iGuzzini

Underscore InOut Inspiration through integration even in extreme conditions

Light First.
Making in Italy.

It's in the process

Underscore InOut was born out of a specific requirement: to provide an extremely reliable straight or curved line of light for outdoor applications, even at extreme temperatures. The material selection was the beginning of the project.

"Often the most innovative technological solutions are the result of empirical observation. Single chip LEDs, those small light emitters about 2 millimetres square, are protected from humidity, pressure, UV rays or certain radiations of the spectrum at around 450 nanometres by a special material. If a LED, which is a light source, uses this material to preserve its characteristics, using the same material in a LED product is the next logical step in maintaining the same reliability of the source outdoors. This was the starting point of our research".
iGuzzini Innovation Lab

The result of our research and laboratory tests is a high-performance polymer. Our structural solutions have transformed the material into a finished product: the innovative Underscore InOut, designed for long-term integration in architecture. Reliability starts in-house: we have invested in a new inustrial process to produce Underscore InOut.
This ensures that we have complete control, from design to production.

Underscore InOut: designed and produced in Recanati.

iguzzini.com/lightfirst

Underscore InOut

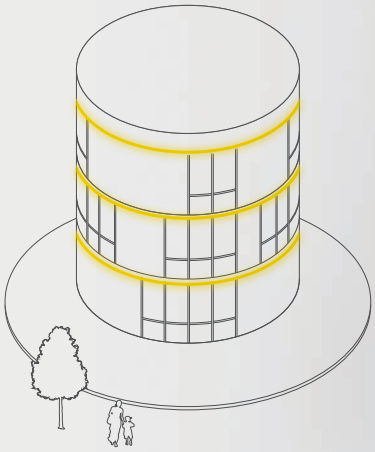
Inspiration through integration, even in extreme conditions.

Underscore is a tool for creating with light. Underscore InOut extends the brilliance of Underscore to exteriors, guaranteeing maximum reliability, even in extreme conditions. Light gives architecture a special rhythm, turning buildings into living organisms in a pulsating urban scene.Underscore InOut is a solution that liberates light and turns it into an artist's brushstroke that outlines, highlights and even colours outdoor architecture with a palette of RGB tones. Facades of any size or shape become exquisite canvases, and special details and features communicate with light. Underscore InOut has been patented* to guarantee its correct operation even at extreme temperatures.
The device's high-performance polymer material is the result of intense laboratory research and testing, and is extremely resistant to both thermal stress and external agents, such as UV rays. This guarantees constant long-term LED performance in terms of both efficiency and colour temperature. Absolute protetion is guaranteed against the temporary submersion of the IP68 rating product and connectors, which are also highly reliable in the event of fire. Underscore InOut is a long-lasting, graphic stroke of light.

* Italian patent n. 102015000013480 dated 29.04.2015, currently pending

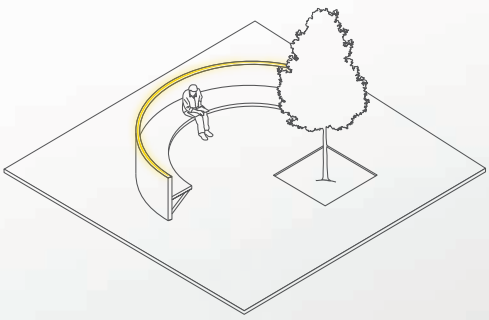
Top Bend

straight lines on flat and curved surfaces with the TOP BEND version (16mm)



Side Bend

straight and curved lines on flat surfaces with the SIDE BEND version (6mm-10mm-16mm)



Overview

Top Bend

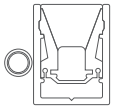
2900/ 3800/ 4500K

RGB

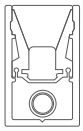
With clip
Curvature radius: 25 cm

Top Bend 16

With low profile



With high profile



Underscore InOut includes a Top Bend version, with a 16 mm wide emission surface and a Side Bend versions, with 3 widths: 6 mm, 10 mm and 16 mm. The long lasting installation is rendered even more secure with two fixing supports: the aluminium profile, used to accompany the straight lines, or the aluminium or stainless steel clips used to secure the product by following the curved shape.

The construction of Underscore InOut places the output cable at the rear or side, in order to achieve a perfect joint between the profiles. This is why there are two different heights of the aluminium profiles, respectively high profile (rear cable) and low profile (side cable). The minimum curvature radiuses vary based on the different versions.

products.iguzzini.com/underscore_inout_line

Side Bend

2900/ 3800/ 4600K

RGB

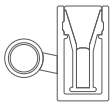
Side Bend 6

With clip
Curvature radius: 6,5 cm

With low profile

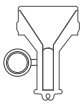
Side Bend 10

Curvature radius: 15 cm

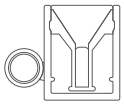


With low profile

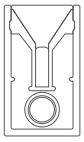
Side Bend 16



With clip
Curvature radius: 15 cm



With low profile



With low profile

info box

- Dimensions from 254mm to 7004mm. 21 possible combinations
- Profile (straight lines) or clip (curved lines) installation
- CRI 80
- Real Colour Temperature 2900K; 3800K; 4500K; 4600K (Side Bend)
- L70 B20 >53.000 h (Ta 25°C)
- L80 B20 >50.000 h (Ta 40°C)
- Mac Adam <3
- DALI and DMX interface
- IP68
- Average figures 290 lm/m, 8,5 W/m

Profile Lengths:

High profile
L= 1000 / 2000

Low profile
L= 250 / 500 / 1000 / 2000

Intermediate low profile
L= 998 / 1787 / 1997

Caps with slot for side exit of the connectors
L= 104

Leifur Eiriksson International Airport
Reykjavik, Iceland

Reliability.
High performance even in extreme conditions.

There are no application limits to Underscore InOut. The quality of the high-performance polymer maintains its flexibility characteristics even at -30°. A comparative test in a climatic chamber has revealed that other products, which use different materials, such as PVC, stiffen at 0°C, limiting their installation at these temperatures. Underscore InOut can meet the most demanding installation requirements, from -30°C to +45°C. The product remains operational even if temporarily submerged. The fitting and connectors both have the IP68 rating. Safe connecting system between connectors, for a safe and long lasting installation (secure block system – page 15).

Flexibility test -30°
Underscore InOut maintains its flexibility even after being subjected to a temperature of -30°C

