



CATALOGO

profiles



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“ WE BRING YOUR PROJECTS TO LIFE ”

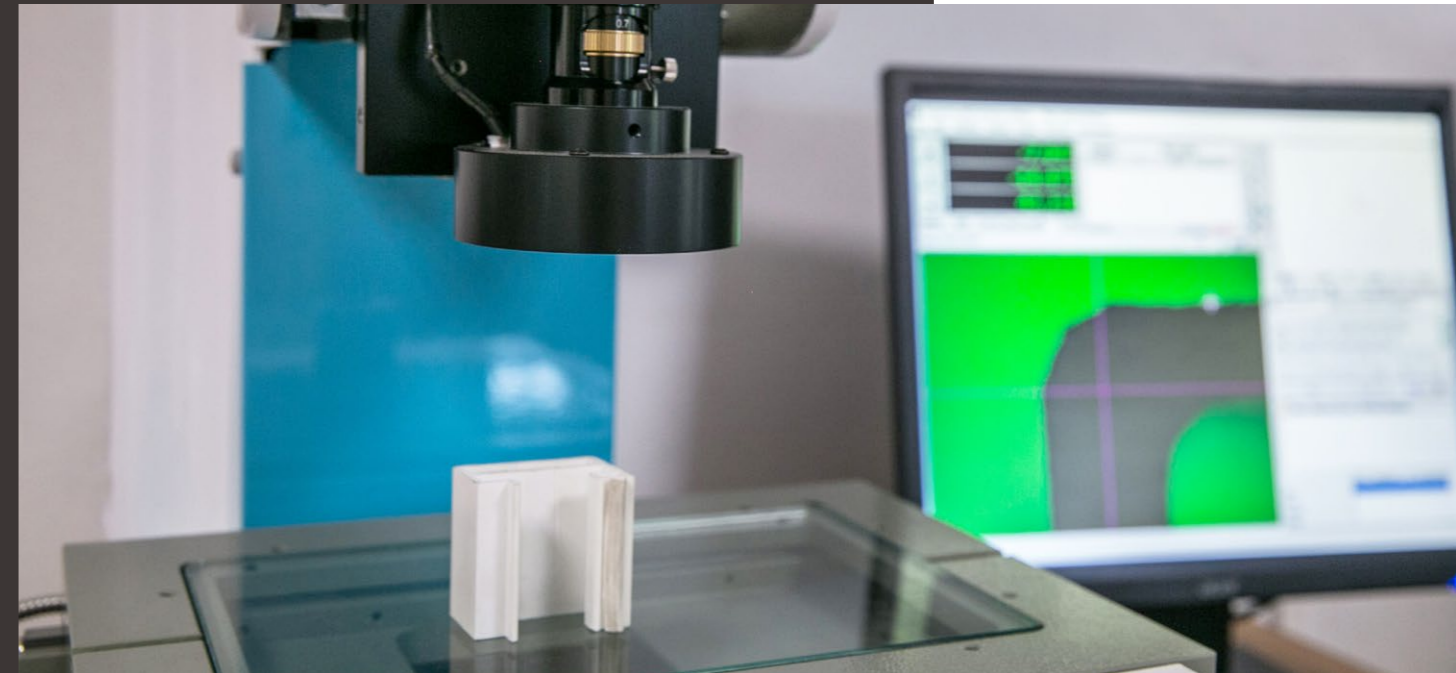


COMPANY

3B Profiles is a leading player operating in multiple international markets thanks to its innovative knowledge in the extrusion of plastic profiles. **3B Profiles** leverages more than forty years' experience in the design and production of equipment for the extrusion of plastic and thermoplastic materials.

Our products address different sectors, ranging from lighting and furniture to refrigeration, automotive and building industry.

We manufacture profiles tailored to our customer needs with high attention to details.



Our experienced staff supports our customers in every design phase leveraging top notch technologies and methods:

- Technical consultations
- Schematic design
- Material selection
- Design and production of equipment
- Testing and Prototyping
- Production

OUR COMPANY INCLUDES A PRODUCTION DEPARTMENT WITH SEVERAL EXTRUSION LINES

*a **technical office** dedicated to consultancy and project development using CAD/CAM technologies, a **department dedicated to the equipment realization and test**, a **warehouse** for the storage of raw materials, administrative **offices** and a **showroom**.*



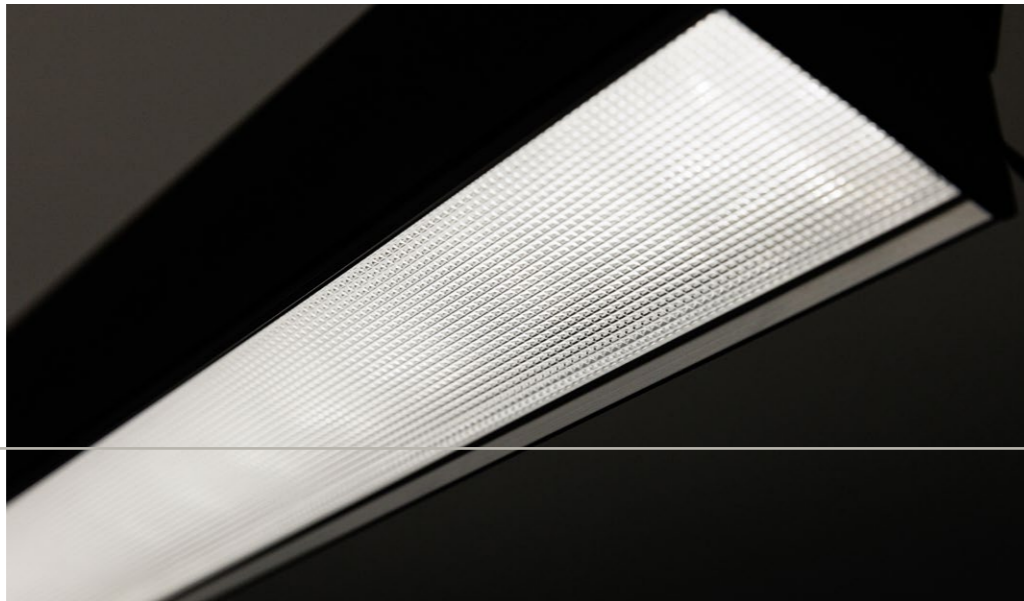
PROFILES FOR LED LIGHTING



3B Profiles is
specialized in
the extrusion
of Polycarbonate
and PMMA for LED
lighting sector.

Beside standard products, **we produce ad-hoc solutions tailored to customers' needs** to match the ever-increasing attention to technical and aesthetic details.

Our profiles can be produced with a **large selection of colors, dimensions, custom shapes, surfaces and finishes.**



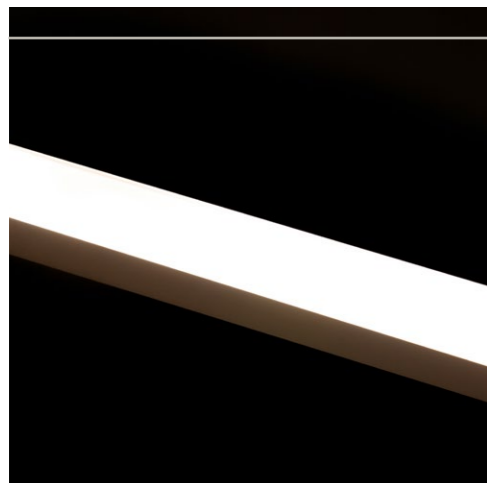
They can **be co-extruded with UV protection, soft materials and materials that dissipate heat and can be extruded directly curved.**





FINISHES

Among our new generation products, we emphasize the ones that leverage constant research and innovation such as:

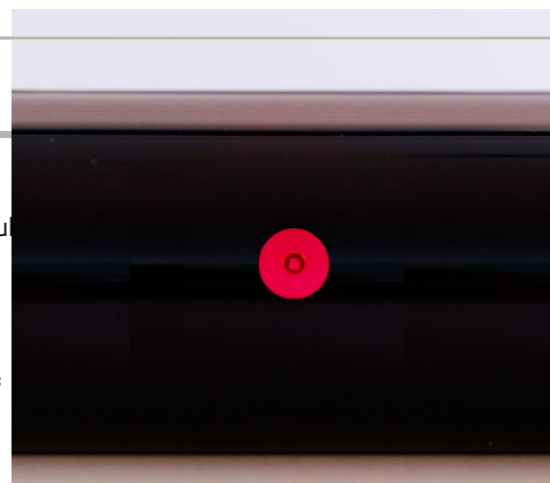


SPECIAL LED

Profiles in Polycarbonate made up by a **special opal finish that masks the LED spot sources**, thus enabling homogeneous distribution of light across the whole surface.

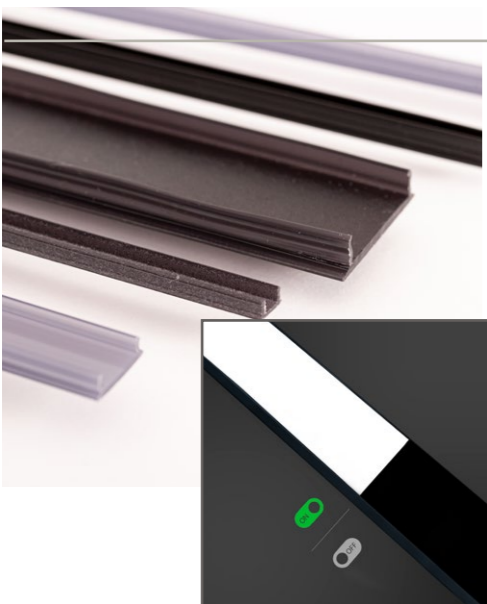
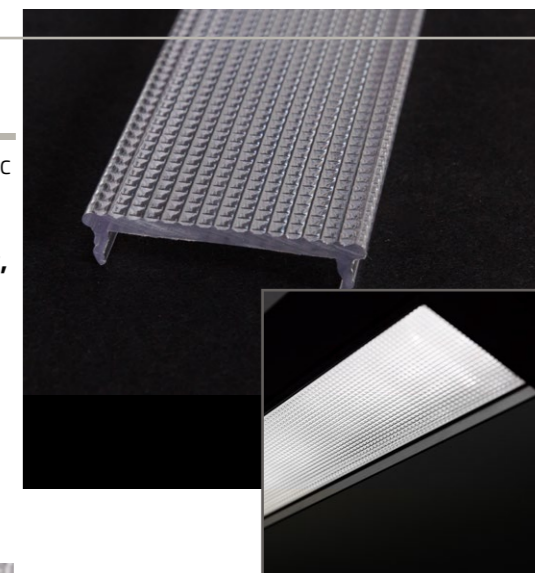
TRANSPARENT TO IR

This finish is made of a special Polycarbonate that allows IR emission, which is particularly useful in applications such as security and surveillance and mechanical automation. **The infrared rays pass through the colored plastic ensuring the proper functioning of the light sensors housed inside.**



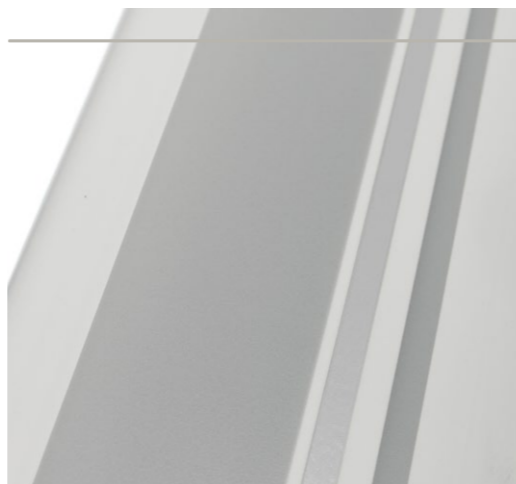
MICROPRISM

Profiles produced with a microprismatic surface in Polycarbonate or PMMA. This surface enables profiles to **maintain unchanged its Transparency, Light Transmission, Haze and Clarity, while reducing glare effects and ensuring maximum visual comfort.**



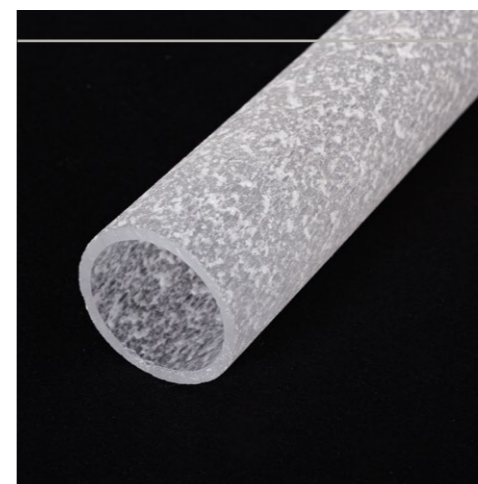
GREY & WHITE (G&W) BLACK & WHITE (B&W)

These profiles are produced with a special Polycarbonate. **When the LEDs sources are off, the profiles show elegant monochromatic coupling between extruded plastic and lamp body, perfectly matching dark walls and objects. When LEDs are on, the extruded profiles “magically” scatter white light** as conventional opal diffusers. These profiles are available grey or black, and either smooth or matt.



MULTICOLOR

Multicolor profiles can be manufactured with different opal tones or colors (diffusing or colored) within the same product. They can be produced with matt or glossy finishes and offer a high level of light transmission. They are exceptional for creating innovative lighting effects.



SPECIAL TEXTURE

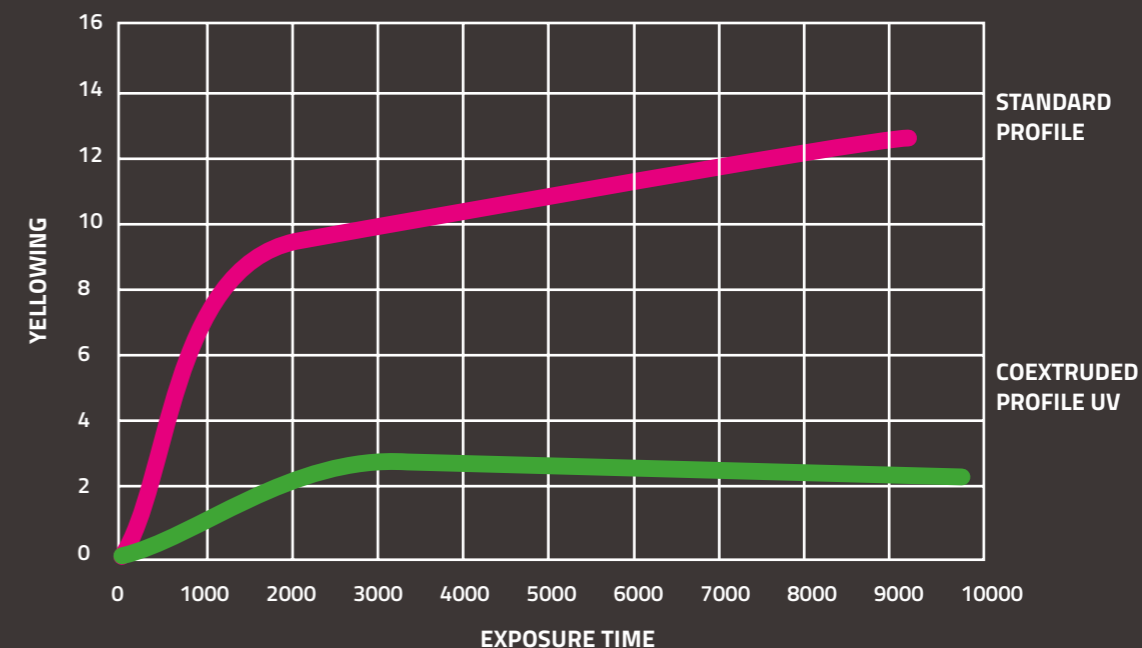
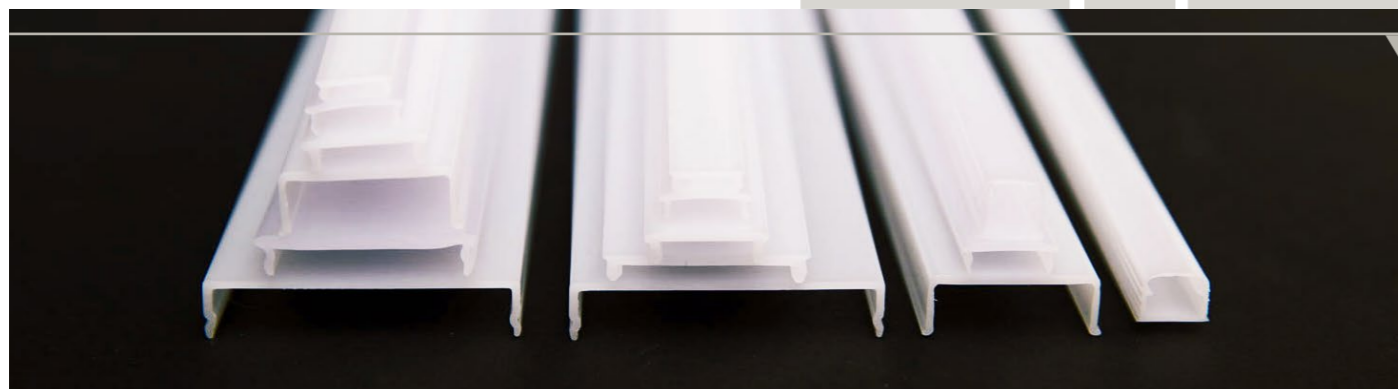
We create incision and engravings surface treatments to create designs and patterns on the surfaces of your profiles. Multiple finishes are available, such as striped, hexagonal, rhomboid or custom patterns. There is no limit to creativity.



LINEAR PROFILES

Our profiles are used to light several environments, including, houses, offices, shops, warehouses, shops, greenhouses, etc. We produce products in **Polycarbonate and PMMA** using raw materials from leading suppliers to ensure high quality standards.

Our profiles are produced with **a vast selection of shapes, geometries, opal tones, colours and finishes** in order to satisfy our customer.



Polycarbonate is a versatile material that is extensively used in the extrusion sector thanks to its mechanical properties such as hardness, impact resistance, lightness, transparency and flexibility.

Polycarbonate profiles can be coextruded with UV protection to improve performance against deterioration and yellowing due to UV exposure. Yellowing improvement, due to coextrusion with UV protection, is shown in the plot above compared to standard profiles without UV protection.



Some of our profiles, depending on their geometry and production materials, **can be rolled up in single pieces (20/30/40 meters)** to allow the creation of

uninterrupted lighting lines, and to favor easier packaging and transportation.

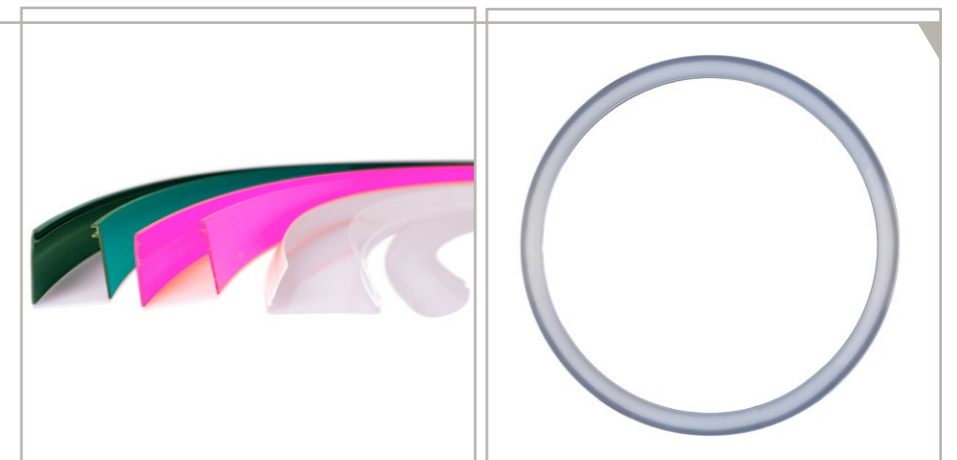


CURVED PROFILES

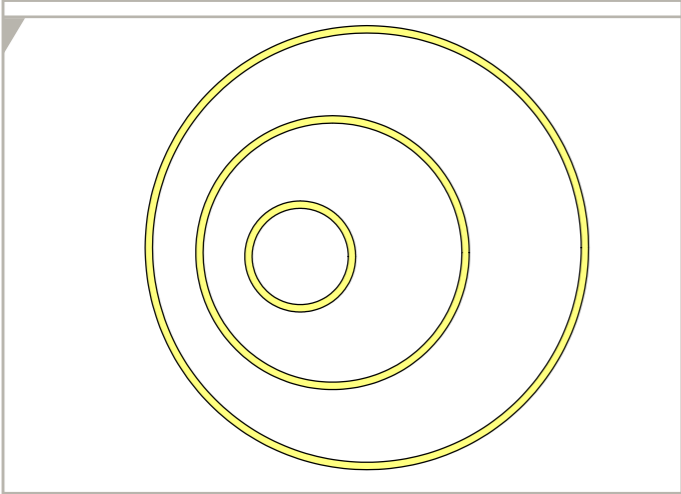


Our curved profile is a custom lighting solution for LED components, suitable for those who want to combine aesthetic with high quality plastic profiles. **It is an exclusive product manufactured with an innovative technology, developed by 3B Profiles, which enables the profile being extruded already curved, without requiring special treatments (chemicals or heating).**

WE CAN ENSURE TOP QUALITY PROFILES WITH PERFECT SHAPES AND RESISTANCE TO BREAKAGE. THESE PROFILES ARE AVAILABLE IN POLYCARBONATE AND PMMA WITH MULTIPLE COLORS, SHAPE, FINISHES SUCH AS THE LINEAR PROFILES. THEY ARE AVAILABLE RECESSED OR PENDANT AND CAN BE ADAPTED TO EXISTING FRAMES.

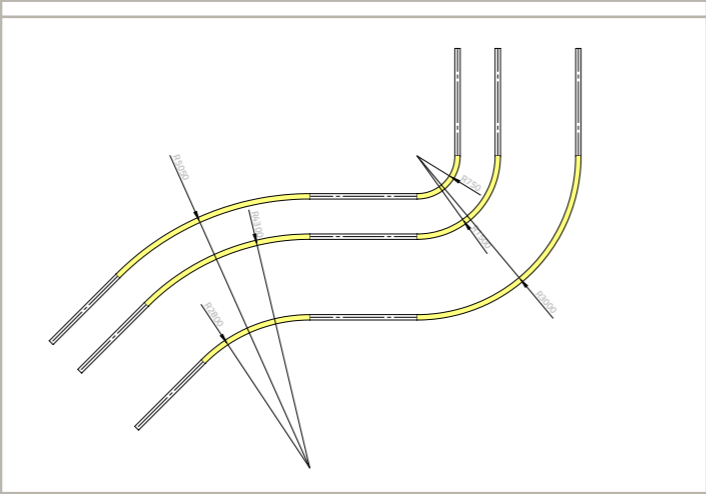


These profiles can be combined between each other as well as with linear profiles, enabling the creation of exclusive and original shapes. Here are some examples:



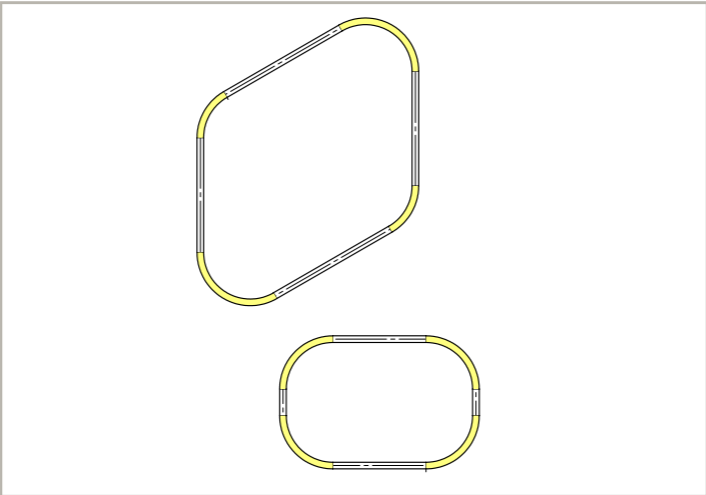
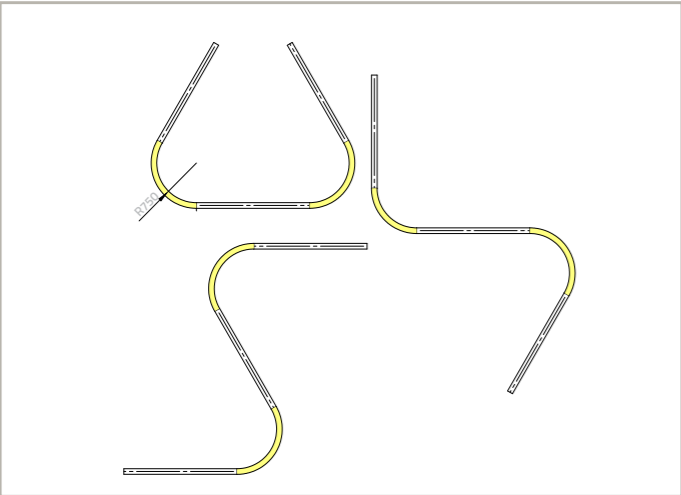
CIRCLE OF LIGHT

A perfectly circular profile in a single piece, in which the beginning perfectly matches the end. It can be produced in large diameters to illuminate vast environment.



