





# TRABAJO FINAL DE GRADO

# Ingeniería en Diseño Industrial y Desarrollo de Productos

### DISEÑO INDUSTRIAL APLICADO A MOBILIARIO, INTERIORISMO Y GRAFISMO

Beatriz Macián Pérez Valencia, Junio 2017 ETSID (UPV)

# ÍNDICE DE ASIGNATURAS

### - COMFORT (FURN 2003):

Diseño de un asiento multifuncional realizado con madera de haya curvada.

### - FLEXIBLE LIVING (FURN 2001):

Diseño de una estación de trabajo flexible con dos posibles posiciones.

### - LIGHTING (FURN 2002):

Diseño de una lámpara con una tapa troquelada que proyecta formas en el techo.

### - RETAIL (INTE 2002):

Diseño del interior de una tienda de dos plantas de ropa y complementos.

### - PRODUCT VISUALISATION (PDVS 3411):

Realización de dos proyectos de maquetación con Adobe In Design.

# COMFORT FURN 2003

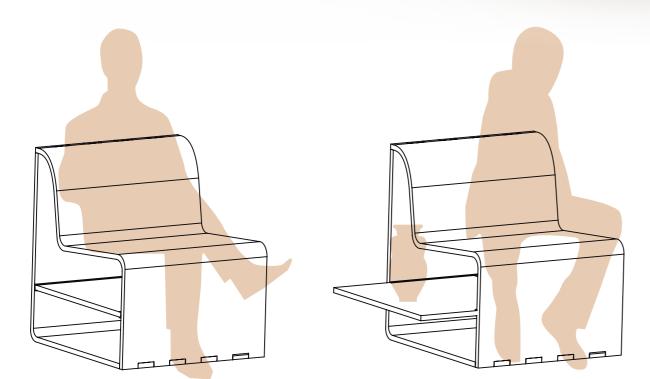
# FINAL RESOLUTION

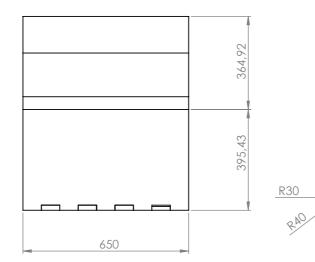
# MILOS

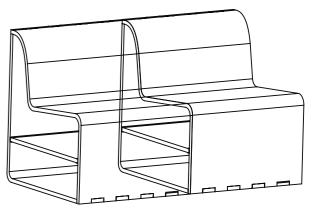


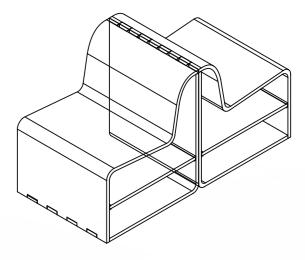
MILOS is a multifunctional and modular seating that allows you to relax.

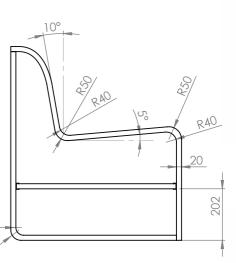
It has an interior board, becoming a table when you can put books, magazines, or any other object, and it can also act as shelf to storage different objects. Apart from being and individual seating it can be also collective with the addition to another module, allowing also to create different combinations.









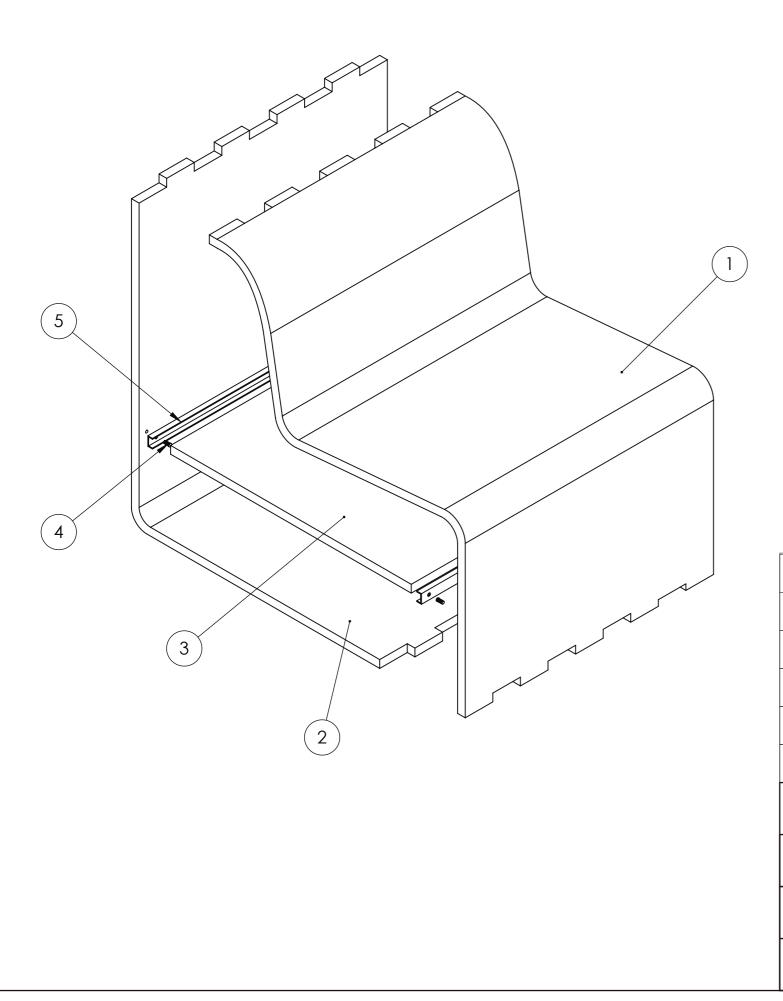


measures in mm

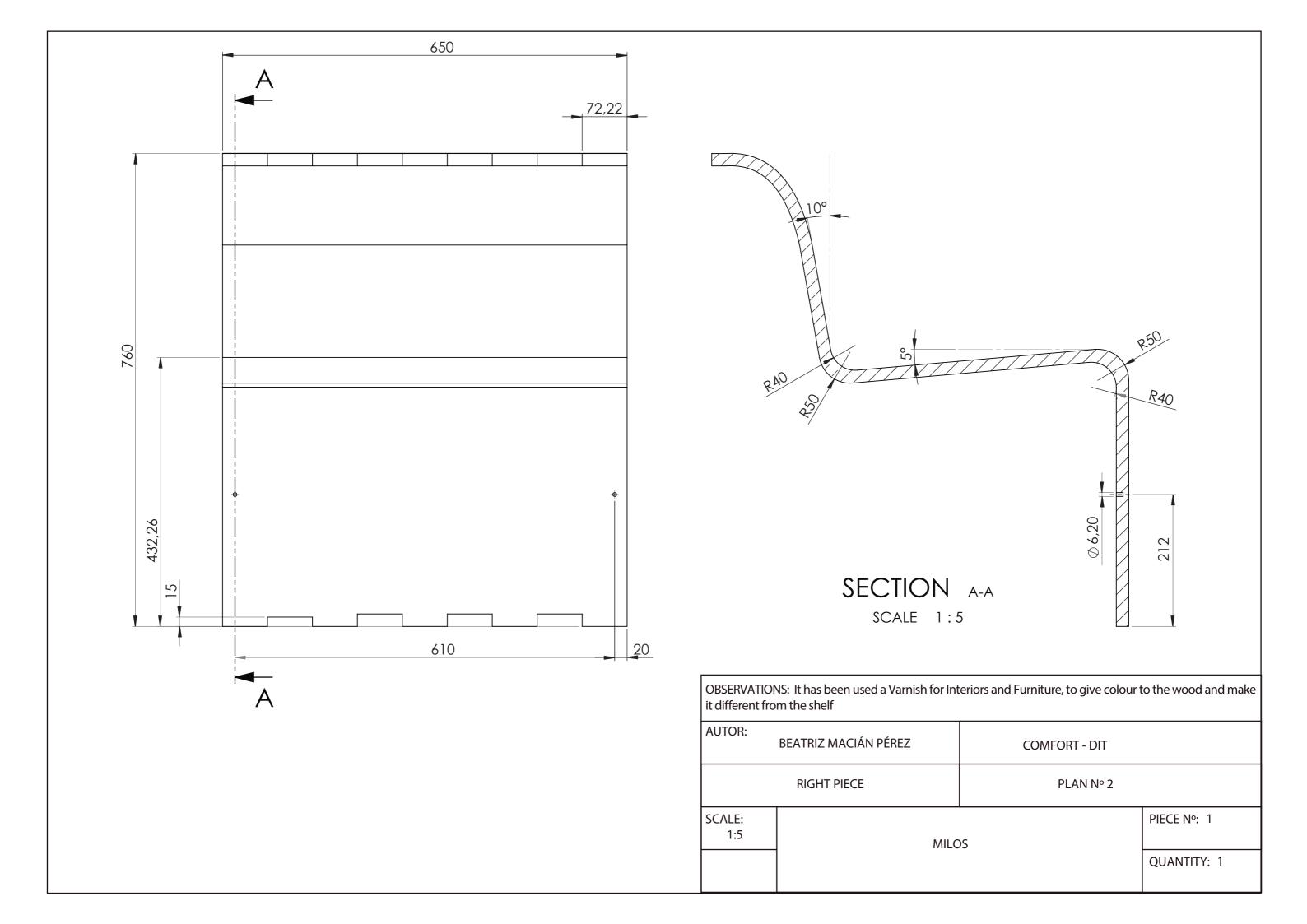


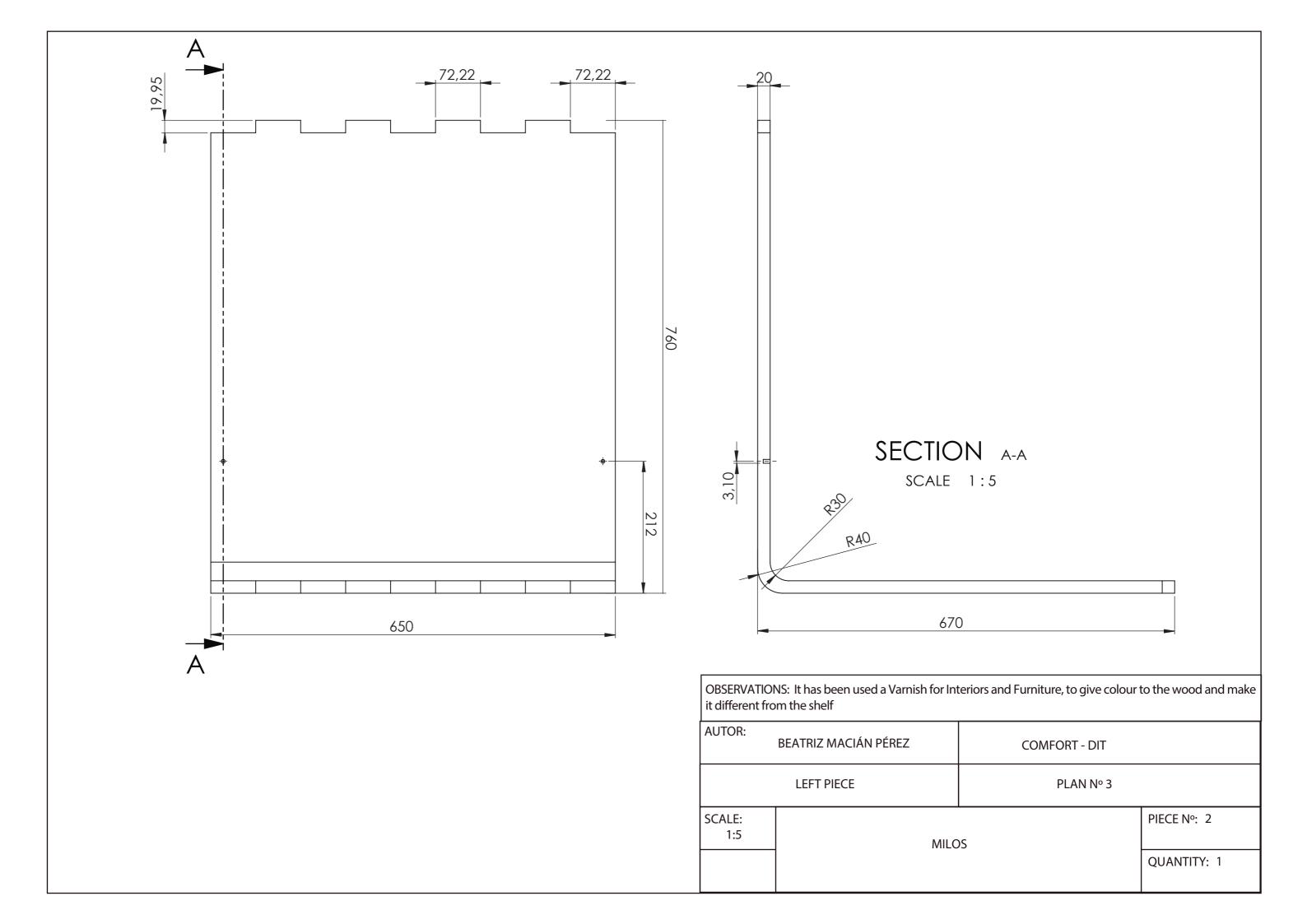


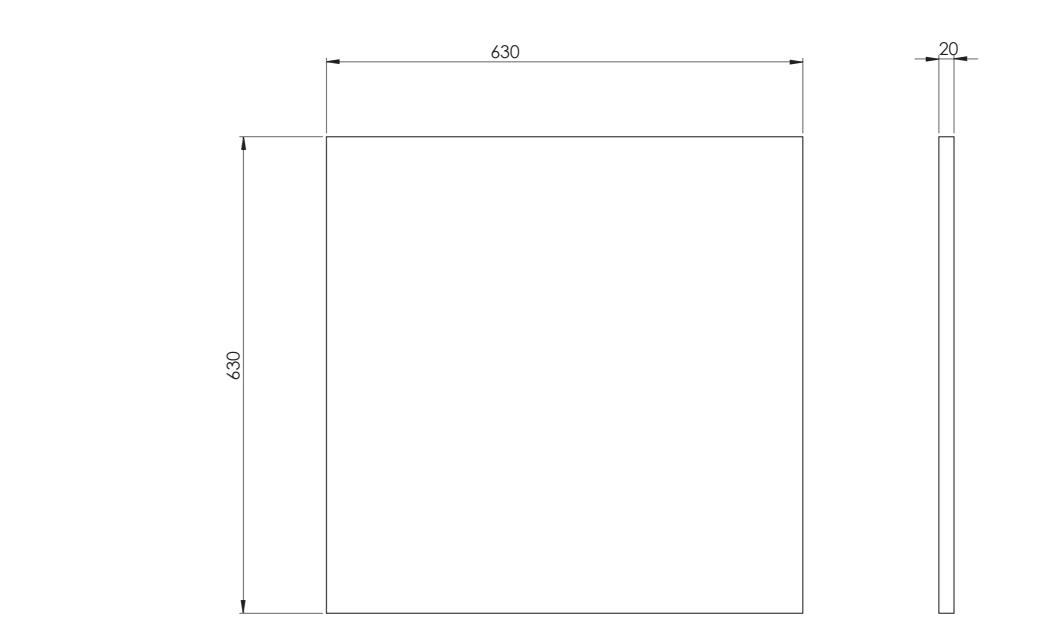
# **PLANS** MILOS



5		Metallic guide		2	Stee	1
4		Bolt		4	Beech	
3		Shelf		1	Beech	
2		Left piece		1	Plie wood (beech)	
1		Right piece		1	Plie	wood (beech)
Number Pieces			Quantity	Material		
AUTOR: BEATRIZ MACIÁN PÉREZ			1	COMFOR	T - DIT	
ASSEMBLY			PLAN	N Nº 1		
SCALE 1:7 mm						







