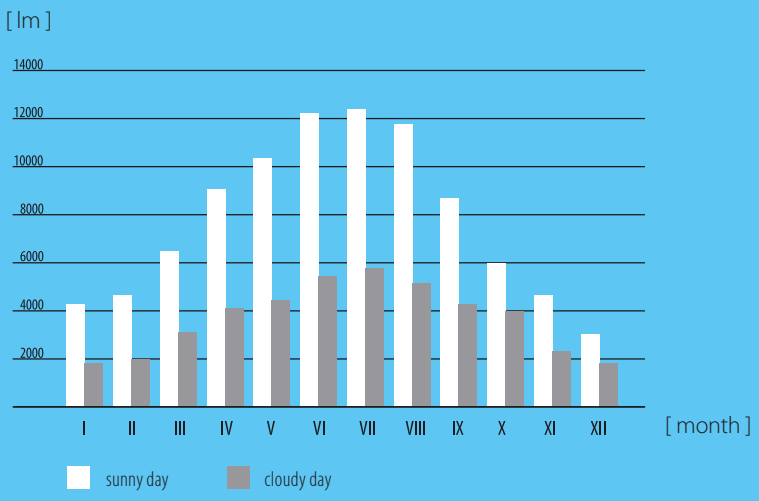
FAKRO®

LIGHT TUNNELS 2015

SUNLIGHT

FAKRO light tunnels are designed to bring natural light to every part of a property. The light tunnel makes it possible to illuminate all rooms in the building, even those which cannot be fitted with roof windows or vertical windows. Dimly lit interiors such as bathrooms, dressing rooms, corridors, staircases or basements can be particularly uncomfortable to use. The light tunnel, enhancing the user's comfort and saves energy.

The amount of light which enters the room through the light tunnels depends on the light intensity outside the building. The more light that illuminates the dome of the light tunnel, the more light is conveyed into the building interior. The diagram below illustrates the full amount of daylight (lm) depending on the month and cloudiness measured at the light tunnel dome.



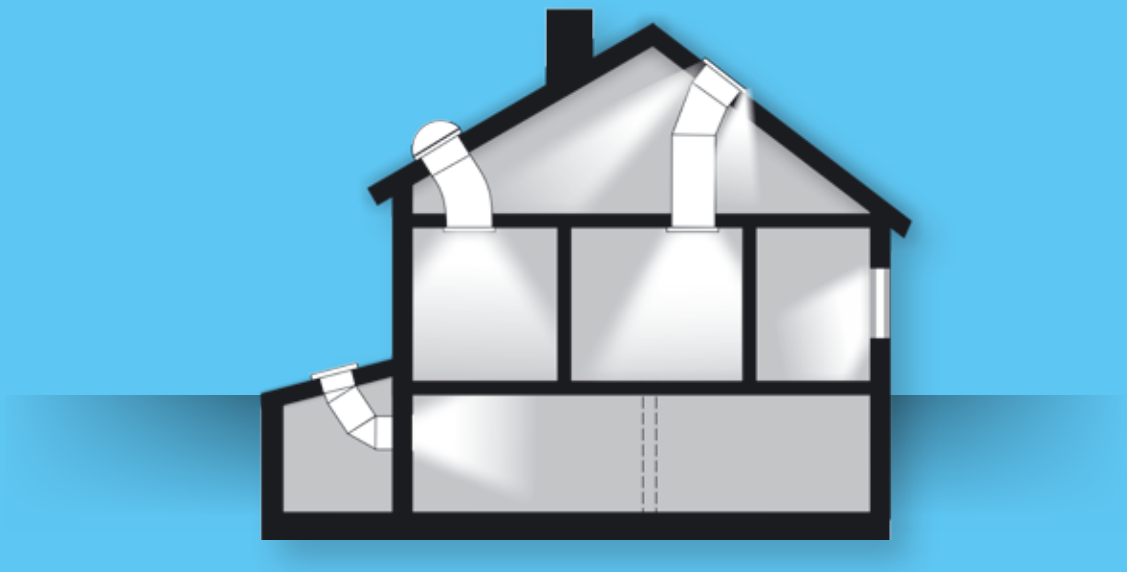
HOUSE FULL OF SUNSHINE

The amount of light entering the room is dependent on the location of the dome. When planning the installation of the light tunnel, the following elements should be taken into account:

- Place the dome on a south facing roof which is the most illuminated part of the roof and avoid shady places.
- Locate the light transmitting tube in such a way that it travels the shortest possible distance between roof and ceiling.
- Install the light tunnel to ensure the best possible tension (light tunnel with flexible tube).