COMPOSITIONS WITH LINEAR AND CURVED PROFILES

By combining linear and curved profiles together, it is possible to obtain unique and exclusive shapes of light on ceilings, walls and floors.

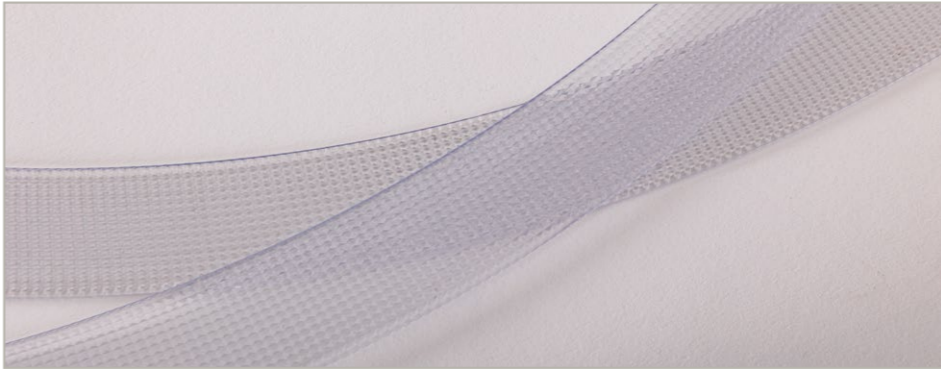


18 CREATIVE SHAPES

Some examples of possible shapes are 'S', 'U' and 'closed'. Lighting draws new contours capable of framing objects and silhouettes.

OUR LAST ADDITION TO CURVED PROFILES IS THE MICROPRISMATIC SURFACES.

Our technology also allows the production of curved profiles directly with homogenous microprismatic surfaces, obtaining a quality that cannot be achieved by other production processes (e.g., microprismatic sheets cutting). These profiles respect anti-glare standards and can be integrated in our customers' lighting solutions for e.g., offices, libraries and classrooms.



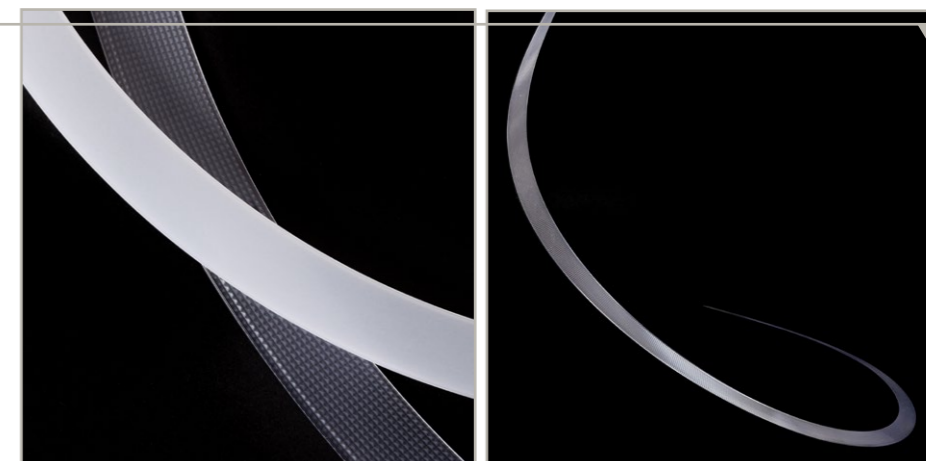


FLAT RINGS

Our **Flat Ring** are strips produced in Polycarbonate or PMMA. Thanks to our technology, **our flat rings are composed of a unique circular extruded piece that is manufactured directly in its final shape.** Differently from other techniques in which the rings are obtained by cutting flat sheets, we avoid waste and scrap, while guaranteeing superior quality. Our customer can choose thickness, width, diameter and finishes, such as: transparent, opal, flat, matt and recently also microprismatic.



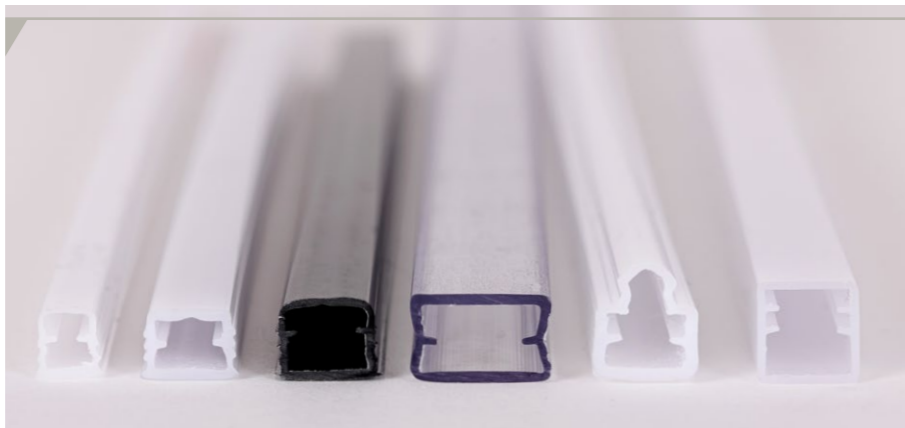
UNIQUE FLAT CIRCULAR
EXTRUDED PIECE. NO MORE
WASTE AND SCRAP DUE
TO CUTTING OF FLAT SHEETS



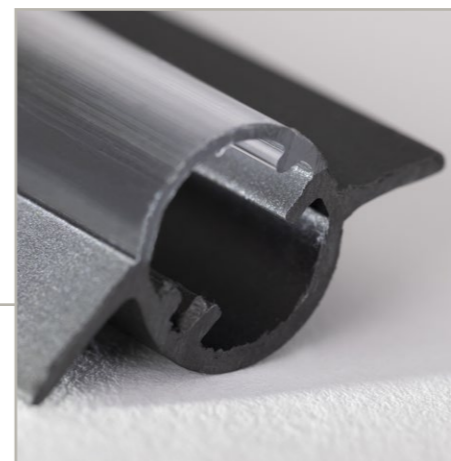


BOXED PROFILES

Boxed profiles are available in a number of shapes, including: **squared, rectangular, triangular and rounded**. They are produced with polycarbonate and PMMA and their shapes allow the insertion of LED strips inside without requiring extruded aluminum.



CLOSED SECTION PROFILES
AVAILABLE IN DIFFERENT SHAPES:
SQUARE, RECTANGULAR,
TRIANGULAR AND ROUNDED

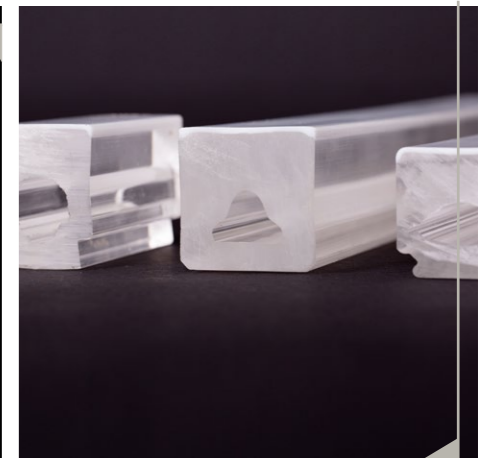
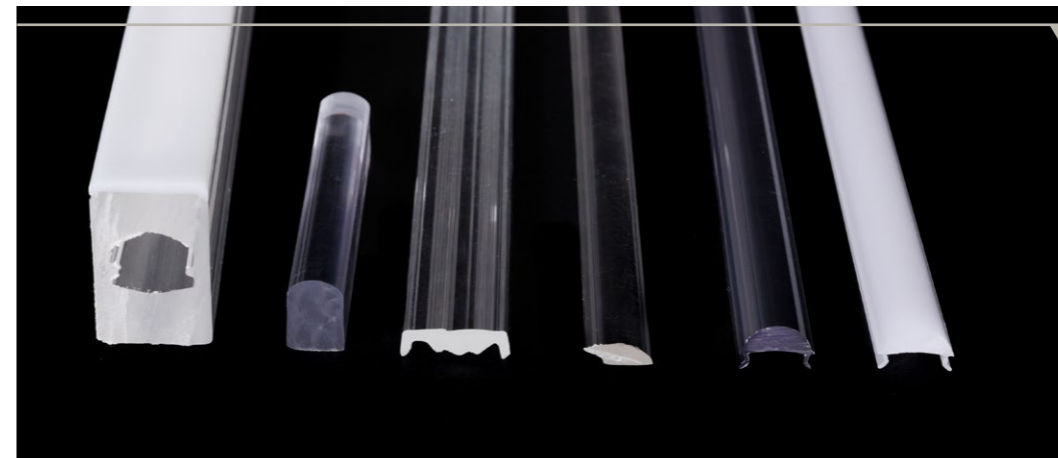


This product line can be produced with a special **Polycarbonate capable of dissipating heat** produced by internal electronic components **due to excellent thermal conductive properties** thus avoiding the need for external aluminum or dissipating tapes.



LENSES AND OPTICS

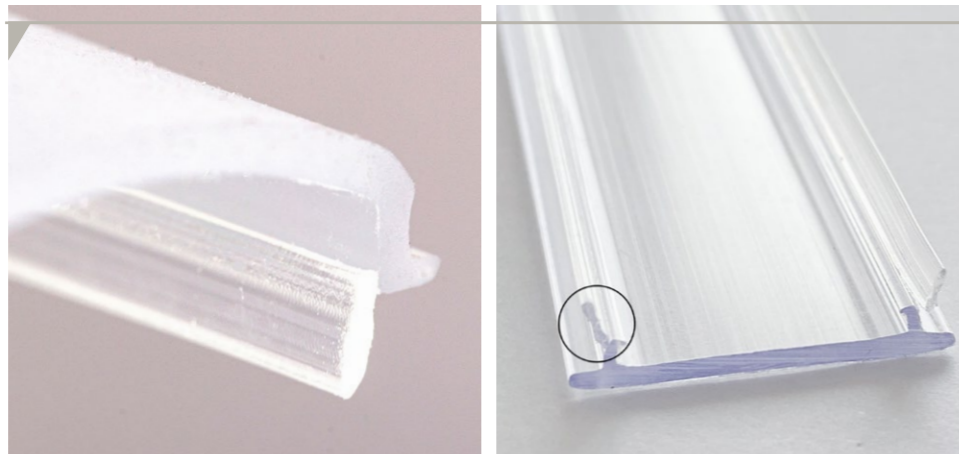
Photometries indicated where lighting innovation requires products with specific optics. **Polycarbonate or PMMA lenses are designed for the lighting sector to guarantee high transparency and light transmission.** They are particularly indicated when lighting innovation requires products with dedicated and custom optics. Our lenses can be transparent, opal, coextruded with multiple colors, and they can be used indoor, outdoor and underwater (e.g., in swimming pools). **We provide support in all design phases for custom lenses, including: optical design and simulation, cad design, prototyping and extrusion.**



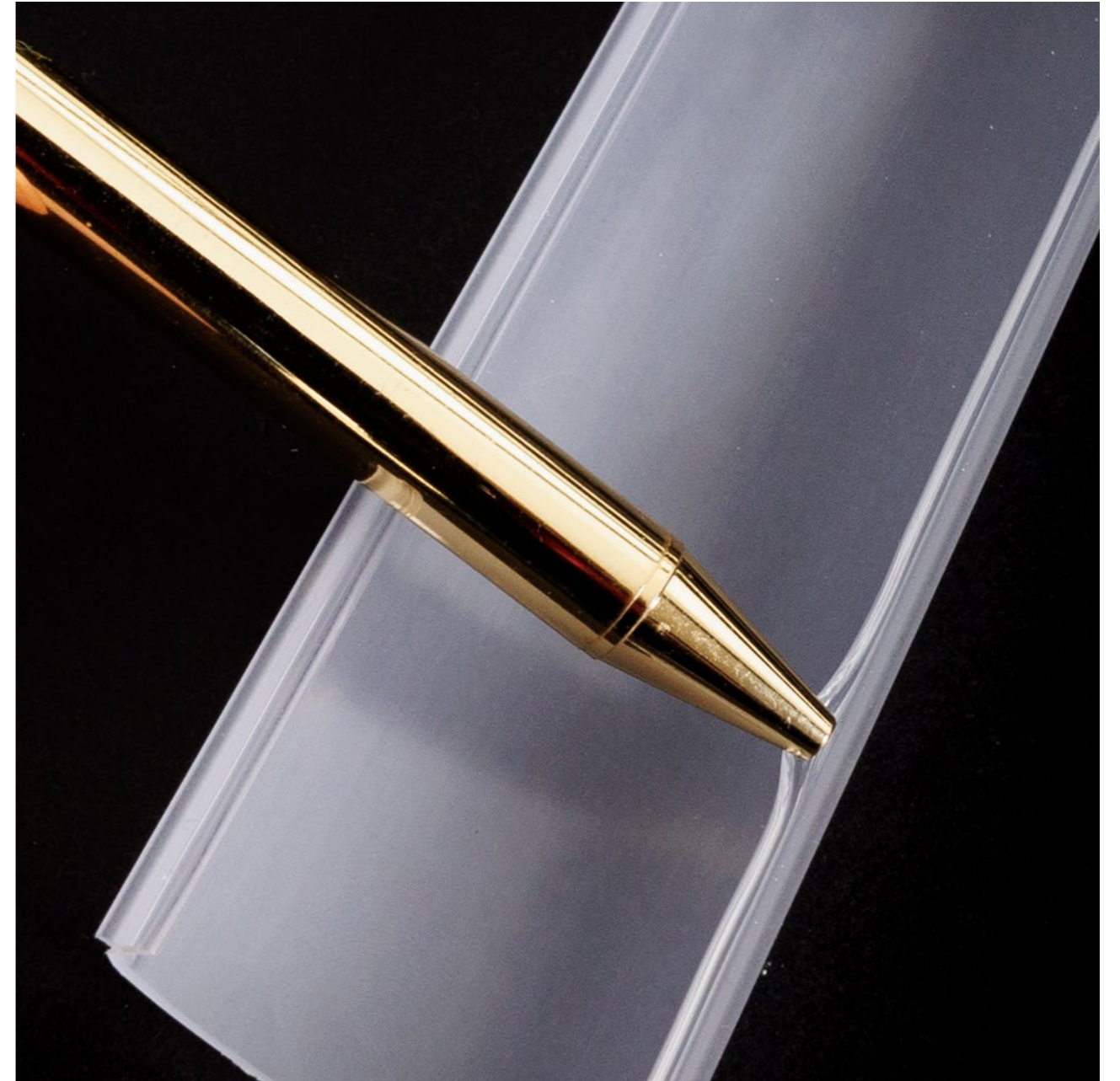


GASKET PROFILES

Gasket profiles and optics are produced with Polycarbonate and PMMA and are co-extruded with a soft material. They are recommended for outdoor applications such as greenhouses and damp environments in which IP protection against dust and water is required. **The distinctive feature of this product is the co-extrusion with the soft material that seals the overall structure and enables IP protection.**



GASKET PROFILES ENSURE
AN EXCELLENT SEAL AGAINST
WATER AND DUST





FLEXIBLE LIGHT PROFILES

Flexible light profiles are produced with PVC-free flexible materials that do not contain vinyl chloride.

This product line gives designers vast freedom in the choice of shapes and curvilinear surfaces. These profiles can be produced with different opal tones, colored or transparent. The material does not suffer yellowing and guarantees high light diffusion.



FLEXIBILITY HAS NO LIMITS. PVC FREE!



ELECTRIFIED TRACKS

Our electrified tracks are produced with a **UL94 V0 certified Polycarbonate, which is suitable for this type of application**, due to its insulating and conductive properties, and compliant with fire and fumes regulations.



The electrified tracks are manufactured with our innovative technology that enables the plastic profile being extruded directly with the metal components. Profiles can include one, two or more, metal conductors in a flat or round shape as needed.

Copper surface can be treated to avoid oxidation still maintaining its conductivity. Among these products particularly interesting is the black copper for its appearance properties.



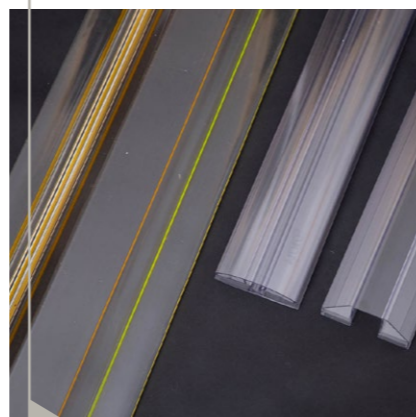
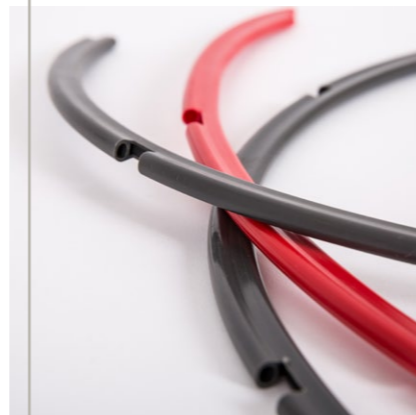
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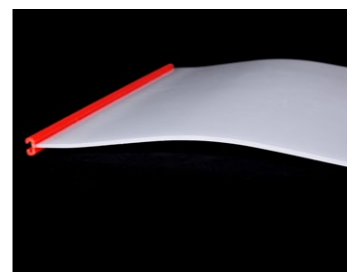
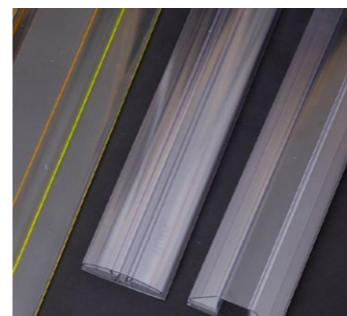
STRUCTURAL PROFILES AND OTHER APPLICATIONS

**3B PROFILES
PRODUCES PROFILES
IN POLYCARBONATE,
PMMA, ABS AND
POLYURETHANE
FOR A NUMBER OF
APPLICATIONS AND
AREAS, RANGING
FROM ELECTRONICS,
AUTOMOTIVE AND
SHOPFITTING
TO FOOD,
PACKAGING AND
CONSTRUCTIONS**

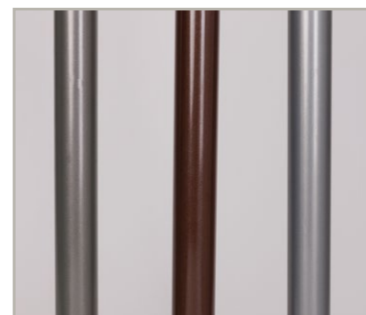
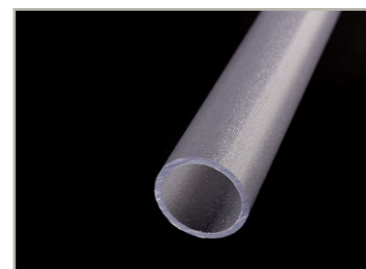
According to our customers' needs and applications, **we use materials with different properties, such as antistatic, conductive, flame retardant, food contact material, bio polymers etc.**



We realize **structural profiles and bars** in polycarbonate, transparent or colored and UV protected, which guarantee robustness against weathering and yellowing.



We produce **poles and tubular profiles** in Polycarbonate in a wide variety of diameters, colors and finishes. **They can also be produced with metallic colors** (e.g., black, grey, brown) **to match painted aluminums and to perfectly fit outdoor environment.**



Among these products, we emphasize attention to our **sealing modules, which are produced with a method based on a patented extrusion process** (application no. WO2017186883A1). These modules ensure maximum protection of cables, pipes and similar elements from external agents such as fire, water, dust, etc.



Our system offers several technical and productive advantages compared to other existing technologies, while guaranteeing superior quality of the product.





SERVICES

3B Profiles supports its customers in the whole product development process, starting from technical advice on mould design to final product manufacturing and packaging.

1. TECHNICAL AND DESIGN CONSULTING

We meticulously support our customers in the whole product development process, starting from the product drawing to mould design. We give advice on the most suitable materials according to the final applications and support and technical tips on accessories, e.g., aluminums and components.



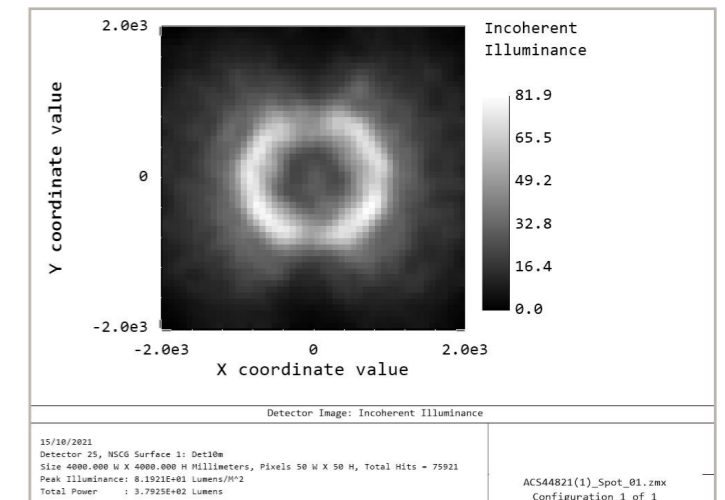
2. STUDY OF NEW OPTICS DESIGN

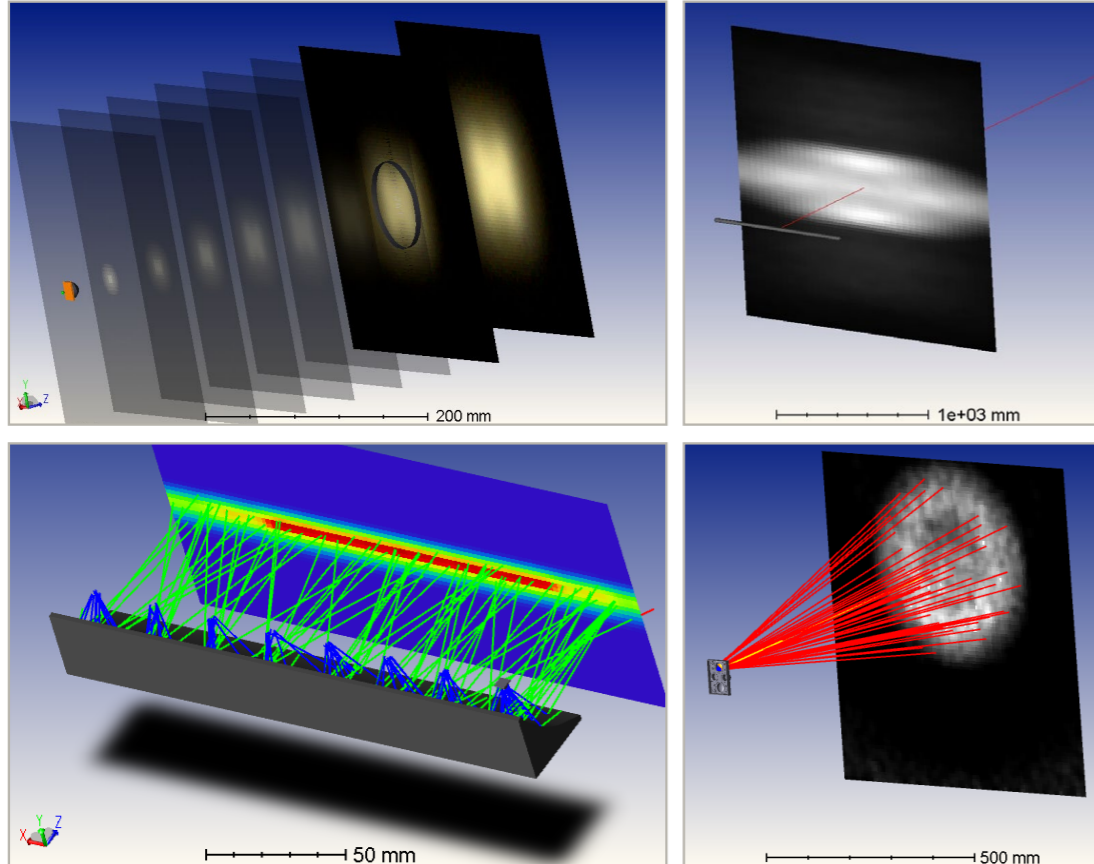
We help our customers in all design phases for their lenses by studying the best solutions that strive the balance between appearance and lighting properties. We provide complete documentation for the lighting body with photometric curves.

