





Casting Resin

Tri-O-Light casting resins: freedom to sculpture

In our state-of-the-art equipped lab we dispose of the newest casting resins, such as transparent polyurethane casting resins. We pour fixtures to the customer's requirements. In this chosen fixture we build the LED lighting. Thanks to our advanced pouring process we offer customer or designer the possibility to develop products following their own design. Our casting resins are solvent free, transparent and extremely suitable for outside applications.

Flexible

The properties of the polyurethane casting resin can be adjusted by our specialists, ranging from very hard and rigid to very flexible. The colour can also be adjusted, from transparent to diffuse. And the resin itself can also be coloured.

Properties

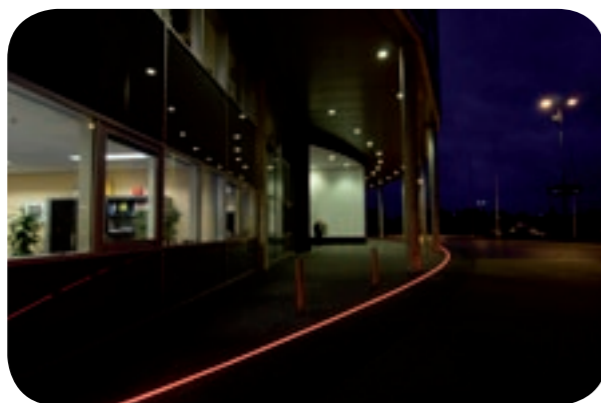
- Mechanically very strong and high impact
- Durable
- Crack resistant
- Machinable with standard cutting materials
- Electrically isolating
- Weather and wind resistant. (Temperatures from -30 Celsius up to +120 Celsius)
- (Sea) water resistant
- Very resistant against chemicals
- UV light resistant: does not turn yellow or brittle

Projects

- As Curbstone Light on several roundabouts in the Netherlands
- As FLEXLED, indirect LED lighting underneath benches in a shopping centre in Amsterdam and the busstop Arena boulevard.
- As diffuse light line in the floor of the Gelredome.

PU RGB LED line

The light line in the street in front of the entrance to the Gelredome (Arnhem, The Netherlands) is one of the projects which have been realized with the LED Light Strip RGB and the Tri-O-Light polyurethane casting resin technique. Conform the wishes of the client, a flexible, diffuse RGB led-light line has been developed, which is water resistant, flexible, durable and of high impact. The colour of the 60m long light line can change and is controlled from reception. For every event the correct colour adjustment is shown using the DMX control panel. The light line also attracts extra attention to the entrance of the Gelredome. The light line has been supplied in six prefab parts and glued into the ready made compartment. The flexibility of the material allows the light line to be inserted with a radius.





FlexLED

FlexLED - LED-line lighting for public places

The FlexLED is a new way of LED-line lighting developed specifically for the organization of public places. This fixture was required to provide a flexible, water- and weatherproof, but most of all a vandal proof solution, with a high light output and a nice distribution of light suitable for indirect outside applications.

The FlexLED is now used for indirect or accent lighting underneath benches, bus stops, frames and dark corners in public places. The lighting serves in most cases as city-beautification and creates a safer and more pleasant environment.

A unique characteristic of the FlexLED is the PU-casing, which makes it flexible, very durable, weather- and vandal proof. The material is not sensitive to ageing by UV light (yellowing) or corrosion.

Apart from the standard advantages of high power leds, like low energy use (8W) and high light output, the FlexLED also distributes the light very evenly. The leds are available in the colours amber, red, green, blue, white and warmwhite.

The fixture contains six high power Luxeon leds, an integrated transformer and six mounting clips to provide easy mounting. The FlexLED can be connected directly to 230VAC and can be easily linked by means of male/female connectors.

The FlexLED comes with several accessories like fitting parts with 2, 3, 4 or 5 leds that can be used to fill gaps. Aluminium joint caps and end caps are available to make corners, to protect the connections and to finish the installation.

FlexLED

- LED-line for indirect - and or accent lighting
- City beautification
- Durable PU-casing
- Weather- and vandal proof
- Flexible and bendable
- Low energy use and lasting
- Long life time leds
- High light output and perfect light distribution
- Easy installation, connection (230VAC) and joining
- Several accessories available

FlexLED fitting parts - 2, 3, 4 or 5 LEDs.

Use the fitting parts to bring the line to the desired length. The fitting parts are available in 4 different lengths with 2, 3, 4 and 5 leds and are supplied with M5 screws. They are supplied in length B, but can be shortened to the length A (see chart)

Fitting parts with	A min. length	B max. length	Power	Weight
2x Luxeon I	L265mm	L395mm	2.6W	430g
3x Luxeon I	L465mm	L595mm	4W	650g
4x Luxeon I	L665mm	L795mm	3.3W	860g
5x Luxeon I	L865mm	L995mm	6.6W	1080g

Joint caps

Use the joint caps to protect the connectors when joining FlexLEDs. The caps are to be attached using the included M4 screws.