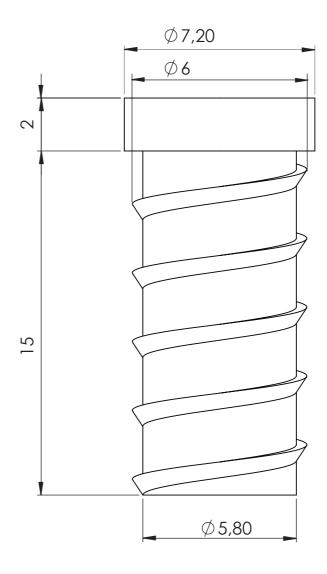
AUTOR:	BEATRIZ MACIÁN PÉREZ		
	SHELF		
SCALE: 1:5		MILC	)S

QUANTITY: 1

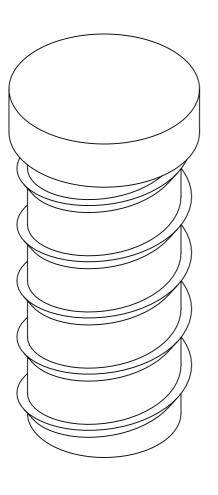
PIECE Nº: 3

#### PLAN Nº 4

COMFORT - DIT



BEATRIZ MACIÁN PÉREZ			
	BOLT		
SCALE: 7:1		MILC	)S

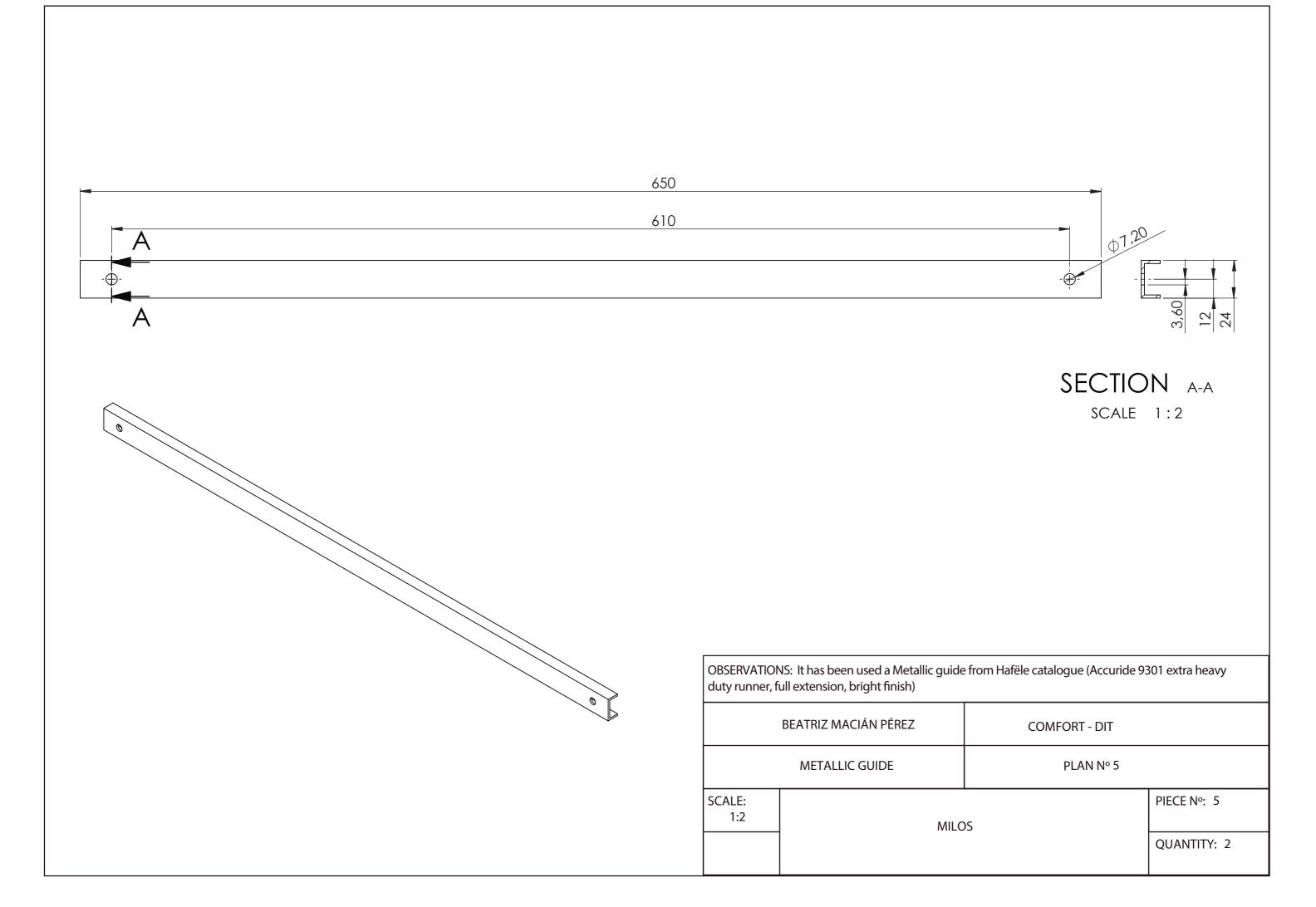


QUANTITY: 4

PIECE Nº: 4

#### PLAN Nº 5

COMFORT - DIT



# **ADDITIONAL COMPONENTS** MILOS

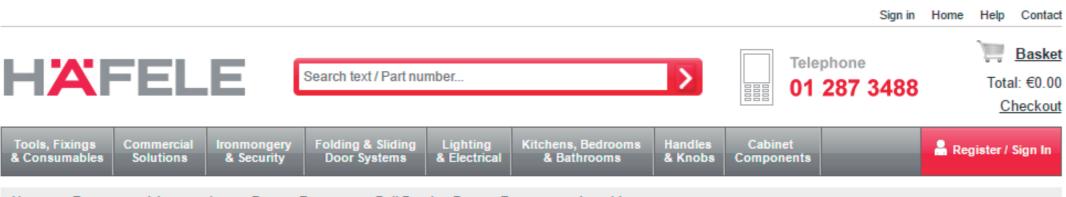
### VARNISH

This Varnish has been applied in the two parts that make up the main structure of the seat. The purpose of that is to difference it from the shelf and make a combination of colour, but respecting the original wood vein.



# METALLIC GUIDE

The mettalic guide that has been selected for the displacement of the wooden board is one of Häfele catalogue. This is a Ball Bearing Drawer runner and it is very resistant. In the catalogue there are a huge variety of dimensiones of this model.



Home > Runners and Accessories > Drawer Runners > Ball Bearing Drawer Runners > Accuride





### Accuride 9301 extra heavy duty runner, full extension, corrosion resistant finish

- · Can be side mounted or base and top mounted for use as a pull out storage unit
- M6 hexagonal head screw can be used with these runners
- · Load carrying capacity upto 227 kg (see each individual runner capacity) Bright zinc-plated steel
- \*Corrosion resistant for harsh environments, 8 times more protection than
- regular zinc finishes, stainless steel ball retainer, ball bearings and rivets
- Please note: Weights limit per pair based on length,
- weight limits reduce by 80% if base mounted
- For full illustrations and dimensions please see PDF Page

Contact us:

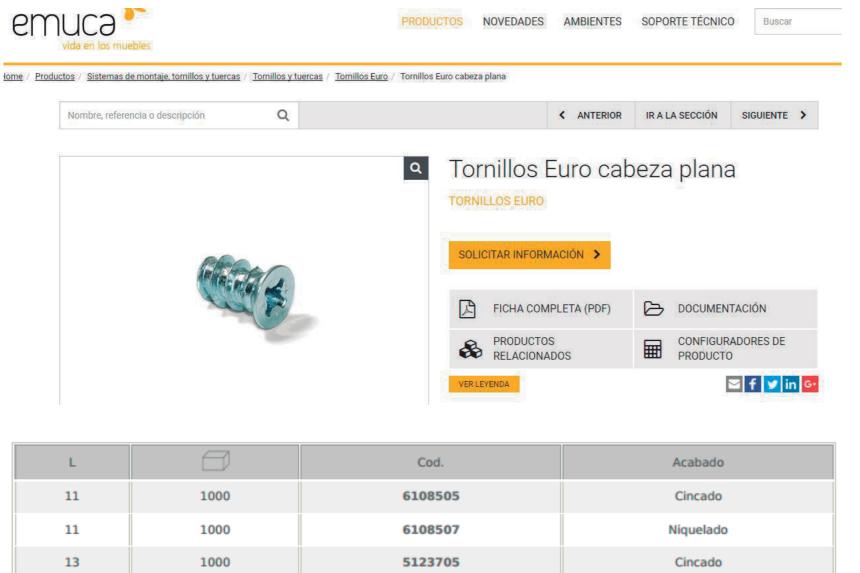
**Contact Sales Team** Tel: 01 287 3488

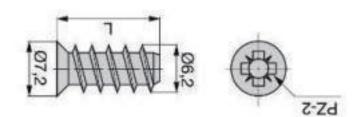
Share:



# BOLT

It has been selected Flat Head Pozi Drive Euro Screws, with a lenght of 13 mm. They had been used to screw the metal guide to the main base of the seating.





L		Cod.	Acabado
11	1000	6108505	Cincado
11	1000	6108507	Niquelado
13	1000	5123705	Cincado
13	1000	5123707	Niquelado

# FABRICATION PROCESS

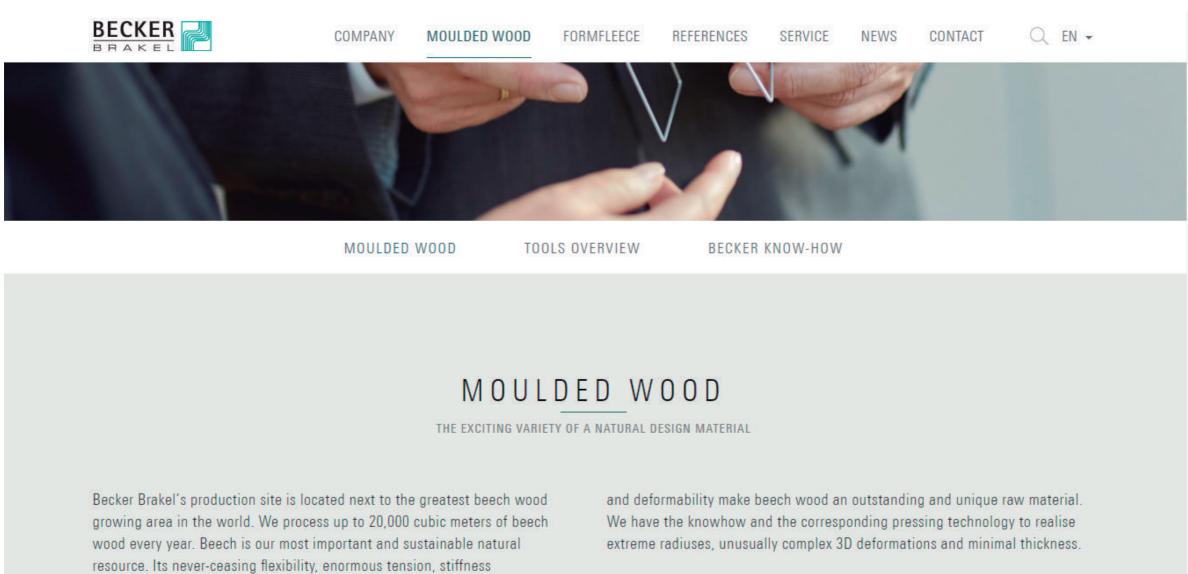
# MILOS

# **RIGHT / LEFT PIECE**

The two pieces that make up the main base of the seating are made of plywood, in particular, beech. Beech has a lot of flexibility, enormous tension, stiffness and deformability.

One of the companys that make this type of process is Becker, a german company that is one of the most important manufacturers of moulded wood worldwide.

The joint that has been used for the union between right and left piece is a dovetail joint. Both pieces are glued, so this union is very resistant.



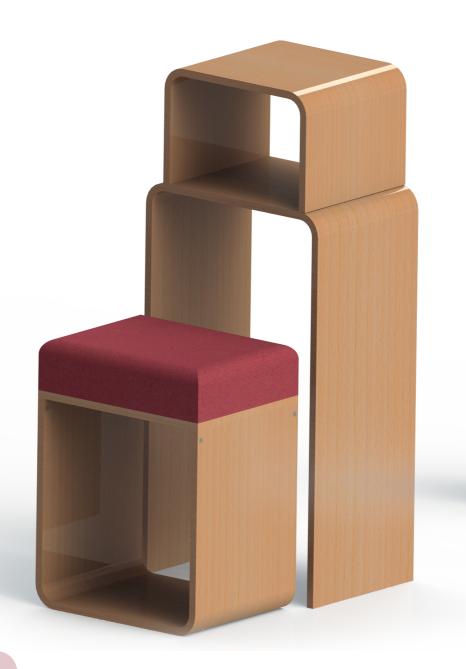
# FURN 2001

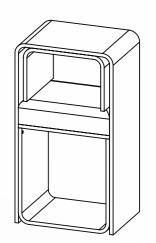
# FINAL RESOLUTION WORKSTATION

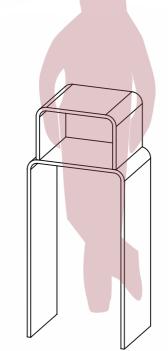


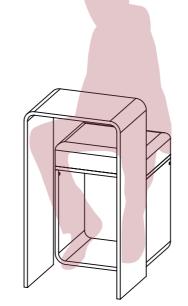
WORKSTATION is a new form of working that adapts to you depending your necessities. Not everybody works in the same way or position all time, because of that, the need arises to create a module that allows you to do your tasks in the most comfortable way.

