



Creating healthy spaces



# Horizontal Sun Protection

Icarus® | Sunclips®

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## 6 good reasons to have RENSON® as a partner

1. Customer satisfaction through personal contact, professional advice, excellent service and reliable, high-performance products are the main aims of our company.
2. RENSON® is a reputable and established multinational company with international expertise and experience thanks to the efforts of our local specialists. They are present in all regions of the world. RENSON® has assisted with projects across the whole world, from Moscow to Tahiti and from Monaco to Shanghai.
3. A complete service from start to finish, effective support and advice during the design phase, site meetings and installation.
4. The production process is fully vertically integrated, enabling manufacturing to the strictest of standards. Investment in injection moulding machinery, anodising facilities and a fully automatic powder coating installation ensure efficiency and accuracy.
5. Continuous research and development translates customer needs into unique solutions and innovative products.
6. RENSON® specialises in all aspects of ventilation and solar shading to achieve the goals of the Healthy Building Concept®.



# Introduction



*Icarus® Centre de loisirs, Liffre (FR)  
arch.: Cabinet Colhen, Liffre*



*Sunclips® Evo 96, Porte Océane II, Auray (FR)*

## Sun protection is necessary

A building or home with large glazed surfaces facing south offers many advantages. During autumn, winter and spring, you enjoy the benefits of the incoming sunlight. But in the summer this can create an uncomfortable indoor climate and irritating light reflections.

Structural sun protection and screens prevent overheating. They stop the sun's rays before they come into contact with glazed surfaces. Undesired heat and blinding light do not enter the building. This means no blinding or annoying reflections on TV or computer screens. And yet you still retain visual contact with your environment. The view outside is important, and it is respected.

## KYOTO protocol

Many countries have now signed the Kyoto protocol. With growing awareness, they are now acknowledging the detrimental but not yet irreversible effect man is having on our planet and on the climate in particular. They want to commit themselves to the cause and take corrective measures. If we want to reduce the greenhouse effect, energy consumption must fall.

One major energy-consuming activity is the cooling of buildings. Efficient sun shading can partly and sometimes even fully resolve this issue. It makes additional cooling unnecessary and saves on energy.

Various governments have already agreed on laws in relation to energy consumption and ventilation.

- Belgium: Regelgeving van Energieprestatie & Binnenklimaat (EPB)
- The Netherlands: Energie Prestatie Coëfficiënt (EPC)
- France: Règlement Thermique 2005 (RT2005)
- Germany: Energieeinsparverordnung
- UK:
  - Approved document L1 'Conservation of fuel and power in dwellings'
  - Approved Document L2 'Conservation of fuel and power in buildings other than dwellings'

## Dimensioning of sunshading

The sun is an important primary source of heat and light. The design, dimensioning and control of sunshading are sometimes quite complex. Sun protection has to be designed to reduce solar heat in summer, but allow in the extra warmth in winter. Natural sunlight must also be kept under control. There must be sufficient natural lighting, but no annoying reflections or glare.

A number of basic principles apply to the data needed to dimension sun protection.

## Sun's path

The position of the sun varies from hour to hour and from day to day. The different positions can be shown in a sun path graph. The sun path curves depend on the location on the globe, so the meridians of latitude and longitude must be known. The sun path curves are always based on solar time (highest sun position at 12 noon) but need to be adapted to the local time zone and/or winter or summertime. The above data, plus the orientation of the façade, allow the shading angles to be calculated when designing and dimensioning the sun protection.

RENSON® Sun Protection Projects has the software required to offer you professional advice in this respect.

## Development

New developments are conceived using the latest technology in the area of CFD simulations and collaboration with famous research institutes such as the BBRI, Von-Karman Institute, CSTB, etc. All products are fully tested for stability and durability.

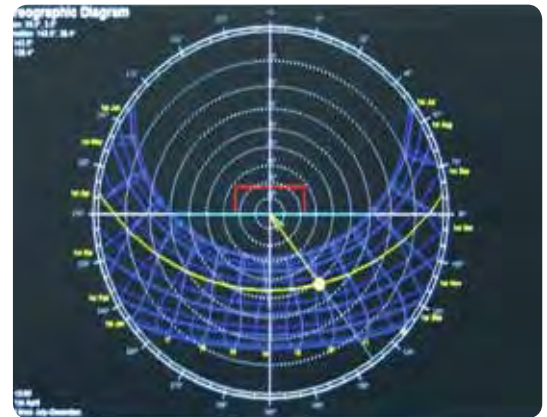
## Stability and dimensions

A detailed stability calculation can be made on the basis of the prevailing Eurocodes, to determine the correct wind and snow load on the awning. This load determines the correct spans of blades and mullions, as well as the method of fixation to the supporting structure.