FlexLED



LED
 Dimensions
 Degree of protection (IP)
 Number of LEDs
 Material
 LED colour(s)

 Radiation angle (°)
 Voltage (V)
 Power (W)
 LED spacing (mm)
 Weight (g)
 Packing
 To be used with
 Mounting

 Connection
 Application
 Note
 Bend radius (mm)
 Dimmable
 Ambient temperature (°C)
 Price
 Max. number to be connected
 Luminous flux (lm)

6xLuxeon I

Luxeon I
 L1200xW70xH5mm
 IP67
 6
 PU
 amber (590nm), red (625nm), green (530nm), blue (470nm), white (5000K), warm white (3500K)
 110° (LED)
 230VAC (built-in transformer)
 7.2W
 200mm
 1300g
 per piece, accessories not included
 fitting parts, joint caps, mounting clips with aluminium mounting clips (6x)
 W40.5mm
 male/female Phoenix connector
 outside applications, public areas
 flexible fixture
 2m
 no
 -10°C - +40°C
 on request
 15
 amber (42lm/led), red (44lm/led), green (53lm/led), blue (16lm/led), white (45lm/led) or warm white (20lm/led)

FlexLED

LED
 Dimensions
 Degree of protection (IP)
 Number of LEDs
 Material
 LED colour(s)

 Radiation angle (°)
 Voltage (V)
 Power (W)
 LED spacing (mm)
 Weight (g)
 Packing
 To be used with
 Mounting
 Connection
 Application
 Note
 Luminous flux (lm)

 Price
 Ambient temperature (°C)
 Dimmable

Fitting parts



Luxeon I
 W70xH5mm, variable lengths (see chart)
 IP67
 2, 3, 4 or 5
 PU
 amber (590nm), red (625nm), green (530nm), blue (470nm), white (5000K), warm white (3500K)
 110°
 230VAC (built- in transformer)
 variable per length, see chart
 200mm
 variable per length, see chart
 per piece, accessories not included
 FlexLED, joint caps, fasteners with aluminium mounting clips W40,5mm
 male/female Phoenix connector
 outside applications, public areas
 available in different lengths
 amber (42lm/led), red (44lm/led), green (53lm/led), blue (16lm/led), white (45lm/led) or warm white (20lm/led)
 on request
 -10°C - +40°C
 no

Joint cap

FlexLED

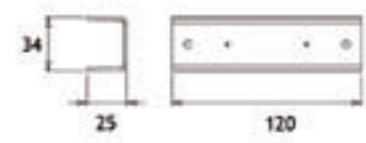
FlexLED

Joint cap left



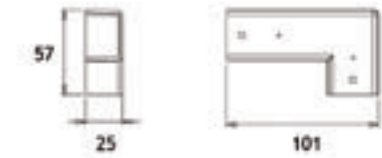
Dimensions
Material
Packing
To be used with
Mounting
Application
Included
Colour
Price

L120xW34xH25mm
aluminium
per piece
FlexLED, FlexLED fitting parts
with M4 screws
finish
M4 screws
silver grey matt
on request



Dimensions
Material
Packing
To be used with
Mounting
Application
Included
Colour
Price

L101xW57xH25mm
aluminium
per piece
FlexLED, FlexLED fitting parts
with M4 screws
finish
M4 screws
silver grey matt
on request

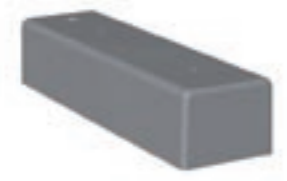


End cap

FlexLED

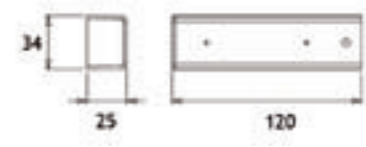
FlexLED

Joint cap right



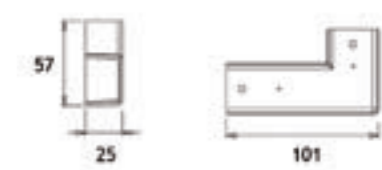
Dimensions
Material
Packing
To be used with
Mounting
Application
Included
Colour
Price

L120xW34xH25mm
aluminium
per piece
FlexLED, FlexLED fitting parts
with M4 screws
finish
M4 screws
silver grey matt
on request



Dimensions
Material
Packing
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L101xW57xH25mm
aluminium
per piece
FlexLED, FlexLED fitting parts
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finish
M4 screws
silver grey matt
on request