- We design optics with **software Zemax OpticStudio**, according to best design practices

- We generate and provides **photometric files (.ldt and .ies)** starting from the structure of the product

- We generate **simulations of the light distribution**





3. 3D PROTOTYPES PRINTING

We provide a fast prototyping service to create 1:1 scale samples for testing in early design phases.

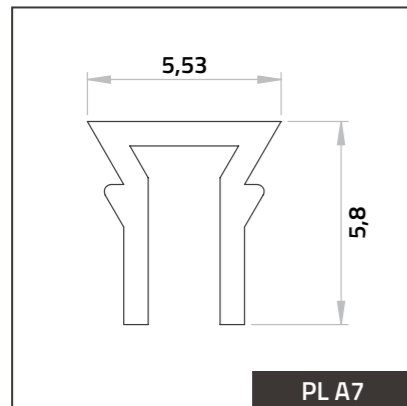
4. PRECISION CUTTING

We provide high precision cutting for any desired length thanks to our proprietary automated cutting technology, which guarantees high precision and repeatable cutting pattern.

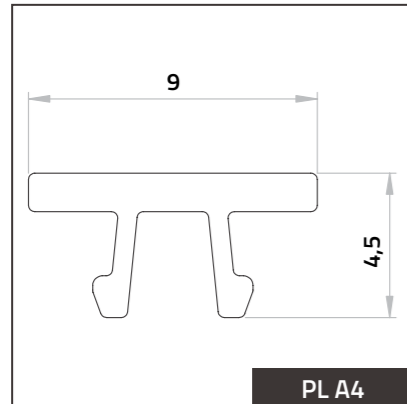
The drawings below are some of our range of products and are shown for demonstration purposes to indicate the dimensions and sections that we can make. Contact us for information and new samples!

6.

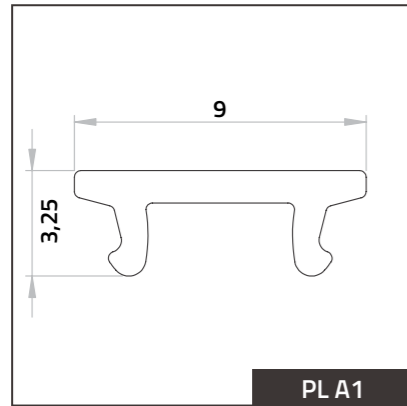
TECHNICAL
DRAWINGS



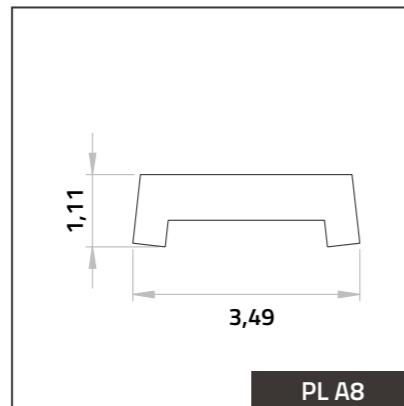
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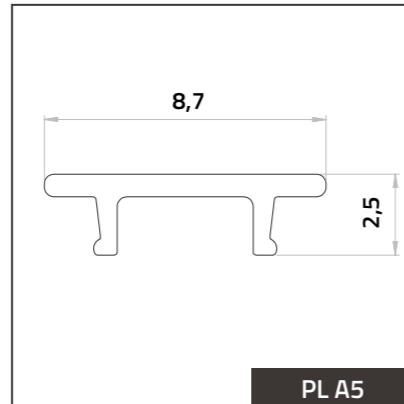
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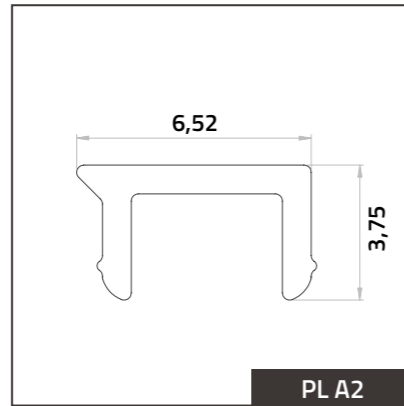
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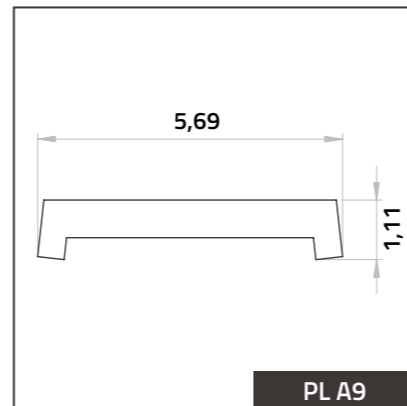
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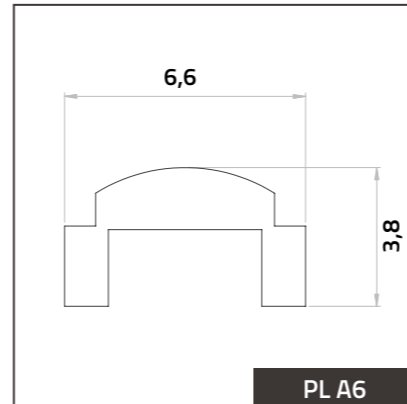
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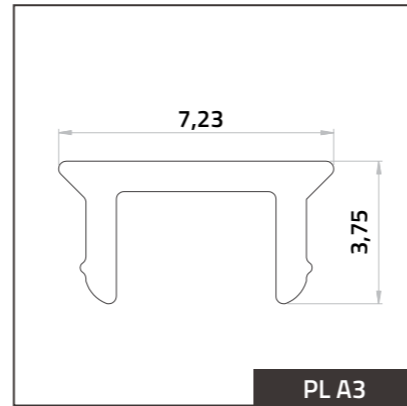
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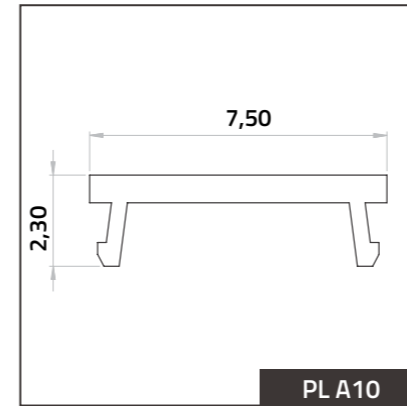
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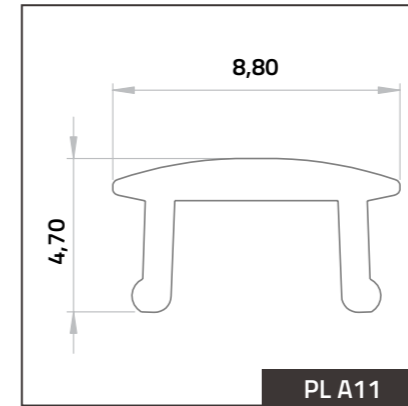
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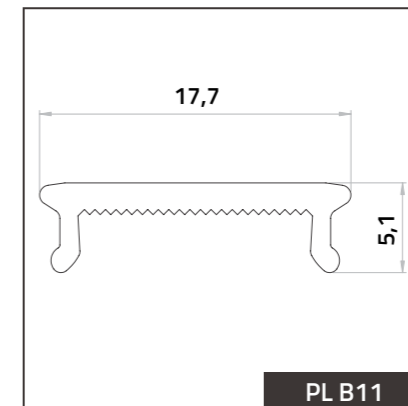
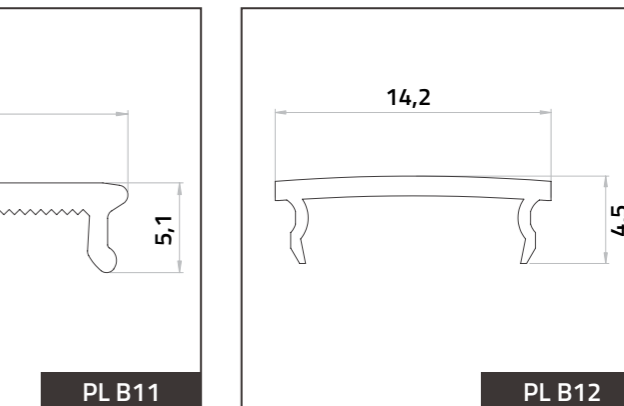
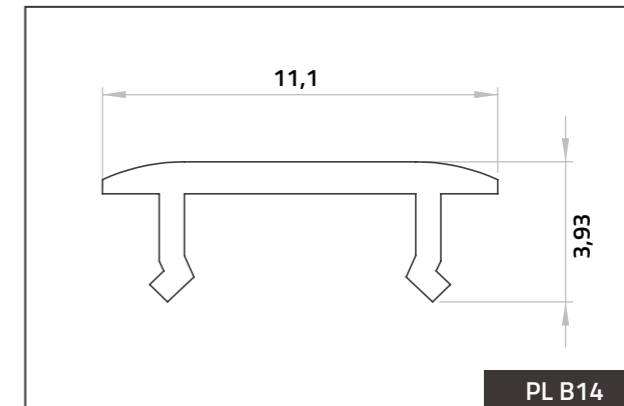
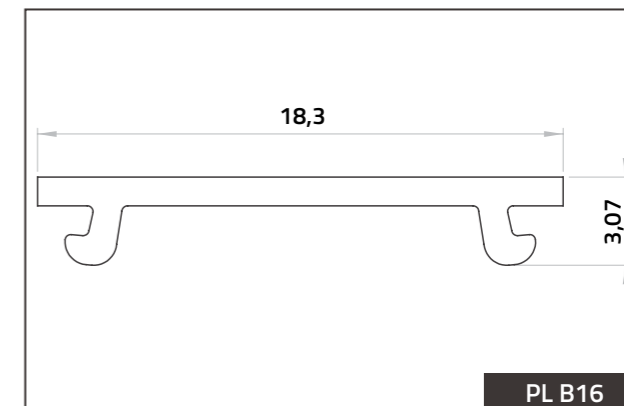
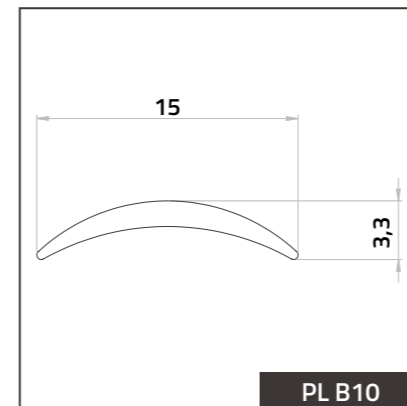
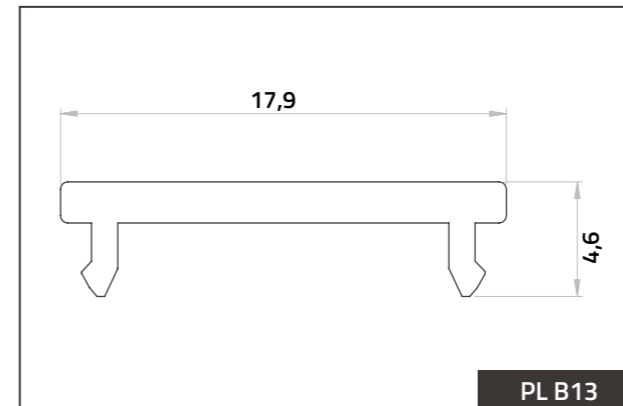
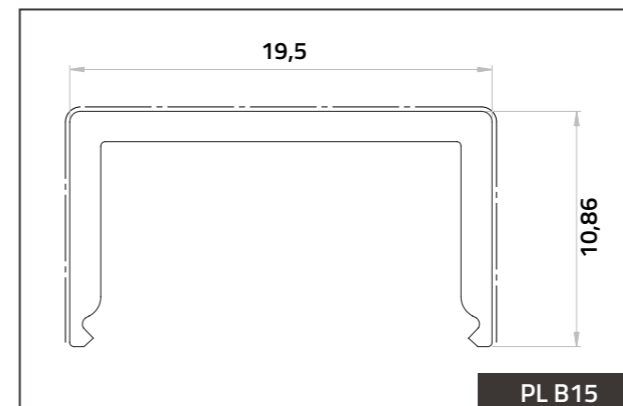
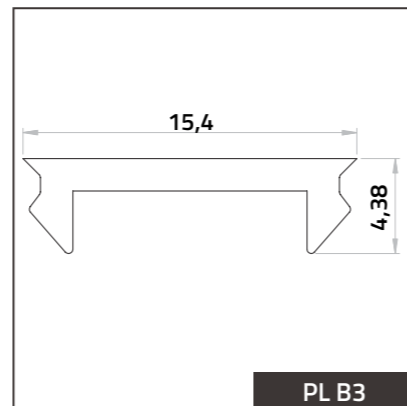
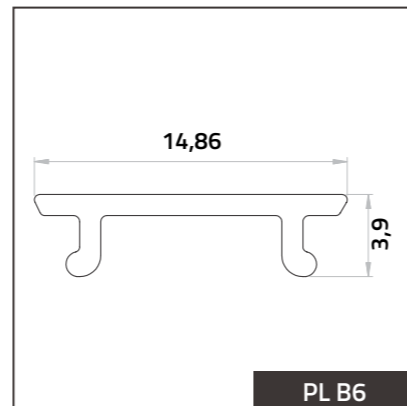
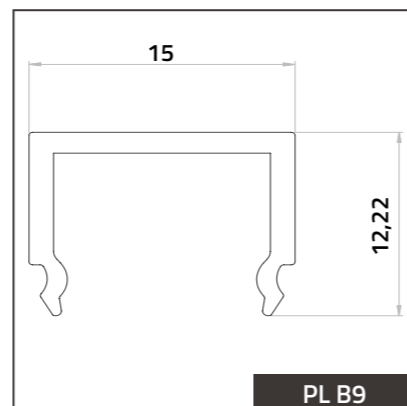
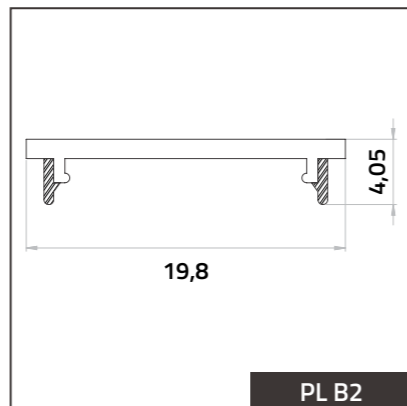
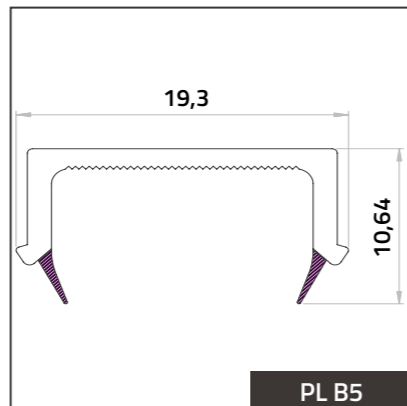
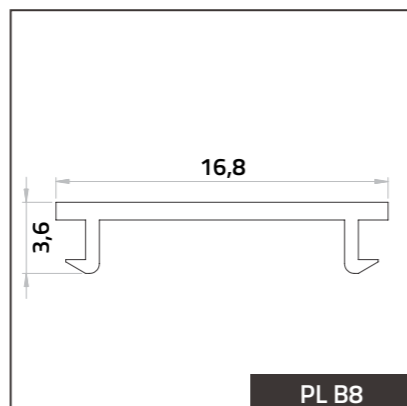
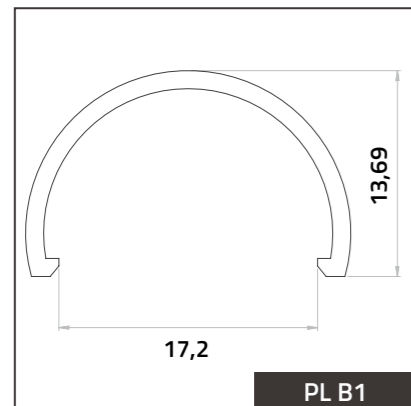
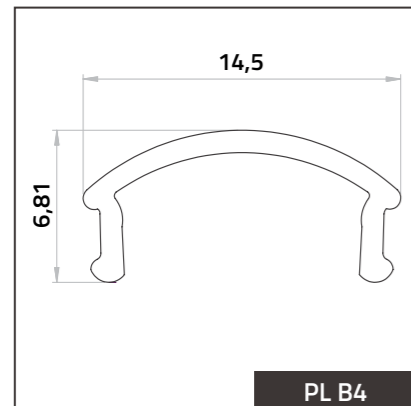
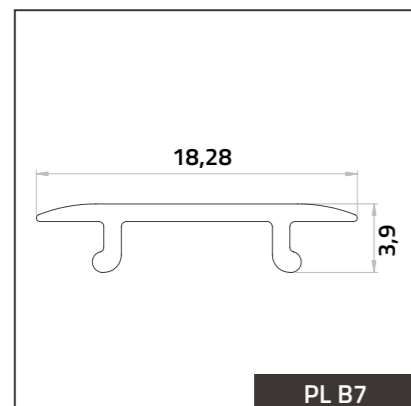
PL A3

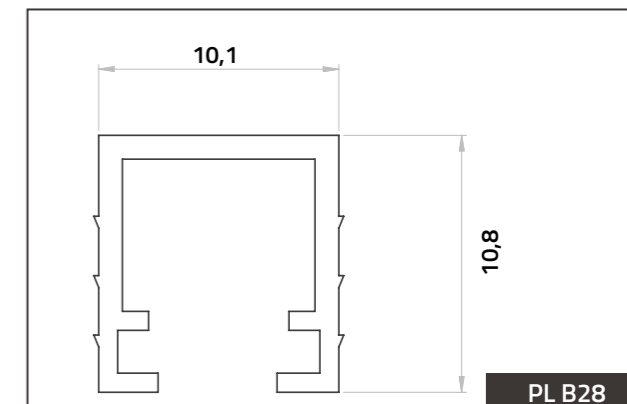
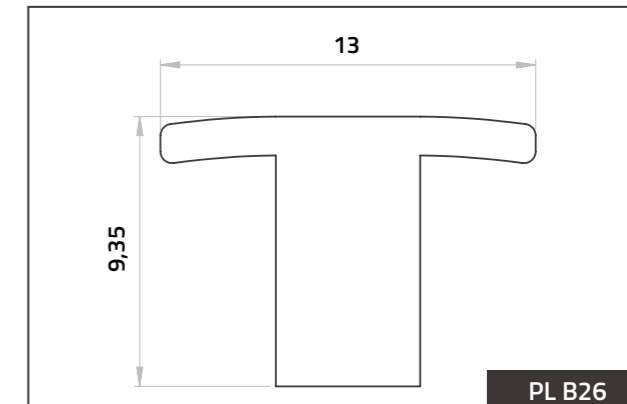
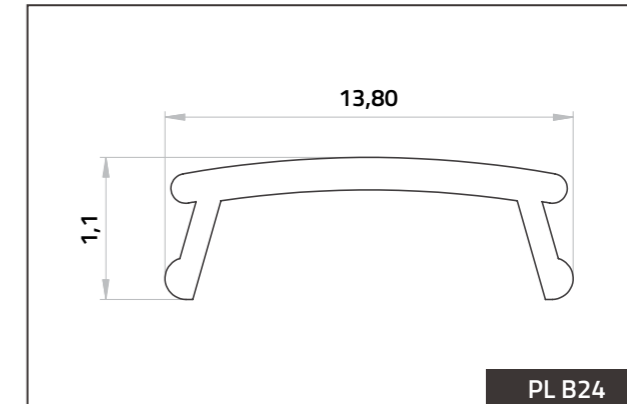
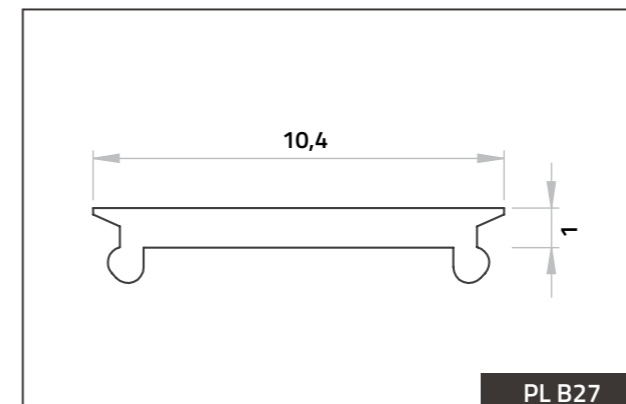
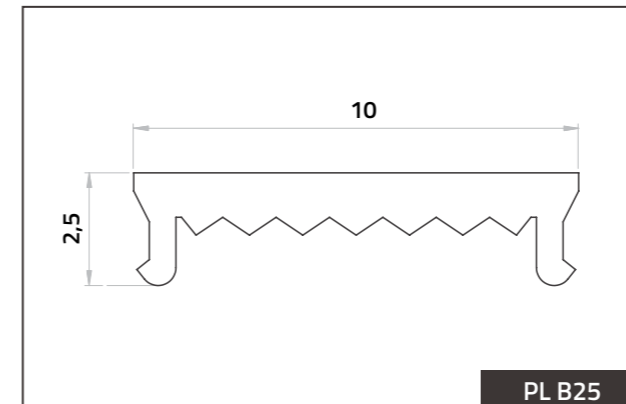
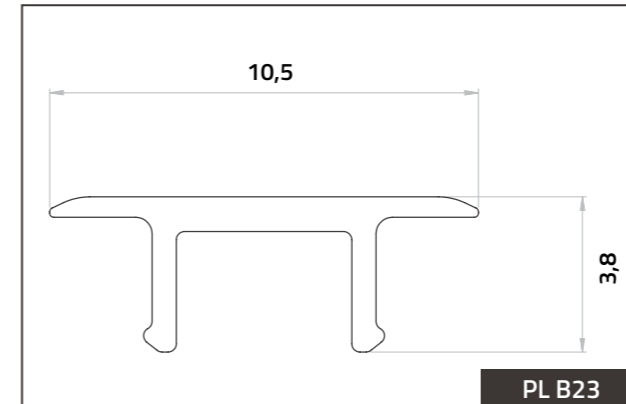
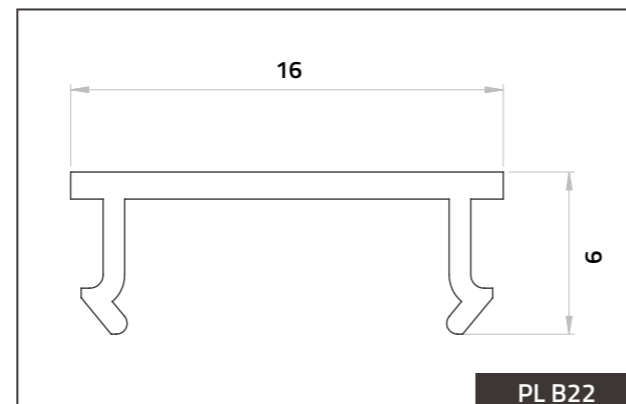
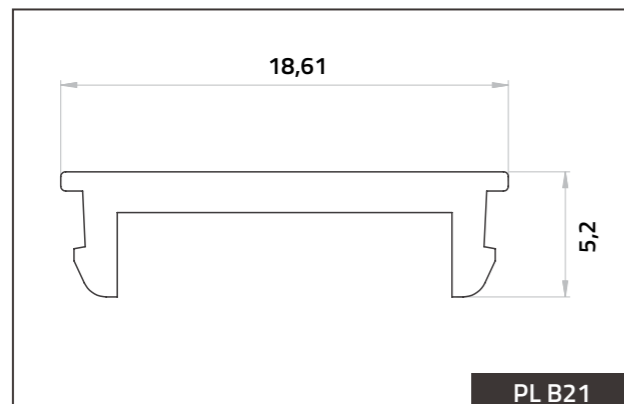
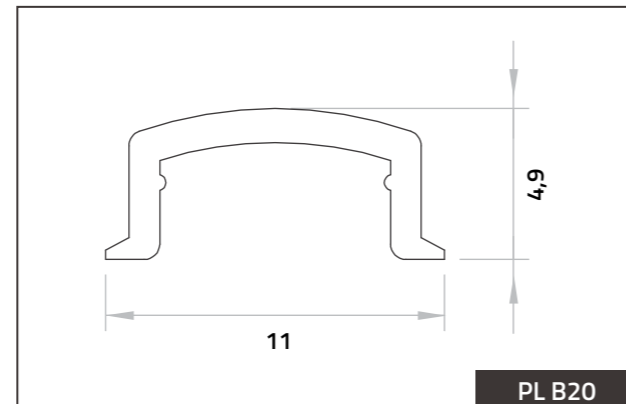
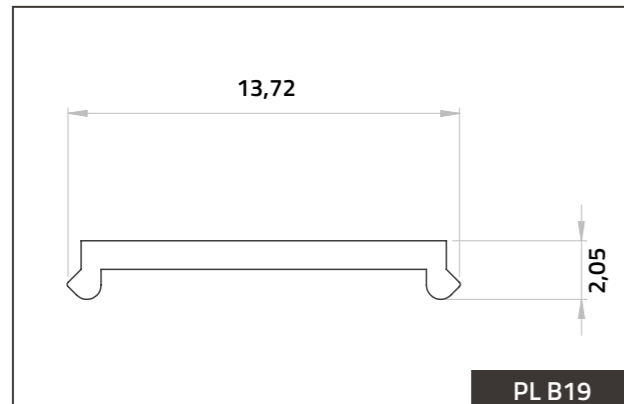
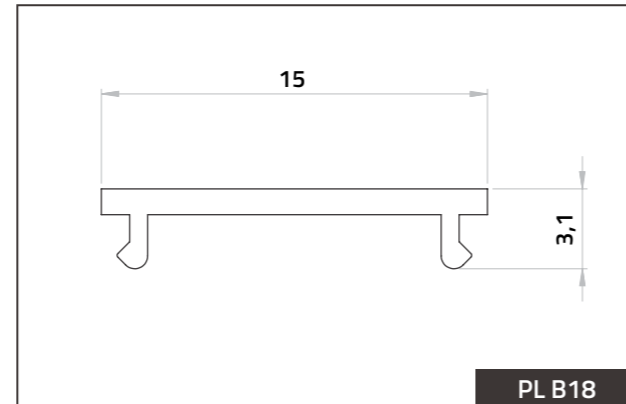
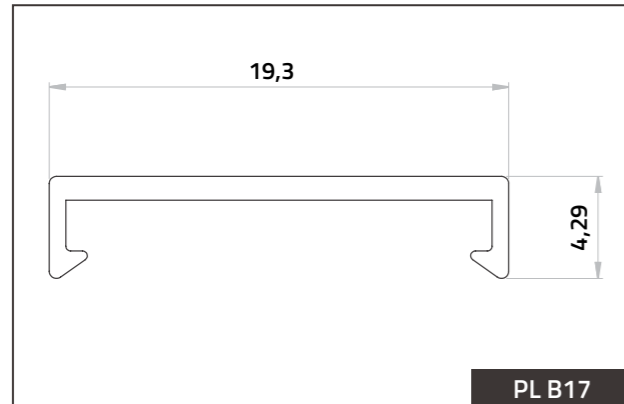