-30°C **+45°C**

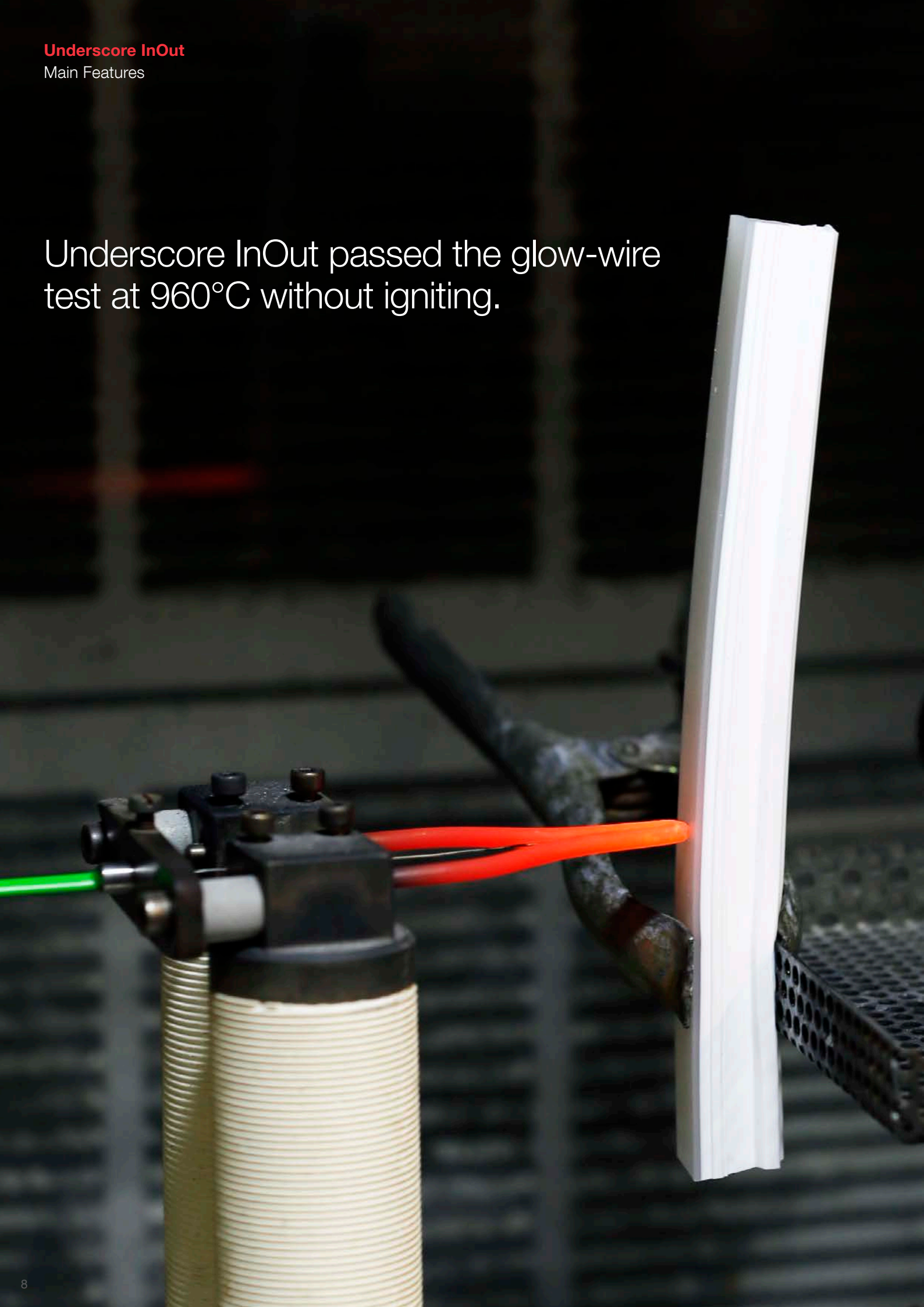
Performance levels you can trust even at extreme temperatures
Climate chamber tests (conducted in an IMQ/UL/CQCC certified laboratory) show that Underscore InOut operates even at extreme temperatures, from -30°C to +45°C, with no thermal shrinkage or expansion when installed with either a clip or profile. It also maintains maximum flexibility even at -30° C.

IP68

Reliable performance even if submerged
IP68 protection on the product and the continuous line system with IP68 connectors.

*The product is not suitable for use in swimming pools and fountains.

Underscore InOut passed the glow-wire test at 960°C without igniting.



Reliability.
High resistance to flammability.

Safety is fundamental. Fittings are increasingly integrated with the architecture and become part of the fabric of the building itself. The propagation of flames inside and outside a building can occur through irradiation, convection, transport of material or direct contact. For us it's important to make sure that the materials perform very well from this point of view too. We ensure that the material used is flame resistant and that it does not produce spontaneous combustion in any possible condition. We tested Underscore InOut alongside similar products on the market with the glow-wire* test, in compliance with the strictest standards of countries that, such as France, set the flammability limit at 850°C (in certain environments) for buildings higher than 28 metres. Underscore InOut complied up to 960°C, whilst other materials, such as polyurethane resins, ignited at 850°C.

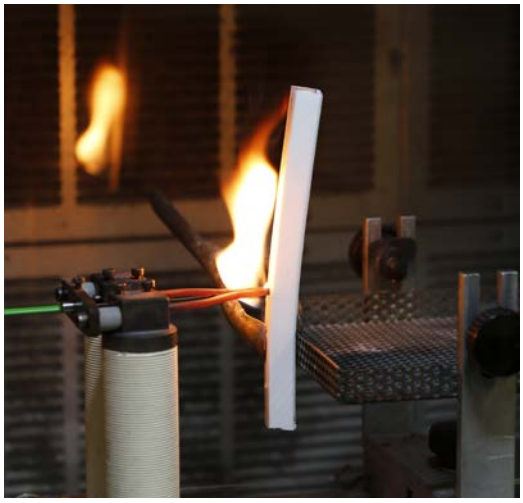
Company A - Polyurethane
does not comply at 850°C

Company B - Polyurethane
does not comply at 850°C

Company C - PVC
does not comply at 960°C

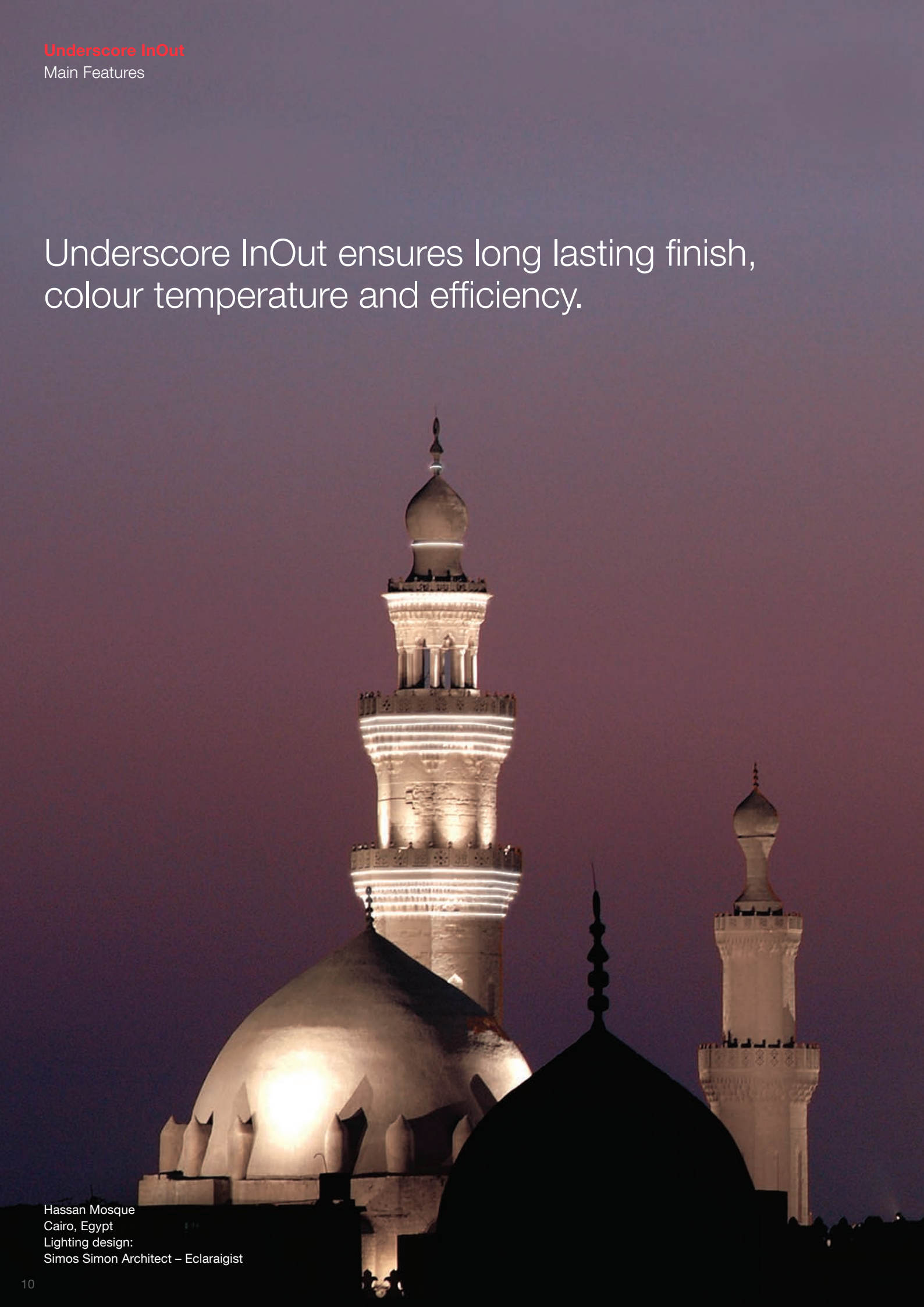
iGuzzini - Underscore InOut
complies at 960°C

Competitors' products ignited at 850°C.