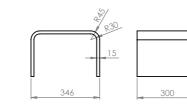
This module has three parts, which combined in different ways allow you to work both sitting, removing the auxiliary table, and standing, placing the auxiliary table on the base table. Once the working day is over, it is possible to store the two smallest modules inside the base table.

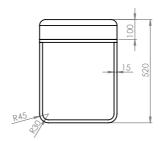


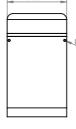




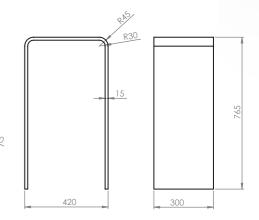




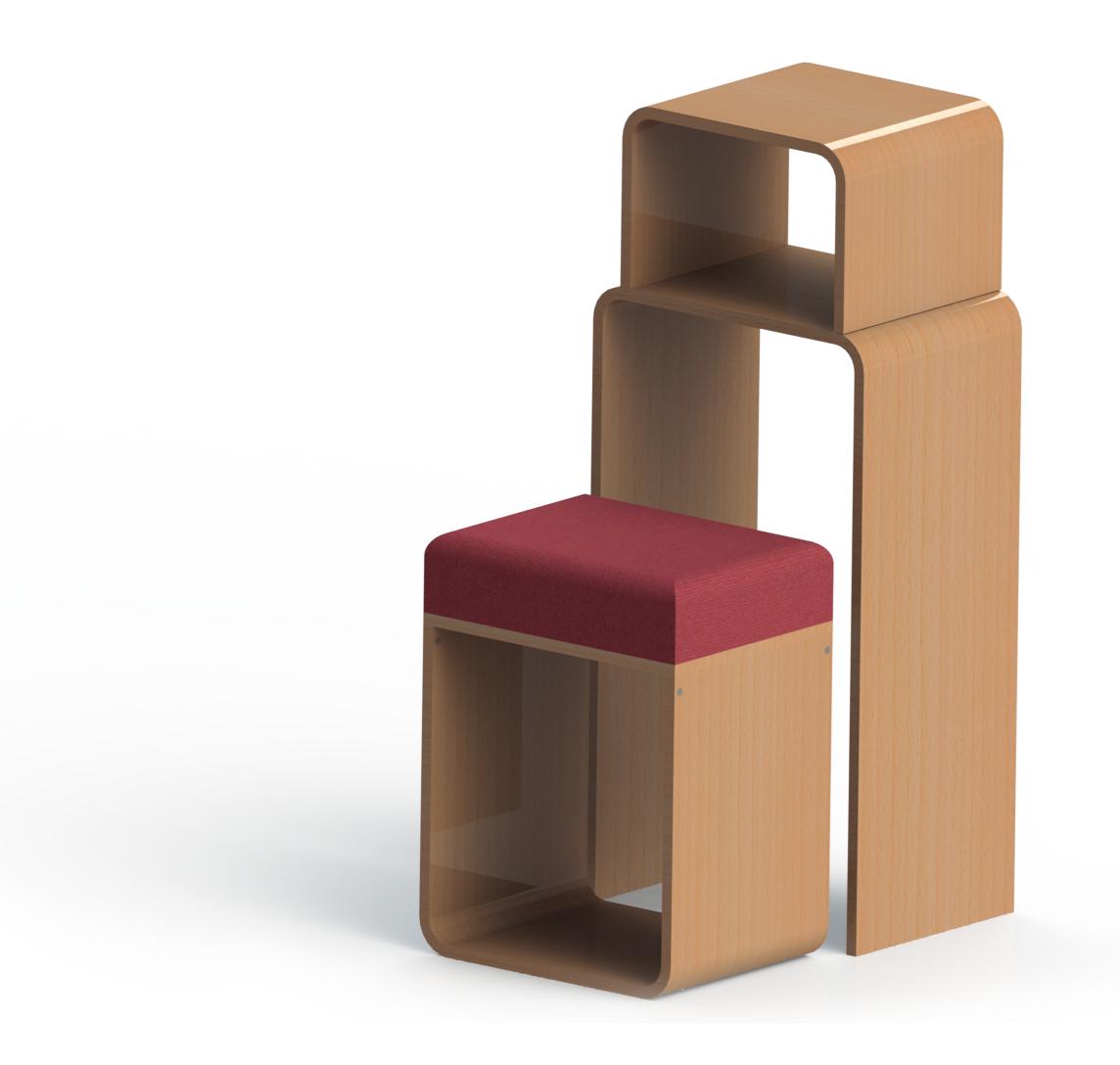








measures in mm



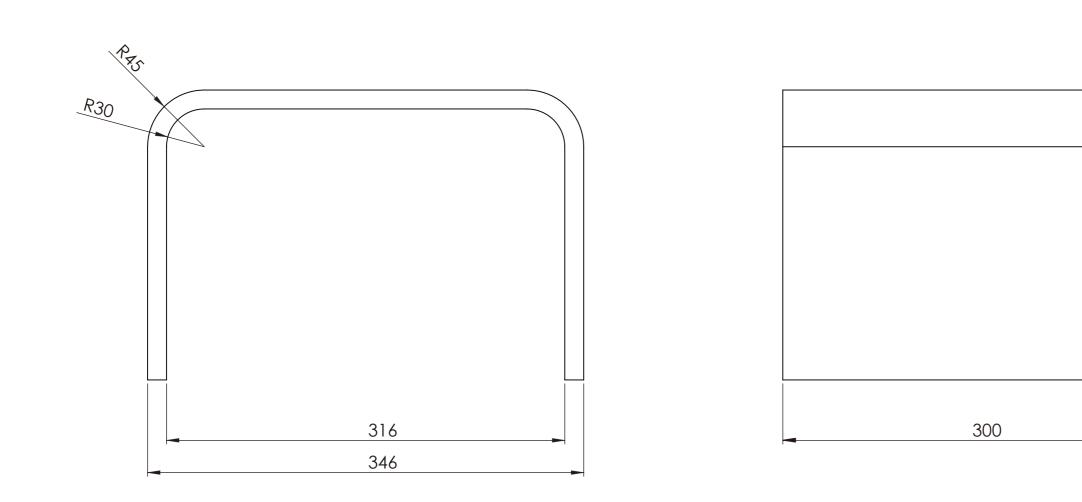






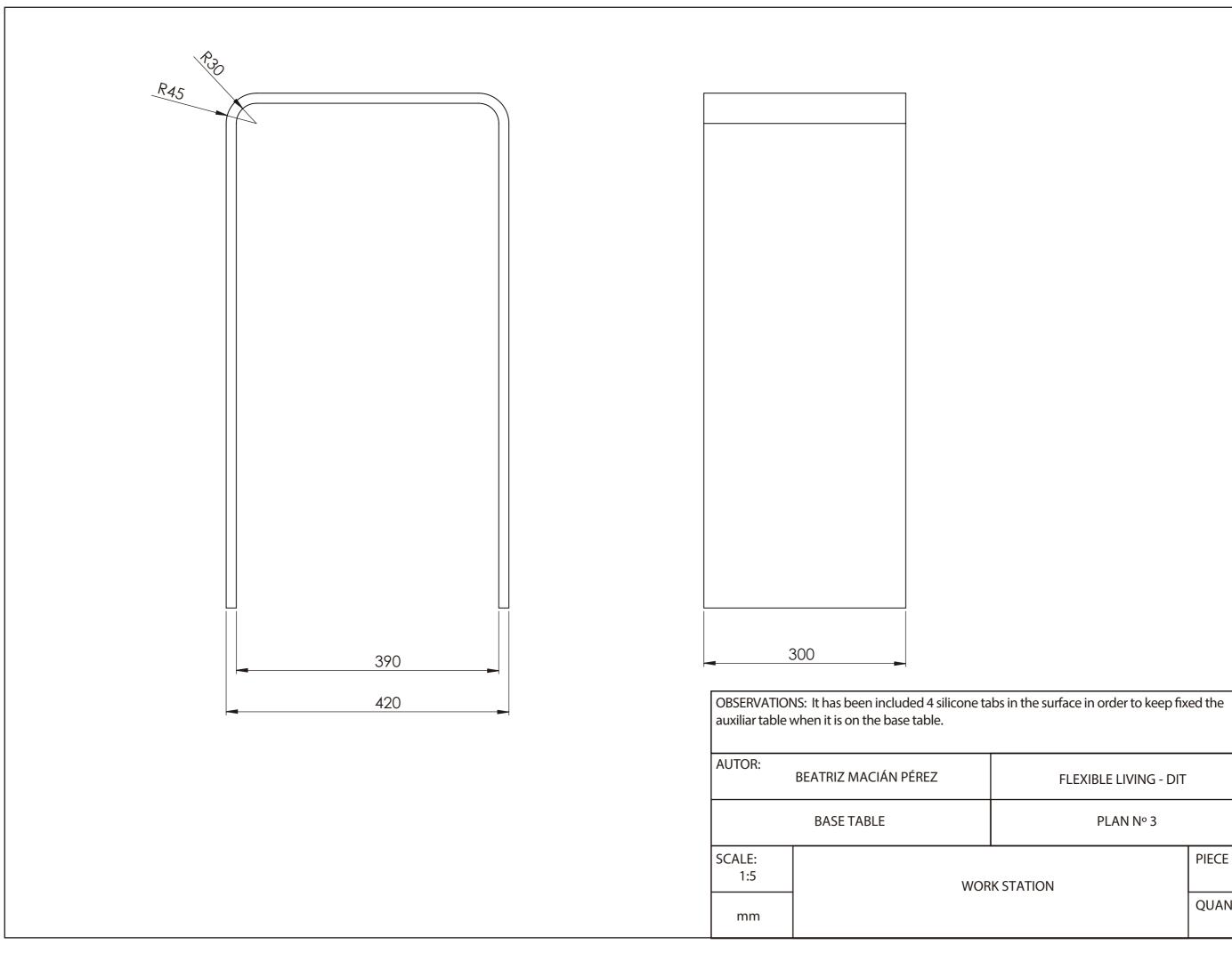
# **PLANS** WORKSTATION

	7	Pillow	1	Foam, linen
5	6	Bolt	4	Steel
	5	Barrel nut	4	Steel
	4	Seat inferior part	2	Beech
	3	Seat top board	1	Beech
	2	Base table	1	Plywood (beech)
	1	Auxiliar table	1	Plywood (beech)
4	Number	Pieces	Quantity	Material
	AUTOR: BEATRIZ	IZ MACIÁN PÉREZ	FLEXIBLE	LIVING - DIT
	AS:	SEMBLY	PLAN	N Nº 1
	SCALE 1:7 mm	WORK ST	TATION	