LIGHT TUNNELS

A source of natural light should be available in any living space. Unfortunately, there are interiors in which the use of vertical or roof windows is not feasible. Rooms devoid of daylight are dark and uncomfortable. To ensure illumination in such places, installing a light tunnel will channel natural light to the centre. Light tunnels can constitute the main or additional light source in any room.



The light tunnel carries daylight via the light transmitting tube. Sunlight is reflected from the walls of the highly reflective tube and is directed downwards to the diffuser.
The diffuser which is fitted in the ceiling evenly distributes natural light, illuminating the room.

Depending on the user's requirements, colour of walls (possible diffusion and reflection of the light) and furniture

placement - this is a basic scheme for light tunnel location in a room with a window. With two different sources of daylight, corner areas are not of great importance in this configuration and are pretty well illuminated.
The placement of a light tunnel too close to a wall opposite to a window may diminish the overall light in the middle zone.

The same room without windows and with an asymmetrical light tunnel placement can only be justified in order

to secure better illumination of a particular zone (e.g. a computer desk).
In other instances this positioning of the light tunnel is disadvantageous.

A simplified light distribution below the light tunnel's diffuser in the middle of the room without windows.

SYMBOL	SR_	SR_-L	SF_	SF_-L	SRT	SLT
TYPE	FLAT	FLAT WITH ILLUMINATION	FLAT	FLAT WITH ILLUMINATION	WITH THE DOME	WITH THE DOME
LIGHT TRANSMITTING TUBE	RIGID	RIGID	FLEXIBLE	FLEXIBLE	RIGID	FLEXIBLE
FLASHING	INTEGRATED	INTEGRATED	INTEGRATED	INTEGRATED	ANY TYPE	ANY TYPE
LIGHT KIT (OPTION)	—	—	—	—	YES	YES

1. Flat light tunnels:

Flat light tunnels have elements which are mounted low in the roof and do not protrude beyond its structure and go perfectly well with a uniform roof surface:

SR_ light tunnel – with rigid light transmitting tube and integrated flashing.

It is also available in SR_- L version which illuminates with natural light the space directly below the installation of light tunnel's outer element e.g. attic or loft.

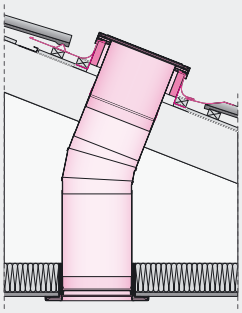
SF_ light tunnel – with flexible light transmitting tube and integrated flashing. It is also available in SF_- L version with illumination of the space directly below the installation of light tunnel's outer element e.g. attic or loft.

2. Light tunnels with dome:

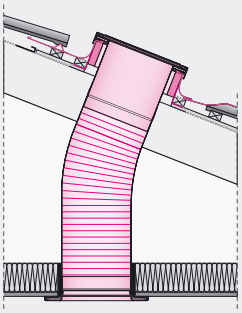
The SRT light tunnel with dome and rigid light transmitting tube. An appropriate flashing must be chosen for the light tunnel. It is also possible to install the SLO light kit.

The SLT light tunnel with the dome and flexible light transmitting tube. An appropriate flashing must be chosen for the light tunnel. It is also possible to install the SLO light kit.

