hollow parts. In this process, powdered polyethylene is poured into a mould, which is then rotated on two biaxial axes while being heated. Our products can be made with recycled plastics, allowing for variation in texture and finish.



We manufacture 100% recycled black color and can explore other colors with recycled materials upon explicit request.

Post-Consumer 0%  
(black color is 100%)  
Pre-Consumer 100%  
(all colors)



### Fibreglass Reinforced Plastic (FRP)

Fiberglass Reinforced Plastic (FRP) is a highly versatile and durable composite material. It consists of a plastic or resin matrix reinforced with fiberglass. This reinforcement process gives FRP a unique combination of properties, including high mechanical strength, rigidity, durability, and corrosion resistance.

FRP is renowned for its excellent weather resistance, chemical resistance, and corrosion resistance, making it a popular choice for applications in aggressive environments or exposed to severe weather conditions.





# Visual Aspects

Polyethylene is ideal for outdoor use; it offers advantages due to its durability, weather resistance, and low maintenance.

Types

## Material Uniformity

Dark colours may suffer from deformation under high temperatures and intensive use due to the thermoplastic nature of polyethylene, which makes it susceptible to thermal deformation and mechanical fatigue. Similarly, they are prone to showing scratches and wear.



Black Colour / SIT Air

## Wear & Tear

Over time, it may experience slight discoloration and loss of gloss due to prolonged exposure to UV rays and intensive use of the seating area.



Colores Air Collection / Stul





# Maintenance

Info

It requires minimal maintenance, mainly limited to cleaning and periodic inspection for any stains that may occur due to use. Simply periodic cleaning with hot water under pressure and neutral soap products or degreasing detergents containing surfactants would suffice.



Ingrained Dirt

Hot Water Pressure

Final Result



FRP Strips / KANJI

Escofet recommends periodic cleaning of its elements with NON-alkaline or abrasive products that could alter their coatings and finishes.

It is recommended not to have the pieces packaged for a long period of time, as the bags that protect the element over time can cause stains on it.

# **Standards & Norms**

# Associated Norms

Escofet products fall under the scope of the following specific standards/norms.

Norms

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## Concrete Components

UNE-EN-13198:2003

Prefabricated concrete products, urban furniture, and garden products

UNE-EN-13369:2001

Common regulations for prefabricated concrete products

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## Metal Components

UNE-40-2

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## Corrosion Protection and Anti-Corrosion Painting

ISO 2409:2013  
ISO 12944-1:1999  
ISO 12944-2:1999  
ISO 12944-3:1999  
ISO 12944-4:1999  
ISO 12944-5:1999  
ISO 12944-6:1999  
ISO 12944-7:1999

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## Wood Components

FSC Certification Standards  
FSC-STD-40-004 V3-0  
FSC-STD-50-001 V2-0

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## Columns and Luminaries

UNE-40-3-1  
UNE-40-5  
UNE-40-3-3  
UNE-40-2  
UNE-60598-1:2015  
UNE-60598-2-3:1994  
UNE-61000-3-2  
UNE-61000-4-7:2004/A1  
UNE-55015:2013/A1

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## Plastic Components

UNE-EN-13501-1:2019  
UNE-EN-1021-1:15  
UNE-EN-1021-2:15

E classification regarding fire reaction  
Under UL-94 material classification  
Flammability Standards



The names, brands, and industrial models of the products have been deposited in the corresponding registers.  
The technical information provided by Escofet about its products may be subject to change without prior notice.

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ER-0403/2016