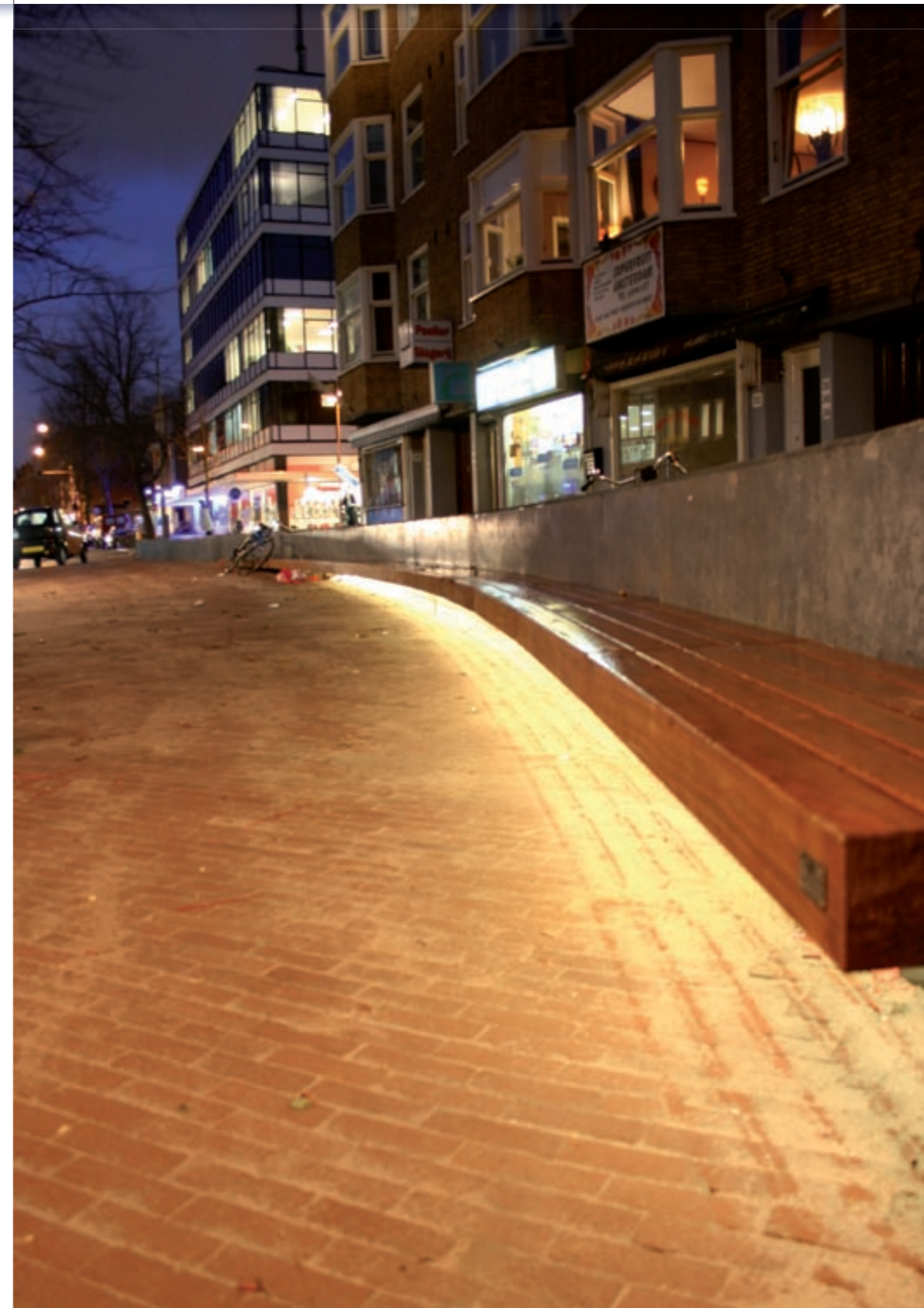
FlexLED - warm white

This project has been realised using architect drawings and in co-operation with Dynamicom, experts in the fields of safety, traffic and lighting. The NS metro and bus station is situated along the Holterberweg, an important traffic corridor in Amsterdam South-East(The Netherlands), in the heart of the biggest business centre of Amsterdam. It has been fitted with warmwhite FlexLEDs, vandal proof led-line modules.



FlexLED - warm white

This project has been realised using architect drawings and in co-operation with Dynamicom, experts in the fields of safety, traffic and lighting. The lighting underneath the bench is in the van Hallstraat in Amsterdam (The Netherlands) and consists of FlexLEDs. The FlexLED has specifically been developed for applications in public places and is vandal proof. In this project warmwhite FlexLEDs have been chosen because they influence the colour of the street the least.