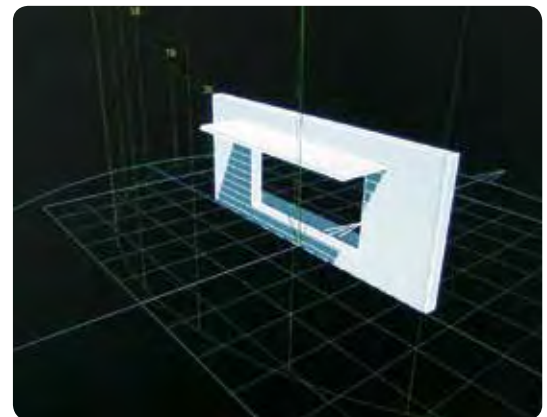
## Project solutions

This brochure merely provides an overview of the possibilities. Our years of experience mean we can achieve almost any required design. Our project team is at your service to find the appropriate solution for your project.

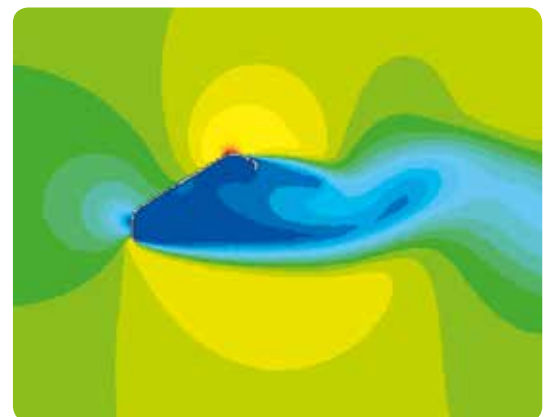
*RENSON® Sun Protection Projects offers different options for achieving aesthetic and architectural sun protection in accordance with current regulations.*



*Stereographic diagram*



*Shadow analysis*



*CFD simulation*

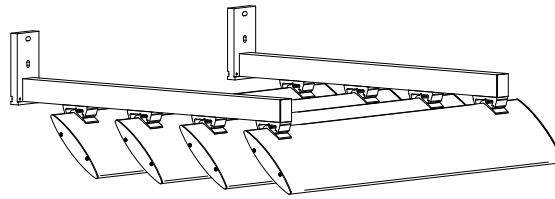


*Wind tunnel test*

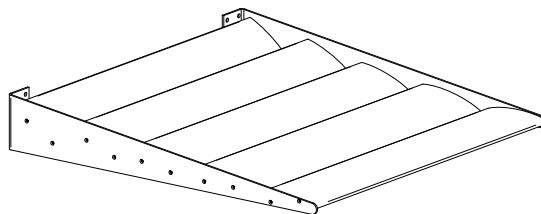
# Icarus® installation methods < Systems



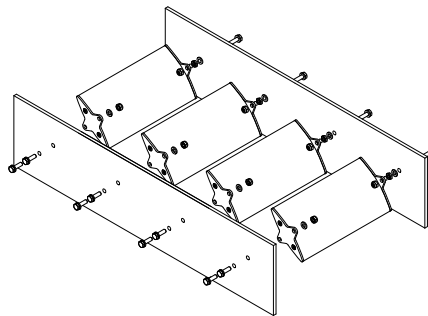
**Quickfix® awning with fixed blades** - (page 10/11)



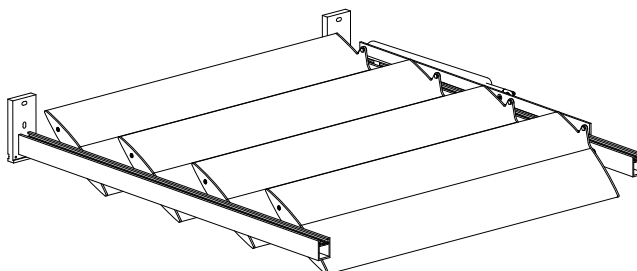
**Cassettes, multiple fixed blades** - (page 12/13)