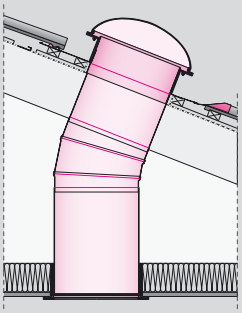
SRZ



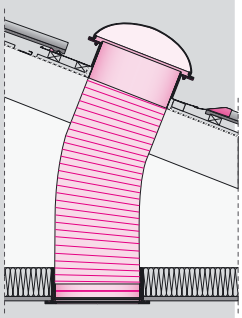
SFZ



SRT



SLT



WITH RIGID LIGHT TRANSMITTING TUBE:

SR_

SR_-L

WITH RIGID LIGHT TRANSMITTING TUBE AND ILLUMINATION WITH NATURAL LIGHT

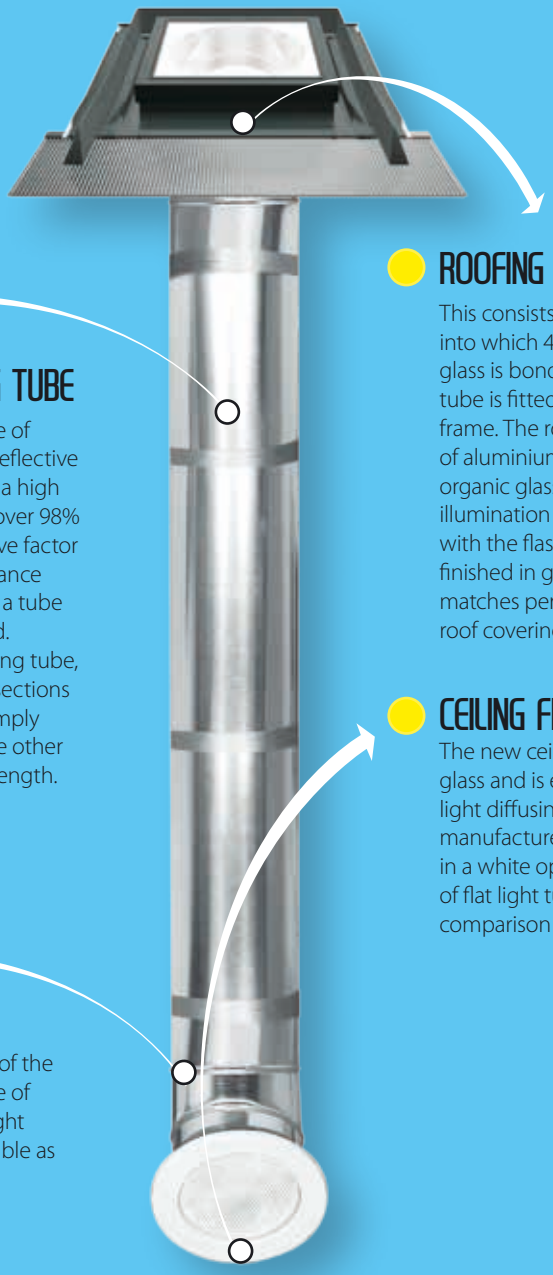
FLAT LIGHT TUNNEL WITH RIGID LIGHT TRANSMITTING TUBE:

SR_ with rigid light transmitting tube.

SR_-L with rigid light transmitting tube and illumination of the loft with natural light. The light tunnel fitted in the ceiling ensures the comfortable use of the room.

Features of the new light tunnel design:
- Approximately10% more U heat transfer co-efficient when compared to a version with a dome.
- Integrated flashing – for faster installation of the light tunnel.

The **SR_** light tunnel consists of: roofing element, three section light transmitting tube - **SRM** 61cm, **SRK** elbow*, ceiling frame, prismatic diffuser and installation kit. The total length of sections connected in a straight line is 2.1m (SR_ 550 – 1.8m).



ROOFING ELEMENT

This consists of an aluminium frame into which 4mm thick toughened glass is bonded. The light transmitting tube is fitted to the inside profile of the frame. The roofing element is made of aluminium sheet metal or special organic glass (L – version with additional illumination of the loft) and is integrated with the flashing. The entire structure is finished in grey-brown RAL 7022 which matches perfectly all standard colours of roof covering materials.