AUTOR:	BEATRIZ MACIÁN PÉREZ		
	AUXILIAR TABLE		
SCALE: 1:3		WOR	K STA
mm			

FLEXIBLE LIVING - DIT			
PLAN Nº 2			
ATION	PIECE Nº: 1		
	QUANTITY: 1		

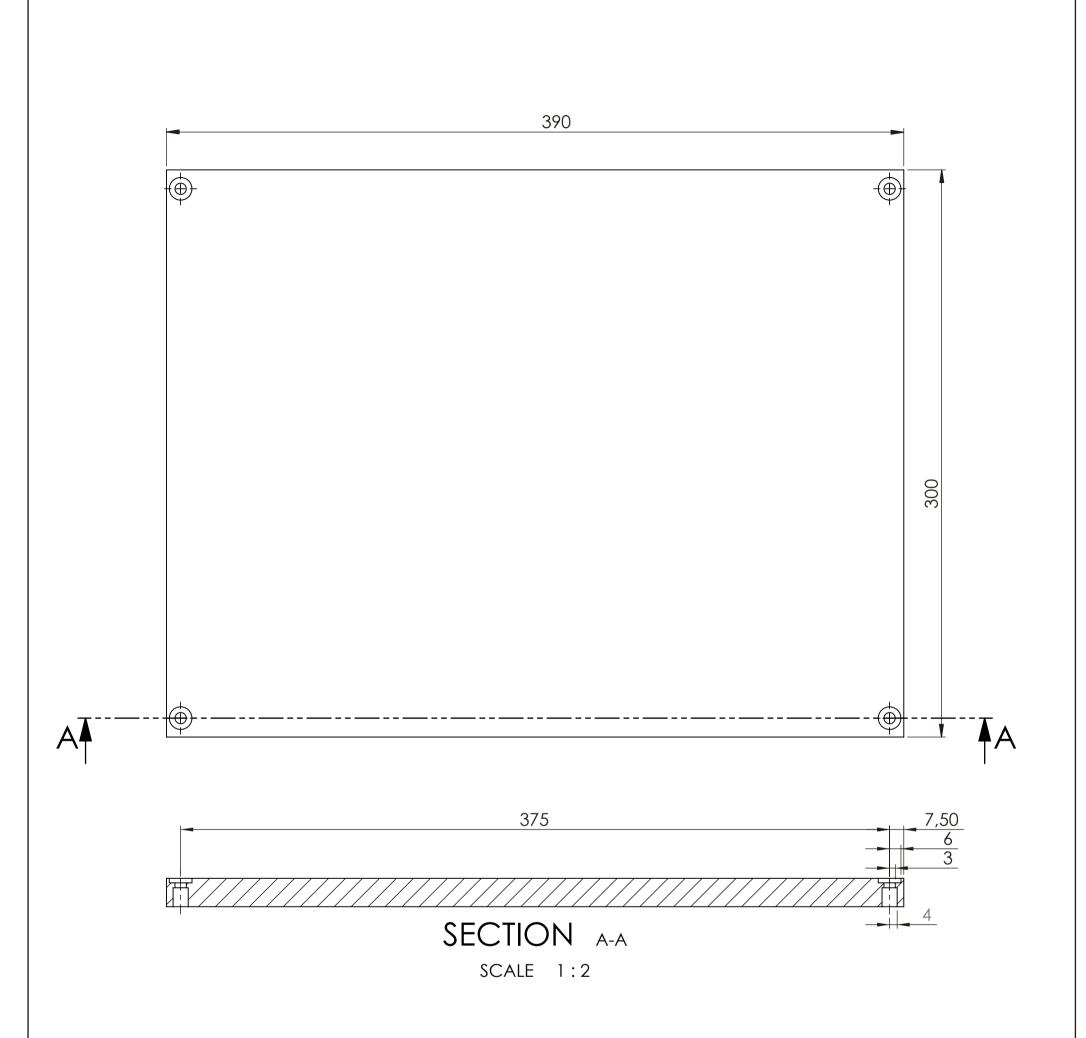


### FLEXIBLE LIVING - DIT

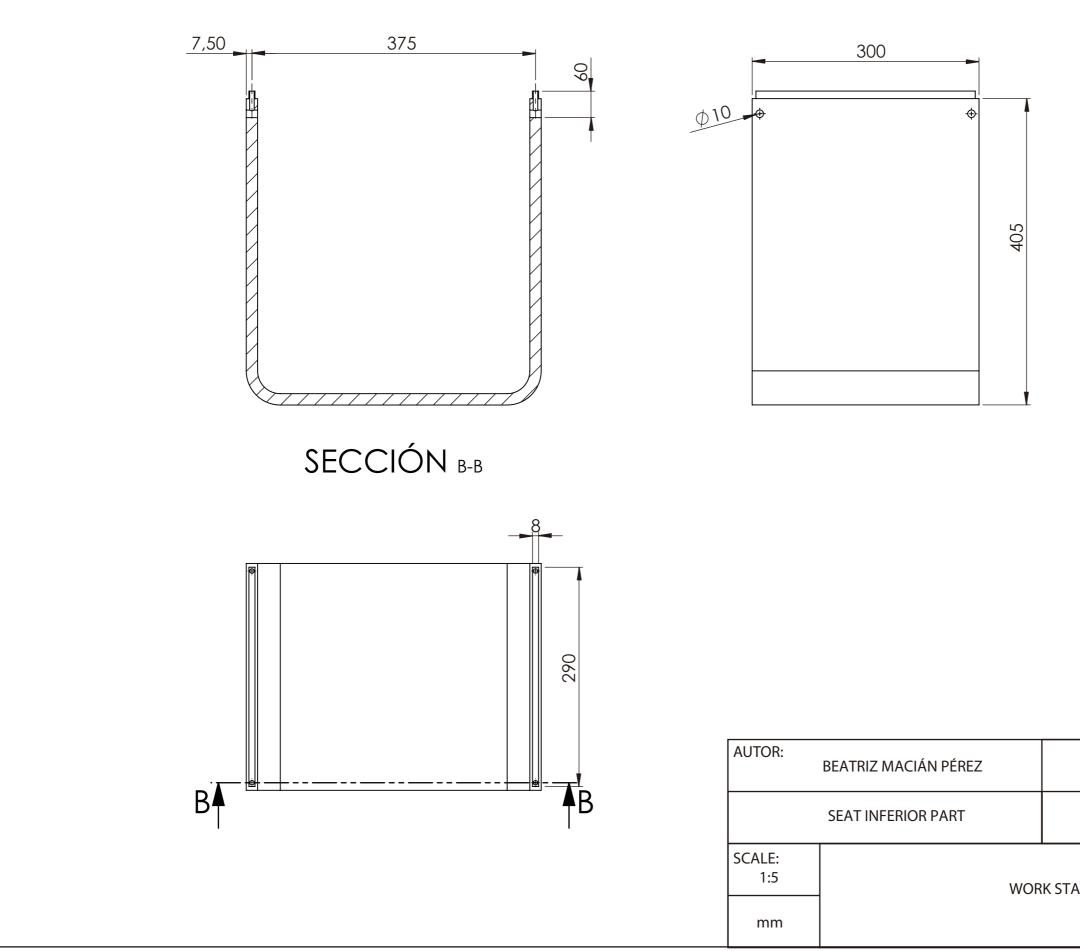
#### PLAN Nº 3

PIECE Nº: 2

QUANTITY: 1

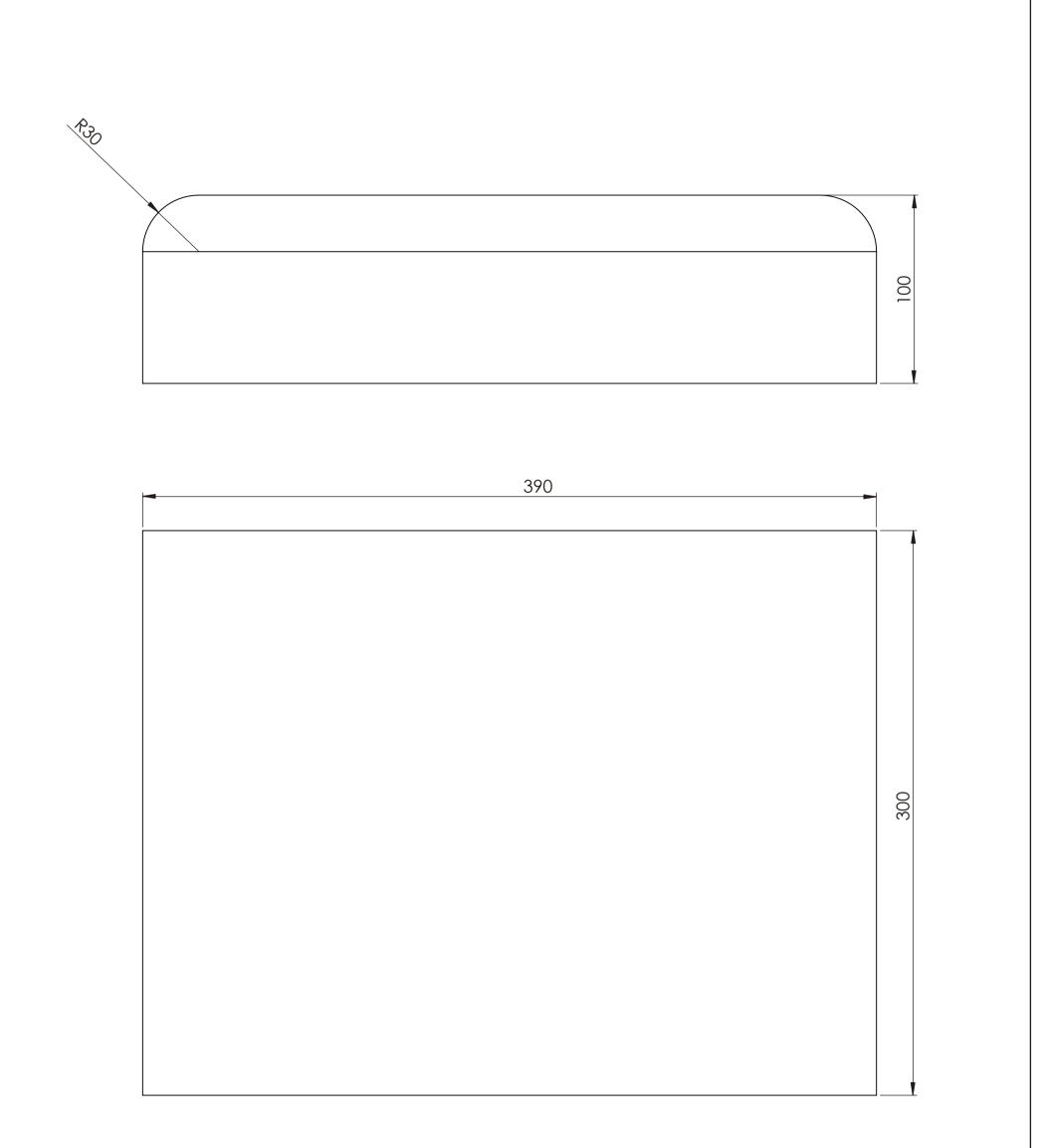


AUTOR:	BEATRIZ MACIÁN PÉREZ	FLEXIBLE LIVING - DIT	
	SEAT TOP BOARD	PLAN Nº 4	
SCALE: 1:2	WOR	WORK STATION QUANT	
mm			



FLEXIBLE LIVING - DIT			
PLAN Nº 6			
ATION	PIECE Nº: 4		
	QUANTITY: 1		

### FLEXIBLE LIVING - DIT



AUTOR:	BEATRIZ MACIÁN PÉREZ	FLEXIBLE LIVING - DIT PLAN Nº 7	
	PILLOW		
SCALE: 1:2	WOR	WORK STATION	
mm			QUANTITY: 1

# **ADDITIONAL COMPONENTS** WORKSTATION

# COT BED BOLT / BARREL NUT

-

It has been used a cot bed bolt with allen head and a barrel nut for the union between the inferior part of the sit and the top board.



Tools & Home Improvement > Hardware > Nails, Screws & Fasteners > Nut & Bolt Sets



#### ONESTOPDIY

FURNITURE COT BED BOLT ALLEN HEAD WITH BARREL NUT 6MM M6 X 60MM ZP (pack of 4) ★★★★★ • 6 customer reviews | 4 answered questions

Price: \$3.49 + \$2.49 shipping

#### In Stock.

This item ships to Ireland. Ships from and sold by the-home-fusion-company ...

- furniture connecting bolt
- barrel nut
- > See more product details

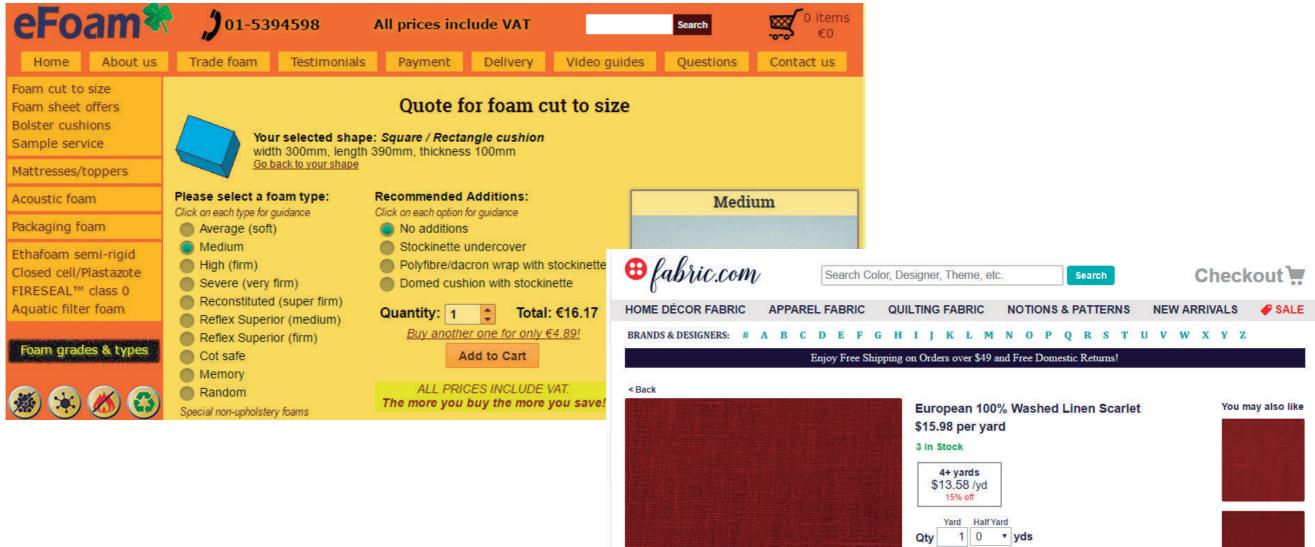
New (6) from \$5.98 & FREE shipping.



Click to open expanded view

# FOAM / LINEN

It has been selected a medium foam for the pillow. This foam is covered by a piece of linen. The pillow can be removed from the sit top board.



Click Image to Zoom

Add to Cart

Add to Design Wall 🔞

Share: 📢 👰 🎔 💱 😂

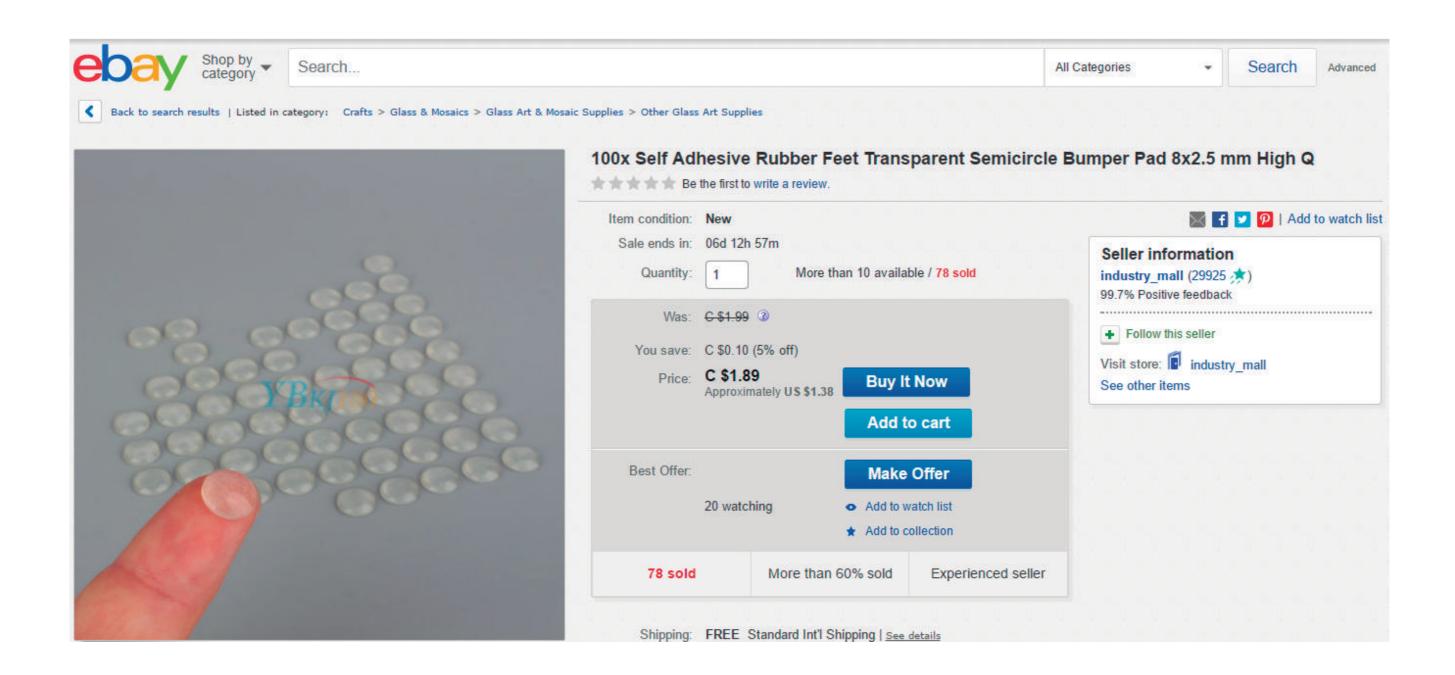
Order Swatch \$3.00 each





### SILICON TABS

It has been included 4 silicone tabs in the surface of the base table in order to keep the auxiliar table fixed when it is on top.