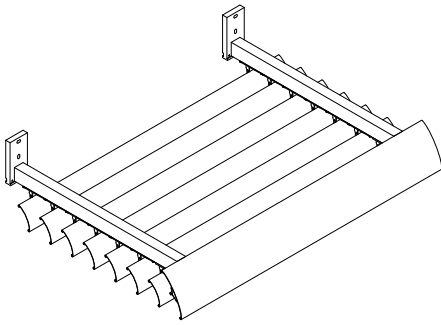
**Fixed, single blade** - (page 14/15)



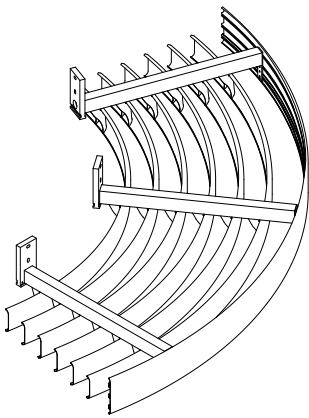
**Movable blades** - (page 16/17)



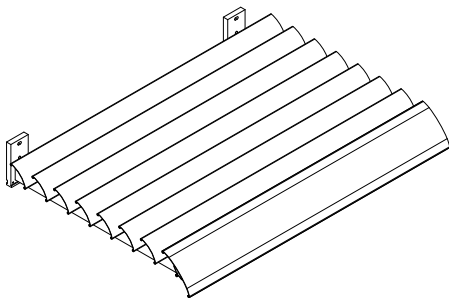
Blades positioned below - (page 18/19)



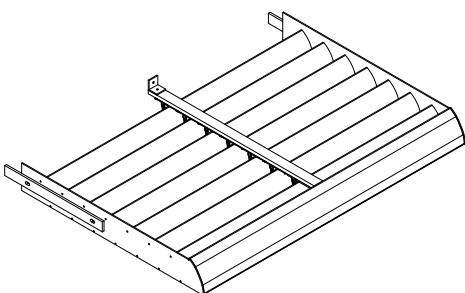
Curved blades positioned below - (page 20/21)

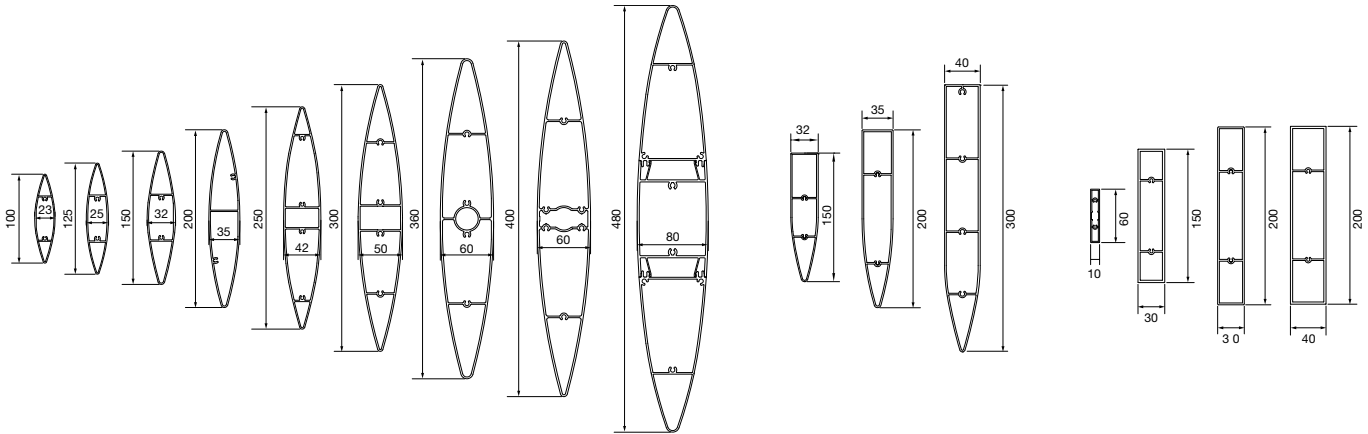


Blades positioned above - (page 22/23)



Sunclips® cassettes - (page 24/25)





Icarus® Aero 200 sur consoles · Domaine des pins à Montpellier (FR) · Arch: Garcia Diaz à Montpellier

## Description

Icarus® blades are extruded aluminium profiles for use as sun protection, wall cladding or visual barriers.