RIGID LIGHT TRANSMITTING TUBE

The light transmitting tube is made of aluminium, covered with a highly reflective silver based layer, characterized by a high efficiency light reflective factor of over 98% (compared to a new mirror reflective factor of 90-95%). Minimal light transmittance loss enables SR_ light tunnels with a tube length of up to 12m to be specified. When installing the light transmitting tube, there is no need to cut to size the sections as the tube design is telescopic. Simply push one section deeper inside the other in order to attain the proper tube length.

CEILING FRAME

The new ceiling frame is made of organic glass and is equipped with a built-in light diffusing element. The cover is manufactured of high-impact polystyrene in a white opaque colour. Ceiling elements of flat light tunnels are more rounded in comparison to light tunnels with a dome.

ELBOW

The SRK elbow changes the angle of the light transmitting tube in the range of 0-65°. For the SR_ and SR_-L 550 light tunnel, the SRK elbow is only available as an option.

Installation pitch: 15-60°

DIAMETER [mm]:	250	350	550
*SR_*	●	●	●

* For the SR_ 550 and SR_-L 550 light tunnel, the SRK elbow available only as an option.

WITH FLEXIBLE LIGHT TRANSMITTING TUBE

SF_

SF_-L

WITH FLEXIBLE LIGHT TRANSMITTING TUBE AND ILLUMINATION WITH NATURAL LIGHT

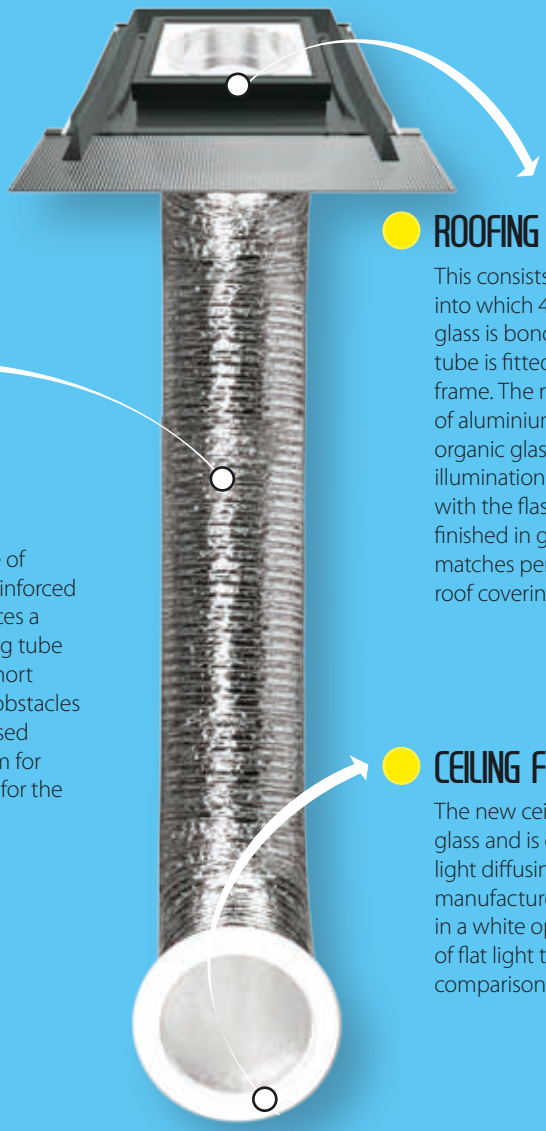
FLAT LIGHT TUNNEL WITH FLEXIBLE LIGHT TRANSMITTING TUBE:

SF_ with flexible light transmitting tube

SF_-L with flexible light transmitting tube and illumination of the loft with natural light. The light tunnel fitted in the ceiling ensures comfortable use of the room.

Features of the new light tunnel design:
- Approximately10% more U heat transfer co-efficient when compared to a version with a dome.
- Integrated flashing – for faster installation of the light tunnel.

The light tunnel consists of: roofing element, flexible light transmitting tube 2.1m long, ceiling frame, prismatic diffuser and installation kit.



ROOFING ELEMENT

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FLEXIBLE LIGHT TRANSMITTING TUBE

The light transmitting tube is made of metallised polyester, additionally reinforced with metal wire. This design produces a robust and flexible light transmitting tube which is ideal for installation over short distances in rooms with structural obstacles that have to be bypassed. The advised maximum flexible tube length is 4m for the 350mm diameter tube and 6m for the 550mm diameter tube.