# FABRICATION PROCESS WORKSTATION

Three pieces of WORKSTATION (Auxiliar Table, Base Table and the Inferior part of the seat) are made of plywood, in particular, beech. Beech has a lot of flexibility, enormous tension, stiffness and deformability.

One of the companys that make this type of process is Becker, a german company that is one of the most important manufacturers of moulded wood worldwide.



MOULDED WOOD TOOLS OVERVIEW BECKER KNOW-HOW

#### MOULDED WOOD

THE EXCITING VARIETY OF A NATURAL DESIGN MATERIAL

Becker Brakel's production site is located next to the greatest beech wood growing area in the world. We process up to 20,000 cubic meters of beech wood every year. Beech is our most important and sustainable natural resource. Its never-ceasing flexibility, enormous tension, stiffness and deformability make beech wood an outstanding and unique raw material. We have the knowhow and the corresponding pressing technology to realise extreme radiuses, unusually complex 3D deformations and minimal thickness.



# LIGHTING FURN 2002

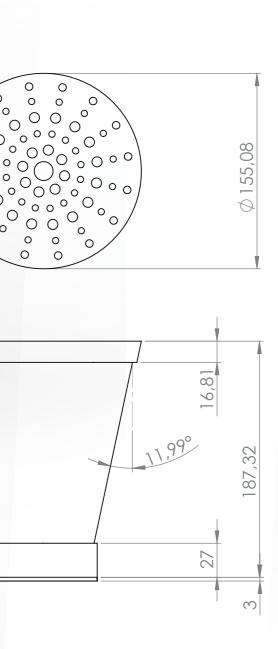
# FINAL RESOLUTION

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# UNIVERSE lighting

UNIVERSE is a lamp with two possible forms of use. It has a die cut cover with a picture that simulates the stars in the universe. When the light is on, it pass through the holes projecting the picture in the ceiling, and rotating the tap It creates an effect of movement. It is also removable; in case we want an ambient light. This combines a functional and decorative lighting which develops the imagination.



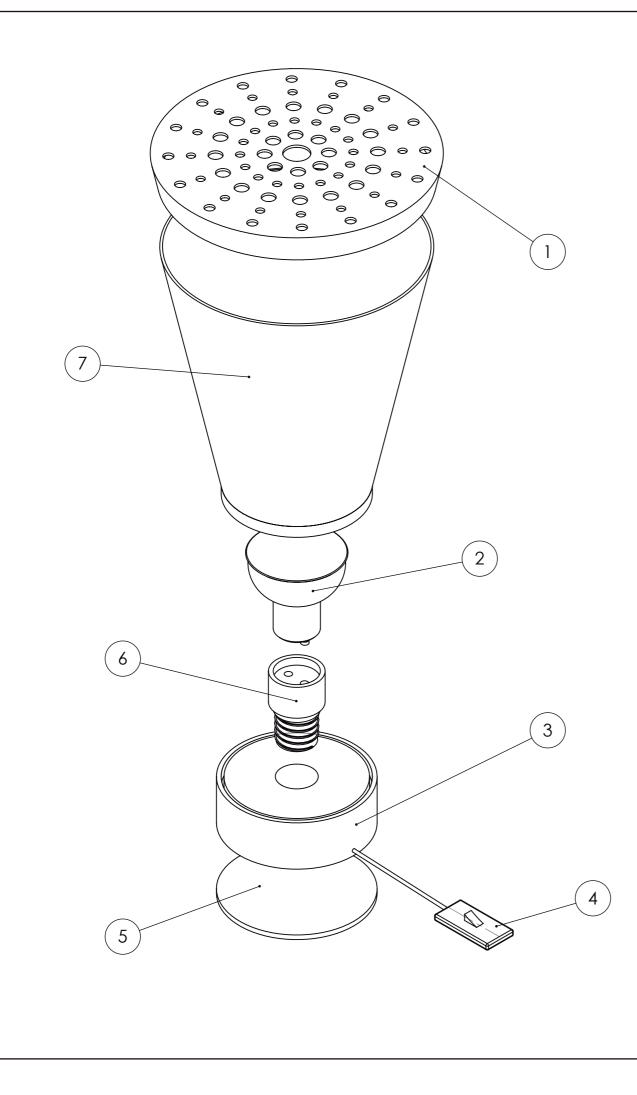




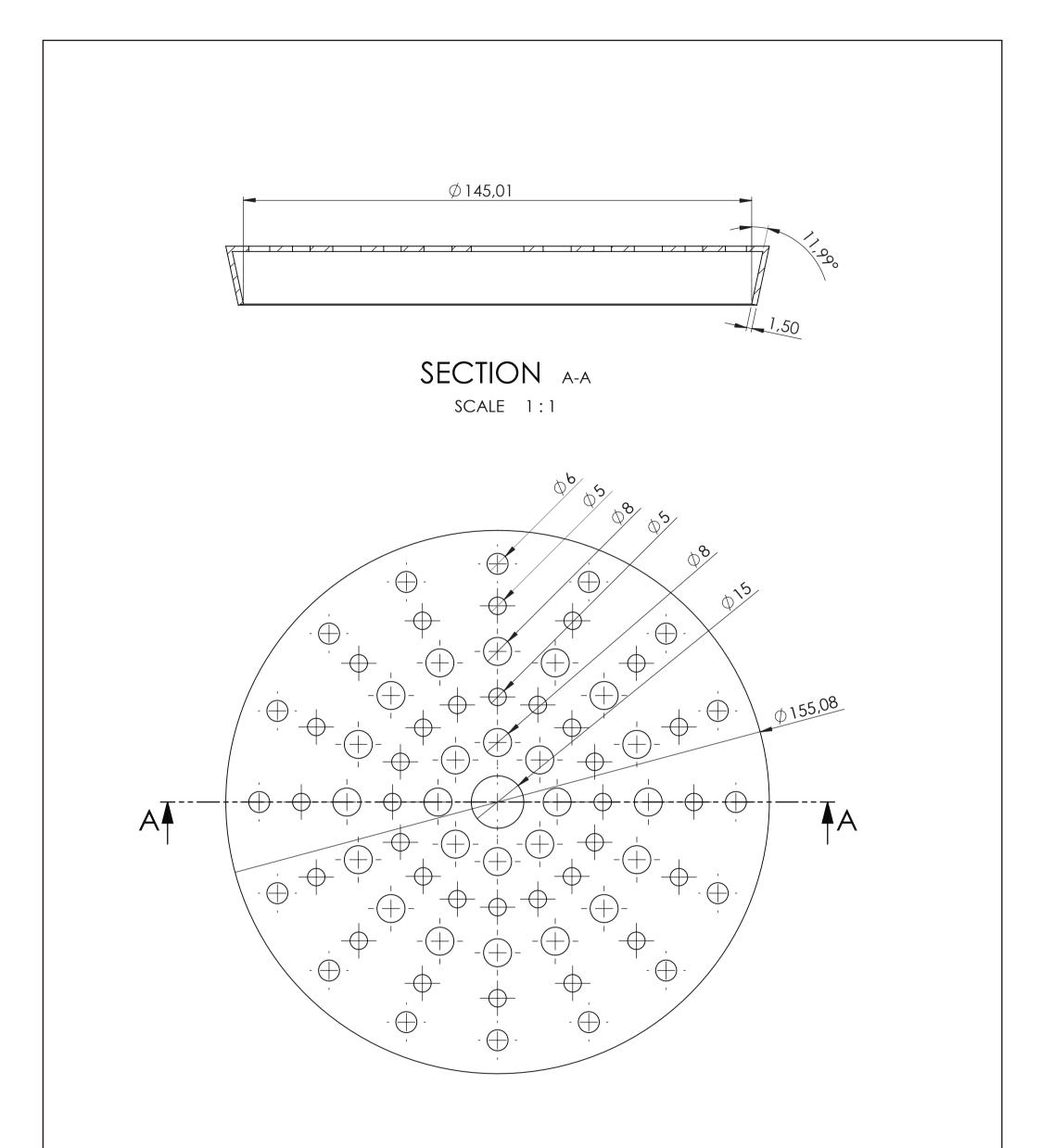


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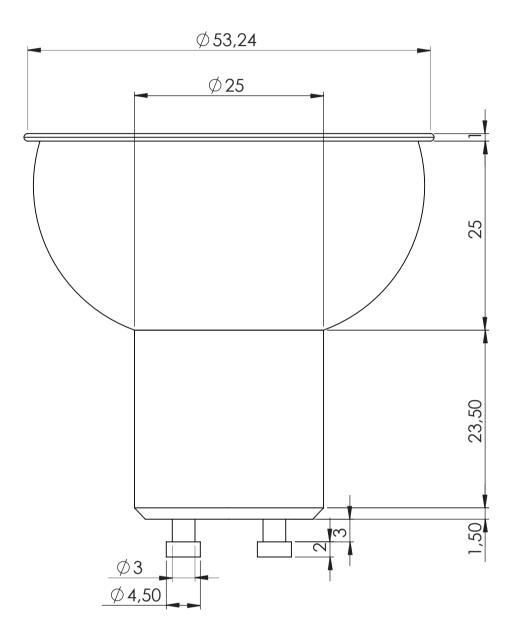
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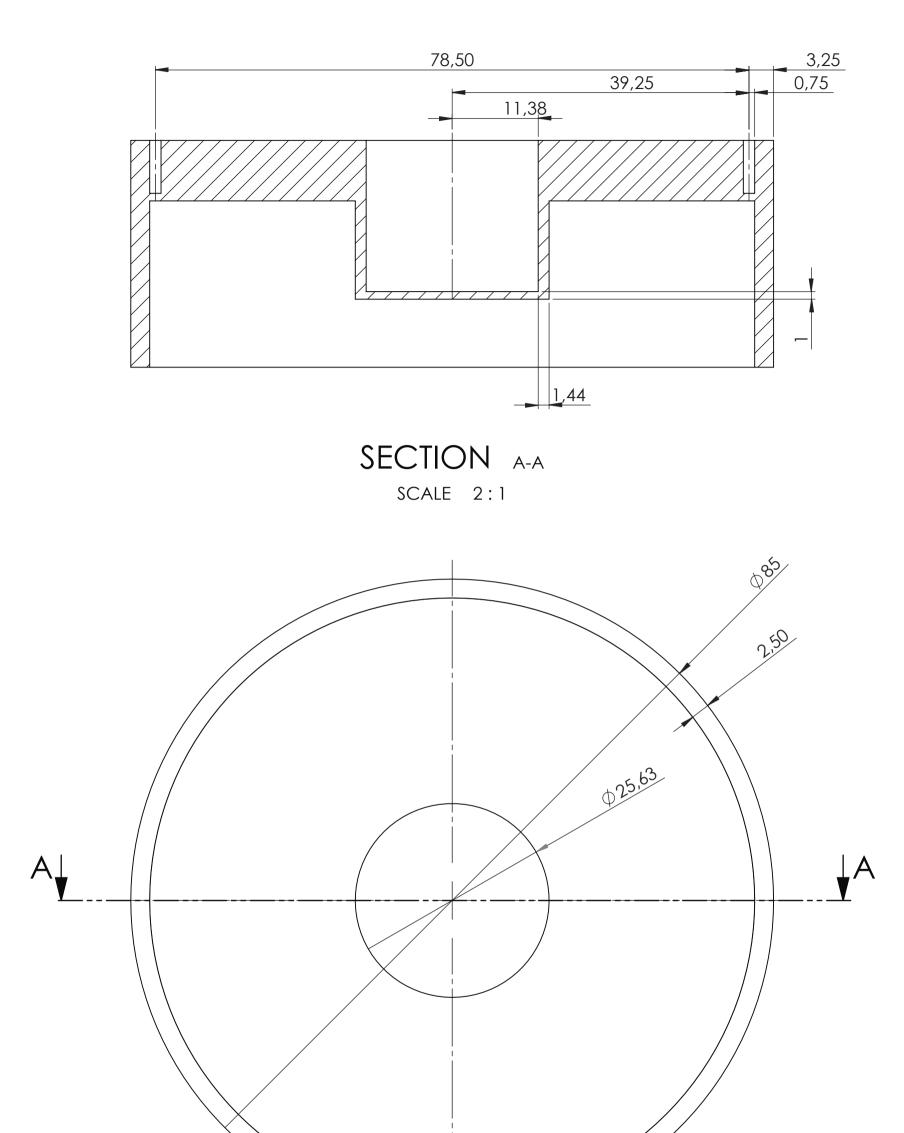
1 1 1 1 1	Translucid plastic Aluminum, plastic Wood		
1			
	Wood		
1			
I	Plastic, copper (cable)		
1	Wood		
1	Aluminium, crystal		
1	Translucid Plastic (polyethylene)		
Quantity	Material		
LIGHTING	5 - DIT		
PLAN Nº 1			
UNIVERSE			
	1 1 Quantity LIGHTING		