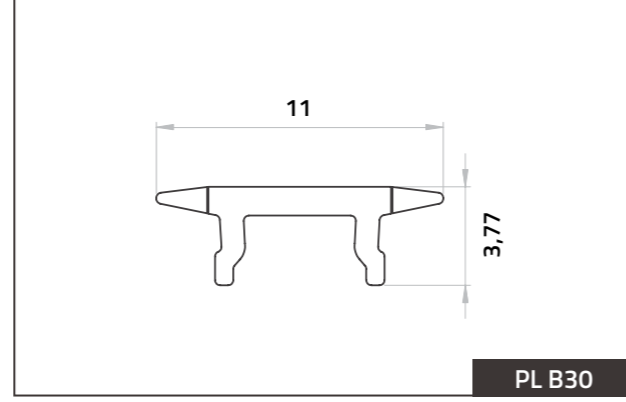
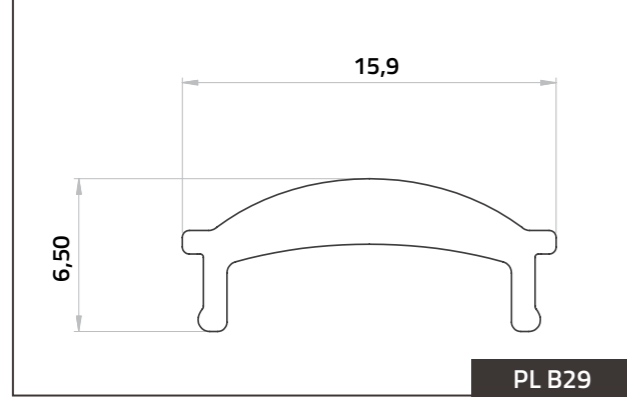
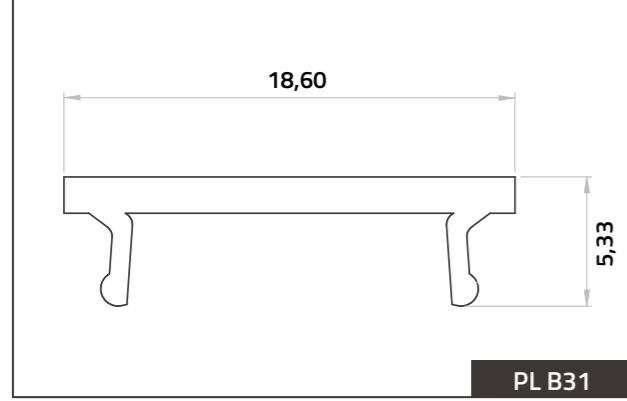
PL A10

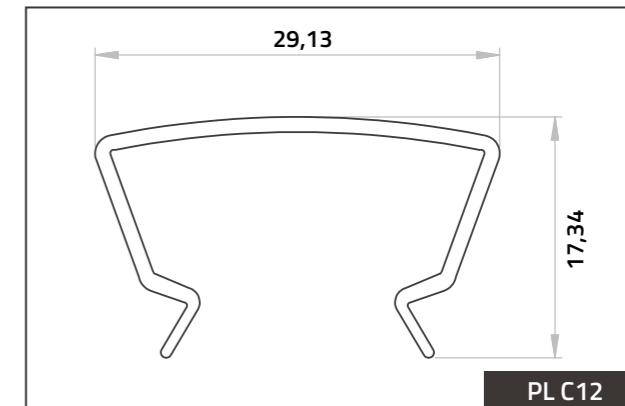
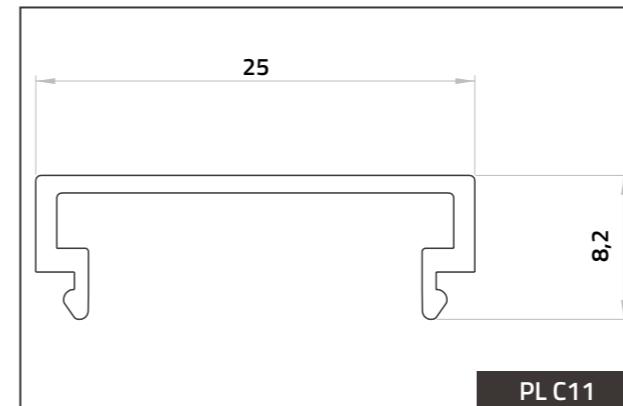
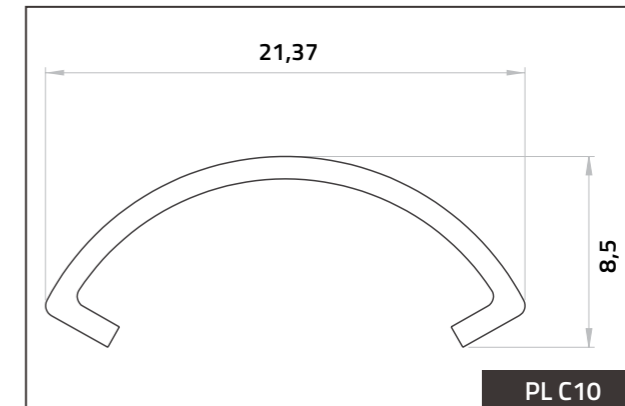
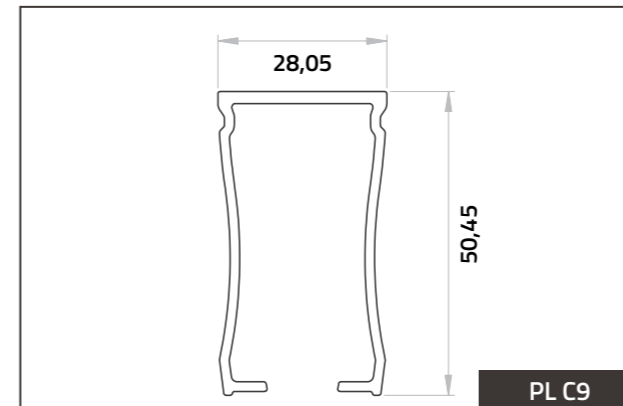
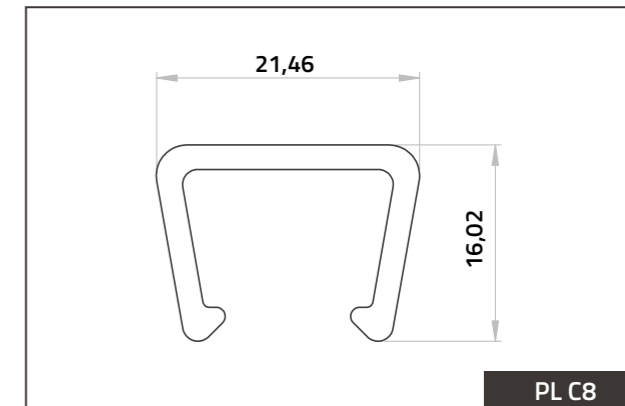
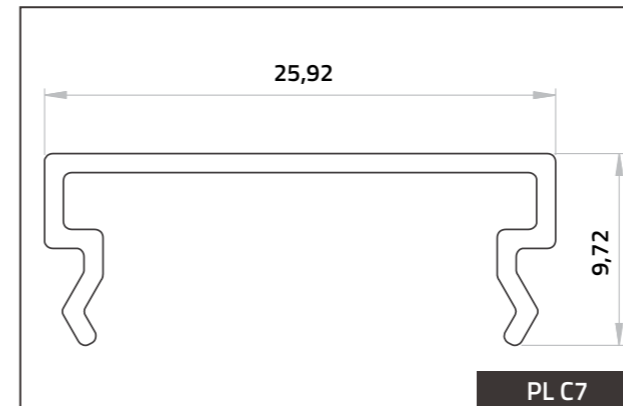
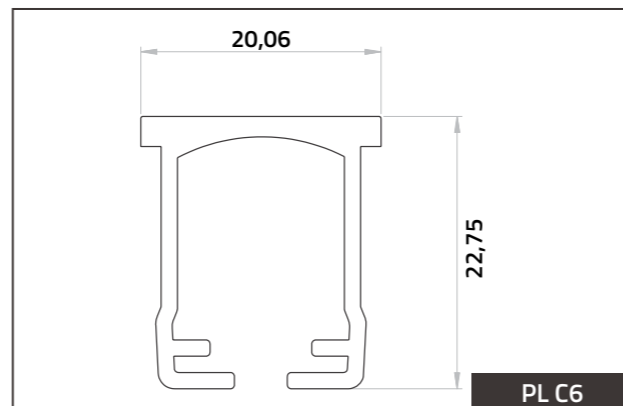
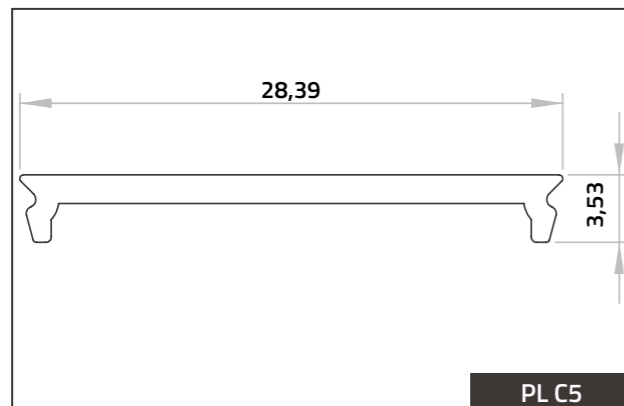
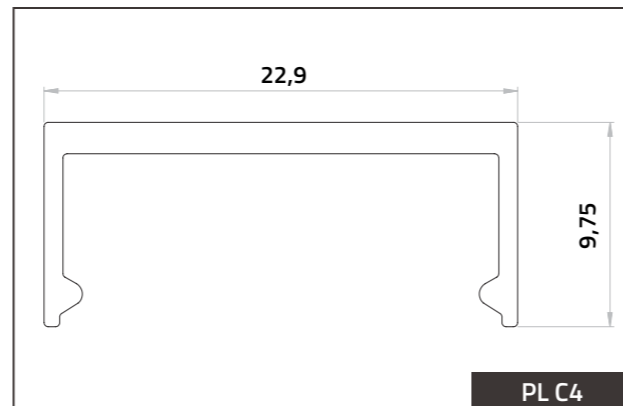
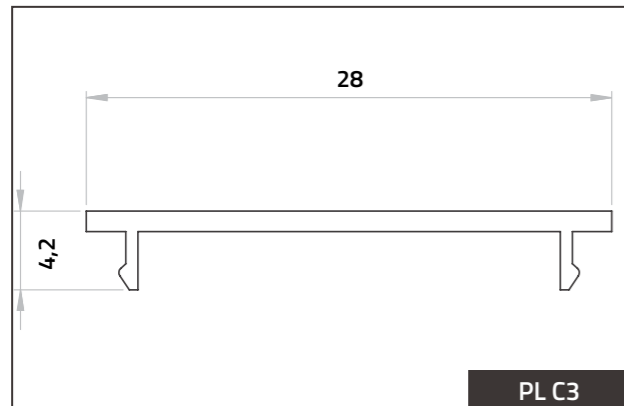
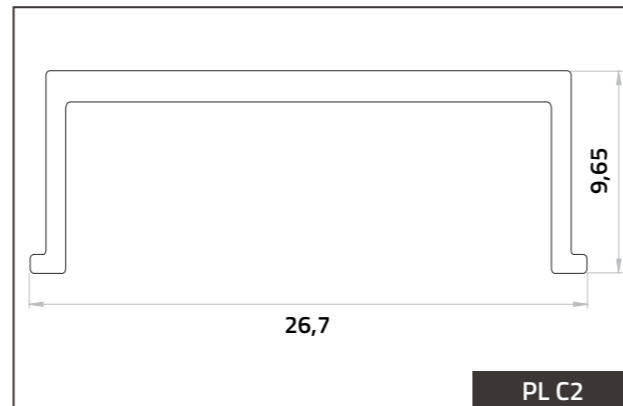
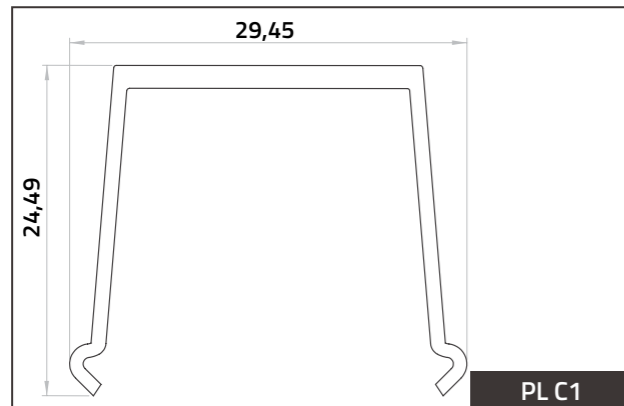


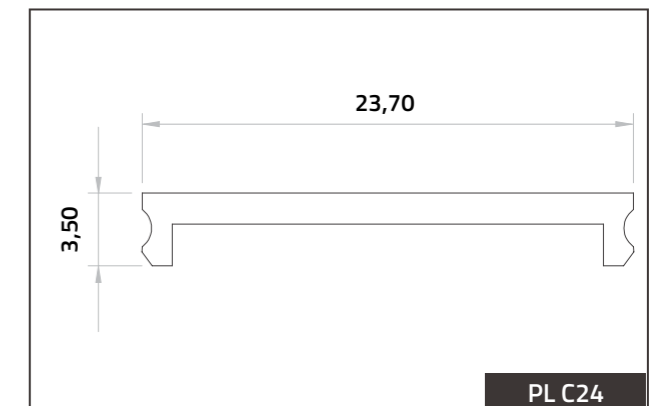
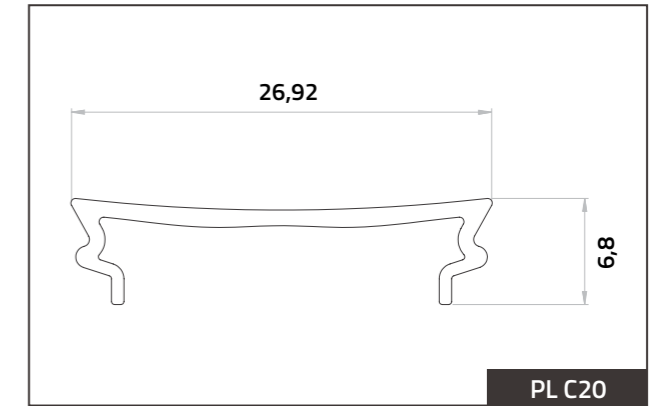
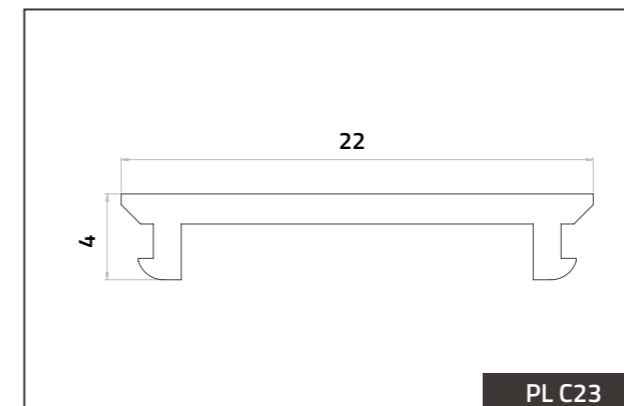
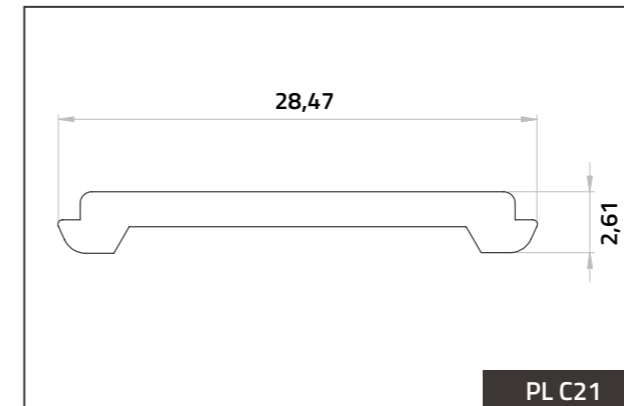
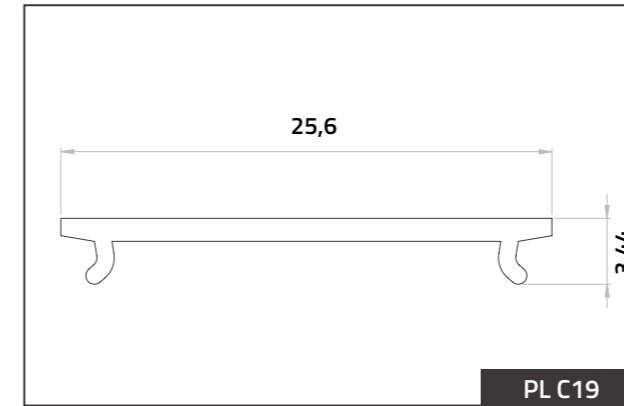
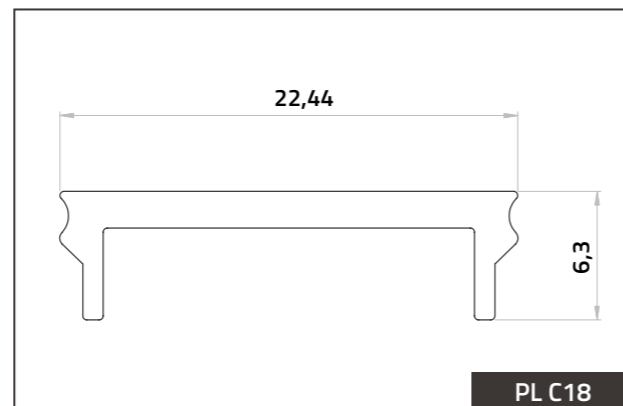
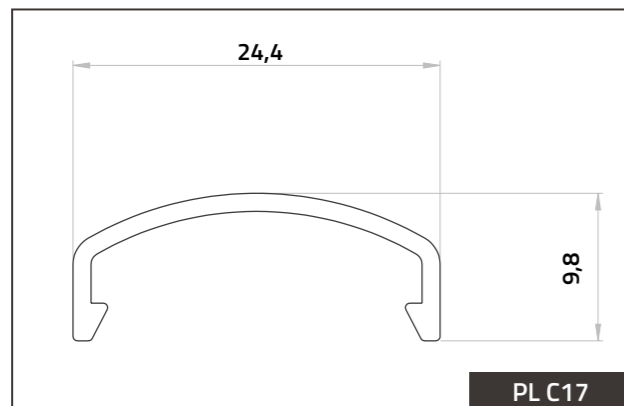
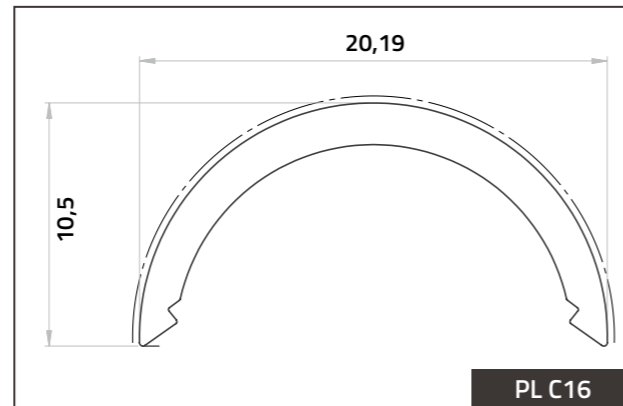
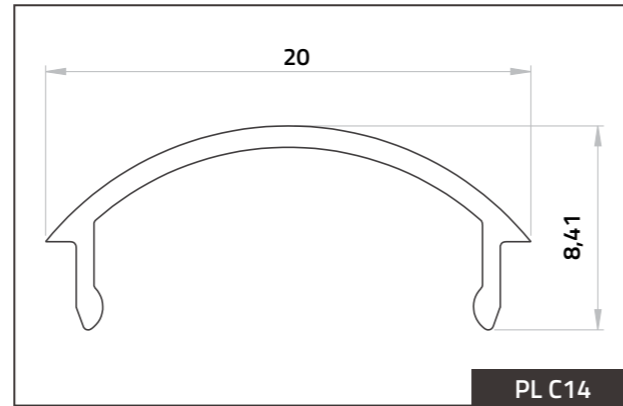
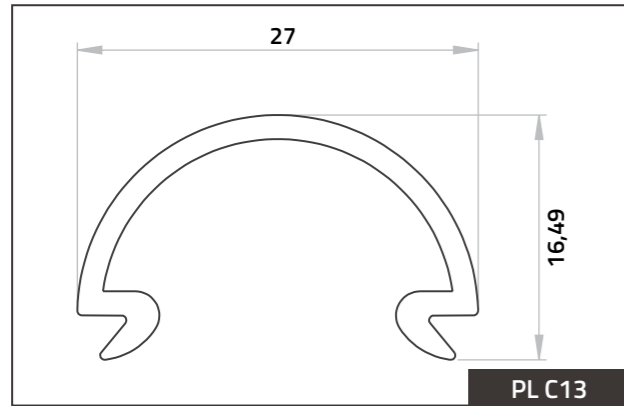
PL A11