CEILING FRAME

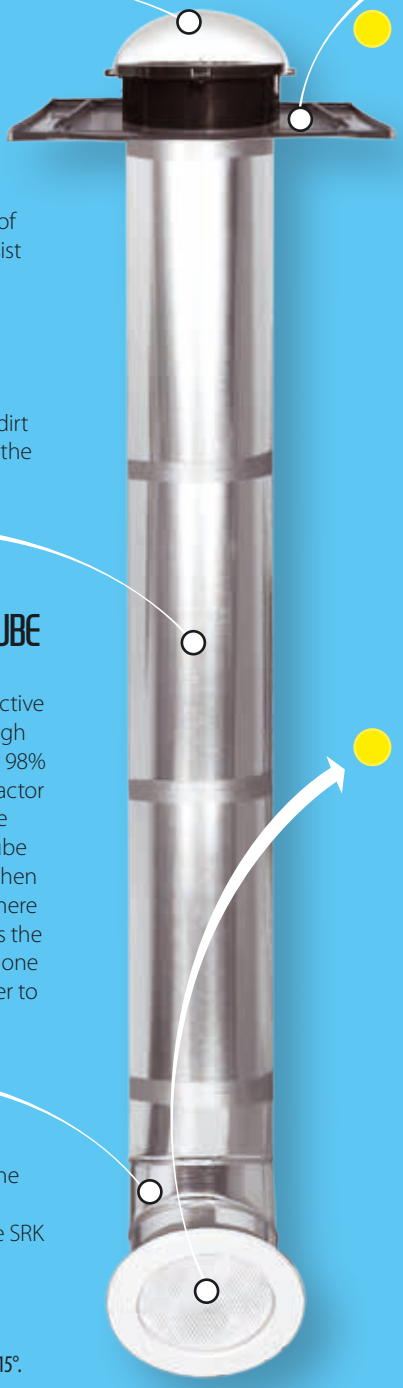
The new ceiling frame is made of organic glass and is equipped with a built-in light diffusing element. The cover is manufactured of high-impact polystyrene in a white opaque colour. Ceiling elements of flat light tunnels are more rounded in comparison to light tunnels with a dome.

Installation pitch: 15-60°

DIAMETER [mm]:	350	550
*SF_*	●	●

LIGHT TUNNEL WITH RIGID LIGHT TRANSMITTING TUBE

The **SRT** light tunnel consists of: roofing element, three section light transmitting tube - **SRM** 61cm, **SRK** elbow*, ceiling frame, prismatic diffuser and installation kit. The total length of sections connected in a straight line is 2.1m (SR_ 550 – 1.8m).



DOME

The dome is made of a polycarbonate material which has a high co-efficient of light transmittance and is robust to resist mechanical damage. The shape of the dome allows for easy cleaning.
The low electrostatic activity of the dome's surface ensures dust adheres lightly to its surface only and consequently rain quickly washes the dirt away. The dome's shape also assists in the easy removal of fresh and heavy snow.

FLASHING

Flashing is used to ensure correct light tunnel installation in the roof slope. The Flashing collar is equipped with drip openings which can drain away potential condensate outside the light tunnel. In the middle of the flashing there is a reflective ring – the first element reflecting the light which enters into the light tunnel via the dome.

RIGID LIGHT TRANSMITTING TUBE

The light transmitting tube is made of aluminium, covered with a highly reflective silver based layer, characterized by a high efficiency light reflective factor of over 98% (compared to a new mirror reflective factor of 90-95%). Minimal light transmittance loss enables SRT light tunnels with a tube length of up to 12m to be specified. When installing the light transmitting tube, there is no need to cut to size the sections as the tube design is telescopic. Simply push one section deeper inside the other in order to attain the proper tube length.