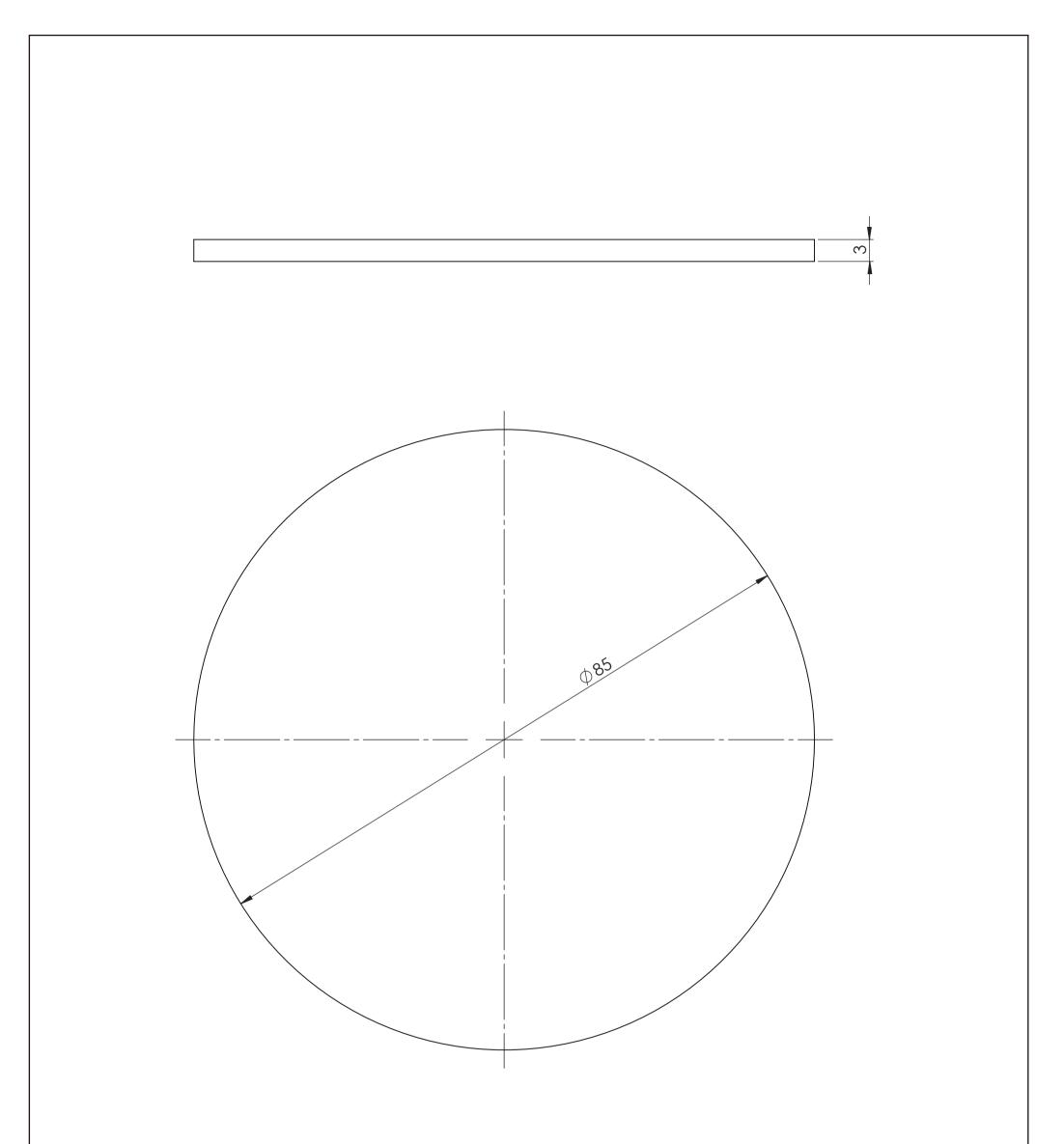
AUTOR:	BEATRIZ MACIÁN PÉREZ	LIGHTING- DIT	
	ТАР	PLAN Nº 2	
SCALE: 1:1	UNIV	/ERSE	PIECE Nº: 1
mm			QUANTITY: 1



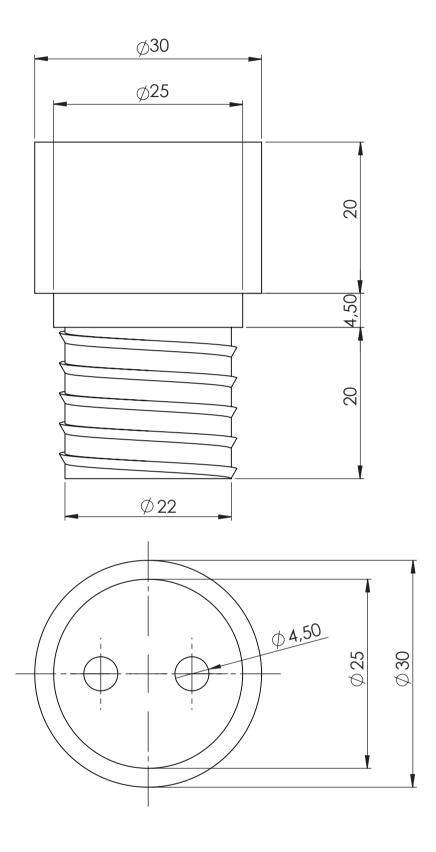
AUTOR:	BEATRIZ MACIÁN PÉREZ	LIGHTING- DIT	
	GU10 LED BULB	PLAN Nº 3	
SCALE: 2:1	UNIV	PIECE Nº: 2 ERSE	
mm		QUANTITY: 1	



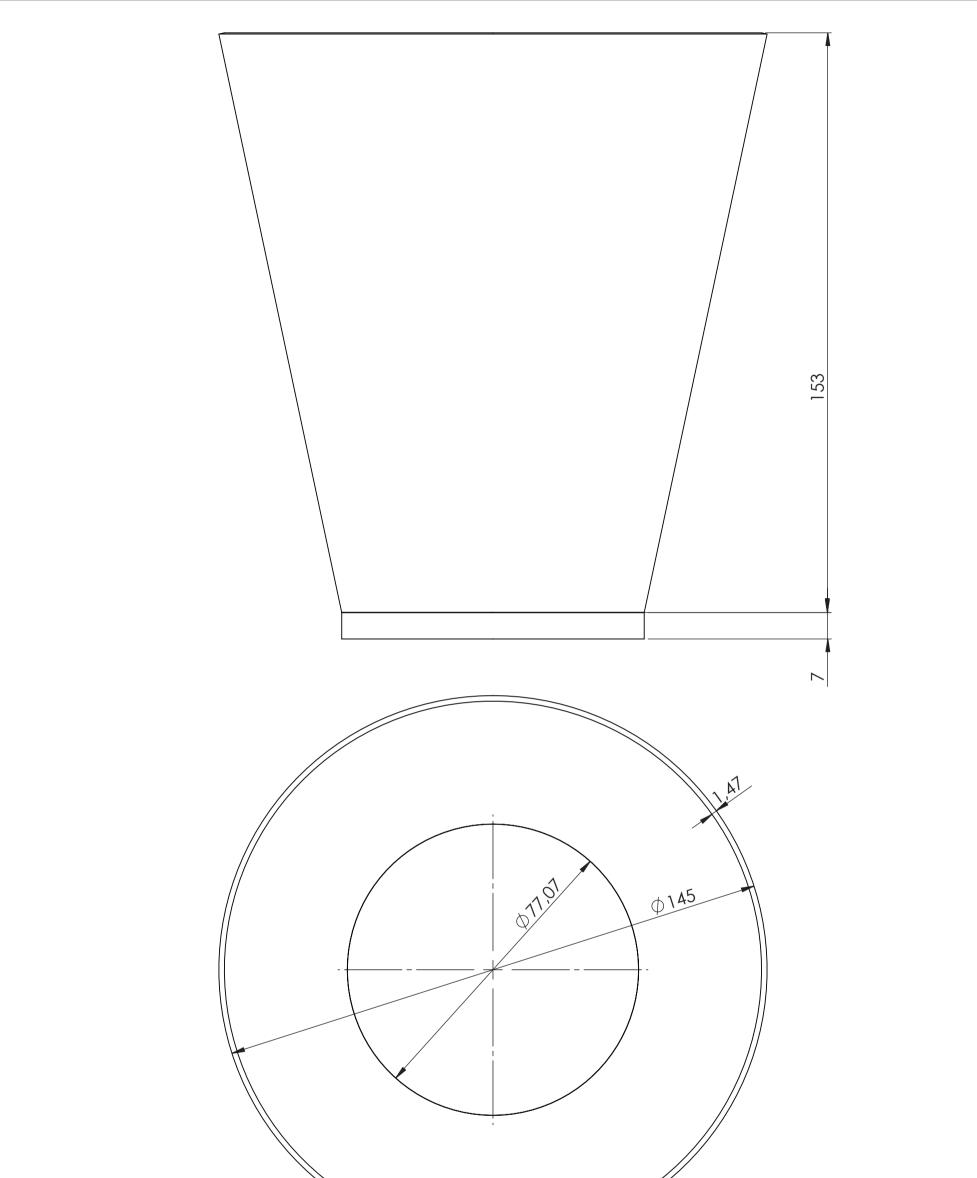
AUTOR:	BEATRIZ MACIÁN PÉREZ	LIGHTING-	DIT
	BASE	PLAN Nº 3	
SCALE: 2:1	UNIV	ERSE	PIECE Nº: 3
mm			QUANTITY: 1



AUTOR:	BEATRIZ MACIÁN PÉREZ	LIGHTING- DIT PLAN Nº 4	
	BASE COVER		
SCALE: 2:1	UNIV	/ERSE	PIECE Nº: 5
mm			



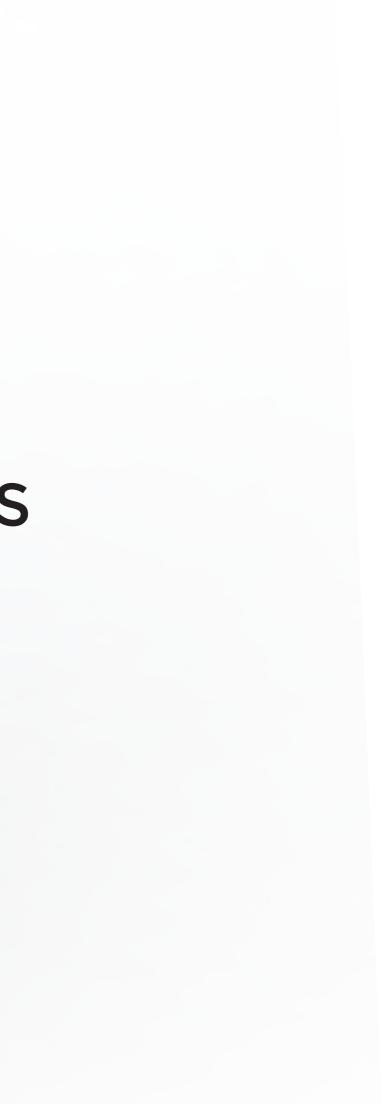
AUTOR:	BEATRIZ MACIÁN PÉREZ	LIGHTING- DIT	
	GU10 ADAPTATOR	PLAN Nº 5	
SCALE: 2:1	UNIV	PIECE Nº: 6	
mm		QUANTITY: 1	



	/

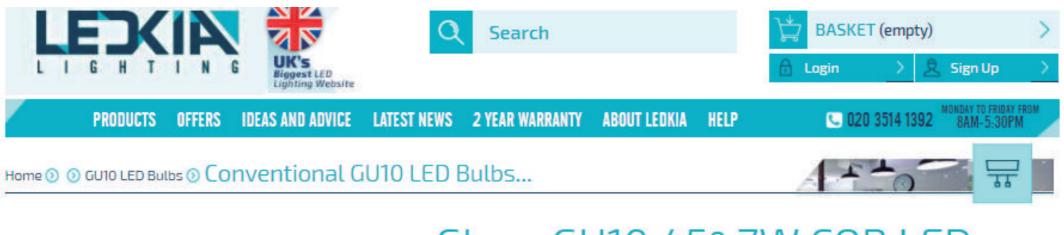
AUTC	DR:	BEATRIZ MACIÁN PÉREZ	LIGHTING- [	DIT
		SCREEN	PLAN Nº 6	
SCAL 2:		LAMI	þ	PIECE Nº: 7
m	mm			QUANTITY: 1

# ADDITIONAL COMPONENTS UNIVERSE



#### GU 10 LED BULB

This type of light bulbs are that they have a high quality of illumination, they reduce the electricity consumption and they last 20 to 30 times longer than other types of bulbs, apart from having the possibility to choose different colours of light. In that case It has been selected a GU10 Light Bublb without colour.

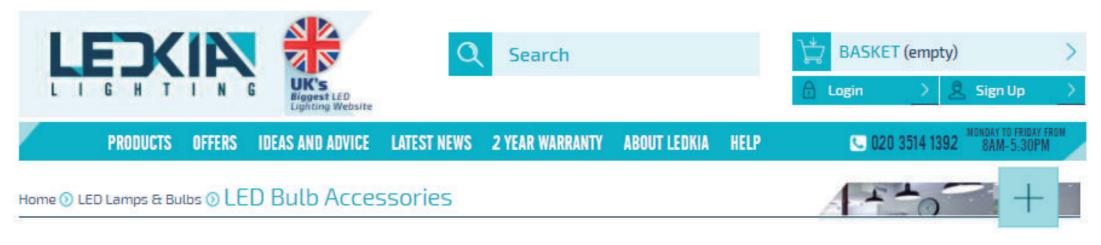






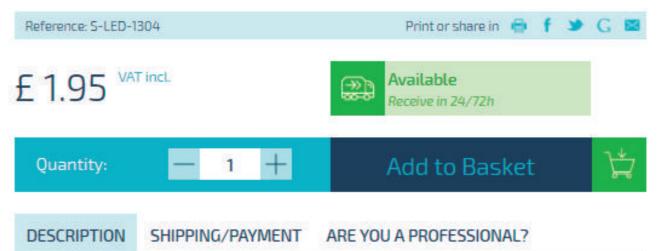
#### E27 TO GUIO ADAPTATOR

This E27 to GU10 Adaptor allows us to place GU10 bulbs and use them in luminaires which only accept E27 LED Bulbs.





### E27 to GU10 Adaptor



This E27 to GU10 Adaptor allows us to place GU10 bulbs and use them in luminaires which only accept E27 LED Bulbs. This adaptor has an attractive and modern design and is painted white.

With these adaptors we can install all sorts of GU10 bulbs in E27 lampholders, which is the most common format found. With this product, not only do we have new options for installing bulbs, but we can also use any GU10 bulbs we have lying around the house, due to the fact that we don't have the right fitting.