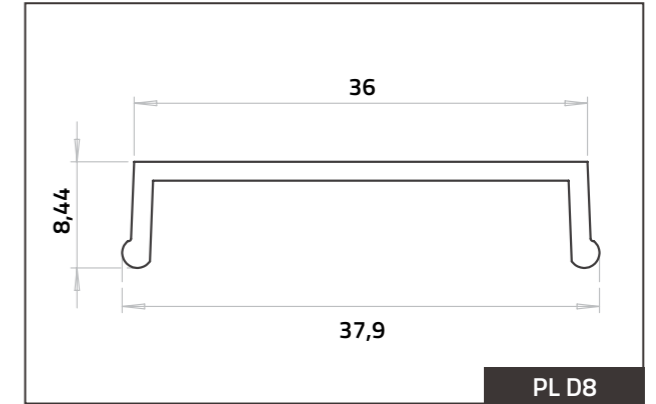
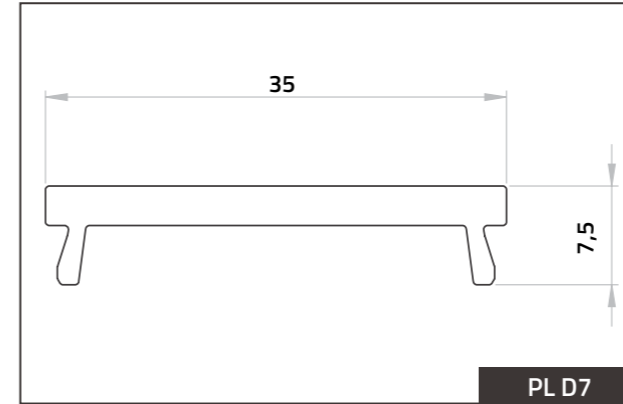
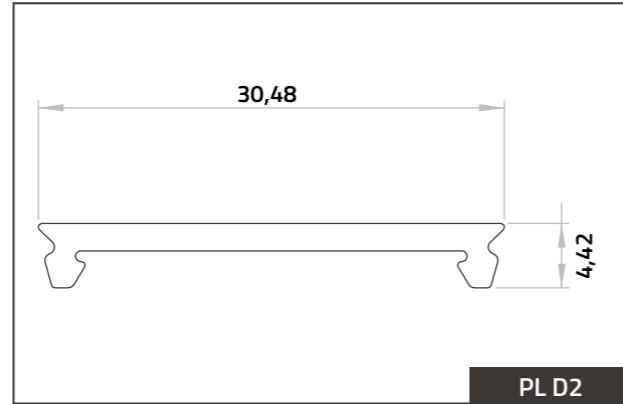
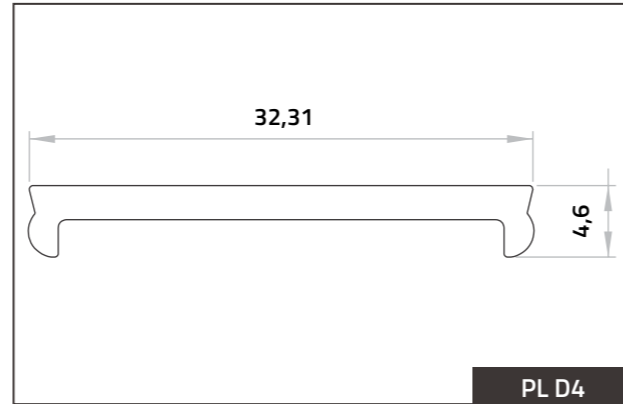
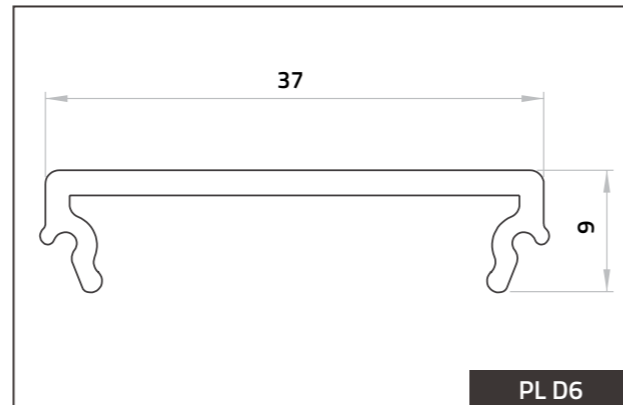
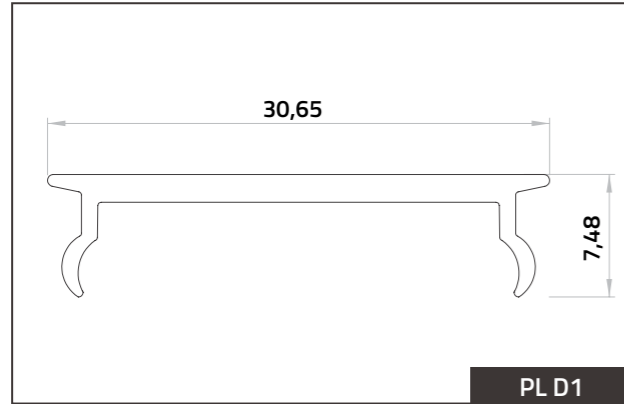
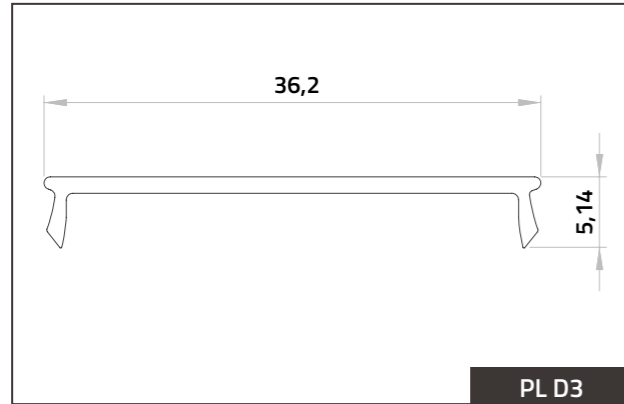
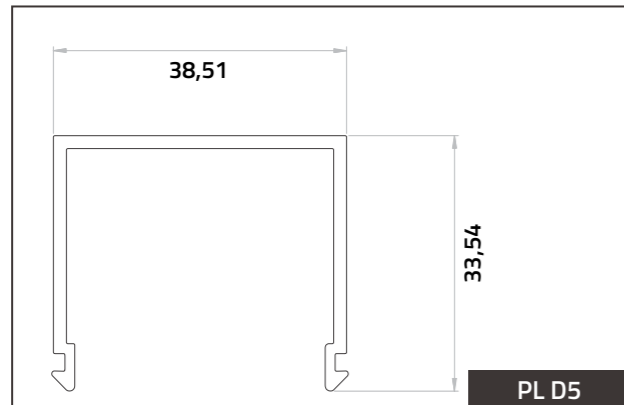


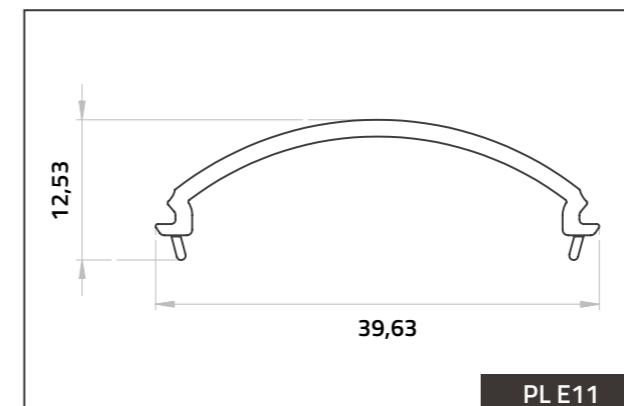
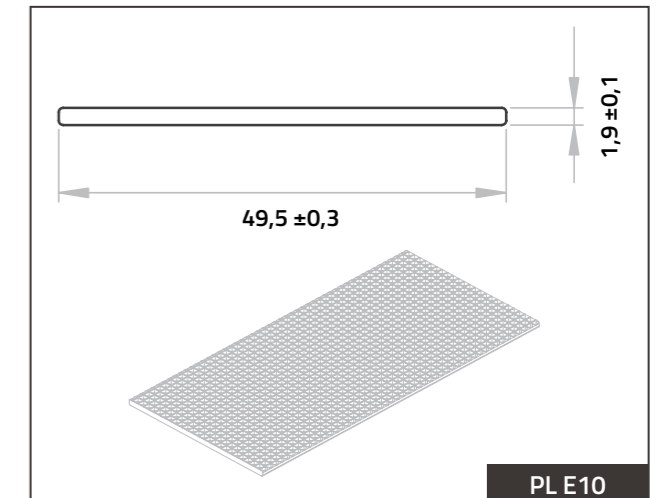
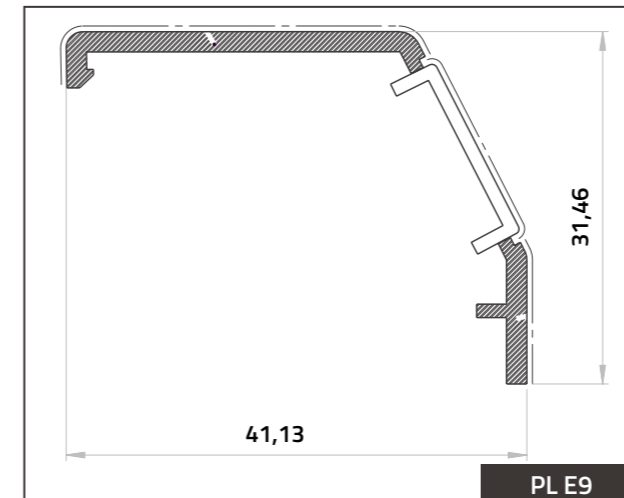
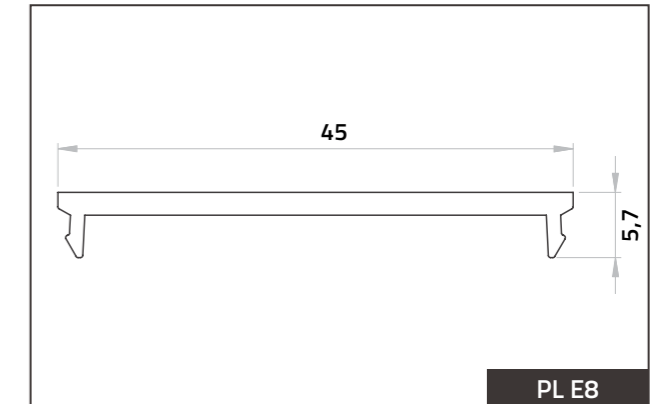
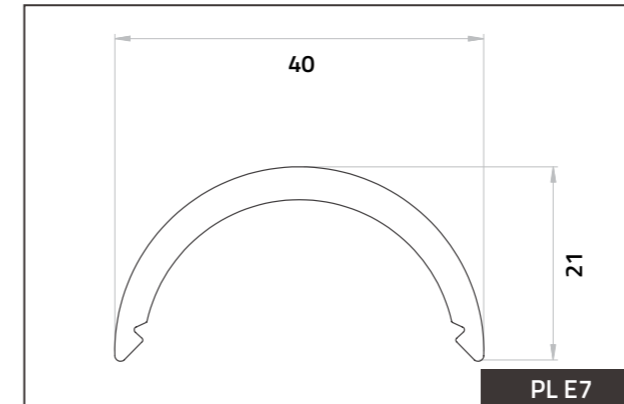
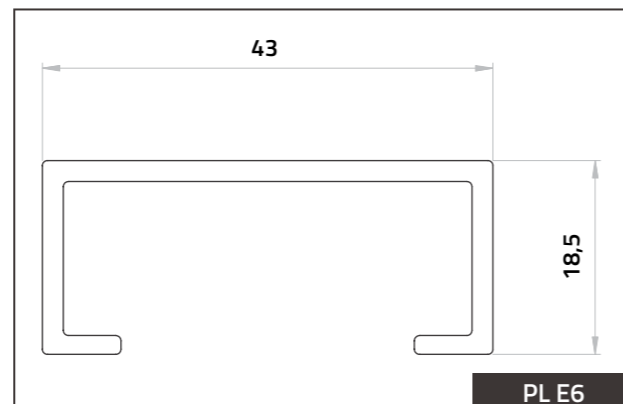
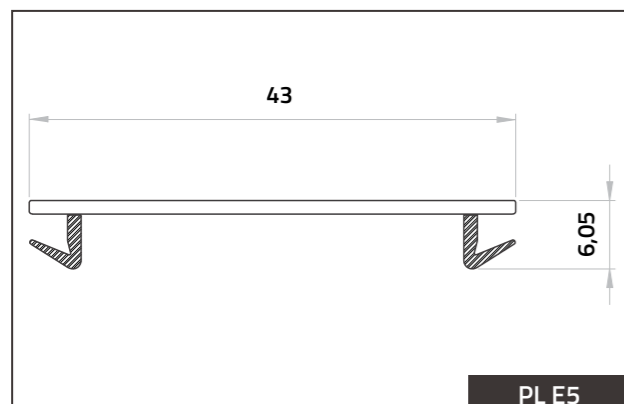
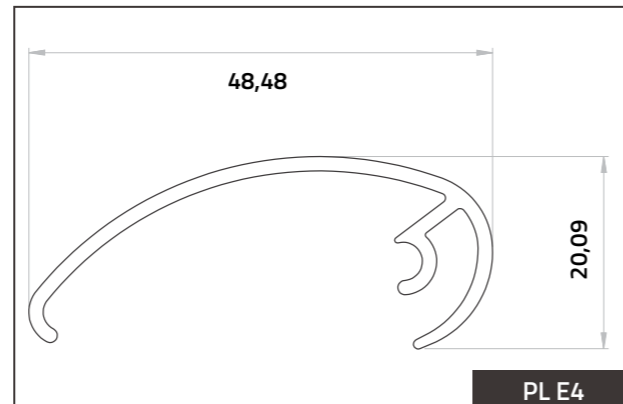
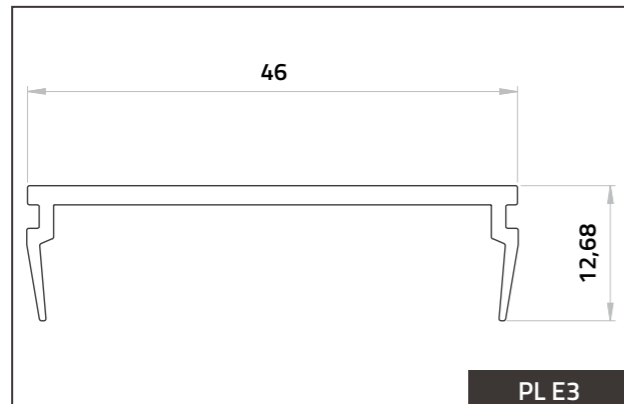
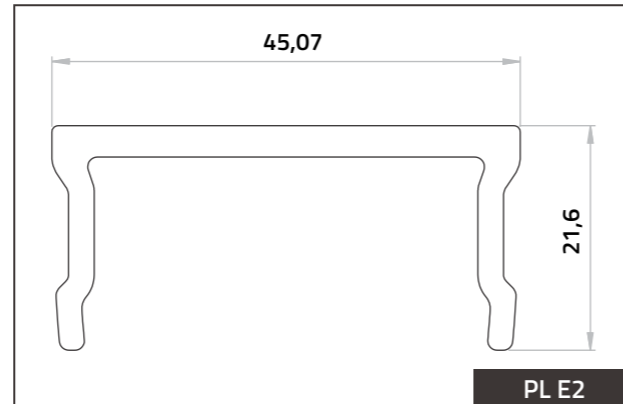
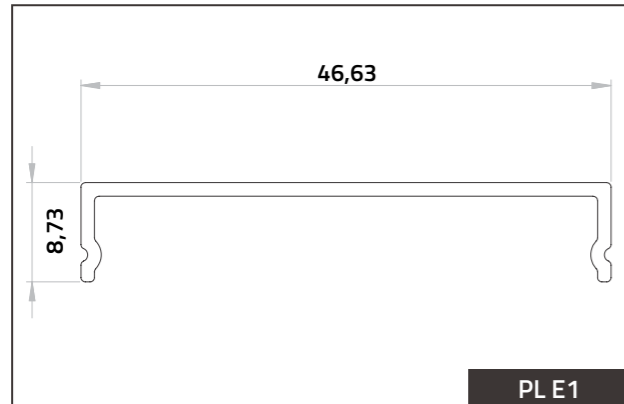


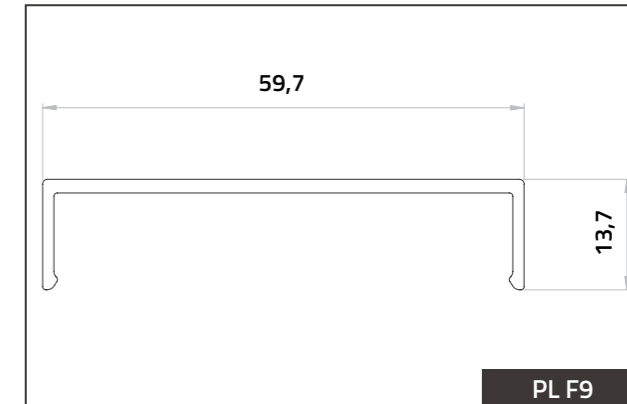
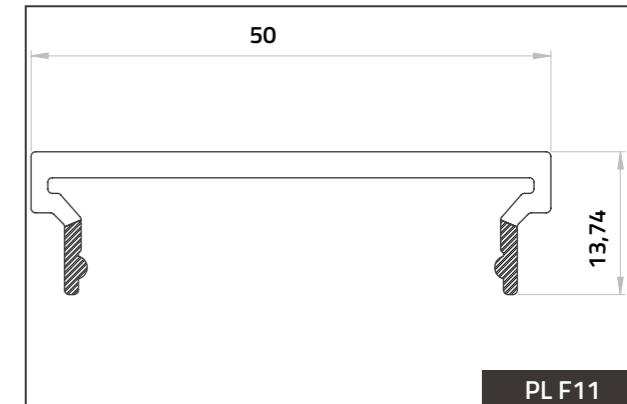
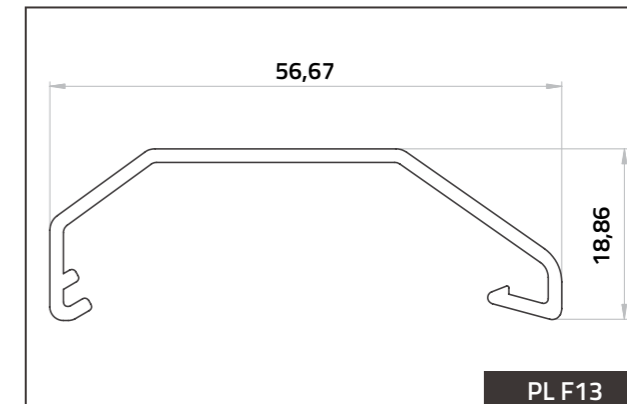
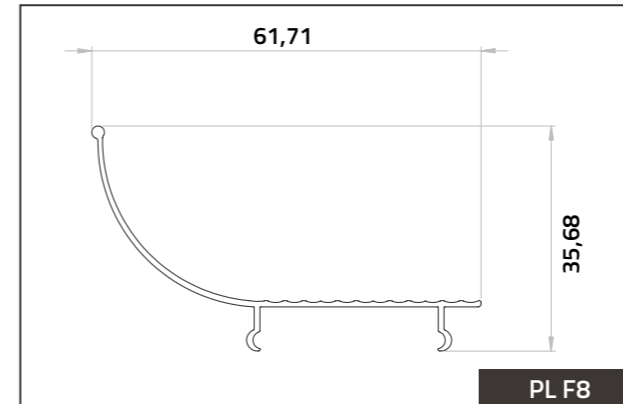
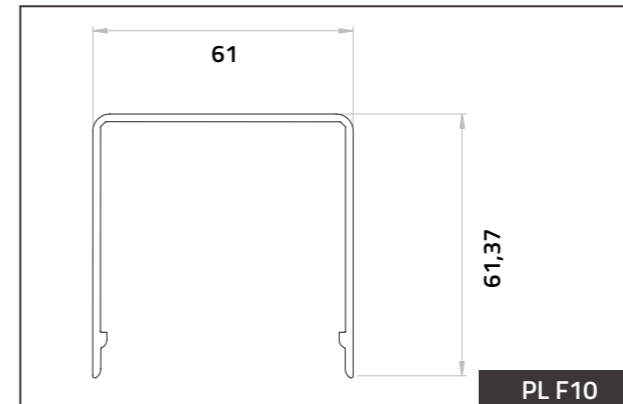
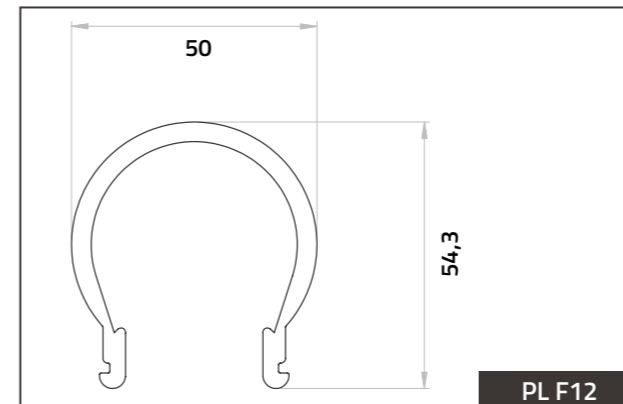
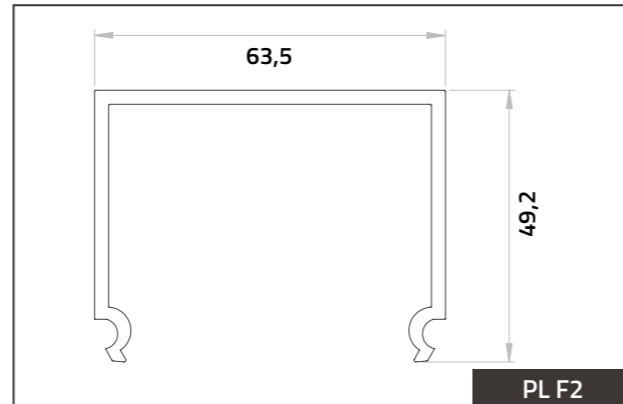
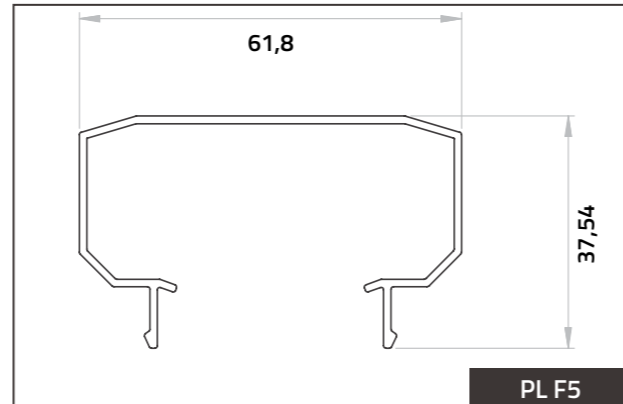
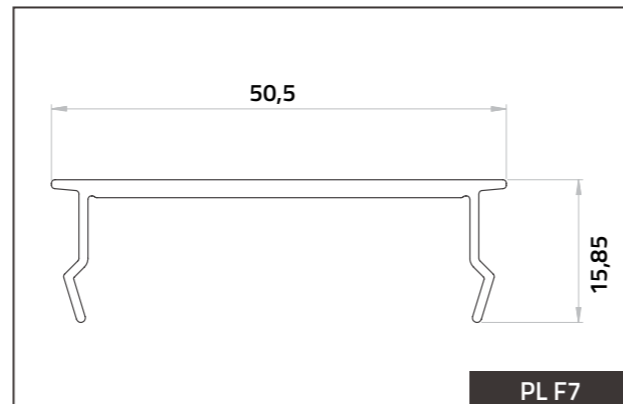
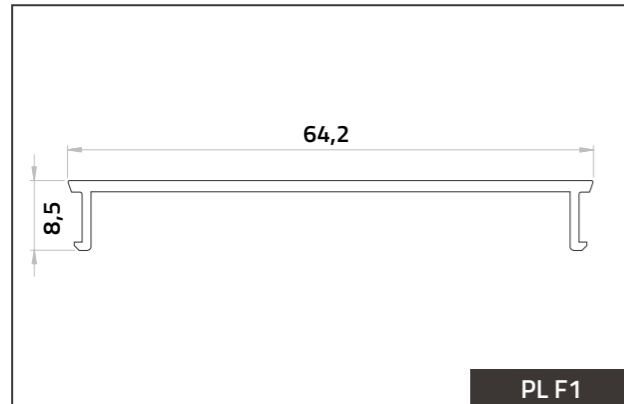
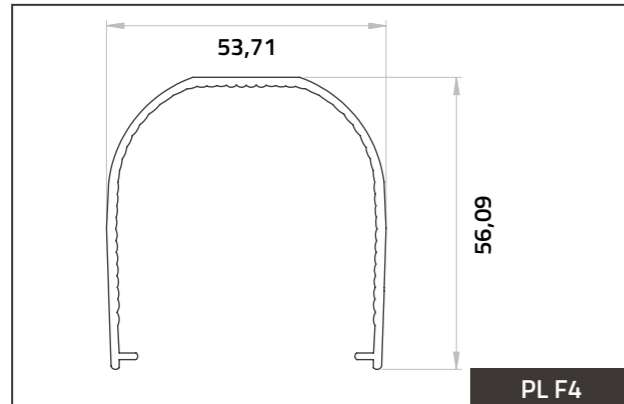
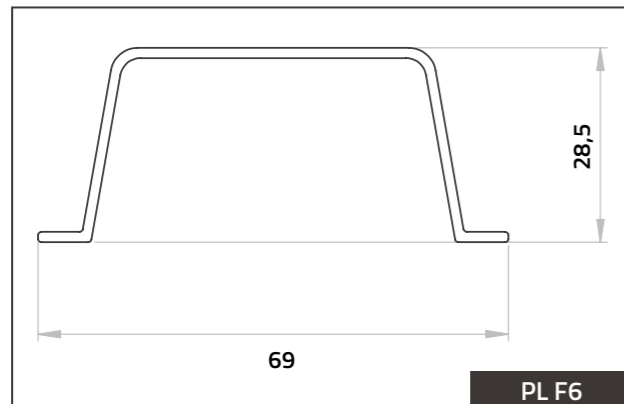