CurbLED

- Increases traffic flow
- Increases traffic safety
- Suitable for use in a.o. speed ramps, tunnels, traffic conductors, dangerous corners, traffic islands and narrowing of the road.
- Stylish and innovative
- Economical
- Long life time
- Easy installation
- Durable

CurbLED

CurbLED - The LED for stylish traffic management

CurbLED is a stand alone lighting unit, developed specifically for the Curbstone Light; a prefab concrete block (Curbstone) of 11.5/ 22.5 x 25 x 100 cm with three cut-outs for three CurbLEDs.

The integration of led lighting shines a new light on prefab concrete applications and brings many advantages such as a long lifetime and energy use of only 5.8W per CurbLED. Since the CurbLEDs are sunk into the Curbstone they are nearly 100% damage resistant. One CurbLED contains 15 Luxeon SuperFlux leds and is available in the colours amber, red, green, blue or white.

Unique for the CurbLEDs is also its polyurethane casing, that is very durable, shock-resistant and weatherproofs. The material is not susceptible to ageing caused by UV light (yellowing) or corrosion and is extremely suitable for any type of prefab concrete application.

The CurbLED and Curbstone come as separate items to be mounted and installed on location. The prefab Curbstone model RWS komo, product of www.noppertbeton.nl is available in white, grey or black.

CurbLED

Luxeon Superflux

CurbLED

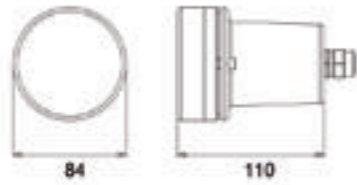


LED
Dimensions
Degree of protection (IP)
Number of LEDs
Material
LED colour(s)

Voltage (V)
Power (W)
Weight (g)
Packing
Application

Note
Ambient temperature (°C)
To be used with

Luxeon Superflux
Ø84.5xH133mm
IP68
15
aluminium + casted PU
amber (590nm), red (625nm), green (530nm), blue (470nm), white (5000K)
24VDC
5.8W
500g
per piece
outdoor, public areas, curbstone or other wall- applications
Round spot
-20°C - 40°C
24VDC power supply



CurbLED

At the end of 2006 in Sneek (The Netherlands), two of the four roundabouts that lead onto the new ringroad were built using Curbstone Lights. Each roundabout contains 65 curb stones with amber CurbLEDs, which are switched on and off together with the streetlights. Using these curb stones with led-lighting causes a reduction in the number of lampposts from the usual eight or ten to only four. It is an innovative solution, saving energy and keeping maintenance costs low, with a stylish appearance, according to the municipality of Sneek.





Luxeon I & III

SideLED

Connection	joint clip
Number of LEDs	option 1: 21 option 2: 27
Cover	polycarbonate cover (clear)
Dimensions	option 1: L=1281mm, option 2: L=1591mm, Ø40
Housing	aluminium
Degree of protection (IP)	IP40
Dimmable	no
Input	24VDC
Cooling	through aluminium
LED	Luxeon I & III
LED spacing (mm)	55mm
LED colour(s)	combination of white (5500K) and amber (590nm)
Lifetime	50.000 hours
Material	aluminium, polycarbonate
Radiation angle (°)	180°
Power (W)	option 1: 51,6W, option 2: 66W
Working temperature (°C)	max. 60°
Price	on request
To be used with	24VDC power supply
Luminous flux (lm)	option 1: 879lm, option 2: 1136lm



SideLED

SideLED is a first rate design OEM product, specifically developed for the for the book cases of the Public Library of Amsterdam (The Netherlands). This round fixture of 40mm diametre is available in two lengths: 1281mm and 1591mm.

What sets this fixture apart is that it creates a sideways emanating direct lighting, so that you cannot look directly into the bright light and are not blinded by it. It is ideally suited to light up objects like book cases, paintings, works of art and walls, be that horizontally or vertically. This fixtures creates an even lighting at 150 lux at a distance of 10cm.

Aluminium gives this fixture a stylish appearance. The integrated Luxeon I (amber) and III (white) Side Emitter leds are protected by a polycarbonate cover and together they produce a beautiful and warm light. The advantages of the integrated led-lighting are a.o. the long life time of 50,000 hours and the low energy use. Another essential advantage is that there is no UV-light or a heat radiation which can damage the lit-up object. SideLED is a construction fixture and is connected to a 24VDC.

SideLED

SideLED was designed specifically for the Public Library Amsterdam (The Netherlands). The Public Library Amsterdam (Architect Jo Coenen) has a surface of 28,000 m2 and is the largest library in Europe. It was re-opened at the end of July 2007. Arup developed a lighting plan for the book cases and the furniture. It was the idea was to illuminate 1.5m of book case at a distance of only 10 cm with a 40mm diameter fixture and to create an even lighting of at least 150 lux. Tri-O-Light and an LEDexpert succeeded in developing a fixture which met the requirements of sufficient yield of light, heat control, beautiful colour production and desired light bundle. The fixtures were made in different lengths because of the various sizes of the book cases.