***Glow-wire test a 960°C**
Reliability in case of fire/ flammability
standard EN 60598-1:2015
Underscore InOut is extremely reliable even in the event of fire, and complies with glow plug tests at 960°. Similar products in polyurethane or PVC, on the other hand, do not comply at 850°C. Whereas all products comply with standard requirements at 650°C.

Underscore InOut ensures long lasting finish, colour temperature and efficiency.

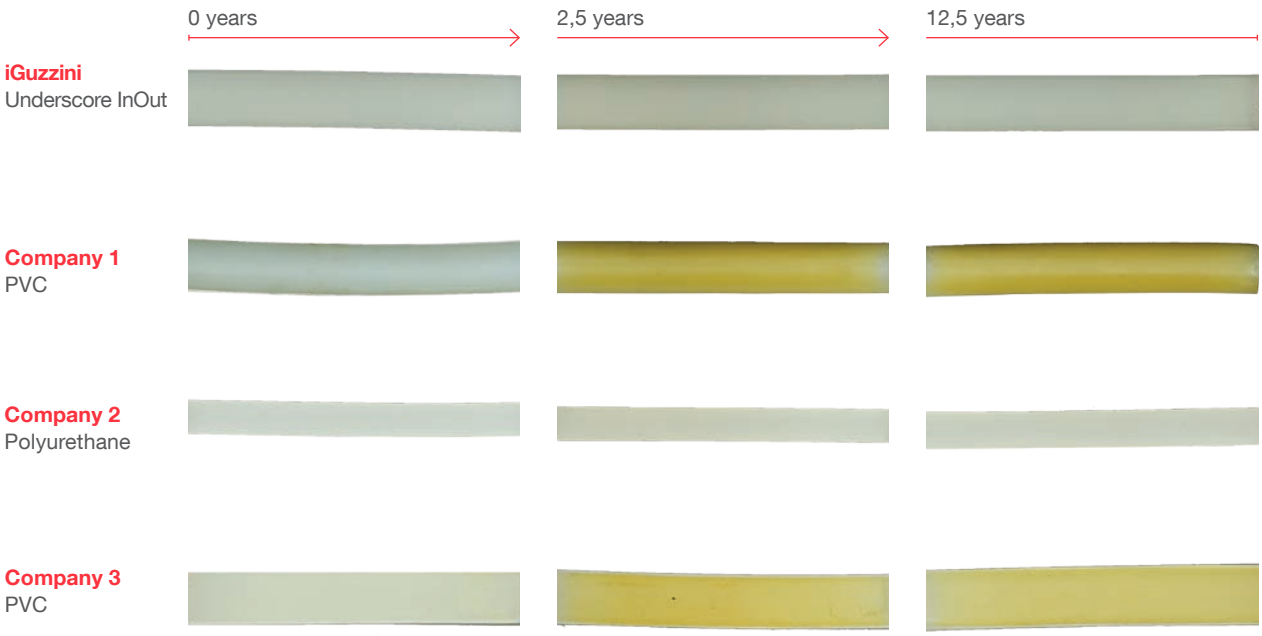


Hassan Mosque
Cairo, Egypt
Lighting design:
Simos Simon Architect – Eclaraigist

Reliability.

No yellowing, no colour-temperature shift, no efficiency drops.

Underscore InOut is a fitting designed to live outdoors. The resistance to atmospheric agents is therefore fundamental to maintain the aesthetic qualities and functionality of the product. A third party certifying body subjected our fitting, along with other similar products made of different materials, such as PVC or polyurethane, to the UV test*. They exposed the products to sunlight and humidity. Underscore InOut, after 12 years, did not have any alterations to the finish and maintained the same colour temperature and flux.



*** UV Test**
Reliability of the material
The European Quality Institute has tested Underscore InOut and other similar products constructed with other materials. After 2 years of exposure to sunlight the PVC yellowed. Our material, after 12 years, maintained the same finish, efficiency and colour temperature standard ISO 11507:2007

Design Muesum Holon
Holon, Israel
Client: Comune di Holon
Architectural Project:
Ron Arad Architects
Executive architect: Waxman Govrin
Photo: Uzi Porat

Reliability.
Long and safe life.

We have patented* the splint system, which absorbs and contrasts the mechanical and thermal stresses, typical of fittings subject to bending, torsion and yield tensions or thermal expansion and contraction. Two lateral steel wires support the external body of the fitting, without affecting the electronic operation during installation and use.
The LED circuit is housed inside an air chamber, in the coextruded polymer. The LED strip is free to move and is not affected by the external stresses, maintaining long lasting life and performance conditions. The strength and structural stratification and the quality of the LEDs selected, allow us to be sure of the life span data stated. This is a unique aspect of this type of fittings, which ensures safety and long-term planning of the final application.

*Italian patent n.102015000013480 dated 29.04.2015, currently pending

L80 B20
Affidabilità delle prestazioni del LED
Underscore InOut guarantees the declared life with B20: e.g. Underscore InOut White Top Bend has a life of 53000h L80B20 (ta 25°C) and 47000h L80B20 (ta 40°C).

Version	L70 B20 (ta25°)	L70 B20 (ta40°)	L80 B20 (ta25°)	L80 B20 (ta40°)
TOP White	> 100.000	> 100.000	> 50.000	> 50.000
SIDE White	49.000	32.500	32.000	25.000
TOP RGB*	60.000	43.000	45.000	32.000
SIDE RGB*	67.000	35.000	49.000	24.000

* Value for the colour with the lowest life, calculated with the individual RGBs on at the same time at maximum intensity. On request we can supply the values of the individual lives of each RGB colour or the average value of the three.

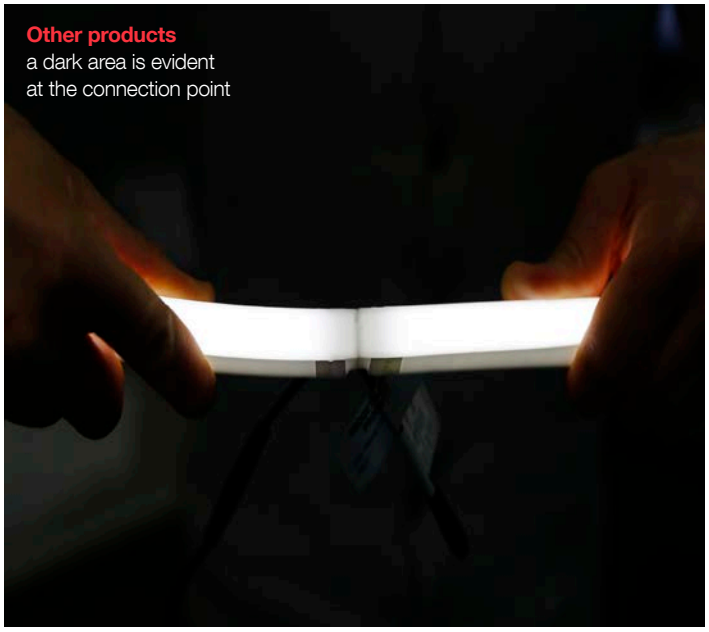
Underscore InOut
Main Features

Control systems
Underscore InOut can be controlled with a single DALI and DMX IP20 interface, connected to the MasterPro control system, to create RGB and/or dynamic scenes (up to 4 only white 7-metre strips). It is also available with just the DALI interface to control the adjustment of the white.

