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TECHNICAL DOSSIER



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a) Carbon Steel

This material is mainly used in the structures of our products, it is an iron with a certain carbon content in its alloy normally less than 2%, we only use cold rolled or stripped sheets. We also use S275 JR quality profiles.

This material is always given a final coating to prevent oxidation and extend the life of the product.

b) Stainless Steel

We use the AISI-304 steel as standard and on demand we can use it and we recommend it for aggressive areas (near the beaches) the AISI-316. The standard finish of the stainless materials are always satin fine grain 220, and on request they can be made with a repulido.

c) Wood

The wood used by Sustainable Furniture is standard, tropical wood and on demand tropical wood with FSC seal (controlled and certified felling).

Wood is always given 2 hands with a product of the xylazel brand “lasur decorative exterior finish”, see attached sheet (wood treatment), the shade chosen for sustainable furniture is satin teca (nº 707) and depending of the wood base used, you can acquire different shade.

see next page

xylazel[®]
LASUR

AL AGUA

ACABADO DECORATIVO
PROTECTOR DE LA MADERA

**ACABADO DECORATIVO
PROTECTOR DE LA MADERA**

Satinado 707 TECA Mate 907

Tonos d

Decorates and protects wood

Beautifies with its special transparent colours

Highlights the wood's beauty by emphasising its grain

Colours can be mixed with each other, allowing endless combinations

Deeply penetrates into the wood, protecting it and preventing its natural deformation

Microporous, lets the wood breath, preventing its natural movement, keeping it stable, with no deformations

Its special components, UV ray absorbing and stabilising pigments, give it an extraordinary resistance to sun

Waterproof, water repellent, creates a waterproofing effect

Ultra-fast drying, enabling continuous application

Very easy application with very low odour and tools are cleaned with water

Sanding or stripping not required during maintenance. Cleaning and applying new coats over existing ones is sufficient

For new untreated wood, always treat beforehand with Xylazel Undercoat

Designed and tested for the Iberian Peninsula's climate

Colours

Colourless 701 (Colourless for wood exposed to the sun) | Oak 703 | Chestnut 704 | Mahogany 705 | Walnut 706 | Teak 707 | Pine 709 | Wenge 720

INCOLORO ESPECIAL EXTERIORES



Defect-free wood, density between 890 and 1070 kg / m³, hardness between 8'5 and 11 (very hard) and modulus of elasticity between 13,000 and 22,000 N / mm².

image tropical wood subspecies - CUMARU



We also use solid pine and laminate with autoclave treatment for some of our products. More and more we are using Flanged heat treated pinewood:



being fully subjected to high temperatures (212° approx.), the living cells are eliminated, thus obtaining excellent stability to the characteristic movements of the wood. The resin is completely removed, obtaining a lighter wood but at the same time with a harder surface, it increases the resistance to moisture, while reducing the risk of rotting this wood acquires a roasted and uniform color .

d) Technological wood (WPC)

The WPC mixes natural wood between 60 or 70% (natural wood fibers) with polymers (recycled or virgin plastics) to obtain a compound with excellent structural properties, with more durability and strength than traditional wood. Plastics are usually traces of polypropylene and recycled polyethylene from companies dedicated to the transformation of plastics, such as bottles, bags, etc.



Main features :

Ecological, it comes from recycled product and at the same time it is recyclable.

- Maintenance free.
- It does not splinter or crack, nor does it rot or dry out.
- Moisture resistant.
- High resistance to weather conditions.
- Anti insects, woodworm, termites.
- Resistant and durable in external environments.
-

e) High pressure laminate (HPL)

This material is manufactured with cellulosic technical fibers bonded with phenolic resin that, subject to high pressure and temperature, achieve a compact sheet that has outstanding characteristics, especially highlighting its exceptional resistance to impact and scratching. It is composed of approximately 60-70% paper and 30-40% thermostable resins.

These are the 4 options that Sustainable Furniture sells:



Ciment Brut M07F

Pierre Granitée M06F

Pin Fumé W09F

Pin Taiga W07F

f) High density polyethylene (HDPE)

Polyethylene is a 100% recyclable material and suitable for use in many sectors. Material characterized by being highly resistant to abrasion, wear and chemical agents and impacts. It is widely used in industrial applications due to its low coefficient of friction, as it is a self-lubricated material and due to its high impact resistance, but at the same time it is easy to mechanize. It is also important to highlight it as an electrical insulator, be prepared to withstand low temperatures and be resistant to climatic changes.

COLORES ESTANDAR POLIETILENO



RAL 9005



RAL 9010



RAL 5005



RAL 3020



RAL 1023



TERRACOTA



RAL 6029

Note: all orders that carry polyethylene in their manufacture, require a minimum order of € 3000 in their tax base.

g) Fiberglass reinforced polyester (PRFV)

It is a composite material, formed by a matrix of plastic or resin reinforced with glass fibers. It is a lightweight, resistant and easy to mold material, so it is widely used in the elaboration of pieces of soft and complex shapes.