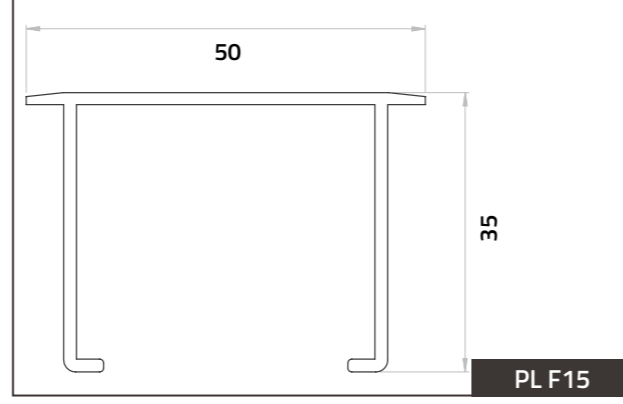
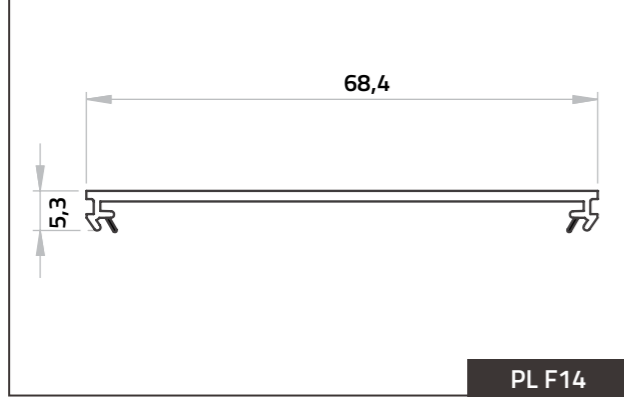
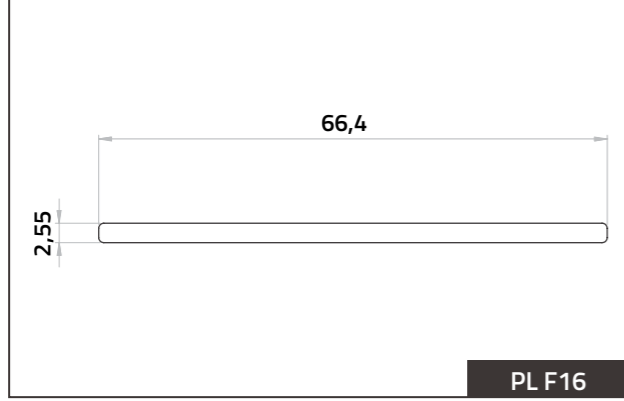






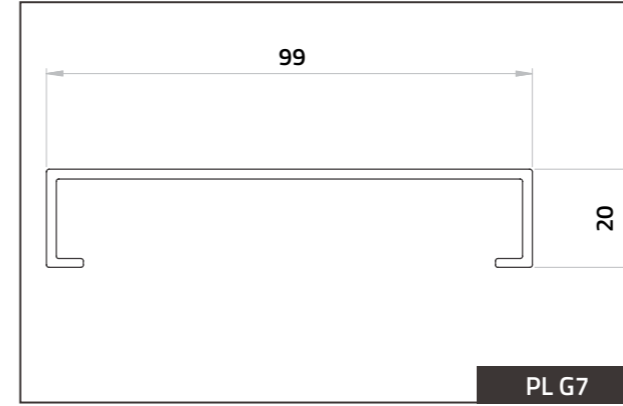
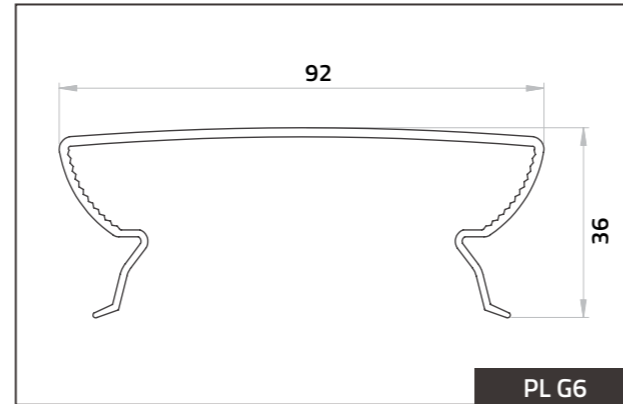
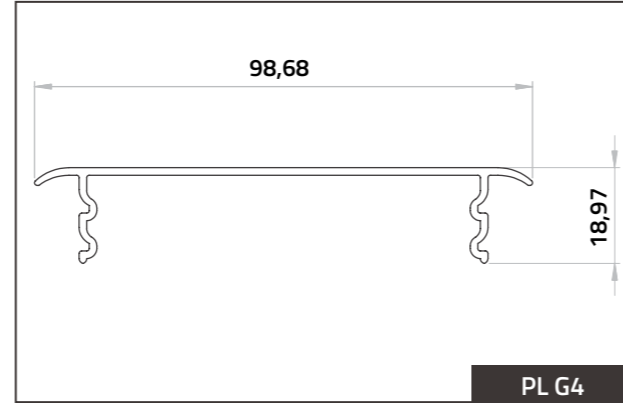
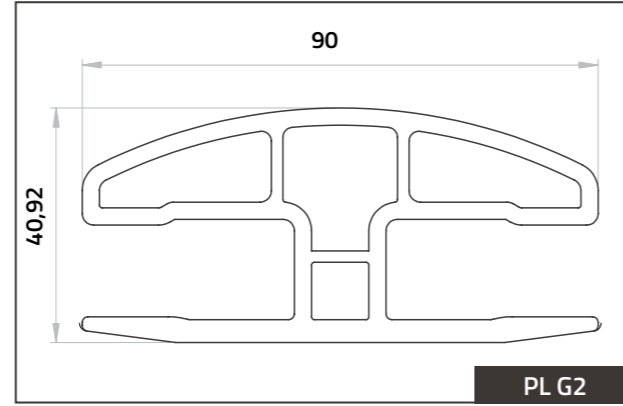
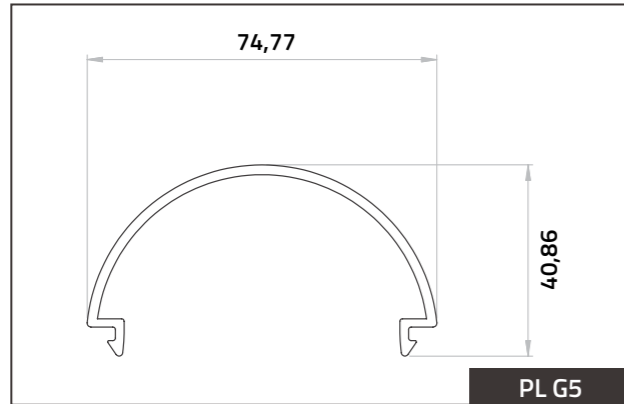
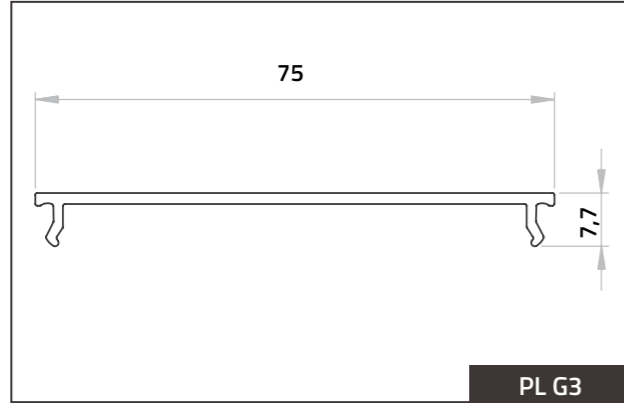
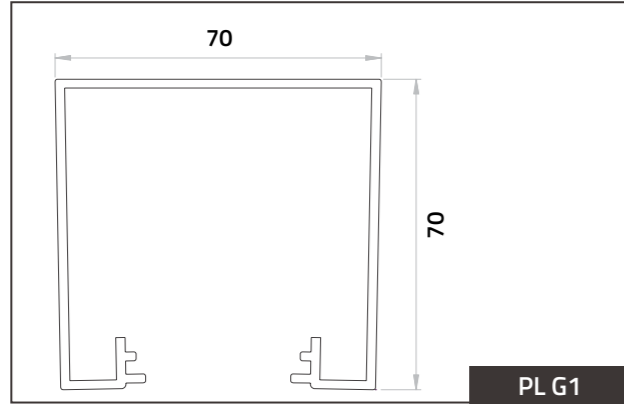
LINEAR PROFILES

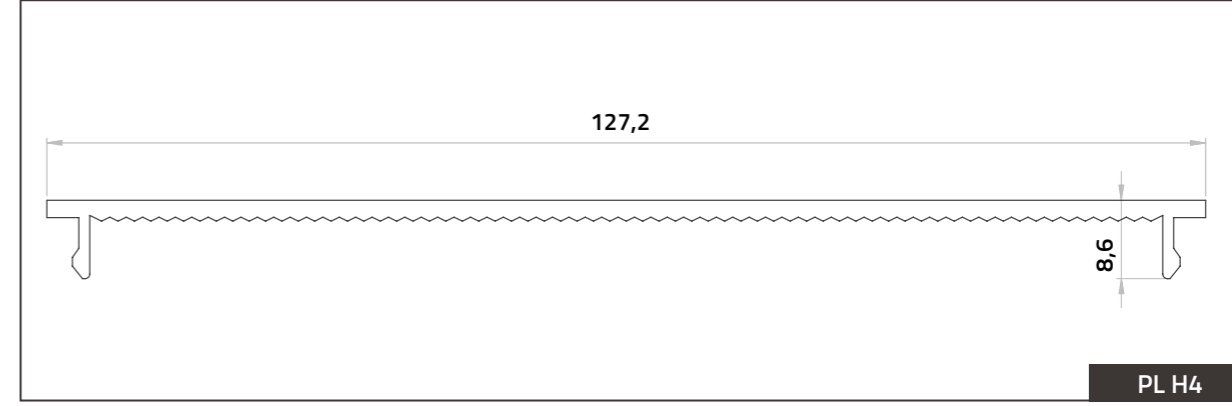
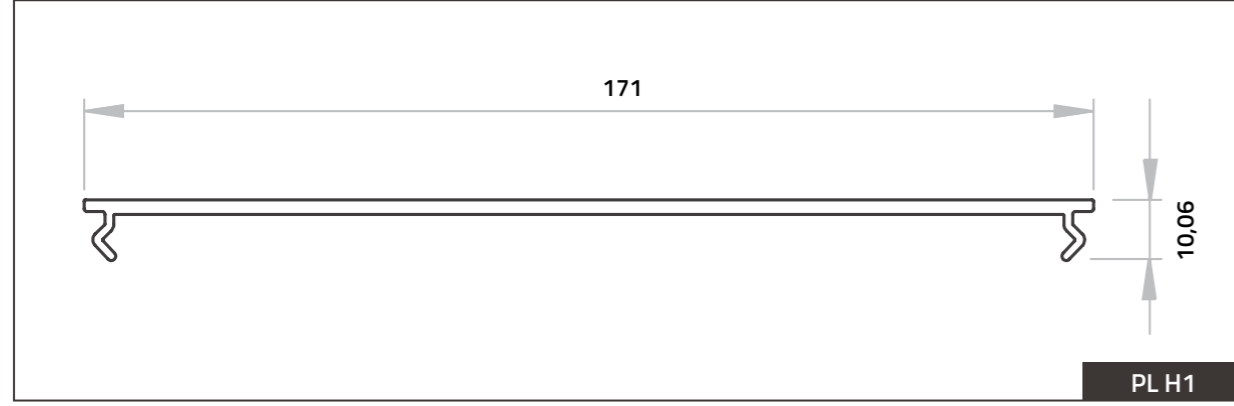
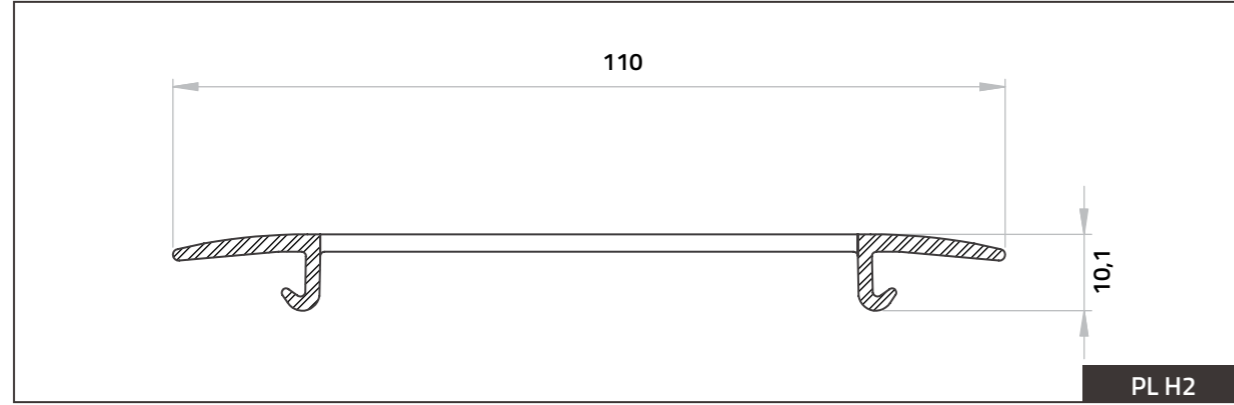
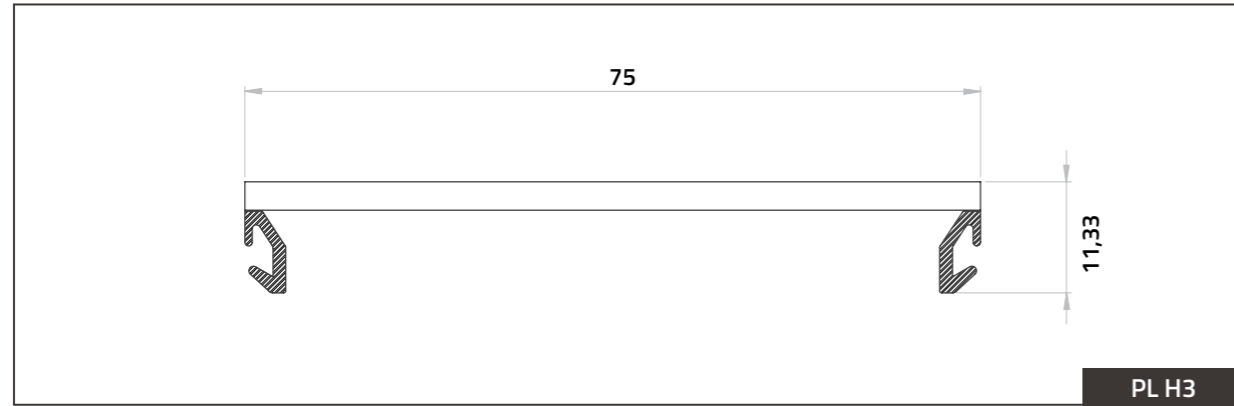
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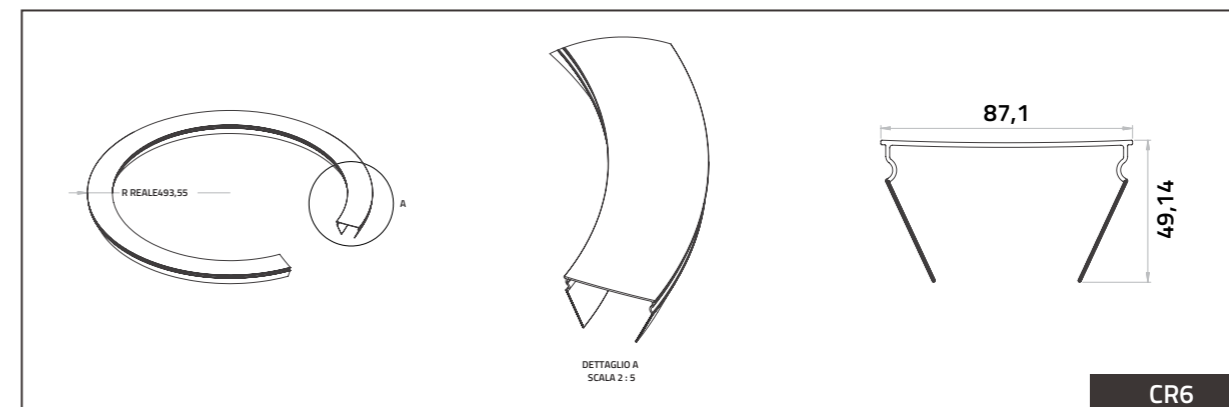
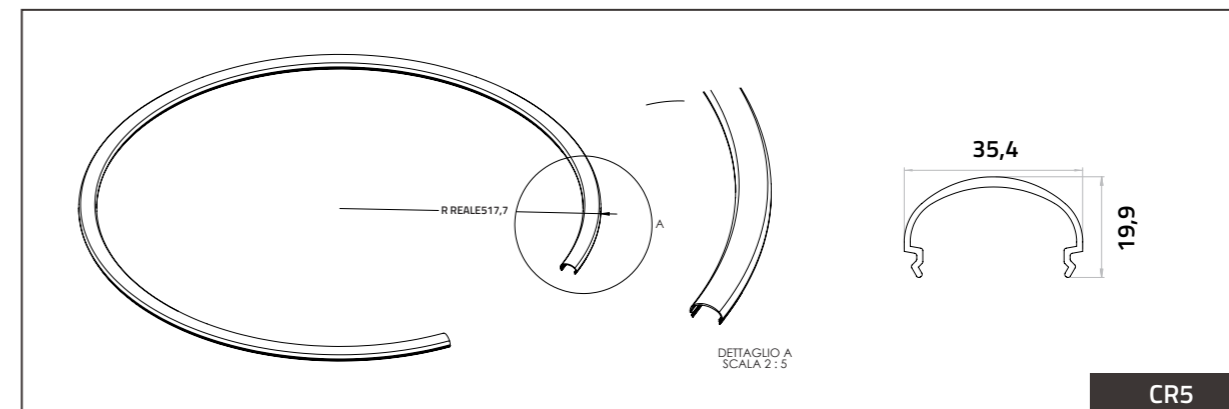
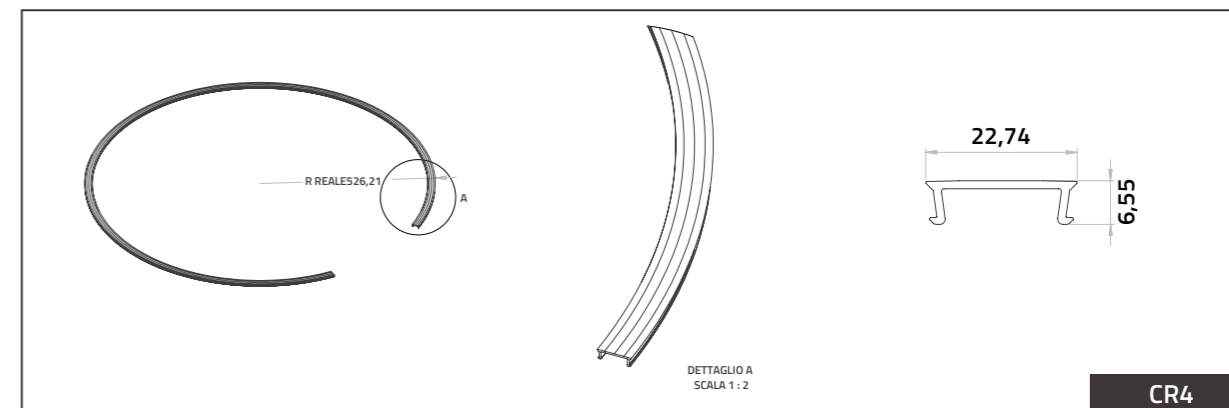
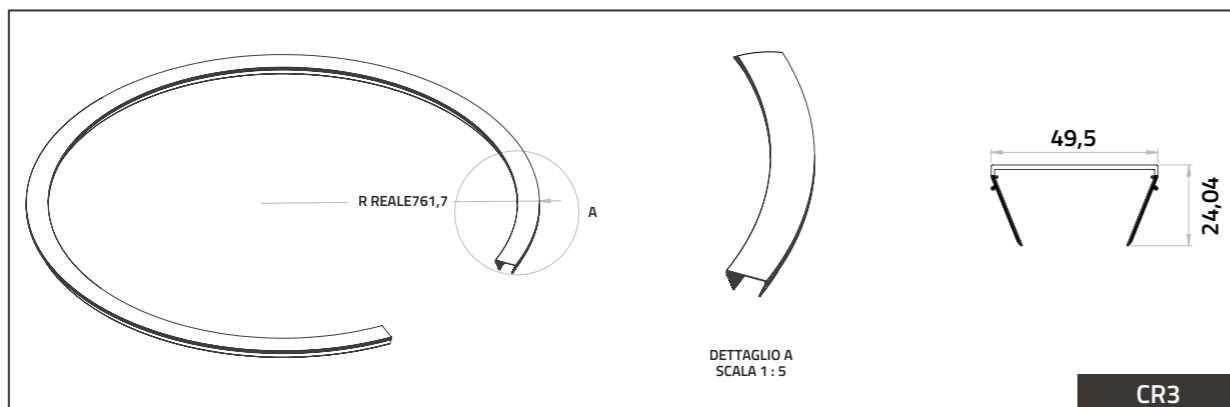
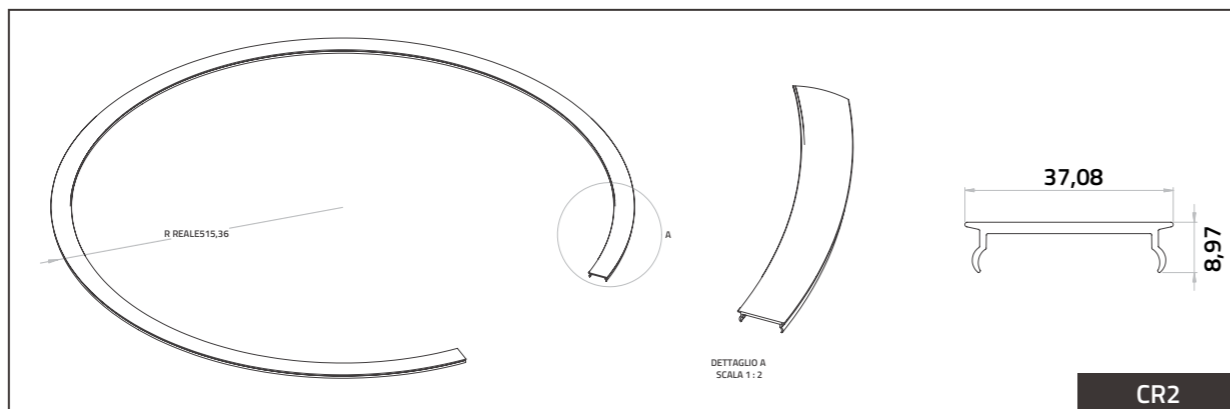
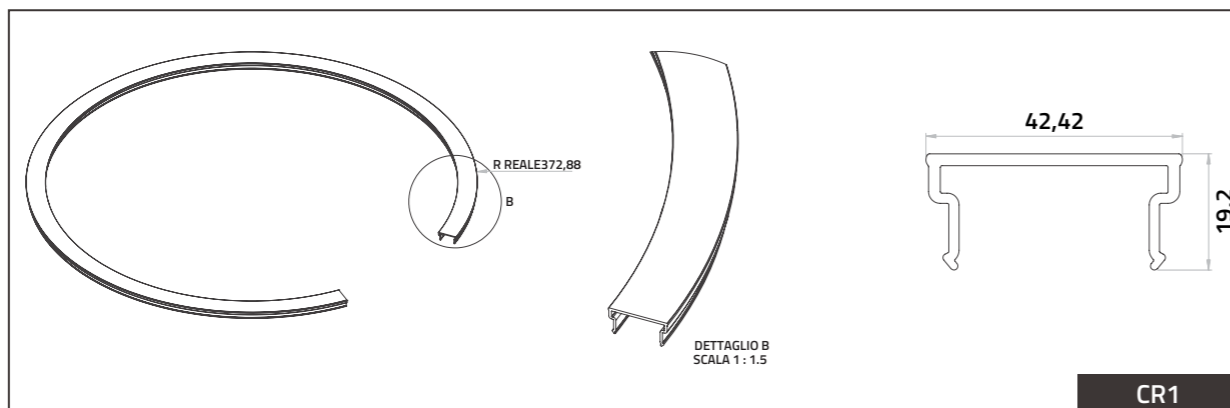