CEILING FRAME WITH DIFFUSER

The white ceiling frame and prismatic diffuser are the only elements visible in the ceiling once the light tunnel is installed. The diffuser spreads light evenly throughout the room. It consists of transparent and prismatic diffusers, resistant to UV. Both diffusers are placed inside the unit which combines them into one entity. There is an air chamber between diffusers which fulfils the role of insulation between the room interior and light transmitting tube.
It minimises the level of condensation inside the light transmitting tube.

ELBOW

The SRK elbow changes the angle of the light transmitting tube in the range of 0-65°. For the SRT 550 light tunnels, the SRK elbow is only available as an option.

Installation pitch: 15-60°. With SFP and SLP system: 0-15°.

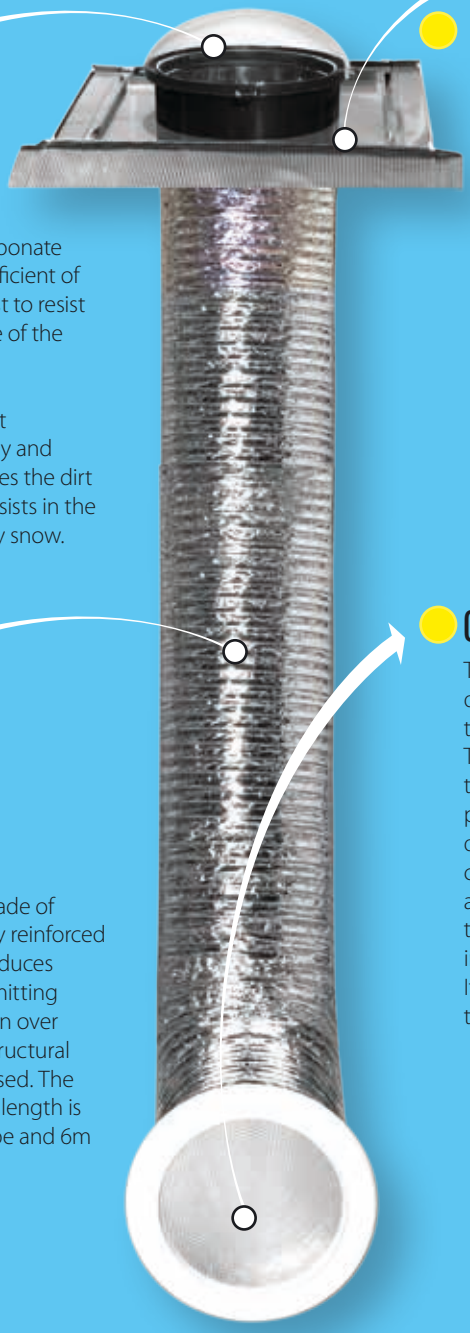
DIAMETER [mm]:	250	350	550
SRT	●	●	●

* For the SRT 550 light tunnel, the SRK elbow is only available as an option.

SLT

LIGHT TUNNEL WITH FLEXIBLE LIGHT TRANSMITTING TUBE

The **SLT** light tunnel consists of: dome, flexible light transmitting tube 2.1m long, ceiling frame, prismatic diffuser and installation kit.



DOME

The dome is made of a polycarbonate material which has a high co-efficient of light transmittance and is robust to resist mechanical damage. The shape of the dome allows for easy cleaning.
The low electrostatic activity of the dome's surface ensures dust adheres lightly to its surface only and consequently rain quickly washes the dirt away. The dome's shape also assists in the easy removal of fresh and heavy snow.

FLASHING

Flashing is used to ensure correct light tunnel installation in the roof slope. The Flashing collar is equipped with drip openings which can drain away potential condensate outside the light tunnel. In the middle of the flashing there is a reflective ring – the first element reflecting the light which enters into the light tunnel via the dome.

FLEXIBLE LIGHT TRANSMITTING TUBE

The light transmitting tube is made of metallised polyester, additionally reinforced with metal wire. This design produces a robust and flexible light transmitting tube which is ideal for installation over short distances in rooms with structural obstacles that have to be bypassed. The advised maximum flexible tube length is 4m for the 350mm diameter tube and 6m for the 550mm diameter tube.