In sustainable furniture we manufacture some of our models with this material.

The standard finishes are:



On customer request, parts with fireproof resins can be manufactured.

Nota: Other colors can also be made at the customer's request, but with a minimum manufacture of 15 pieces.

h) Reinforced concrete and blasted finish with water-repellent treatment.

The one used is high quality white concrete HB 30 B20 IIA hydrophobic, made with marble and granite aggregates of selected grain size. With guarantees and EEC certificates and ISO 9001: 2000 standard of SIMO or similar. The standard surface finish is the arid pickling white seen. On customer request it can be done in other colors (gray, reddish, black).

COATINGS

a) GALVANIZADO

It is a process by which a zinc coating of 70 to 90 micrometers is applied, on a steel base piece by means of a dip in molten zinc, with the aim of avoiding oxidation and corrosion that moisture and environmental pollution can cause on the metal.

Stages of the process: degreasing, first washing, pickling, second washing, salt treatment, drying, zinc bath at 450°, cooling and inspection according to UNE EN ISO 1461. The durability of the product after this process can reach up to 50 years according to study for the Protection of Corrosion of the Dresden Institute. (Germany).

Sample of galvanized sheet metal:



b) PINTURA ELECTROSTATICA (en polvo)

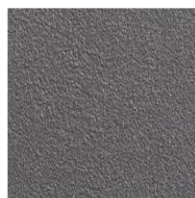
This is the system used by Sustainable Furniture, for the final coating of our pieces. Electrostatic Paint, or Lacquered, is a type of coating that is applied by projecting dry powder. This remains adhered to the metal due to static electricity. It is subsequently dried in a polymerization oven. A color or textured finish is created that is stronger than conventional paint.

The facilities must basically be equipped with a transport line to hang the pieces, powder paint application booths and a curing or polymerization furnace.

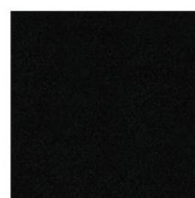
The standard colors used by sustainable furniture, for all metal parts:



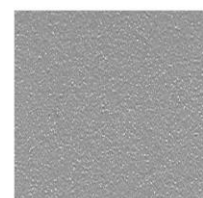
NEGRO OXIRON OLPRIMA
(ANTHRACITE)



GRIS FORJA (PEWTER)



NEGRO OXIRON CABA
(BLACK)



GRIS OXIRON
(METALLIC GREY)



RAL 3020 (Traffic Red 3020)



RAL 1001



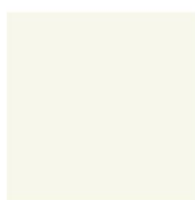
RAL 7030



ACERO CORTEN (BRONZE)



RAL 6009



RAL 9010

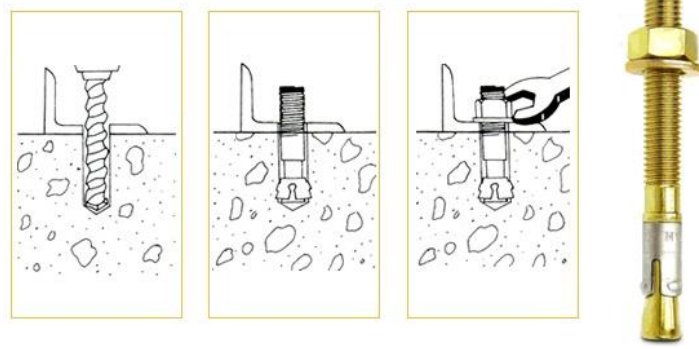


RAL 5013

TYPES OF STANDARD ANCHORAGE

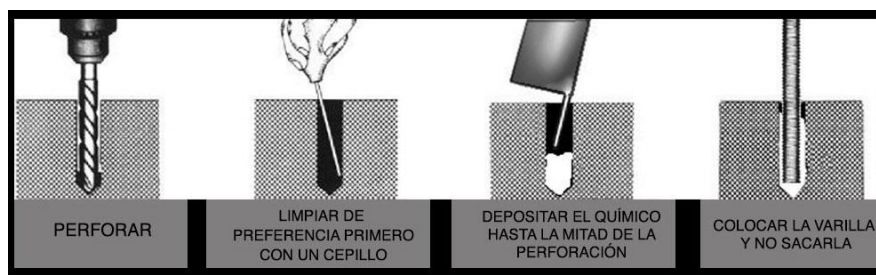
a) Anchorage with expansion plugs.

The following image shows the standard expansion block used by Sustainable Furniture, it is of size M10 * 80 (element not supplied).



b) Chemical anchor.

It consists of fixing a threaded rod or corrugated bar (M10) of metal to cured concrete, which is normally the support on which the supplied part will be seated, this fixation is carried out by means of a chemical resin (glue).



c) Anchoring by direct embedding of the piece in the field.

The lower part of the element has an iron hairpiece (usually a cracked plate or a threaded rod) which is embedded in the ground and covered with concrete later.

ANCHORS