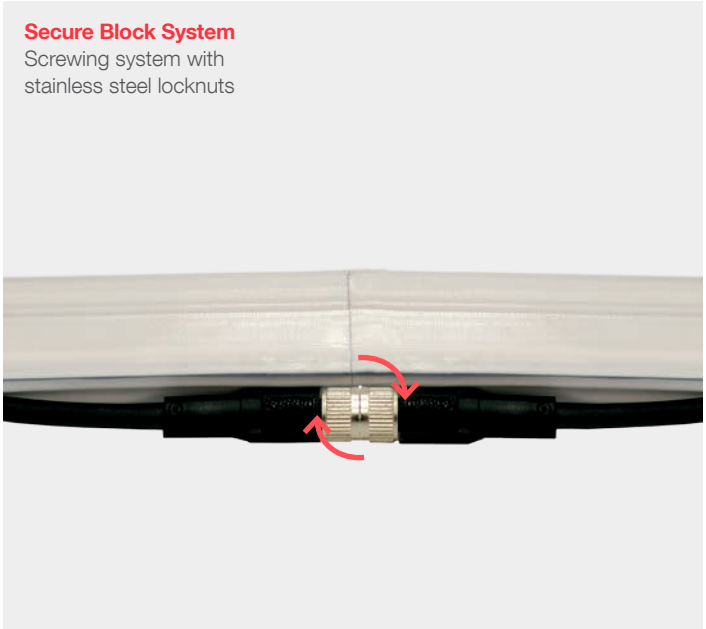
Uniformity.
Uniformity and light continuity.

The coextruded polymer consists of two parts: the external, thicker part and the completely transparent internal part. This limits the light diffusion in the lateral/rear part and directs it mainly towards the front, with its opaline diffusing finish, guaranteeing maximum uniformity along the whole emission surface. The use of an electronic device controls the light intensity, ensuring a constant flow along the whole line. This also ensures the best use of the LEDs and therefore a better and long-lasting performance. The rear or side connection of the cables is independent of the joining of the profiles and guarantees an absence of dark areas even at a distance of one metre. The installation is finally protected and guaranteed over time by the secure-block system, which secures the connection with a screwing motion and stainless steel locknuts. Long lasting uniformity across all viewing scales.

Underscore InOut Uniformity
no dark areas thanks to the rear or side positioning of the cables



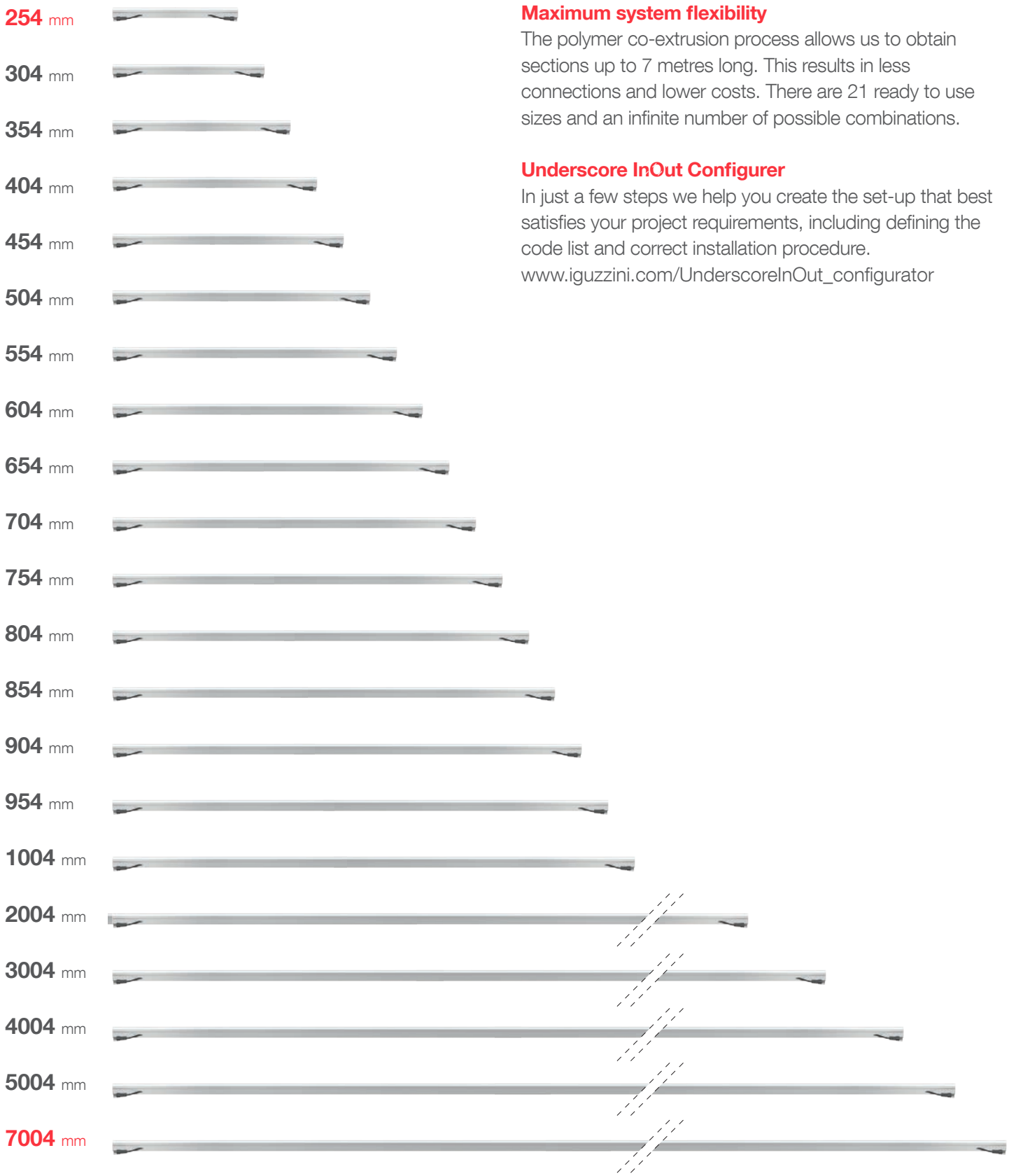
Other products
a dark area is evident at the connection point



Secure Block System
Screwing system with stainless steel locknuts

Infinite options.

21 available lengths let you create custom lines of light.



Maximum system flexibility

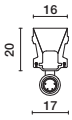
The polymer co-extrusion process allows us to obtain sections up to 7 metres long. This results in less connections and lower costs. There are 21 ready to use sizes and an infinite number of possible combinations.

Underscore InOut Configurer

In just a few steps we help you create the set-up that best satisfies your project requirements, including defining the code list and correct installation procedure.
www.iguzzini.com/UnderscoreInOut_configurator

Underscore InOut Top Bend 16

01
WHITE



LED 2900K - CRI 80

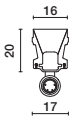
Source	W*		lm**	Length	Code	Colour
	2,1 W	24 V	68,6	254	E407	01
	2,6 W	24 V	82,5	304	E408	01
	3 W	24 V	96,3	354	E409	01
	3,4 W	24 V	110	404	E410	01
	3,8 W	24 V	123,8	454	E411	01
	4,3 W	24 V	137,5	504	E412	01
	4,7 W	24 V	151	554	E413	01
	5 W	24 V	165	604	E414	01
	5,5 W	24 V	178,8	654	E415	01
	6 W	24 V	192,5	704	E416	01
	6,4 W	24 V	206	754	E417	01
	6,8 W	24 V	220	804	E418	01
	7 W	24 V	234	854	E419	01
	7,7 W	24 V	247,5	904	E420	01
	8 W	24 V	161,3	954	E421	01
	8,5 W	24 V	275	1004	E422	01
	17 W	24 V	550	2004	E423	01
	25,5 W	24 V	825	3004	E424	01
	34 W	24 V	1100	4004	E425	01
	42,5 W	24 V	1375	5004	E426	01
	59,5 W	24 V	1925	7004	E427	01