CEILING FRAME WITH DIFFUSER

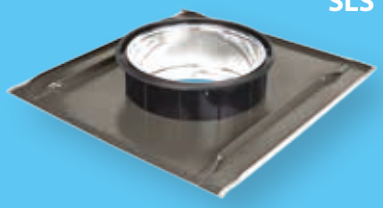
The white ceiling frame and prismatic diffuser are the only elements visible in the ceiling once the light tunnel is installed. The diffuser spreads light evenly throughout the room. It consists of transparent and prismatic diffusers, resistant to UV. Both diffusers are placed inside the unit which combines them into one entity. There is an air chamber between diffusers which fulfils the role of insulation between the room interior and light transmitting tube.
It minimises the level of condensation inside the light transmitting tube.

Installation pitch: 15-60°. With SFP and SLP system: 0-15°.

DIAMETER [mm]:	350	550
SLT	●	●

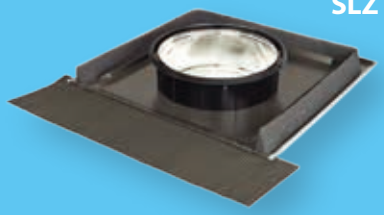
FLASHINGS FOR LIGHT TUNNELS WITH DOME

SLS



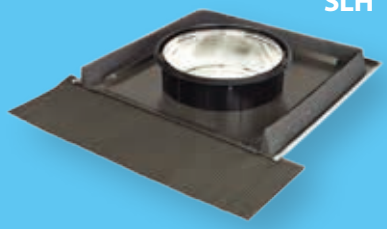
The **SLS** flashing is suitable for flat roof coverings up to 10mm (2 layers x 5mm) thickness e.g. roofing felt, shingles, slates.

SLZ



The **SLZ** flashing is applied to roof coverings with a profile depth of up to 45mm such as tiles and profile metal sheeting.

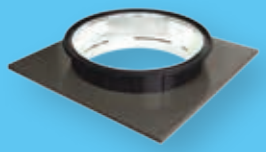
SLH



The **SLH** flashing is used for roof coverings with a profile depth of up to 90mm e.g. roof tile, high profile metal sheeting.

FLAT ROOF SYSTEM FOR LIGHT TUNNELS WITH THE DOME

SLP



Light tunnels are very often used in flat roofs. For their proper installation, the set containing the: **SFP** insulated base and **SLP** flashing should be used.

SFP

The **SFP** base is made of galvanized steel and insulated inside with styrofoam.

ACCESSORIES FOR LIGHT TUNNELS

SLM

SLM flexible light transmitting tube extension kit. The kit includes: connecting ring, light transmitting tube – 120cm section, adhesive tape. It is possible to order the light transmitting tube in other lengths, but they have to be calculated as units of 30cm (e.g. 60cm, 90cm, 150cm).

SRM

The **SRM** rigid light transmitting tube extension element with a length of 61cm.

SRK

The **SRK** elbow changes the angle of light transmitting tube in the range of 0-65°. For the SR_ 550 light tunnel (with rigid tube), the SRK elbow is only available as an option.

ACCESSORIES FOR LIGHT TUNNELS WITH DOME

SLC

SLC hanger is used when an overall light transmitting tube is longer than 5m. Hangers are used in order to take part of the tube's weight and to prevent it from tearing away from the light tunnel flashing.

SRC

SRC hanger is used when rigid light transmitting tube length exceeds 4m. It takes part of the tube's weight.

SLO

SLO light kit is applied as an alternative source of illumination at night. The light kit is fitted inside the light tunnel.