# FABRICATION PROCESS UNIVERSE

-

#### BASE

The base of the lamp has been manufactured from a wood block wich has been punched to create the necessary slots

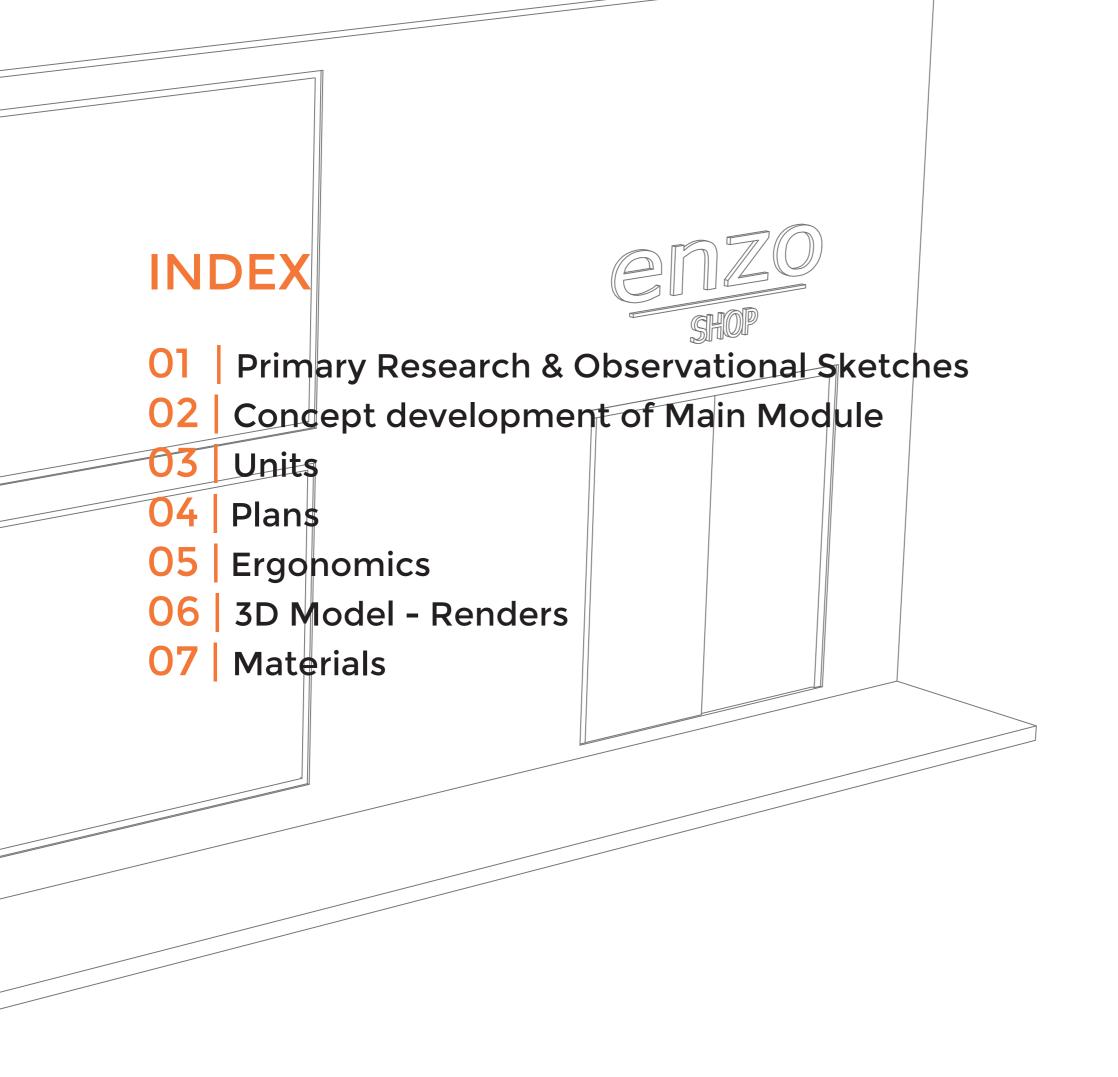
#### TAP

The tap has been created by plastic inyection. Moreover, It has been punched in the superior surface to create the desired picture.

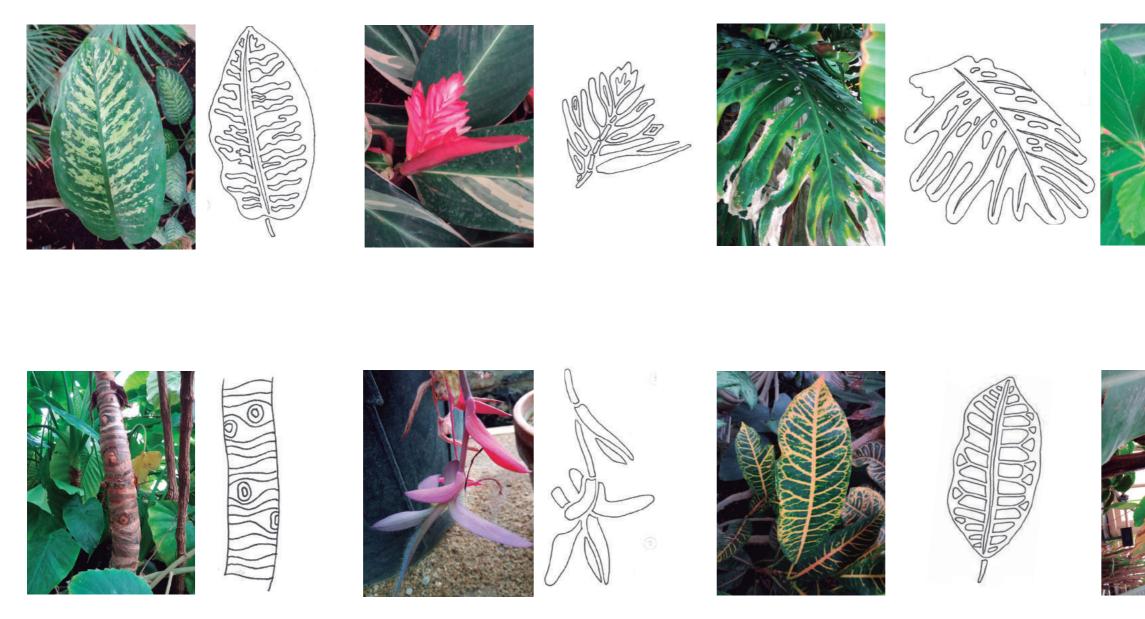
#### SCREEN

The screen has been created by plastic inyection.

# RETAIL INTE 2002



### 01 Primary Research & Observational Sketches











#### MODULE SELECTED



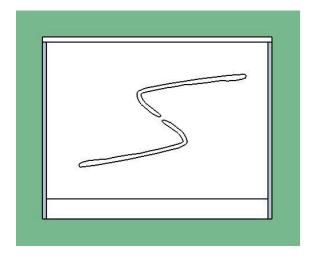
#### OBSERVATION

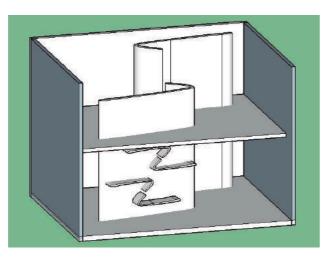
It had been done a primary research in the National Botanic Gardens (Dublin). The research consists on doing some sketches of natural elements (leaves and flowers) in a greenhouse. When we had the sketch of the leave, we had to descompose it in close modules and create simple shapes. The shape selected is the left one, because the module is very simple and aesthetic, and it has been done different combinations of the module to determinate could be the best to the shop.

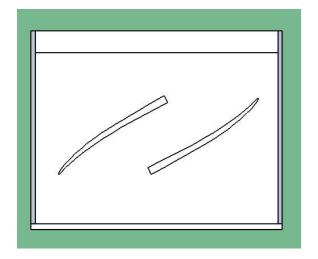
#### TRANSFORMATIONS

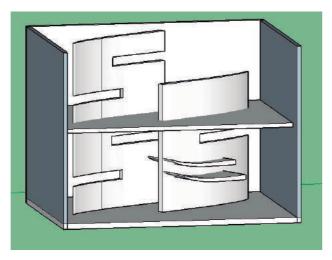


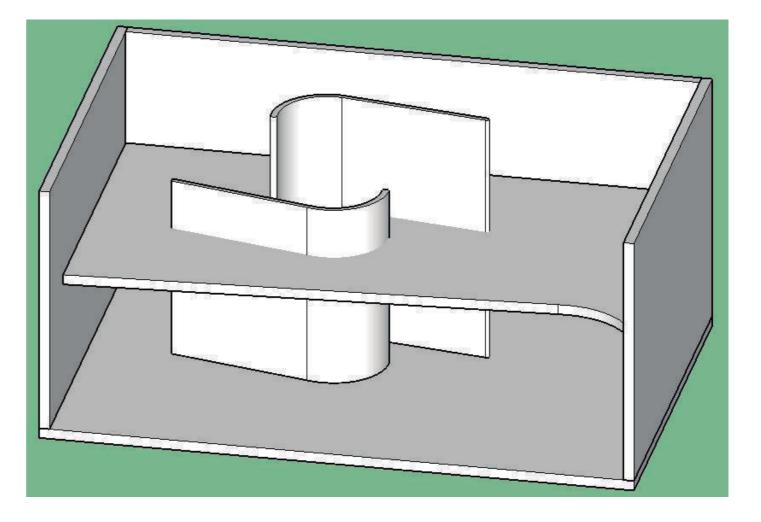
## 02 Concept development of Midfloor Wall Unit





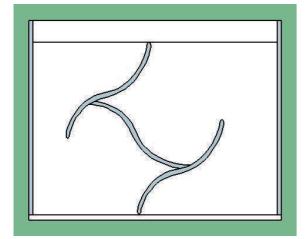


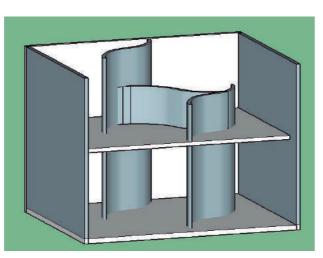




#### FINAL DESIGN MAIN MODULE

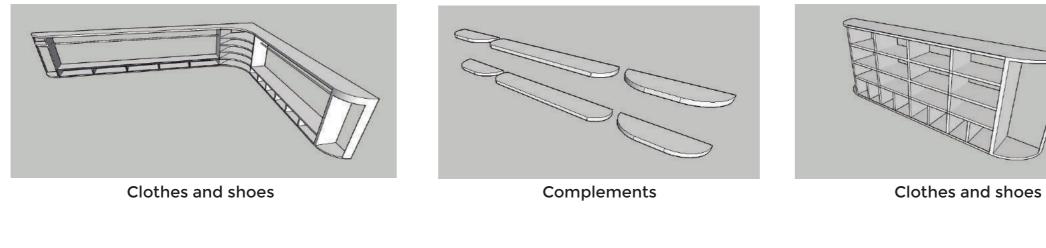
It has been done different combinations with some shapes of the primary research and they have been built in Sketchup to have a more realistic view. The final design shown above, is the choice with more possibilities of combination inside the shop.