24Vdc control gear to be ordered separately

LED 4500K - CRI 80

Source	W*		lm**	Length	Code	Colour
	2 W	24 V	82,5	254	E449	01
	2,6 W	24 V	99	304	E450	01
	3 W	24 V	115,5	354	E451	01
	3,4 W	24 V	132	404	E452	01
	3,8 W	24 V	148,5	454	E453	01
	4,3 W	24 V	165	504	E454	01
	4,7 W	24 V	181,5	554	E455	01
	5 W	24 V	198	604	E456	01
	5,5 W	24 V	214,5	654	E457	01
	6 W	24 V	231	704	E458	01
	6,4 W	24 V	247,5	754	E459	01
	6,8 W	24 V	264	804	E460	01
	7 W	24 V	280,5	854	E461	01
	7,7 W	24 V	297	904	E462	01
	8 W	24 V	313,5	954	E463	01
	8,5 W	24 V	330	1004	E464	01
	17 W	24 V	660	2004	E465	01
	25,5 W	24 V	990	3004	E466	01
	34 W	24 V	1320	4004	E467	01
	42,5 W	24 V	1650	5004	E468	01
	59,5 W	24 V	2310	7004	E469	01

24Vdc control gear to be ordered separately



LED 3800K - CRI 80

Source	W*		lm**	Length	Code	Colour
	2 W	24 V	75	254	E428	01
	2,6 W	24 V	90	304	E429	01
	3 W	24 V	105	354	E430	01
	3,4 W	24 V	120	404	E431	01
	3,8 W	24 V	135	454	E432	01
	4,3 W	24 V	150	504	E433	01
	4,7 W	24 V	165	554	E434	01
	5 W	24 V	180	604	E435	01
	5,5 W	24 V	195	654	E436	01
	6 W	24 V	210	704	E437	01
	6,4 W	24 V	225	754	E438	01
	6,8 W	24 V	240	804	E439	01
	7,2 W	24 V	255	854	E440	01
	7,7 W	24 V	270	904	E441	01
	8,1 W	24 V	285	954	E442	01
	8,5 W	24 V	300	1004	E443	01
	17 W	24 V	600	2004	E444	01
	25,5 W	24 V	900	3004	E445	01
	34 W	24 V	1200	4004	E446	01
	42,5 W	24 V	1500	5004	E447	01
	59,5 W	24 V	2100	7004	E448	01

24Vdc control gear to be ordered separately

LED RGB

Source	W*		lm**	Length	Code	Colour
	2,2 W	24 V	29	254	E470	01
	2,6 W	24 V	34,8	304	E471	01
	3 W	24 V	40,4	354	E472	01
	3,5 W	24 V	46,4	404	E473	01
	4 W	24 V	52,2	454	E474	01
	4,4 W	24 V	58	504	E475	01
	4,8 W	24 V	63,8	554	E476	01
	5,3 W	24 V	69,6	604	E477	01
	5,7 W	24 V	75,4	654	E478	01
	6,2 W	24 V	81,2	704	E479	01
	6,6 W	24 V	87	754	E480	01
	7 W	24 V	92,8	804	E481	01
	7,5 W	24 V	98,6	854	E482	01
	8 W	24 V	104,4	904	E483	01
	8,4 W	24 V	110,2	954	E484	01
	8,8 W	24 V	116	1004	E485	01
	17,6 W	24 V	232	2004	E486	01
	26,4 W	24 V	348	3004	E487	01
	35,2 W	24 V	464	4004	E488	01
	44 W	24 V	580	5004	E489	01
	61,6 W	24 V	812	7004	E490	01

24Vdc control gear to be ordered separately

Underscore InOut can be connected in sequence up to a maximum of L=7004 mm. Based on the type of control gear, Underscore parallel connections can be created up to a max length of L=7004 mm each. They can also be installed in a continuous line (see instruction sheet).

* The current W value may decrease with technological developments. Please see the online catalogue for the constantly updated values.

** The value refers to the actual product flux.

Profiles

High linear profile

Length	Code	Colour
1000	**X129**	12
2000	**X130**	12

With seating for hidden connector.
For all lengths (cut to size).
Allows the connector to be hidden in the lower part of the profile.

Low linear profile

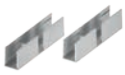
Length	Code	Colour
250	**X133**	12
500	**X134**	12
1000	**X135**	12
2000	**X136**	12

With 2 slots for the side exit of the connectors.

Intermediate low linear profile

998	**X138**	12
1787	**X139**	12
1997	**X140**	12

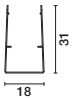
Without slots
To be ordered with the end profiles
(refer to the instructions sheet)



Pair of end low linear profiles

104	**X137**	12

With 1 slot for the side exit of the connector.
To be ordered with the intermediate profiles
(refer to the instructions sheet)



Stainless steel high support clip

40	**X131**	13

Con sede per connettore a scomparsa.
Allows the connector to be hidden in the lower
part of the stainless steel clip.
Designed for curved sections.

Stainless steel low support clip

40	**X141**	13

For products with the side exit of the connectors.
Connector passage in the side part of the clip.
Designed for curved sections.

Anodised aluminium high support clip

40	**X132**	12

With seating for hidden connector.
Allows the connector to be hidden
in the lower part of the stainless steel clip.
Designed for curved sections.

Anodised aluminium low support clip

40	**X142**	12

For products with the side exit of the connectors.
Connector passage in the side part of the clip.
Designed for curved sections.

Underscore InOut Side Bend 6

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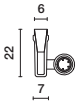
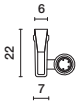
WHITE



LED 2900K - CRI 80

Source	W*		lm**	Length	Code	Colour
	2W	24V	70	254	**E659**	01
	2,6W	24V	84	304	**E660**	01
	3W	24V	98	354	**E661**	01
	3,4W	24V	112	404	**E662**	01
	3,8W	24V	126	454	**E663**	01
	4,3W	24V	140	504	**E664**	01
	4,7W	24V	154	554	**E665**	01
	5W	24V	168	604	**E666**	01
	5,5W	24V	182	654	**E667**	01
	6W	24V	196	704	**E668**	01
	6,4W	24V	210	754	**E669**	01
	6,8W	24V	224	804	**E670**	01
	7,2W	24V	238	854	**E671**	01
	7,7W	24V	252	904	**E672**	01
	8W	24V	266	954	**E673**	01
	8,5W	24V	280	1004	**E674**	01
	17W	24V	560	2004	**E675**	01
	25,5W	24V	840	3004	**E676**	01
	34W	24V	1120	4004	**E677**	01
	42,5W	24V	1400	5004	**E678**	01
	59,5W	24V	1960	7004	**E679**	01

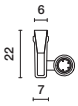
24Vdc control gear to be ordered separately



LED 4600K - CRI 80

Source	W*		lm**	Length	Code	Colour
	2W	24V	65	254	**E701**	01
	2,6W	24V	78	304	**E702**	01
	3W	24V	91	354	**E703**	01
	3,4W	24V	104	404	**E704**	01
	3,8W	24V	117	454	**E705**	01
	4,3W	24V	130	504	**E706**	01
	4,7W	24V	143	554	**E707**	01
	5W	24V	156	604	**E708**	01
	5,5W	24V	169	654	**E709**	01
	6W	24V	182	704	**E710**	01
	6,4W	24V	195	754	**E711**	01
	6,8W	24V	208	804	**E712**	01
	7,2W	24V	221	854	**E713**	01
	7,7W	24V	234	904	**E714**	01
	8W	24V	247	954	**E715**	01
	8,5W	24V	260	1004	**E716**	01
	17W	24V	520	2004	**E717**	01
	25,5W	24V	780	3004	**E718**	01
	34W	24V	1040	4004	**E719**	01
	42,5W	24V	1300	5004	**E720**	01
	59,5W	24V	1820	7004	**E721**	01

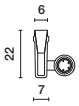
24Vdc control gear to be ordered separately