LINEAR PROFILES

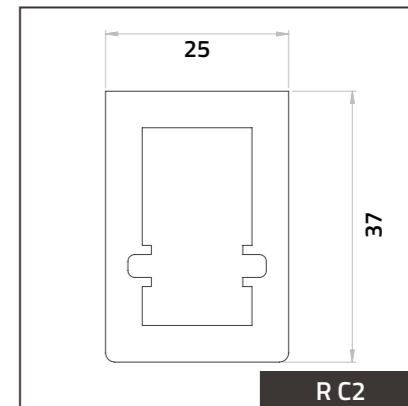
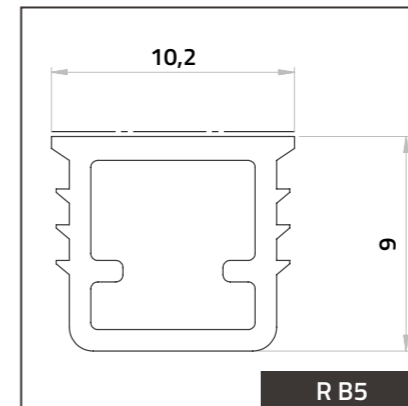
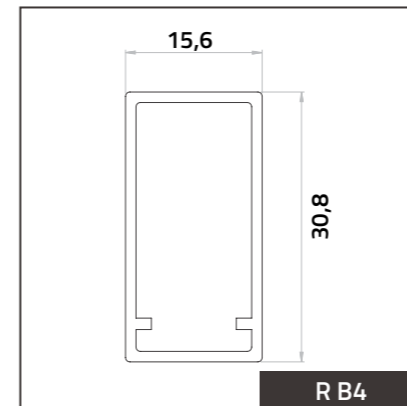
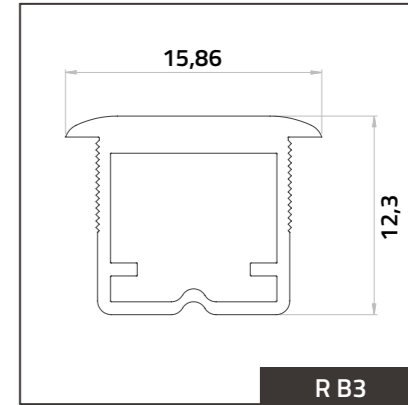
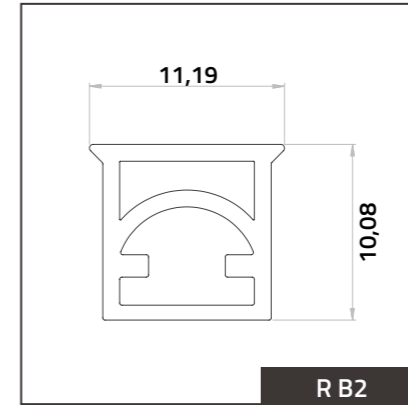
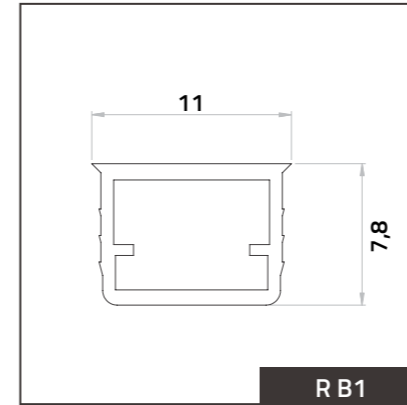
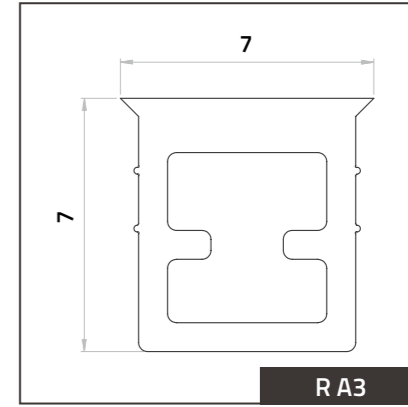
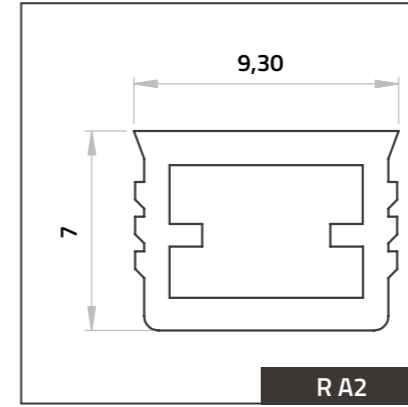
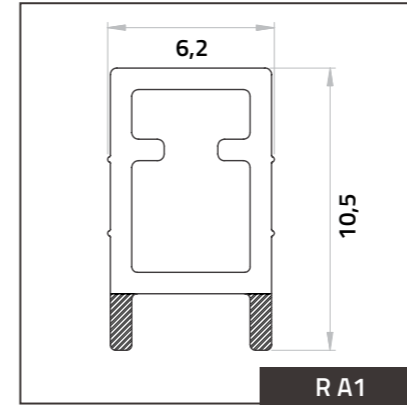
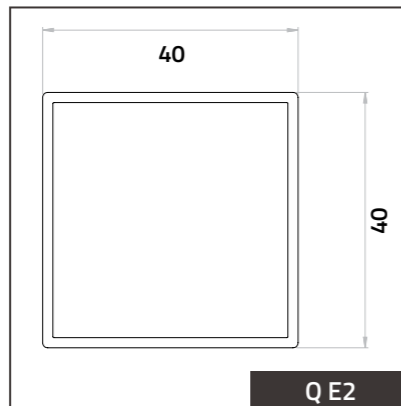
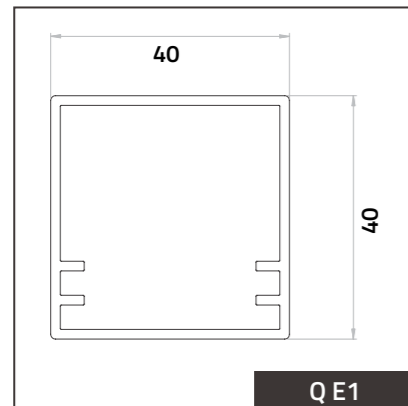
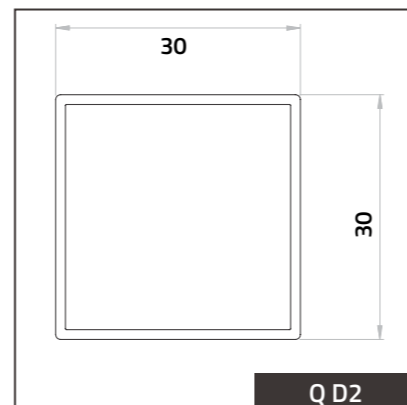
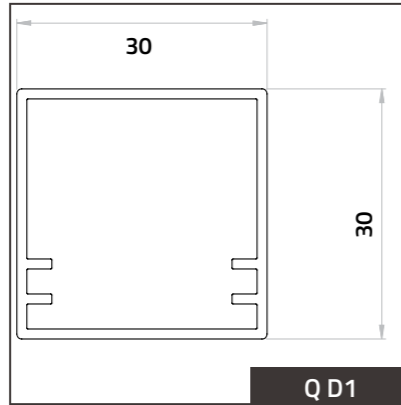
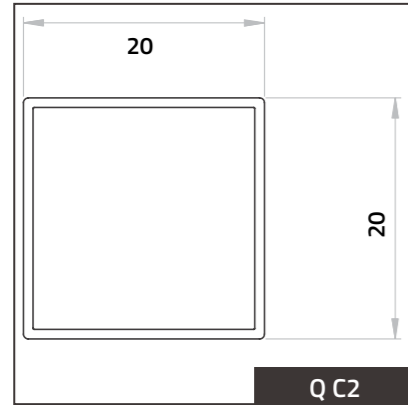
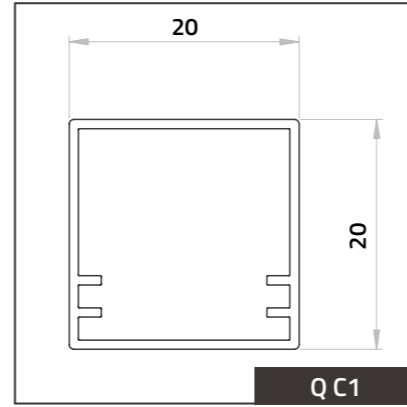
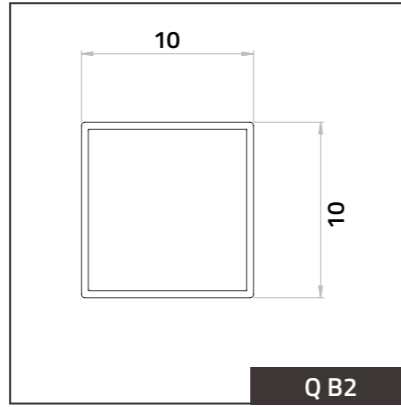
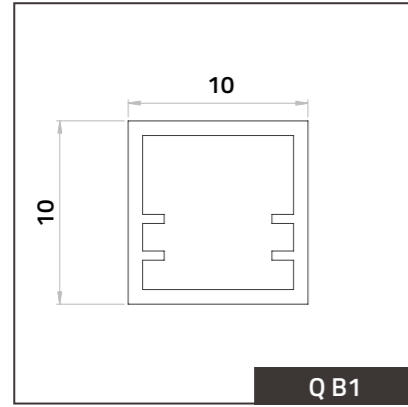
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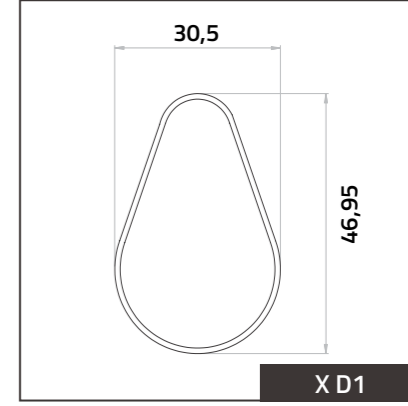
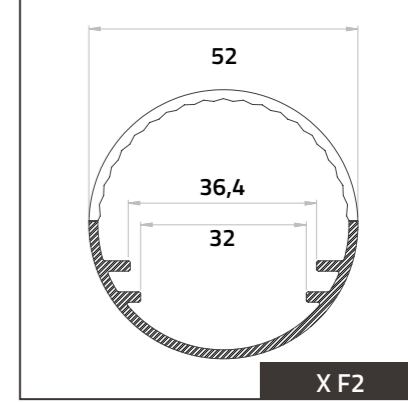
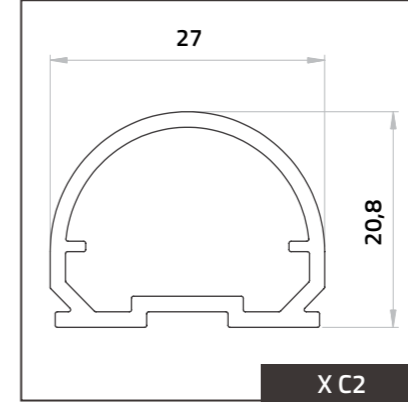
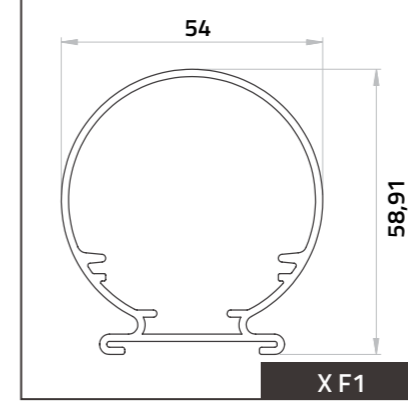
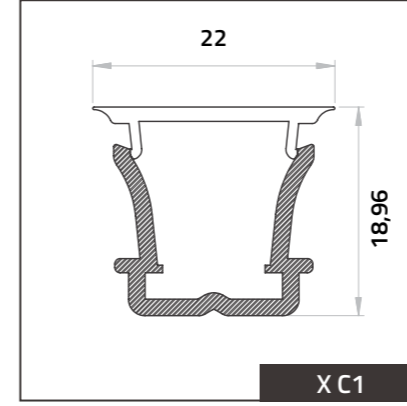
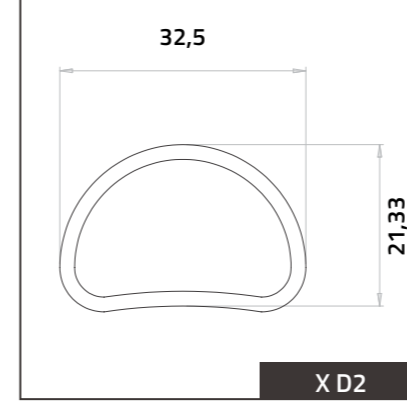
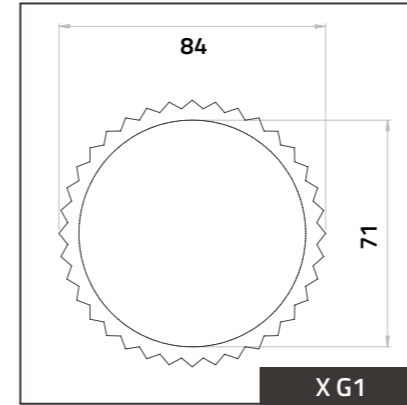
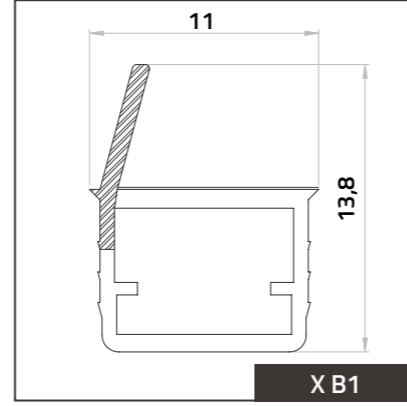
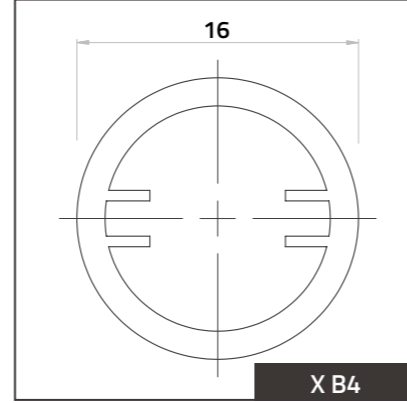
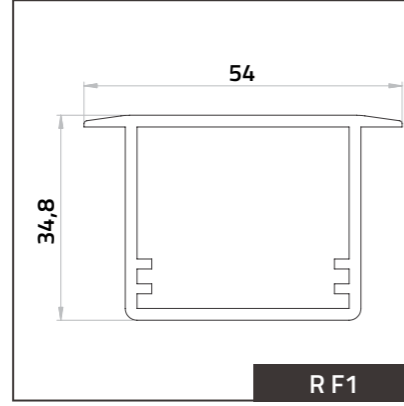
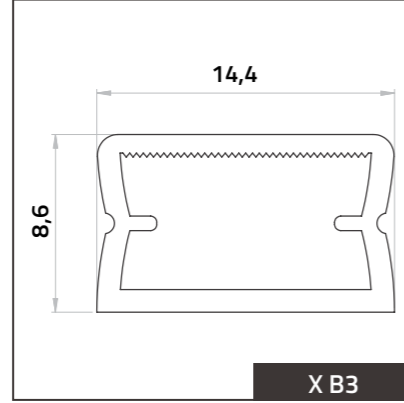
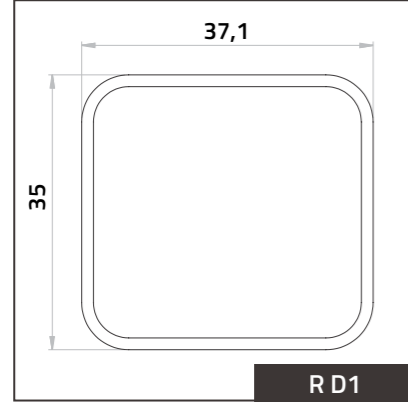
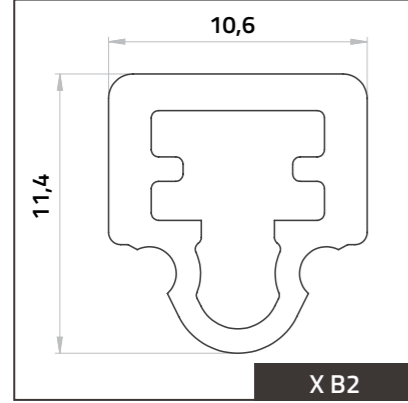