- Icarus® Aero are aerofoil blades in widths ranging from 100 to 480 mm.
- Icarus® Plaero is the combination of a block blade and an aerofoil blade in widths of 150, 200 and 300 mm.
- Icarus® Plano are block blades in widths of 60, 150 and 200 mm. Other shapes and sizes are possible in consultation with our design division to suit your project requirements.

## Material

Aluminium extrusion profile in EN AW-6063 T66 alloy

## Surface treatment

- Anodised (20 micron)
- Polyester powder coating RAL or Syntha Pulvin® colors (60-80 µ/40 µ (UK))

## Technical data

Icarus® Aero	Width (mm)	Height (mm)	I <sub>y</sub> (mm <sup>4</sup> )	W <sub>y</sub> (mm <sup>3</sup> )	I <sub>z</sub> (mm <sup>4</sup> )	W <sub>z</sub> (mm <sup>3</sup> )	Friction coefficient C <sub>fy</sub>	Friction coefficient C <sub>fz</sub>
ICA.100	100	23	256337	5126	16992	1482	1,06	1,38
ICA.125	125	25	484640	7754	29399	2352	1,06	1,38
ICA.150	150	32	950301	12616	64713	3936	1,06	1,38
ICA.200	200	35	2395293	23905	113538	6387	1,06	1,38
ICA.250	250	42	5155315	41231	214720	10264	1,06	1,38
ICA.300	300	50	9699889	64666	402436	16097	1,06	1,38
ICA.360	360	60	17180788	95447	756541	25217	1,06	1,38
ICA.400	400	60	23853116	119266	874358	29079	1,06	1,38
ICA.480	480	80	46149163	192285	2321828	58045	1,06	1,38
Icarus® Plaero	Width (mm)	Height (mm)	I <sub>y</sub> (mm <sup>4</sup> )	W <sub>y</sub> (mm <sup>3</sup> )	I <sub>z</sub> (mm <sup>4</sup> )	W <sub>z</sub> (mm <sup>3</sup> )	Friction coefficient C <sub>fy</sub>	Friction coefficient C <sub>fz</sub>
ICL.150	150	32	1201029	14735	96620	5426	1,07	1,38
ICL.200	200	35	3318686	30087	176148	9937	1,07	1,38
ICL.300	300	40	11843210	73712	400594	19031	1,07	1,38
ICARUS® Plano	Width (mm)	Height (mm)	I <sub>y</sub> (mm <sup>4</sup> )	W <sub>y</sub> (mm <sup>3</sup> )	I <sub>z</sub> (mm <sup>4</sup> )	W <sub>z</sub> (mm <sup>3</sup> )	Friction coefficient C <sub>fy</sub>	Friction coefficient C <sub>fz</sub>
ICP.060	60	10	70800	2333	3131	626	1,09	1,36
ICP.150	150	30	2270694	30273	153477	10232	1,07	1,38
ICP.200/30	200	30	4028998	40285	171972	11271	1,07	1,38
ICP.200/40 (*)	200	40	5417853	54177	382888	19143	1,07	1,38

y: axis strength · z: axis weakness

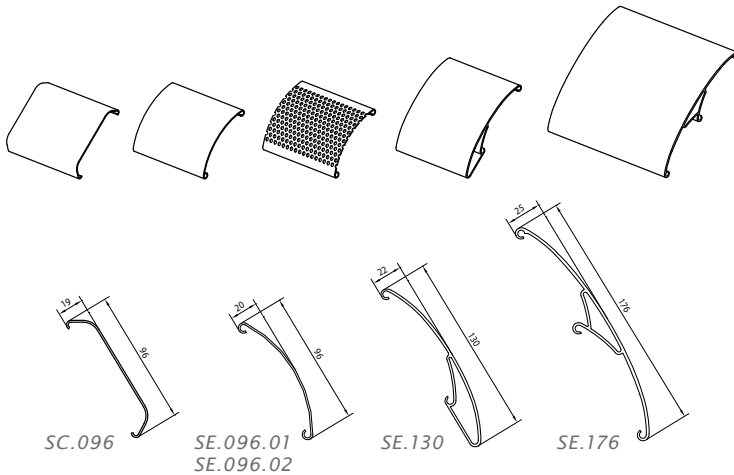
(\*) = Project profiles not in stock

The friction coefficient (determined using wind tunnel tests) indicates how the wind affects the blade.

