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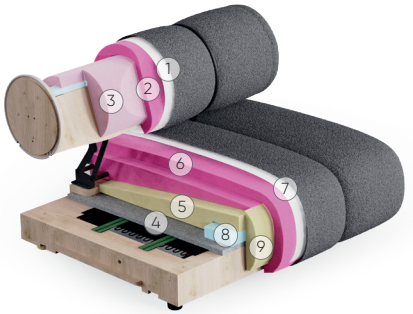
#checklist

Orion

Time to explore the technical specifications of Orion.



1

200 gr/m² Fiber

2

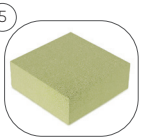
5 cm 35 kg/m³ HR Soft Foam

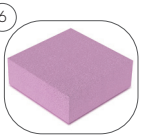
3

CNC-Cut 25 kg/m³ Super Soft Foam

4

2 cm 60 kg/m³ Felt

5

CNC-Cut 35 kg/m³ HR Foam

6

5 cm 35 kg/m³ HR Soft Foam

7

500 gr/m² Fiber

8

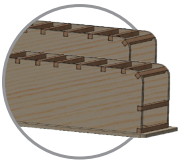
5 cm 45 kg/m³ HLB Foam

9

CNC-Cut 35 kg/m³ HR Foam

CONSTRUCTION

Plywood, beech wood, and MDF are used in the framework as the main construction of the sofa.



(Image 1-1)

Plywood, a high-strength (36 N/mm2) layered wood material produced in accordance with EN 636 standards, is obtained by the alignment of wood layers and fibers of around 1.5 mm vertically and pressing with resin followed by cutting in CNC machinery with high precision. (Image 1-1)

Prime quality beech wood boards of 2x2 cm, 5x2 cm and 7x2.5 cm, kiln-dried and cured for minimum 1 year with relative humidity of 10% or lower are used.

(Image 1-2)

We assemble MDF (Medium Density Fiberboard) of 3 mm thickness, a layer material increasing strength at the back and on the sides of our products to build a box construction.

D3-norm water-based PVAc wood glue with high adhesion strength in accordance with EN 204 standards is used in all joints of wooden components in the framework.
In order to improve strength and durability, components of the framework are joined by a notched joining system. (Image 1-1) (Image 1-2)

(Image 1-3)

Elastic columns with elasticity by 60% and a tensile strength by 350 kg as obtained by weaving polyester threads are used around zigzag springs, manufactured in a special heat treatment furnace to provide extra stiffness, and a total of 105 triple rubber fibers with a width by 7 cm so as to ensure ergonomics and comfort in seating. (Image 1-3)

Plastic materials of various dimensions are used in corners and edges in the framework in order to reduce rigidity and improve aesthetics after furnishing.

FOAM

A layered composite foam application is used to maximize comfort and durability in the seat, backrest, and arm areas.

In the seat, the bottom layer features a 2 cm thick, 60 kg/m3 density felt made from 100% recycled polyester material for support. (Image 2-1)

The main seat foam is made of 35 kg/m3 HR (High Resilience) and 35 kg/m3 HR sOFT quality, CNC-cut foam.

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(Image 2-1)

In the intermediate layer, a 35 kg/m3 density CNC-cut HR Soft foam is used as a flexible and soft comfort layer.

In the top layer, a 5 cm thick, 35 kg/m3 density HR Soft foam is used as a flexible and soft comfort layer, wrapping the entire seat.

For the inner and upper sections of the backrest, a 25 kg/m3 density CNC-cut soft foam is applied for support.

A 5 cm thick, 35 kg/m3 density HR Soft foam is used as a flexible and soft comfort layer, covering the entire backrest.

For the seat, the topmost layer is covered with 500 g/m2 first-quality laminated fiber made from 100% polyester, produced using thermal and chemical bonding methods in a nonwoven structure.

For the backrest, the topmost layer is covered with 200 g/m2 first-quality non-laminated fiber made from 100% polyester, produced using thermal and chemical bonding methods in a nonwoven structure.

In order to prevent the front of the seats from softening and collapsing due to heavy use, and to enhance the aesthetic appearance of the front upholstery fabric, a 5 cm thick, 15 cm wide, 45 kg/m3 HLB barrier foam is applied to the front section of the seat.

FITTINGS & LOAD-BEARING SYSTEMS

The Orion model uses hidden feet that are 40mm in length.

In order to connect the modules, 20x30x1.5mm electrostatic powder-coated metal profile connectors are used.

MECHANISM

The Orion model features the DSS26 back mechanism, which allows the seat to extend by 26 cm, adding a deepened seating function to the product.

Our DSS mechanism is produced using 4 mm thick DKP, HRP, and 6220 metal sheet materials, precisely shaped using CNC laser machines and coated with textured electrostatic powder paint.

APPLICATIONS FOR STRENGTH AND DURABILITY

During R&D activities, the products are subject to seating tests for 30,000 seating instances on average. Foam with thickness increased by 30% to 50% and density increased by 20% to 30% is used in the seat cushion of the conventional products of 100 kg.

Recycled material (felt) is used to replace 12% of foam material. Eco-friendly materials with reduced carbon footprint are used.

More than 18% of the product consists of wooden material.

Materials with increased durability by 50% to 100% with wider surface area and having a higher load-bearing capacity are used as fittings.

Factors such as structure, construction, production, shipment, assembly at home, including children jumping on the product, have been taken into consideration from design and production stages to all the way up to the finished product.

A mixed padding and fine woven lining are used in backrest cushion and throw pillows. The current mixed padding is more durable compared to other conventional padding materials.

FABRIC & SEAMS

Fabrics of the manufacturers carrying out production processes in line with international quality standards are used in all our armchairs.

Each lot of our fabrics is subject to all required physical and chemical testing in accordance with the applicable standards, especially including EN ISO 12947-2, EN ISO 13936-2, EN ISO 13937-3, EN ISO 13934-1, EN ISO 14704-1 standards, and fabrics with high Martindale wear (50.000 cycles and above), pile loss (10,000 cycles and above), pilling (5 and above), tear strength (40 N and above) are used.

Average fabric weights are 725 g/m2 in nubuck series, 450 g/m2 in woven series, and 325 g/m2 in velvet series (according to EN 12127).

No. 30, 80 tex low-flexibility, high-strength (5200 cN) lubricated continuous filament polyester threads are used as assembly seam.

No. 20, 135 tex, high-strength (9500 cN) nylon 6.6 threads are used as blind stitches used to improve strength and for aesthetic purposes.
Our sewing threads are certified by Oeko-Tex Standard 100.

In order to maximize sewing strength, assembly seams are used in every 3 mm of length while blind stitches are used in every 5 mm of length and 5 mm in width.