LED 3800K - CRI 80

Source	W*		lm**	Length	Code	Colour
	2W	24V	72,5	254	**E680**	01
	2,6W	24V	87	304	**E681**	01
	3W	24V	101,5	354	**E682**	01
	3,4W	24V	116	404	**E683**	01
	3,8W	24V	130,5	454	**E684**	01
	4,3W	24V	145	504	**E685**	01
	4,7W	24V	159,5	554	**E686**	01
	5W	24V	174	604	**E687**	01
	5,5W	24V	188,5	654	**E688**	01
	6W	24V	203	704	**E689**	01
	6,4W	24V	117,5	754	**E690**	01
	6,8W	24V	232	804	**E691**	01
	7,2W	24V	246,5	854	**E692**	01
	7,7W	24V	261	904	**E693**	01
	8W	24V	275,5	954	**E694**	01
	8,5W	24V	290	1004	**E695**	01
	17W	24V	580	2004	**E696**	01
	25,5W	24V	870	3004	**E697**	01
	34W	24V	1160	4004	**E698**	01
	42,5W	24V	1450	5004	**E699**	01
	59,5W	24V	2030	7004	**E700**	01

24Vdc control gear to be ordered separately



LED RGB

Source	W*		lm**	Length	Code	Colour
	2,2W	24V	15	254	**E722**	01
	2,6W	24V	18	304	**E723**	01
	3W	24V	21	354	**E724**	01
	3,5W	24V	24	404	**E725**	01
	4W	24V	27	454	**E726**	01
	4,4W	24V	30	504	**E727**	01
	4,8W	24V	33	554	**E728**	01
	5,3W	24V	36	604	**E729**	01
	5,7W	24V	39	654	**E730**	01
	6,2W	24V	42	704	**E731**	01
	6,6W	24V	45	754	**E732**	01
	7W	24V	48	804	**E733**	01
	7,5W	24V	51	854	**E734**	01
	7,9W	24V	54	904	**E735**	01
	8,4W	24V	57	954	**E736**	01
	8,8W	24V	60	1004	**E737**	01
	17,6W	24V	120	2004	**E738**	01
	26,4W	24V	180	3004	**E739**	01
	35,2W	24V	240	4004	**E740**	01
	44W	24V	300	5004	**E741**	01
	61,6W	24V	420	7004	**E742**	01

24Vdc control gear to be ordered separately

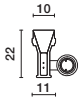
Underscore InOut can be connected in sequence up to a maximum of L=7004 mm. Based on the type of control gear, Underscore parallel connections can be created up to a max length of L=7004 mm each. They can also be installed in a continuous line (see instruction sheet).

* The current W value may decrease with technological developments. Please see the online catalogue for the constantly updated values.

** The value refers to the actual product flux.

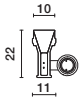
Underscore InOut Side Bend 10

01
WHITE



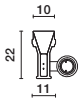
Source	W*		lm**	Length	Code	Colour
LED	2900K - CRI 80					
	2W	24V	75	254	**E575**	01
	2,6W	24V	90	304	**E576**	01
	3W	24V	105	354	**E577**	01
	3,4W	24V	120	404	**E578**	01
	3,8W	24V	135	454	**E579**	01
	4,3W	24V	150	504	**E580**	01
	4,7W	24V	165	554	**E581**	01
	5W	24V	180	604	**E582**	01
	5,5W	24V	195	654	**E583**	01
	6W	24V	210	704	**E584**	01
	6,4W	24V	225	754	**E585**	01
	6,8W	24V	240	804	**E586**	01
	7,2W	24V	255	854	**E587**	01
	7,7W	24V	270	904	**E588**	01
	8W	24V	285	954	**E589**	01
	8,5W	24V	300	1004	**E590**	01
	17W	24V	600	2004	**E591**	01
	25,5W	24V	900	3004	**E592**	01
	34W	24V	1200	4004	**E593**	01
	42,5W	24V	1500	5004	**E594**	01
	59,5W	24V	2100	7004	**E595**	01

24Vdc control gear to be ordered separately



Source	W*		lm**	Length	Code	Colour
LED	4600K - CRI 80					
	2W	24V	75	254	**E617**	01
	2,6W	24V	90	304	**E618**	01
	3W	24V	105	354	**E619**	01
	3,4W	24V	120	404	**E620**	01
	3,8W	24V	135	454	**E621**	01
	4,3W	24V	150	504	**E622**	01
	4,7W	24V	165	554	**E623**	01
	5W	24V	180	604	**E624**	01
	5,5W	24V	195	654	**E625**	01
	6W	24V	210	704	**E626**	01
	6,4W	24V	225	754	**E627**	01
	6,8W	24V	240	804	**E628**	01
	7,2W	24V	255	854	**E629**	01
	7,7W	24V	270	904	**E630**	01
	8W	24V	285	954	**E631**	01
	8,5W	24V	300	1004	**E632**	01
	17W	24V	600	2004	**E633**	01
	25,5W	24V	900	3004	**E634**	01
	34W	24V	1200	4004	**E635**	01
	42,5W	24V	1500	5004	**E636**	01
	59,5W	24V	2100	7004	**E637**	01

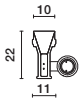
24Vdc control gear to be ordered separately



Source	W*		lm**	Length	Code	Colour
LED	3800K - CRI 80					
	2W	24V	82,5	254	**E596**	01
	2,6W	24V	99	304	**E597**	01
	3W	24V	115,5	354	**E598**	01
	3,4W	24V	132	404	**E599**	01
	3,8W	24V	148,5	454	**E600**	01
	4,3W	24V	165	504	**E601**	01
	4,7W	24V	181,5	554	**E602**	01
	5W	24V	198	604	**E603**	01
	5,5W	24V	214,5	654	**E604**	01
	6W	24V	231	704	**E605**	01
	6,4W	24V	247,5	754	**E606**	01
	6,8W	24V	264	804	**E607**	01
	7,2W	24V	280,5	854	**E608**	01
	7,7W	24V	297	904	**E609**	01
	8W	24V	313,5	954	**E610**	01
	8,5W	24V	330	1004	**E611**	01
	17W	24V	660	2004	**E612**	01
	25,5W	24V	990	3004	**E613**	01
	34W	24V	1320	4004	**E614**	01
	42,5W	24V	1650	5004	**E615**	01
	59,5W	24V	2310	7004	**E616**	01

24Vdc control gear to be ordered separately

Underscore InOut can be connected in sequence up to a maximum of L=7004 mm. Based on the type of control gear, Underscore parallel connections can be created up to a max length of L=7004 mm each. They can also be installed in a continuous line (see instruction sheet).



Source	W*		lm**	Length	Code	Colour
LED	RGB					
	2,2W	24V	16,8	254	**E638**	01
	2,6W	24V	20	304	**E639**	01
	3W	24V	23,5	354	**E640**	01
	3,5W	24V	26,8	404	**E641**	01
	4W	24V	30,2	454	**E642**	01
	4,4W	24V	33,5	504	**E643**	01
	4,8W	24V	39,6	554	**E644**	01
	5,3W	24V	40,2	604	**E645**	01
	5,7W	24V	43,6	654	**E646**	01
	6,2W	24V	46,9	704	**E647**	01
	6,6W	24V	50,3	754	**E648**	01
	7W	24V	53,6	804	**E649**	01
	7,5W	24V	57	854	**E650**	01
	7,9W	24V	60,3	904	**E651**	01
	8,4W	24V	63,7	954	**E652**	01
	8,8W	24V	67	1004	**E653**	01
	17,6W	24V	134	2004	**E654**	01
	26,4W	24V	201	3004	**E655**	01
	35,2W	24V	268	4004	**E656**	01
	44W	24V	335	5004	**E657**	01
	61,6W	24V	469	7004	**E658**	01

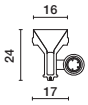
24Vdc control gear to be ordered separately

* The current W value may decrease with technological developments. Please see the online catalogue for the constantly updated values.