C<sub>fy</sub> = coefficient used to determine the horizontal load (drag) on a blade with an angle of 45°

C<sub>fz</sub> = coefficient used to determine the vertical load (lift) on a blade with an angle of 45°





### Description

Sunclips® are C-shaped extruded aluminium blades, mounted on a fixed supporting structure. The Sunclips® system is installed horizontally on the façade to achieve the desired shading effect. The Sunclips® Classic SC.096 is ideal if you want a slim design. The Sunclips® EVO range is more aerodynamic. Sunclips® EVO comes in 3 sizes: SE.096, SE.130 and SE.176, with 96, 130 and 176 mm oversizing, respectively.

### Material

Aluminium extrusion profile in EN AW-6063 T66 alloy

### Surface treatment

- Anodised (20 micron)
- Polyester powder coating RAL or Syntha Pulvin® colors (60-80 µ/40 µ (UK))

### Finish

Sunclips® SC.096 blades can be curved, with a minimum radius of 500 mm.

Sunclips® SC.096.02 blades are punched, with a free area of 30%.

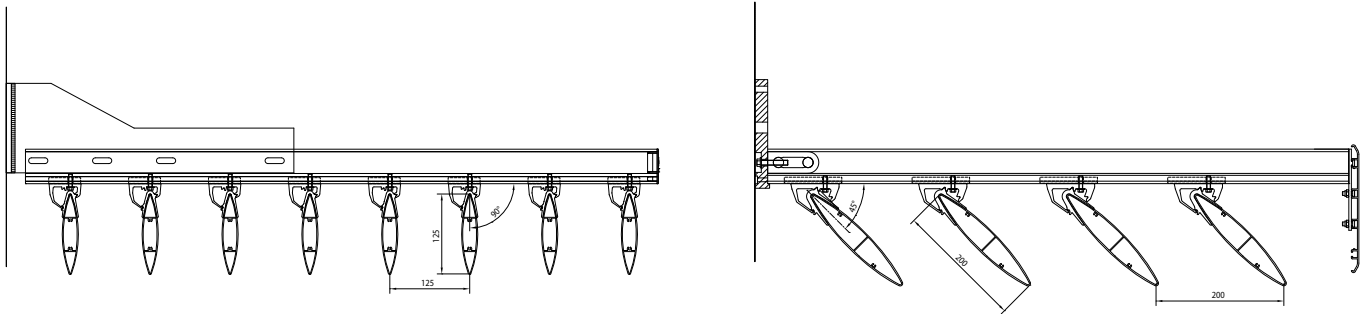


Technical data							
Sunclips®	Width (mm)	Height (mm)	I <sub>y</sub> (mm <sup>4</sup> )	W <sub>z</sub> (mm <sup>4</sup> )	I <sub>z</sub> (mm <sup>3</sup> )	Friction coefficient C <sub>ry</sub>	Friction coefficient C <sub>rz</sub>
SC.096	96	19	160082	5080	353	0,7	0,7
SE.096.01 / SE.096.02	96	20	160842	6048	3348	0,7	0,7
SE.130	130	22	556097	19124	7610	0,7	0,7
SE.176	176	25	1250307	24909	14097	0,7	0,7

*The friction coefficient (determined using wind tunnel tests) indicates how the wind affects the blade.  
 C<sub>ry</sub> = coefficient used to determine the horizontal load (drag) on a blade with an angle of 45°  
 C<sub>rz</sub> = coefficient used to determine the vertical load (lift) on a blade with an angle of 45°*

## Installation method - Icarus Quickfix® < Systems





**Description**

Icarus® Quickfix® is a unique, patented structural sun protection system, held in place simply and discreetly using clips. The Quickfix bracket consists of one clip attached to the supporting structure and one fork profile attached to the blade using stainless steel rivets. This 2-part concept allows the blade to expand slightly when heated but avoids stresses occurring in the supporting structure. This system also allows for the creation of a continuous line of blades.

**Materials and construction**

Blade: aluminium extrusion profile in EN AW-6063 T66 alloy  
 End plates are AlMg3 alloy.  
 Stainless steel sheet-metal screws and fasteners.