FLAT LIGHT TUNNELS
RIGID LIGHT TRANSMITTING TUBE

light tunnel diameter [mm] tube length [cm]	250 210	350 210	550* 180
SRS *for flat roof coverings (2x5mm)*	+	+	+
SRZ *for corrugated roof coverings (45mm)*	+	+	+
SRH *for high profile roof coverings (120mm)*	+	+	+
SRL *for flat plain tile roof coverings*	+	+	+

FLAT LIGHT TUNNELS with illumination function
RIGID LIGHT TRANSMITTING TUBE

light tunnel diameter [mm] tube length [cm]	250 210	350 210	550* 180
SRS-L *for flat roof coverings (2x5mm)*	+	+	+
SRZ-L *for corrugated roof coverings (45mm)*	+	+	+
SRH-L *for high profile roof coverings (120mm)*	+	+	+
SRL-L *for flat plain tile roof coverings*	+	+	+

FLAT LIGHT TUNNELS
FLEXIBLE LIGHT TRANSMITTING TUBE

light tunnel diameter [mm] tube length [cm]	350 210	550 210
SFS *for flat roof coverings (2x5mm)*	+	+
SFZ *for corrugated roof coverings (45mm)*	+	+
SFH *for high profile roof coverings (120mm)*	+	+
SFL *for flat plain tile roof coverings*	+	+

FLAT LIGHT TUNNELS with illumination function
FLEXIBLE LIGHT TRANSMITTING TUBE

light tunnel diameter [mm] tube length [cm]	350 210	550 210
SFS-L *for flat roof coverings (2x5mm)*	+	+
SFZ-L *for corrugated roof coverings (45mm)*	+	+
SFH-L *for high profile roof coverings (120mm)*	+	+
SFL-L *for flat plain tile roof coverings*	+	+

LIGHT TUNNELS WITH DOME

light tunnel diameter [mm] tube length [cm]	250 210	350 210	550* SRT-180 SLT -210
SRT *light tunnel with rigid light transmitting tube*	+	+	+
SLT *light tunnel with flexible light transmitting tube*	—	+	+

UNIVERSAL FLASHINGS FOR LIGHT TUNNELS WITH DOME

light tunnel diameter [mm]	250	350	550
SLS *for flat roof coverings (2x5mm)*	+	+	+
SLZ *for corrugated roof coverings (45mm)*	+	+	+
SLH *for high profile roof coverings (120mm)*	+	+	+
SFP *insulated base for flat roofs*	+	+	+
SLP *insulated base with SFP for flat roofs*	+	+	+

ACCESSORIES FOR LIGHT TUNNELS WITH DOME

light tunnel diameter [mm]	250	350	550
SLO *light kit fitted inside light tunnel*	+	+	+

HANGERS

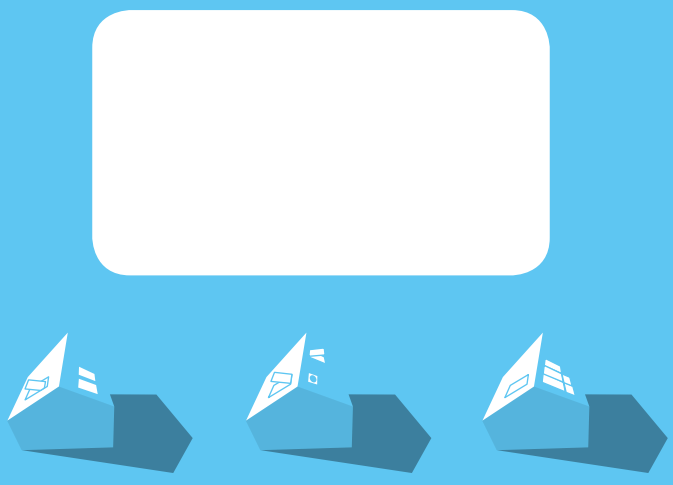
light tunnel diameter [mm]	250	350	550
SRC *element stabilizing rigid light transmitting tube*	+	+	+
SLC *element stabilizing flexible light transmitting tube*	—	+	+

TUBE EXTENSION KIT

light tunnel diameter [mm]	250	350	550
SRM *rigid light transmitting tube extension element with a length of 61cm*	+	+	+
SRK *elbow for light tunnels with rigid light transmitting tube*	+	+	+
SLM *flexible light transmitting tube extension element with a length of 120cm*	—	+	+

* For the SR_ 550, SR_-L 550 and SRT 550 light tunnel, the SRK elbow is only available as an option.

- *order processing time - 8 working days*
- *order processing time - 15 working days*
- *order processing time - 25 working days*



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FAKRO reserves the right to change specifications at any time.

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