** The value refers to the actual product flux.

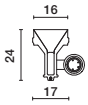
Underscore InOut Side Bend 16

01
WHITE



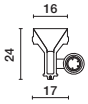
Source	W*		lm**	Length	Code	Colour
LED	2900K - CRI 80					
	2,2 W	24 V	71,3	254	**E491**	01
	2,6 W	24 V	85,5	304	**E492**	01
	3 W	24 V	99,8	354	**E493**	01
	3,4 W	24 V	114	404	**E494**	01
	3,8 W	24 V	128,3	454	**E495**	01
	4,3 W	24 V	142,5	504	**E496**	01
	4,7 W	24 V	156,8	554	**E497**	01
	5 W	24 V	171	604	**E498**	01
	5,5 W	24 V	185,3	654	**E499**	01
	6 W	24 V	199,5	704	**E500**	01
	6,4 W	24 V	213,8	754	**E501**	01
	6,8 W	24 V	228	804	**E502**	01
	7,2 W	24 V	242,3	854	**E503**	01
	7,7 W	24 V	256	904	**E504**	01
	8 W	24 V	270,8	954	**E505**	01
	8,5 W	24 V	285	1004	**E506**	01
	17 W	24 V	570	2004	**E507**	01
	25,5 W	24 V	855	3004	**E508**	01
	34 W	24 V	1140	4004	**E509**	01
	42,5 W	24 V	1425	5004	**E510**	01
	59,5 W	24 V	1995	7004	**E511**	01

24Vdc control gear to be ordered separately



Source	W*		lm**	Length	Code	Colour
LED	4600K - CRI 80					
	2 W	24 V	70	254	**E533**	01
	2,6 W	24 V	84	304	**E534**	01
	3 W	24 V	98	354	**E535**	01
	3,4 W	24 V	112	404	**E536**	01
	3,8 W	24 V	126	454	**E537**	01
	4,3 W	24 V	140	504	**E538**	01
	4,7 W	24 V	154	554	**E539**	01
	5 W	24 V	168	604	**E540**	01
	5,5 W	24 V	182	654	**E541**	01
	6 W	24 V	196	704	**E542**	01
	6,4 W	24 V	210	754	**E543**	01
	6,8 W	24 V	224	804	**E544**	01
	7,2 W	24 V	238	854	**E545**	01
	7,7 W	24 V	252	904	**E546**	01
	8 W	24 V	266	954	**E547**	01
	8,5 W	24 V	280	1004	**E548**	01
	17 W	24 V	560	2004	**E549**	01
	25,5 W	24 V	840	3004	**E550**	01
	34 W	24 V	1220	4004	**E551**	01
	42,5 W	24 V	1400	5004	**E552**	01
	59,5 W	24 V	1960	7004	**E553**	01

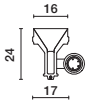
24Vdc control gear to be ordered separately



Source	W*		lm**	Length	Code	Colour
LED	3800K - CRI 80					
	2 W	24 V	77,5	254	**E512**	01
	2,6 W	24 V	93	304	**E513**	01
	3 W	24 V	108,5	354	**E514**	01
	3,4 W	24 V	124	404	**E515**	01
	3,8 W	24 V	139,5	454	**E516**	01
	4,3 W	24 V	155	504	**E517**	01
	4,7 W	24 V	170,5	554	**E518**	01
	5 W	24 V	186	604	**E519**	01
	5,5 W	24 V	201,5	654	**E520**	01
	6 W	24 V	217	704	**E521**	01
	6,4 W	24 V	232,5	754	**E522**	01
	6,8 W	24 V	248	804	**E523**	01
	7,2 W	24 V	263,5	854	**E524**	01
	7,7 W	24 V	279	904	**E525**	01
	8 W	24 V	294,5	954	**E526**	01
	8,5 W	24 V	310	1004	**E527**	01
	17 W	24 V	620	2004	**E528**	01
	25,5 W	24 V	930	3004	**E529**	01
	34 W	24 V	1240	4004	**E530**	01
	42,5 W	24 V	1550	5004	**E531**	01
	59,5 W	24 V	2170	7004	**E532**	01

24Vdc control gear to be ordered separately

Underscore InOut can be connected in sequence up to a maximum of L=7004 mm. Based on the type of control gear, Underscore parallel connections can be created up to a max length of L=7004 mm each. They can also be installed in a continuous line (see instruction sheet).



Source	W*		lm**	Length	Code	Colour
LED	RGB					
	2,2 W	24 V	14,5	254	**E554**	01
	2,6 W	24 V	17,4	304	**E555**	01
	3 W	24 V	20,3	354	**E556**	01
	3,5 W	24 V	23,2	404	**E557**	01
	4 W	24 V	26,1	454	**E558**	01
	4,4 W	24 V	29	504	**E559**	01
	4,8 W	24 V	31,9	554	**E560**	01
	5,3 W	24 V	34,8	604	**E561**	01
	5,7 W	24 V	37,7	654	**E562**	01
	6,2 W	24 V	40,6	704	**E563**	01
	6,6 W	24 V	43,5	754	**E564**	01
	7 W	24 V	46,4	804	**E565**	01
	7,5 W	24 V	49,3	854	**E566**	01
	7,9 W	24 V	52,2	904	**E567**	01
	8,4 W	24 V	55,1	954	**E568**	01
	8,8 W	24 V	58	1004	**E569**	01
	17,6 W	24 V	116	2004	**E570**	01
	26,4 W	24 V	174	3004	**E571**	01
	35,2 W	24 V	232	4004	**E572**	01
	44 W	24 V	290	5004	**E573**	01
	61,6 W	24 V	406	7004	**E574**	01

24Vdc control gear to be ordered separately

* The current W value may decrease with technological developments. Please see the online catalogue for the constantly updated values.

** The value refers to the actual product flux.

Underscore InOut Side Bend 6

Profiles

	Length	Code Colour
Linear profile		
	250	**X158** 12
	500	**X159** 12
	1000	**X160** 12
	2000	**X161** 12

With 2 slots for the side exit of the connectors.

Pair of end linear profiles

	104	**X162** 12

With 1 slot for the side exit of the connector.
To be ordered with the intermediate profiles (refer to the instructions sheet)

	Length	Code Colour
Intermediate linear profile		
	998	**X163** 12
	1787	**X164** 12
	1997	**X165** 12

Without slots
To be ordered with the end profiles
(refer to the instructions sheet)

Stainless steel support clip

	40	**X166** 13

For products with the side exit of the connectors.
Connector passage in the side part of the clip.
Designed for curved sections.

Anodised aluminium support clip

	40	**X167** 12

For products with the side exit of the connectors.
Connector passage in the side part of the clip.
Designed for curved sections.

Underscore InOut Side Bend 10

Profiles

	Length	Code Colour
Linear profile		
	250	**X148** 12
	500	**X149** 12
	1000	**X150** 12
	2000	**X151** 12

With 2 slots for the side exit of the connectors.

Pair of end linear profiles

	104	**X152** 12

With 1 slot for the side exit of the connector.
To be ordered with the intermediate profiles
(refer to the instructions sheet)

	Length	Code Colour
Intermediate linear profile		
	998	**X153** 12
	1787	**X154** 12
	1997	**X155** 12

Without slots
To be ordered with the end profiles
(refer to the instructions sheet)

Stainless steel support clip

	40	**X156** 13

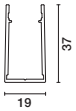
For products with the side exit of the connectors.
Connector passage in the side part of the clip.
Designed for curved sections.

Anodised aluminium support clip

	40	**X157** 12

For products with the side exit of the connectors.
Connector passage in the side part of the clip.
Designed for curved sections.

Profiles



High linear profile

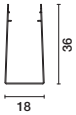
Length	Code Colour
1000	**X143** 12
2000	**X144** 12

With seating for hidden connector.
For all lengths (cut to size).
Allows the connector to be hidden in the lower part of the profile.