**Surface treatment**

- Anodised (20 micron)
- Polyester powder coating RAL or Syntha Pulvin® colors (60-80 µ/40 µ (UK))

**Blade type**

The following blade types and inclinations are standard:  
 ICA.100, 125, 150, 200, 250, 300, 400, ICL.200 and 300 : 45° or 90°  
 ICA.100, 125, 150, 200, 250, 300, 400, ICL.200 and 300 : 60° or 75°

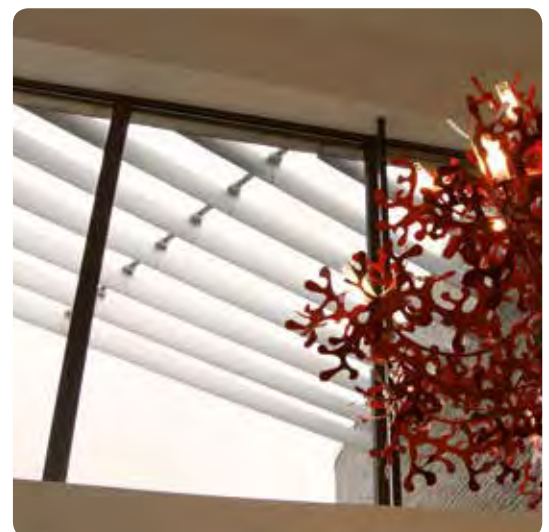
For details of Quickfix® brackets and end caps, see pages 26/27 and 36/37.

**Maximum unsupported span**

Maximum recommended blade length for angles below 45° in relation to the horizontal overhang:

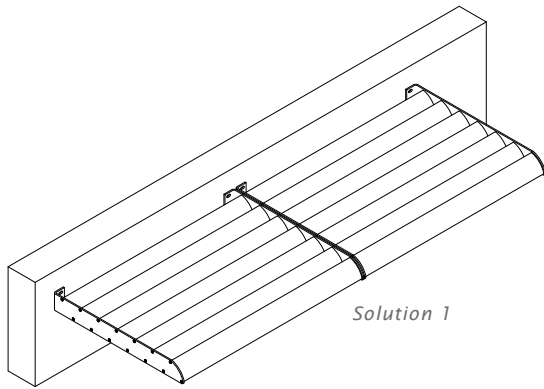
Blade type	Wind load		
	650 Pa	800 Pa	1250 Pa
ICA.100	2220 mm	2060 mm	1780 mm
ICA.125	2540 mm	2360 mm	2020 mm
ICA.150	3110 mm	2900 mm	2480 mm
ICA.200	3400 mm	3150 mm	2700 mm
ICA.250	3760 mm	3580 mm	3050 mm
ICA.300	4200 mm	4100 mm	3500 mm
ICA.400	3600 mm	3600 mm	3120 mm
ICL.150	3440 mm	3440 mm	3270 mm
ICL.200	3710 mm	3710 mm	3710 mm
ICL.300	4150 mm	4150 mm	4150 mm

*The maximum unsupported spans described here apply only to the blades and depend on the overhang of the sun protection. Maximum unsupported spans for other blade angles are available upon request.*

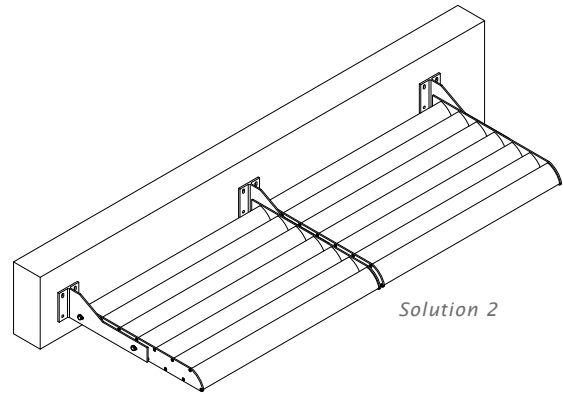


## Installation method - Icarus® cassette < Systems





Solution 1



Solution 2

### Description

Horizontal, overhanging, permanent awning with multiple blades mounted between end plates to form cassettes. Free choice of blade orientation, overhang and shape.

Attachment of the end plates directly to the façade (solution 1) or on knife brackets (solution 2).