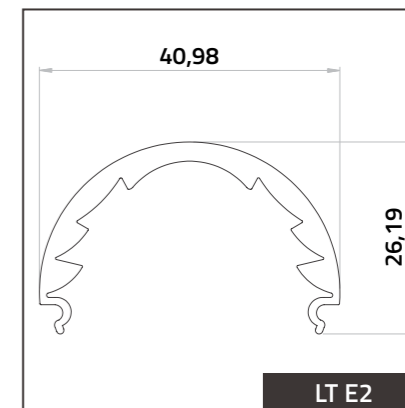
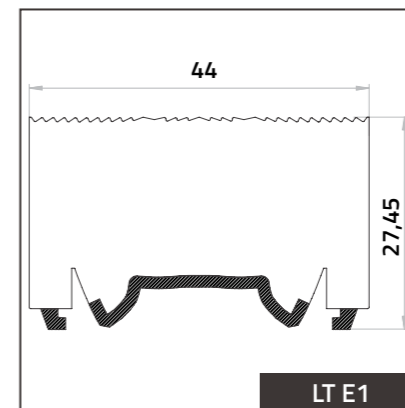
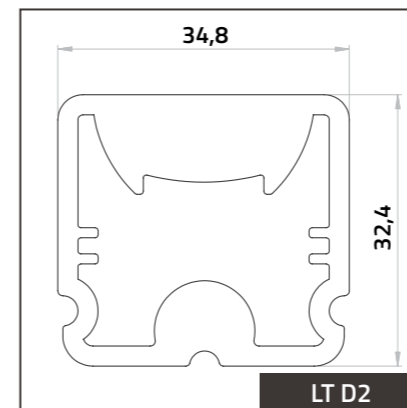
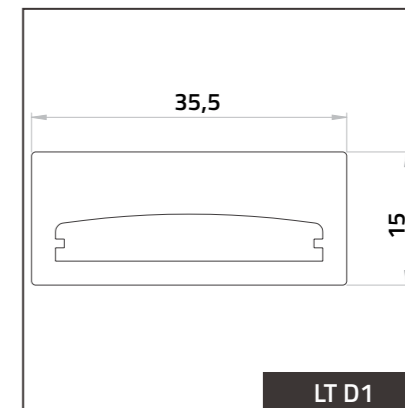
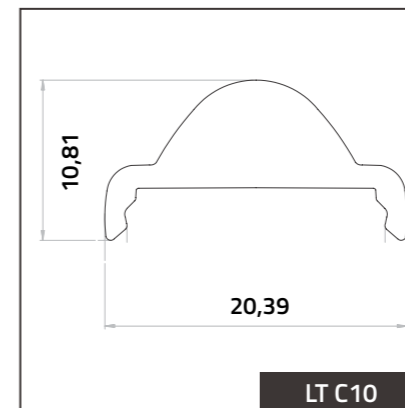
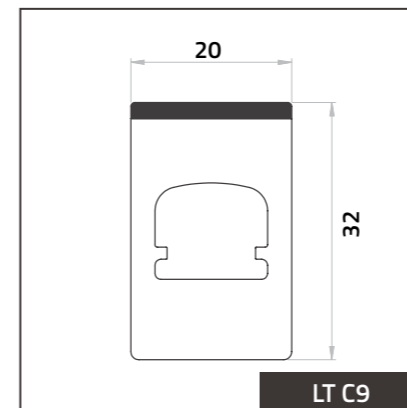
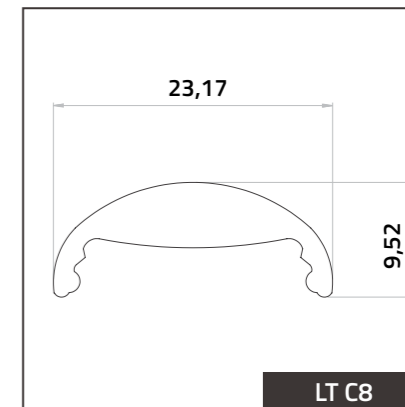
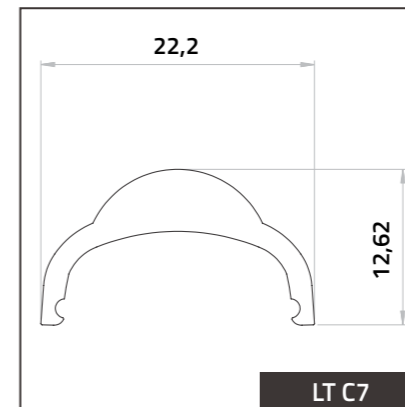
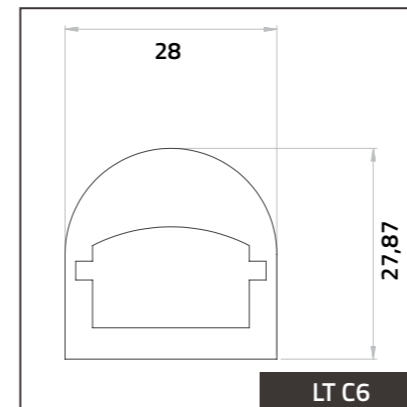
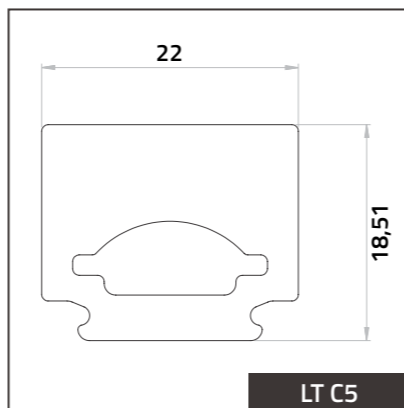
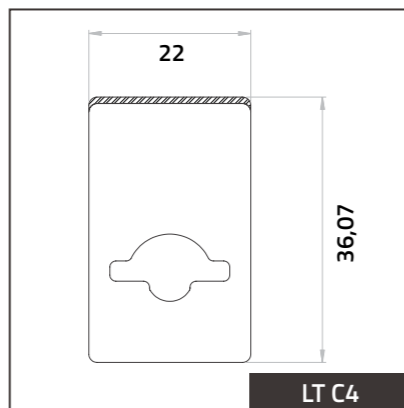
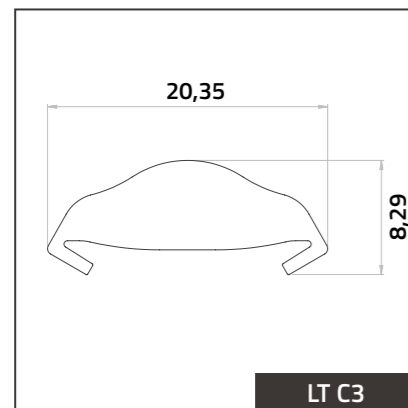
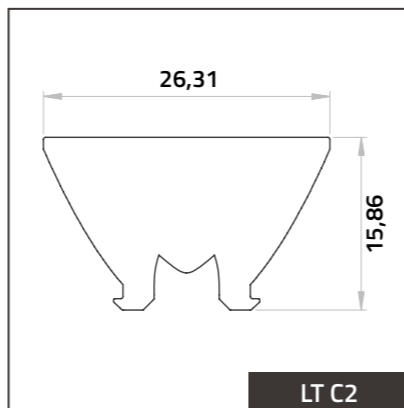
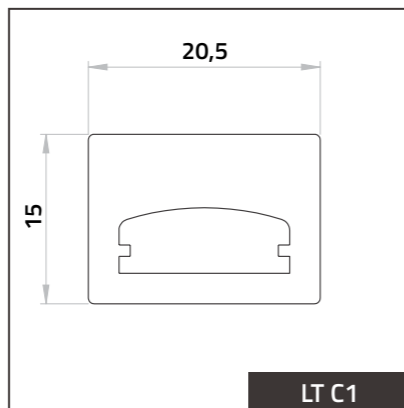
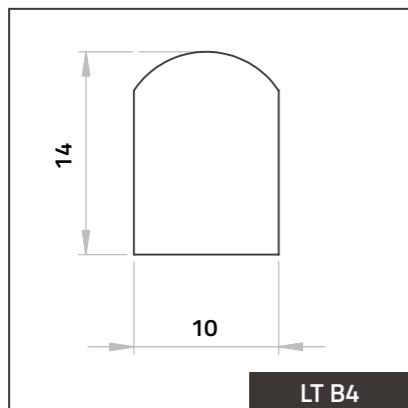
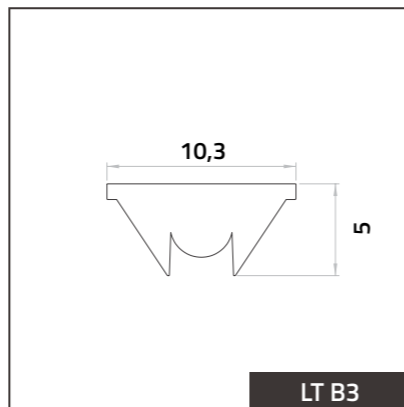
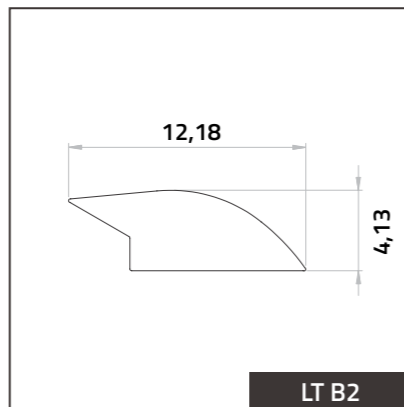
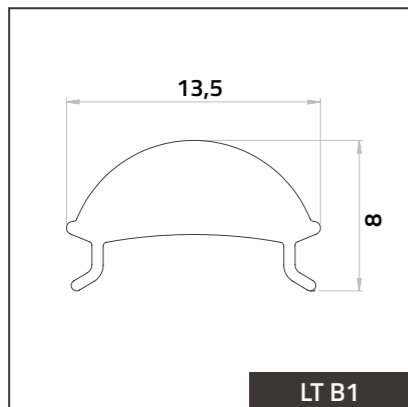


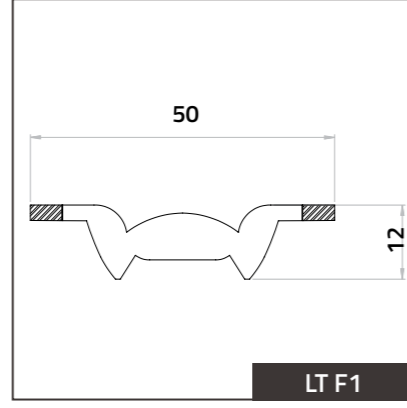
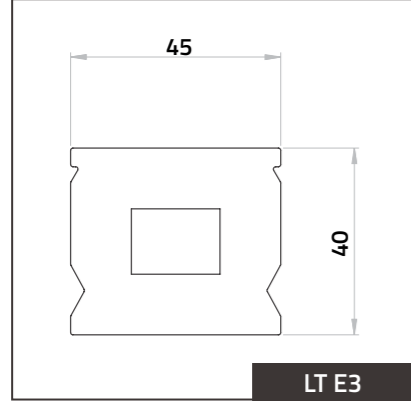
BOXED PROFILES

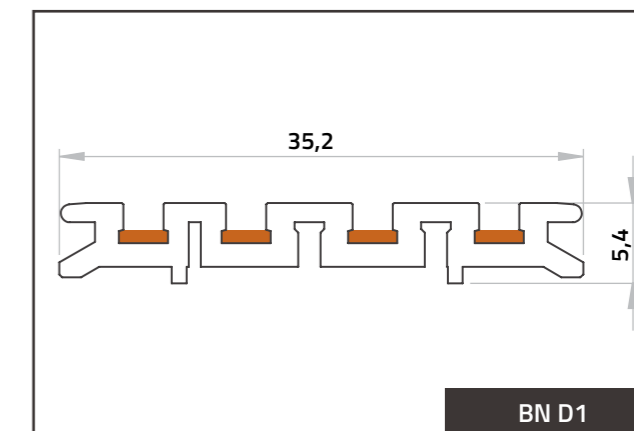
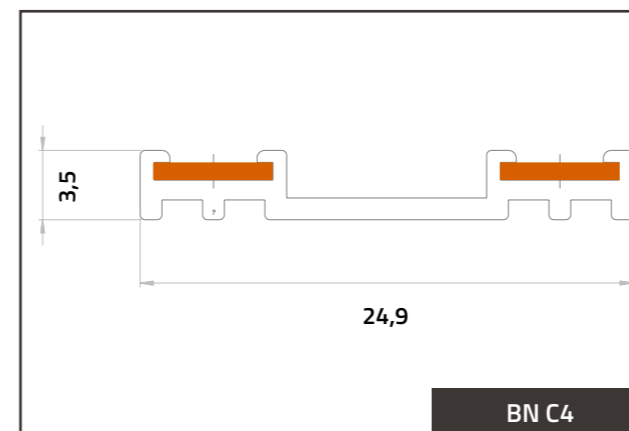
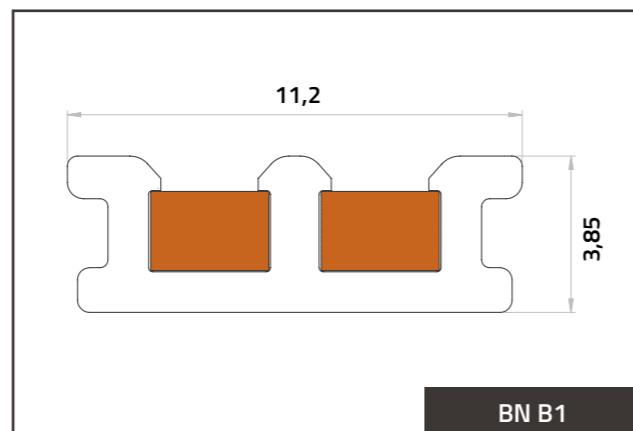
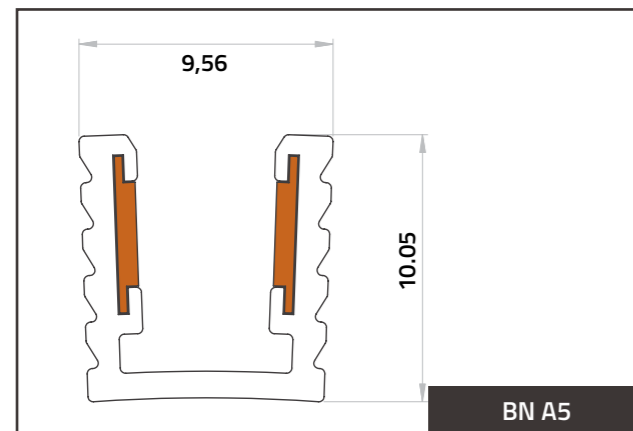
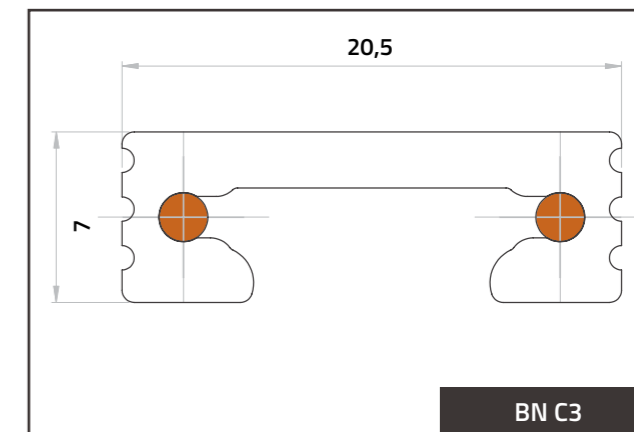
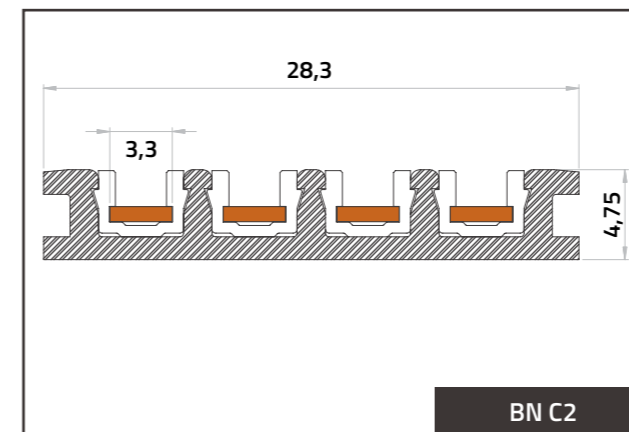
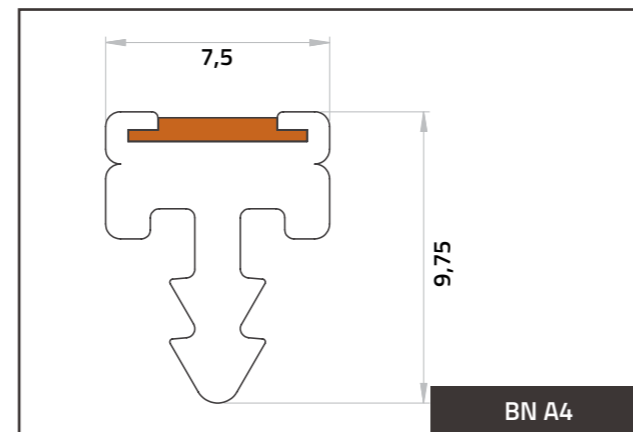
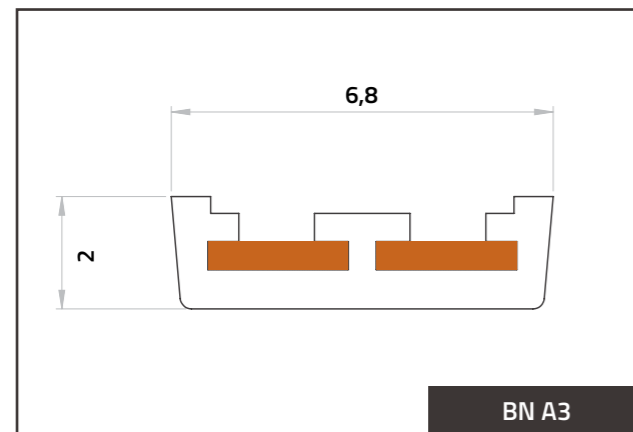
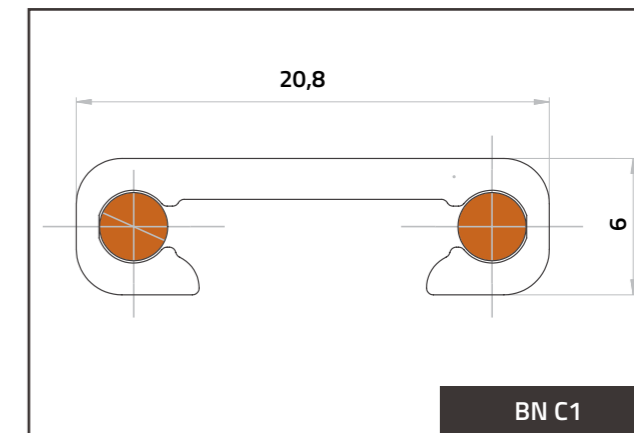
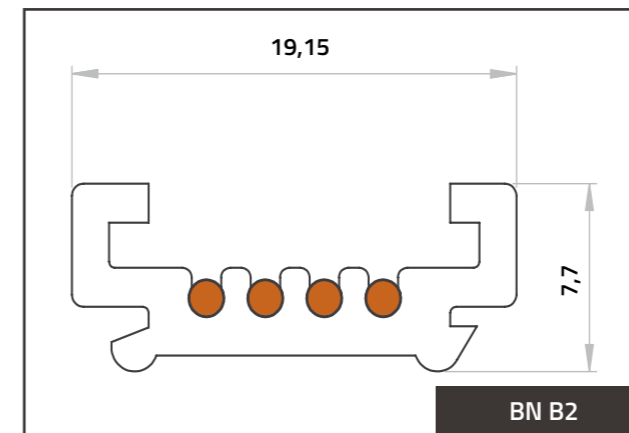
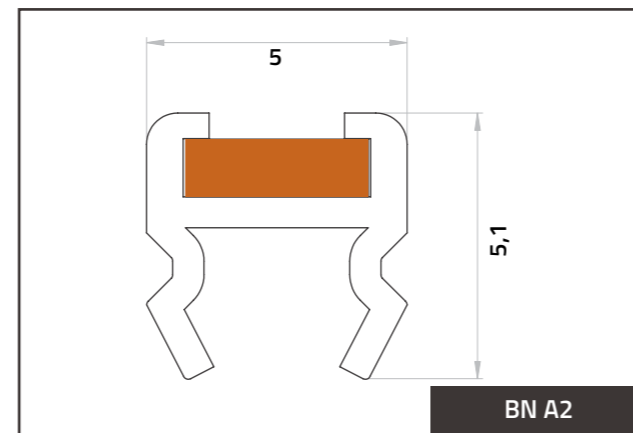
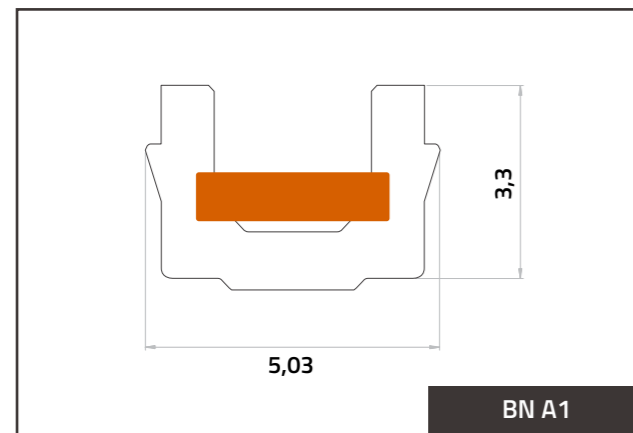


BOXED PROFILES











MISCELLANEA

1 PRODUCT CARE AND CON-SERVATION

We recommend cleaning the polycarbonate and PMMA profiles with a mild soap using sponges and soft cloths. Avoid contact with alkaline or abra-sive detergents, or solvents. Do not rub with brushes, steel wool or other abrasive mate-rials.

2 PATENT

Title: SEALING MODULE FOR CABLES OR PIPES AS WELL AS METHOD AND APPARATUS FOR PROVIDING THE SAME
Application number: WO2017186883A1

3 TECHNICAL DATA-SHEETS

POLYCARBONATE

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yield, 50 mm/min	65	MPa	ISO 527
Tensile Stress, break, 50 mm/min	70	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	7	%	ISO 527
Tensile Strain, break, 50 mm/min	>70	%	ISO 527
Tensile Modulus, 1 mm/min	2350	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	95	MPa	ISO 178
Flexural Modulus, 2 mm/min	2300	MPa	ISO 178
IMPACT			
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ /m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ /m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	75	kJ /m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	55	kJ /m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	70	kJ /m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	50	kJ /m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ /m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ /m²	ISO 179/1eU
THERMAL			
Thermal Conductivity	0.2	W/m-°C	ISO 8302
CTE, 23°C to 80°C, flow	7.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	149	°C	ISO 306
Vicat Softening Temp, Rate B/120	150	°C	ISO 306
HDT /Af, 1.8 MPa Flatw 80*10*4 sp=64mm	130	°C	ISO 75/Af
PHYSICAL			
Mold Shrinkage, flow, 3.2 mm (5)	0.5 – 0.7	%	SABIC method
Density	1.2	g/cm³	ISO 1183



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Water Absorption, (23°C /sat)	0.35	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Melt Volume Rate, MVR at 300°C /1.2 kg	3	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 300°C /2.16 kg	5	cm³/10 min	ISO 1133
OPTICAL			
Light Transmission, 2.54 mm	88 – 90	%	ASTMD 1003
FLAME CHARACTERISTICS			
Glow Wire Flammability Index 850°C, passes at	1	mm	IEC 60695-2-12
MULTIWALL SHEET EXTRUSION			
Drying Temperature	120	°C	
Drying Time	2 – 4	hrs	
Barrel -Zone 1 Temperature	260 – 300	°C	
Barrel -Zone 2 Temperature	260 – 290	°C	
Barrel -Zone 3 Temperature	260 – 290	°C	
Hopper Temperature	100 – 120	°C	
Adapter Temperature	240 – 280	°C	
Die Temperature	240 – 300	°C	
Melt Temperature	260 – 300	°C	
Calibrator Temperature	50 – 100	°C	

POLYCARBONATE VO

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Taber Abrasion, CS-17, 1 kg	9	mg/1000cy	SABIC method
Tensile Stress, yield, 50 mm/min	65	MPa	ISO 527
Tensile Stress, break, 50 mm/min	70	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	7	%	ISO 527
Tensile Strain, break, 50 mm/min	>70	%	ISO 527
Tensile Modulus, 1 mm/min	2350	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	95	MPa	ISO 178
Flexural Modulus, 2 mm/min	2350	MPa	ISO 178
Hardness, H358/30	95	MPa	ISO 2039-1
IMPACT			
Izod Impact, unnotched 80°10°3 +23° C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80°10°3 -30° C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80°10°3 +23° C	11	kJ/m²	ISO 180/1A
Izod Impact, notched 80°10°3 -30° C	10	kJ/m²	ISO 180/1A
Charpy 23° C, V-notch Edgew 80°10°3 sp=62mm	11	kJ/m²	ISO 179/1eA
Charpy -30° C, V-notch Edgew 80°10°3 sp=62mm	10	kJ/m²	ISO 179/1eA
Charpy 23° C, Unnotch Edgew 80°10°3 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy -30° C, Unnotch Edgew 80°10°3 sp=62mm	NB	kJ/m²	ISO 179/1eU
THERMAL			
Thermal Conductivity	0.2	W/m-°C	ISO 8302
CTE, 23° C to 80° C, flow	7.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125° C +/- 2° C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	155	°C	ISO 306
Vicat Softening Temp, Rate B/120	156	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120°10°4 sp=100mm	148	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120°10°4 sp=100mm	135	°C	ISO 75/Ae
PHYSICAL			
Mold Shrinkage on Tensile Bar, flow	0.4 – 0.6	%	SABIC method
Density	1.25	g/cm³	ISO 1183
Water Absorption, (23°C /sat)	0.32	%	ISO 62
Moisture Absorption (23° C / 50% RH)	0.13	%	ISO 62
Melt Volume Rate, MVR at 300° C /1.2 kg	3	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 300° C /2.16 kg	5	cm³/10 min	ISO 1133
OPTICAL			
Light Transmission, 2.54 mm	88	%	ASTM D 1003
Haze, 2.54 mm	<0.8	%	ASTM D 1003
Refractive Index	1.586	-	ISO 489
ELECTRICAL			
Volume Resistivity	>1.E+15	Ohm-cm	IEC 60093
Surface Resistivity, ROA	>1.E+ 15	Ohm	IEC 60093
Dielectric Strength, in oil, 3.2 mm	17	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	2.7	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.001	-	IEC 60250
Dissipation Factor, 1 MHz	0.01	-	IEC 60250
Relative Permittivity, 50/60 Hz	2.7	-	IEC 60250



FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating	1.5	mm	UL 94
Glow Wire Flammability Index 850 °C, passes at	1	mm	IEC 60695-2-12
Glow Wire Flammability Index 960 °C, passes at	1	mm	IEC 60695-2-12
Oxygen Index (LOI)	37	%	ISO 4589
MULTIWALL SHEET EXTRUSION			
Drying Temperature	120	°C	
Drying Time	2 – 4	hrs	
Barrel - Zone 1 Temperature	260 – 300	°C	
Barrel - Zone 2 Temperature	260 – 290	°C	
Barrel - Zone 3 Temperature	260 – 290	°C	
Hopper Temperature	100 – 120	°C	
Adapter Temperature	240 – 280	°C	
Die Temperature	240 – 300	°C	
Melt Temperature	260 – 300	°C	
Calibrator Temperature	50 – 100	°C	

PMMA

	Parameter	Unit	Standard	PLEXIGLAS® 7H
Mechanical properties				
Tensile modulus	1 mm/min	MPa	ISO 527	3200
Stress at break	5 mm/min	MPa	ISO 527	76
Strain at break	5 mm/min	%	ISO 527	5.5
Charpy impact strength	23 °C	kJ/m²	ISO 179/1eU	20
Thermal properties				
Vicat softening temperature	B / 50	°C	ISO 306	103
Glass transition temperature		°C	IEC 10006	112
Temp. of deflection under load	0.45 MPa	°C	ISO 75	100
Temp. of deflection under load	1.8 MPa	°C	ISO 75	95
Coeff. of linear therm. Expansion	0 - 50 °C	E-5 / °K	ISO 11359	8
Fire rating			DIN 4102	B2
Rheological properties				
Melt volume rate, MVR	230 / 3.8	cm³/10min	ISO 1133	1.4
Optical properties				
Transmission factor	D65/10°	%	ISO 13468	92
Haze			ASTM D1003	< 0.5
Refractive index			ISO 489	1.49
Other properties				
Density		g/cm³	ISO 1183	1.19
Recommended processing conditions				
Predrying temperature		°C		max. 93
Predrying time in desiccant-type drier		h		2 - 3
Melt temperature		°C		220 - 260
Cylinder temperature		°C		220 - 260
Die temperature (extrusion)		°C		220 - 260

SCAN ME





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