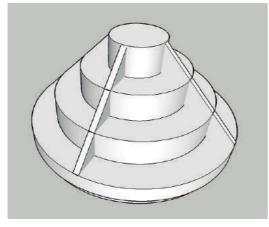




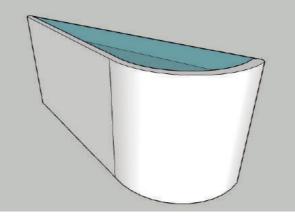
WALL UNITS



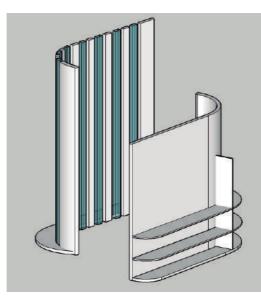
MID FLOOR UNITS



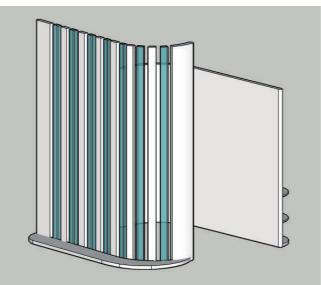
Cosmetics



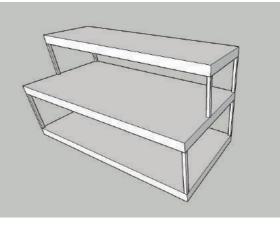
Cash desk



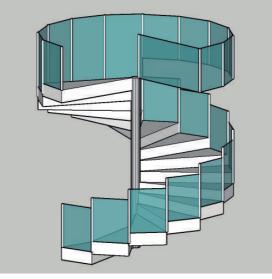
Main Module - View 1



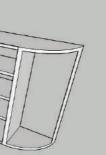
Main Module - View 2



Clothes and shoes

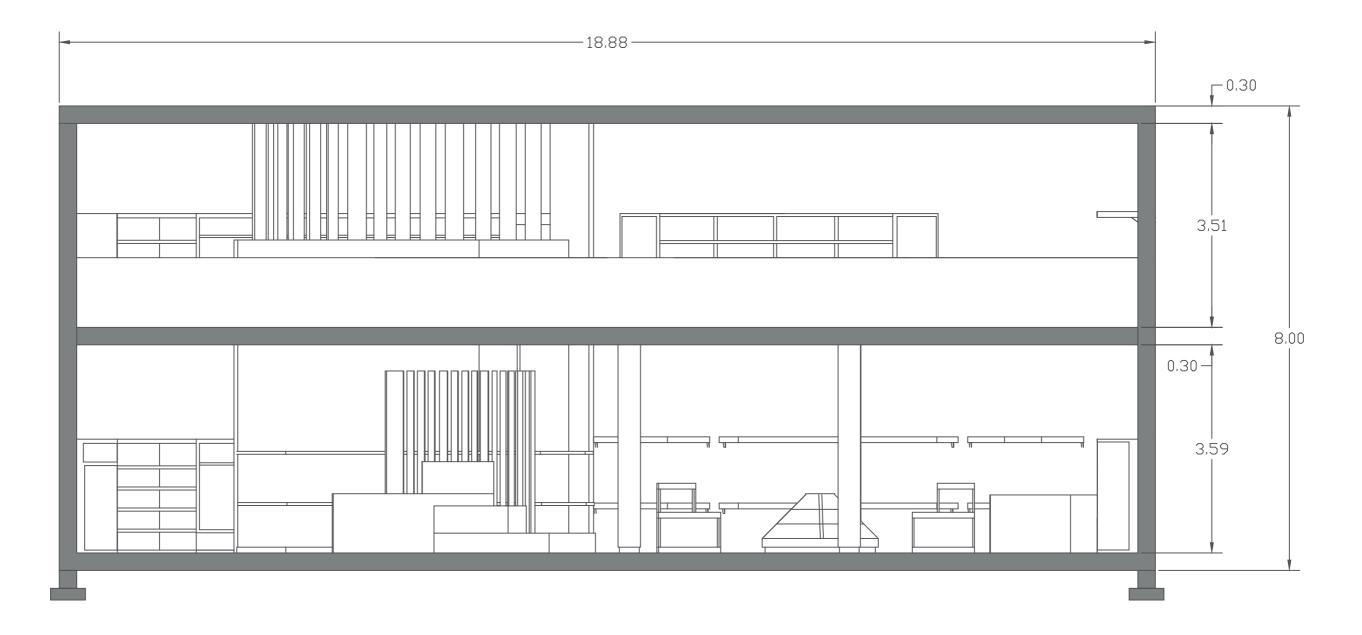


Stairs



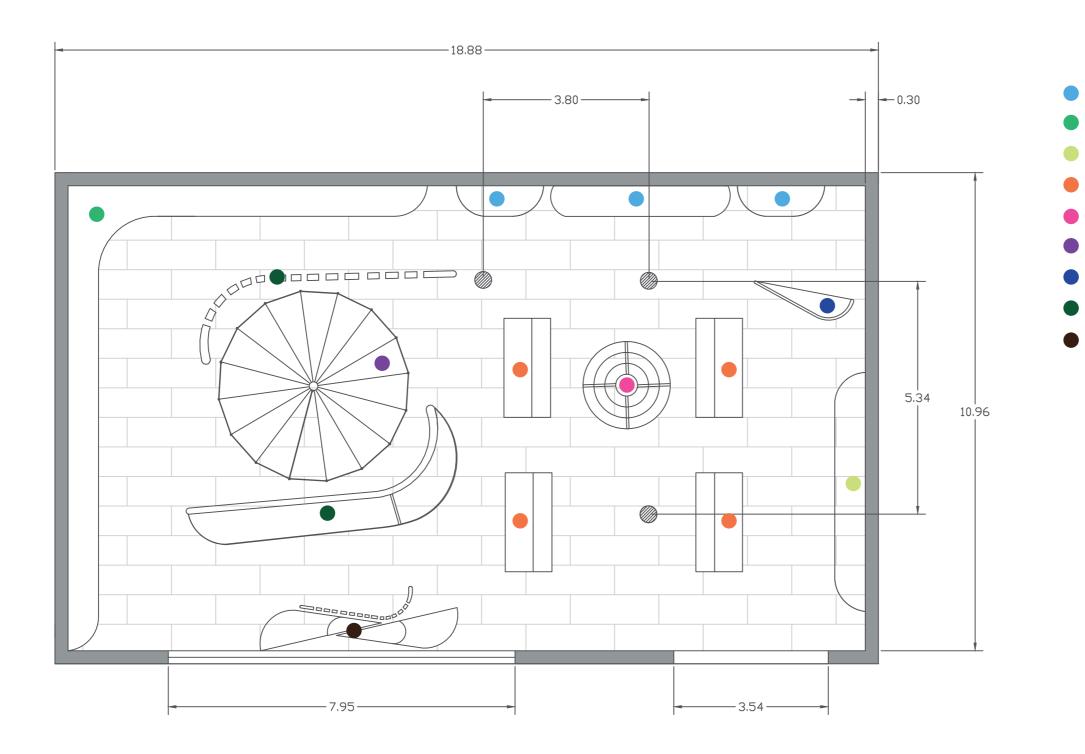
## 04 | Plans

#### S<u>ECTION</u>



measures in m

#### GROUND FLOOR



measures in m

#### UNITS

Wall Unit - Complements

• Wall Unit 1 - Clothes and Shoes

• Wall Unit 2 - Clothes and Shoes

Mid Floor Unit - Clothes and shoes

Mid Floor Unit - Cosmetics

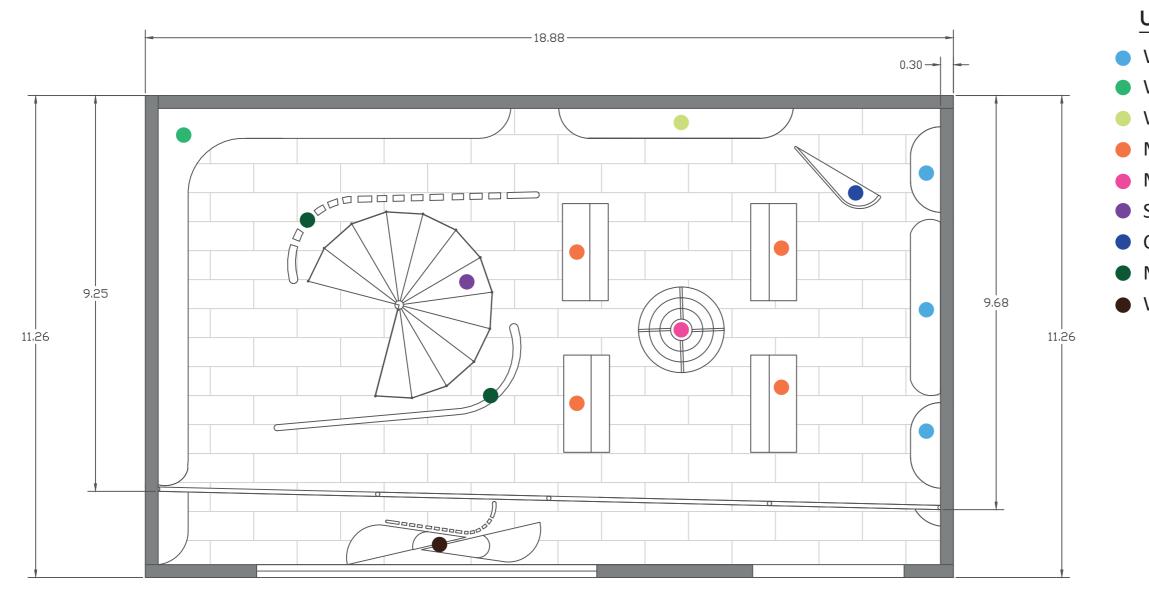
• Stairs

• Cash desk

• Main Module

• Window merchandising

FIRST FLOOR



measures in m

#### UNITS

Wall Unit - Complements

• Wall Unit 1 - Clothes and Shoes

• Wall Unit 2 - Clothes and Shoes

Mid Floor Unit - Clothes and shoes

Mid Floor Unit - Cosmetics

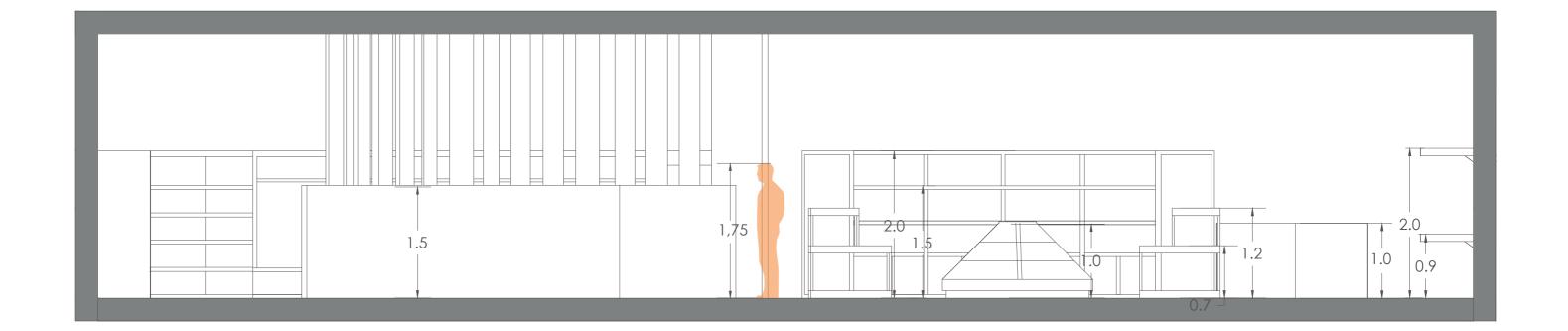
• Stairs

• Cash desk

• Main Module

• Window merchandising

# 05 | Ergonomics



measures in m



#### SKETCHUP MODEL



#### **GROUND FLOOR**





#### 1st FLOOR





#### EXTERIOR



#### WINDOW



# 07 | Materials





## PRODUCT VISUALISATION PDVS 3411

### **ASSESSMENT 1** BUILDING BROCHURE





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HISTORY

Background and local significance

2 ACCESSIBILITY to the public

ARCHITECTURAL ASPECTS

Internal and external

04

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ANNUAL EVENTS

Special and significant



# 





The house was originally known as Kildare House because the Earl of Kildarare, James Fitzgerald. He ordered to build it between 1745 and 1747. Fitzgerald has the purpose to create the most important of Dublin Georgian Mansions to reflect his high status in Irish Society. On becoming the Duke of Leinster in 1776 the house was renamed Leinster House. The house remained in the family for seventy years. In 1875, Augustus Frederick, the third Duke of Leinster, sold the mansion to the Royal Dublin Society.

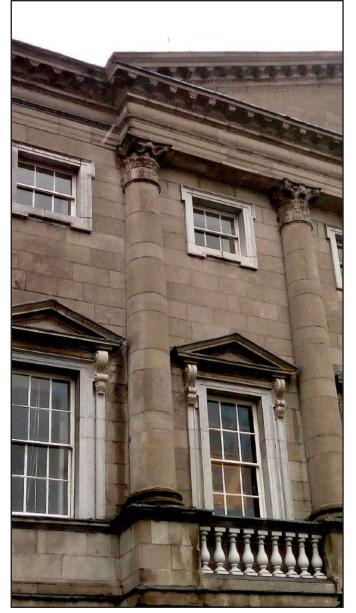
A number of historic events took place in the house. The first balloon ascent in Ireland was made in July 1783 by Richard Crosbie from Leinster Lawn, and also The Great Industrial Exhibition that was opened on 12 May 1853. After the establishment of the Irish Free State in 1922, The

Government secured a part of Leinster House for parliament use. The entire building was acquired by the State in 1924.

Nowadays, Leinster House is the seat of the two Houses of the Oireachtas (National Parliament), comprising Dáil Éireann (The House of Representatives) and Seanad Éireann (the Senate). It is recognised the primacy of Dáil Éireann in regard to the Parliament, in that a general election to Seanad Éireann must take place not later than 90 days after the dissolution of the Dáil.

Different public institutions of the present day owe their origins to the RDS: The National Botanic Gardens, the National College of Art and Design, the Dublin Veterinary College, the National Library, the National Gallery and the National Museum.

## ACCESSIBILITY 02





The Houses of the Oireachtas offers 30 minute free guided tours of Leinster House during the year. There are two types of visits: Visit sponsored by a TD or Senator, and Walk-up tours for people living in the State or visitors.

The first option, the Walk-up tours of Leinster House are available on Mondays and Fridays (in case the House is not siting) at 10:30am and 2:30pm. Each tour is limited to the first 30 people who have booked a place who arrive to the Kildare St Gate.The tour focusses on the history of the building and the traditions of Ireland's rich parliamentary heritage. A guide accompanies visitors through the building and, includes a visit to the public galleries of the Dáil and Seanad debating chambers.

The other option is to take a tour contacting the local TD or Senator with the contact details of the person who want to join the tour, the number in the party and the date and time. This type of tours is available Monday to Friday at 10:30 am, 11:30 am, 2:30 pm and 3:30 pm. When the Dáil and Seanad are in session additional tours are available on Tuesday and Wednesday evening at 7:00 pm and 8:00 pm.





### ARCHITECTURAL ASPECTS 03

Leinster House was designed by Richard Cassels in 1745 for the Earls of Kildare and Leinster, the Fitzgeralds. Leinster House was built on the edge of Molesworth Fields is a country house constructed in town. It is of Ardbraccan limestone with the east or garden front in granite. All the ornamental parts and the Kildare Street front of Leinster House are of Portland stone.

The obelisk in front of the building is dedicated to Arthur Griffith, Michael Collins and Kevin O'Higgins, the architects of independent Ireland.

The projecting bow on the northern side of the house is said to be the prototype for the bow fronted White House in Washington, particularly on the building's first and second floors. The architect of the White House was James Hoban, who studied architecture at the Dublin Society's School where he won a prize in 1780.

Due to their social position, the Kildares place great importance on the interior of their mansion. The main staircase below is one of the most elaborates in Dublin. This staircase is different to others because it does not rise directly out of the main hall but from a room adjacent. Nowadays, it leads to the Seanad Chamber. The Dáil chamber is in a lecture theatre installed by the Royal Dublin Society in the 19th Century. The Seanad sits in the old first floor saloon. This room has an elaborate ceiling design.

Leinster House has two main entrances. The most important is on Kildare Street, and to the left is the National Library next to the National Museum.

## 04 annual events

There are different public events during the year such as September Culture Night and October Open House Dublin.

The Culture Night, where different arts and cultural organisations open their doors. The Houses of the Oireachtas have participated some years in association with the Temple Bar Cultural Trust. In last editions a lot of people passed through the doors of parliament to enjoy an evening of culture and art in the surroundings of Leinster House. There is also guided tours of Leinster House, with access to the debating chambers of both Dáil and Seanad Éireann, and walk through the historic corridors of the Houses of the Oireachtas and view the home of the Oireachtas Committee system in Leinster House 2000.

On the other hand, the Leinster House also opens its door in the October Open House Dublin, which is an important celebration of architecture in Ireland presented by the Irish Foundation. During that time, thousands of visitors can participate in different activities, tours and lectures, such as brass bands, music events, face-painting, strolling players, and a children's parliament.



### ASSESSMENT 2 PRODUCT BROCHURE

### Cordless Drill

**POWER TOOL** 

The Cordless Drill is a tool that is used to drill different materials. It is appropriate to different uses, being suitable to work both at home and in the construction sectors due to its huge variety of functions. Its main advantage is that it is very easy to use without the need to be a specialist. It has a great accuracy and can have up to 3 speed settings, achieving great results using the proper diameter drill, depending on the hole that is going to make and with the help of a chuck that make easier the interchange of the cutting tools. Moreover, it can be used in different surfaces such as wood, plastic, stone, granite, cement, concrete, light metals and even some types of iron and steel.





#### **ERGONOMIC HANDLE**

It allows to use the tool in a comfortable way, adapting it to the shape of the hand.





#### CHUCK SLEEVE

It allows to adjust or loosen and remove the drills manually



#### BATTERY

The power depends on the voltage of the battery. Some models, designed for professional users, can came up to 32 V.

### PARTS





#### A VERSATILE TOOL

In this case, it is the cordless drill, which is portable, so it allows to the user a freedom of movement because it is not necessary to be connected to a source of energy.

In addition, it has a great variety of accessories that fit to the main structure, such as a milling cutter, a screwdriver, a paint stirrer or a sanding stone.