Low linear profile

Length	Code Colour
250	**X133** 12
500	**X134** 12
1000	**X135** 12
2000	**X136** 12

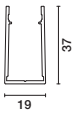
With 2 slots for the side exit of the connectors



Stainless steel high support clip

Length	Code Colour
40	**X145** 13

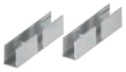
With seating for hidden connector.
Allows the connector to be hidden in the lower part of the stainless steel clip.
Designed for curved sections.

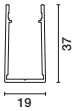


Anodised aluminium high support clip

Length	Code Colour
40	**X146** 12

With seating for hidden connector.
Allows the connector to be hidden in the lower part of the stainless steel clip.
Designed for curved sections.

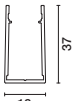




Pair of low end linear profiles

Length	Code Colour
104	**X137** 12

With 1 slot for the side exit of the connector.
To be ordered with the intermediate profiles (refer to the instructions sheet)



Intermediate low linear profile

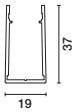
Length	Code Colour
998	**X138** 12
1787	**X139** 12
1997	**X140** 12

Without slots
To be ordered with the end profiles
(refer to the instructions sheet)

Stainless steel low support clip

Length	Code Colour
40	**X147** 13

For products with the side exit of the connectors.
Connector passage in the side part of the clip.
Designed for curved sections.



Anodised aluminium low support clip

Length	Code Colour
40	**X142** 12

For products with the side exit of the connectors.
Connector passage in the side part of the clip.
Designed for curved sections.

Accessories

	Code	Colour
Cable with female connector for monochromatic LEDs IP68 With anti-detachment locknut		
L=115mm	**X168**	04
L=1500mm	**X169**	04
L=3000mm	**X170**	04
L=5000mm	**X171**	04
Cable with male connector for monochromatic LEDs IP68 With anti-detachment locknut		
L=115mm	**X172**	04
L=1500mm	**X173**	04
Cable with female connector for RGB LEDs IP68 With anti-detachment locknut		
L=115mm	**X174**	04
L=1500mm	**X175**	04
L=3000mm	**X176**	04
L=5000mm	**X177**	04
Cable with male connector for RGB LEDs IP68 With anti-detachment locknut		
L=115mm	**X178**	04
L=1500mm	**X179**	04
Cap kit for male connectors IP68 10 pieces per pack With captive band	**X180**	04
Cap kit for female connectors IP68 10 pieces per pac With captive band	**X181**	04
2-way joiner IP68 Allows 2 cables exiting with connectors to be connected	**X188**	04
4-way connector IP68 Allows 6 cables exiting with connectors to be connected	**X189**	04
IP67 box for IP20 electronic componets. Not suitable for 9912-BZK1-MWK4-MWK5-MX67 Dim. 140x230x95h	**9582**	00
IP67 box for IP20 electronic componets. Dim. 280x190x130h	**BZ33**	00

Components

	Code	Colour
Electronic power supply for DIN rail 10W VIN=220÷240Vac / 50÷60Hz VOUT=24Vdc ±2% (SELV) dim. 94x18x68h	**9908**	00
Electronic power supply for DIN rail 24W VIN=90÷-260Vac / 50÷60Hz VOUT=24Vdc ±2% (SELV) dim. 94x36x68h	**9909**	00
Electronic power supply for DIN rail 72W VIN=220÷240Vac / 50÷60Hz VOUT=24Vdc ±2% (SELV) 95x72x68h	**9910**	00
Electronic power supply for DIN rail 96W VIN=220÷240Vac / 50÷60Hz VOUT=24Vdc ±2% (SELV) 95x72x68h	**9911**	00
Electronic power supply for DIN rail 120W VIN=88÷264Vac / 50÷60Hz VOUT=24÷28Vdc (SELV) Dim. 40x114x125h	**BZK0**	00
Electronic power supply for DIN rail 240W VIN=88÷264Vac / 50÷60Hz VOUT=24÷28Vdc (SELV) Dim. 63x114x125h	**9912**	00
Electronic power supply for DIN rail 480W VIN=90÷264Vac / 50÷60Hz VOUT=24÷28Vdc (SELV) Dim. 86x114x125h	**BZK1**	00
Constant voltage electronic ballast 50W 24V Iout=2A dim. 225x60x36h	**MWK4**	00
Constant voltage electronic ballast 70W 24V IOUT=2,9A dim. 225x60x36h	**MWK5**	00

	Code	Colour
Constant voltage electronic ballast 100W 24V IOUT=4A dim. 270x63x20,5h	**MX67**	00
PWM interface for DALI dimming monochromatic LEDs 120W 24Vdc VIN=10-24Vdc VOUT=10,5-24Vdc dim. 172x42x20h	**MWP3**	00
Constant voltage 4-channel LED driver with DALI-DMX control 720W VIN=12÷48Vdc 4x6A max VOUT=5-12-24-48V dim. 153x50x23h	**9639**	00
IP67 constant voltage electronic power supply 40W VIN=90÷305Vac / 47÷63Hz VOUT=24Vdc±1% IOUT=1,67A (SELV) dim. 171x61,5x36,8h	**X182**	00
IP67 constant voltage electronic power supply 80W VIN=90÷305Vac / 47÷63Hz VOUT=24Vdc±1% IOUT=3,4A (SELV) dim. 195,6x61,5x38,8h	**X183**	00
IP67 constant voltage electronic power supply 120W VIN=90÷305Vac / 47÷63Hz VOUT=24Vdc±1% IOUT=5A (SELV) dim. 220x68x38,8h	**X184**	00
IP67 constant voltage electronic power supply 185W VIN=90÷305Vac / 47÷63Hz VOUT=24Vdc±1% IOUT=7,8A (SELV) dim. 228x68x38,8h	**X185**	00
IP67 constant voltage electronic power supply 240W VIN=90÷305Vac / 47÷63Hz VOUT=24Vdc±1% IOUT=10A (SELV) dim. 244,2x68x38,8h	**X186**	00
IP67 constant voltage electronic power supply 320W VIN=90÷305Vac / 47÷63Hz VOUT=24Vdc±1% IOUT=13,34A (SELV) dim. 252x90x43,8h	**X187**	00

Photo simulation
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Credits
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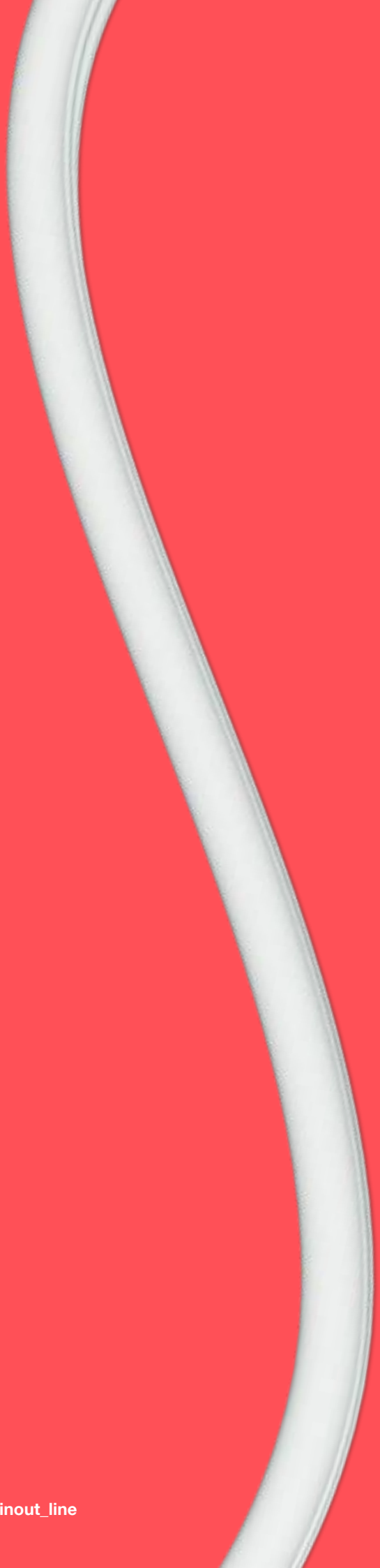

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