### Materials and construction

Blades: aluminium extrusion profile in EN AW-6063 T66 alloy  
End plates are aluminium alloy (AlMg3) or steel. The thickness is calculated as a function of the dimensions, weight and local wind load.  
Stainless steel sheet-metal screws and fasteners.

### Surface treatment

- Anodised (20 micron)
- Polyester powder coating RAL or Syntha Pulvin® colors (60-80 µ/40 µ (UK))
- Steel components are galvanised and powder coated

### Blade type

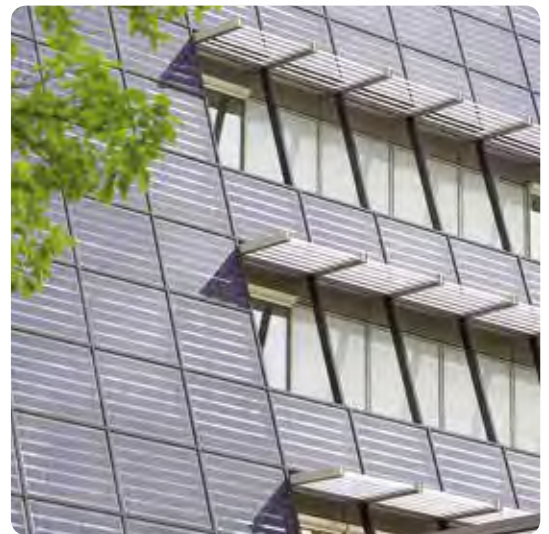
Suitable for all Icarus® blades types.

### Maximum unsupported span

Maximum recommended blade length for angles below 45° in relation to the horizontal overhang:

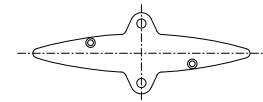
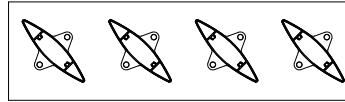
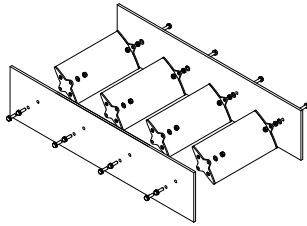
Blade type	Wind load		
	650 Pa	800 Pa	1250 Pa
ICA.100	2450 mm	2270 mm	1960 mm
ICA.125	2800 mm	2600 mm	2225 mm
ICA.150	3430 mm	3185 mm	2735 mm
ICA.200	3740 mm	3460 mm	2970 mm
ICA.250	4140 mm	3940 mm	3350 mm
ICA.300	4610 mm	4520 mm	3850 mm
ICA.360	5280 mm	5260 mm	4470 mm
ICA.400	5330 mm	5330 mm	4580 mm
ICA.480	6000 mm	6000 mm	6000 mm
ICL.150	3640 mm	3515 mm	3320 mm
ICL.200	3825 mm	3685 mm	3440 mm
ICL.300	4610 mm	4520 mm	3850 mm
ICP.060	1610 mm	1490 mm	1270 mm
ICP.150	3850 mm	3850 mm	3540 mm
ICP.200/30	3910 mm	3910 mm	3910 mm
ICP.200/40 (*)	4730 mm	4730 mm	4730 mm

*The maximum unsupported spans described here apply only to the blades and depend on the overhang of the sun protection. Maximum unsupported spans for other blade inclinations are available upon request.*

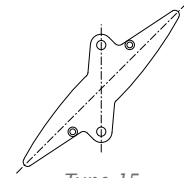


## Installation method - Icarus® fixed < Systems





Type 14



Type 15

### Description

Horizontal, overhanging, permanent awning with single blades mounted between end plates. Free choice of blade orientation, overhang and shape.

The end plates are attached directly to a load-bearing substructure. One side is attached tightly and the other loosely to allow for thermal expansion.

### Materials and construction

Blades: aluminium extrusion profile in EN AW-6063 T66 alloy  
End plates are aluminium alloy (AlMg3). The thickness is calculated as a function of the dimensions, weight and local wind load.  
Stainless steel sheet-metal screws and fasteners.

### Surface treatment

- Anodised (20 micron)
- Polyester powder coating RAL or Syntha Pulvin® colors (60-80 µ/40 µ (UK))
- Steel components are galvanised and powder coated

### Blade type

Suitable for all Icarus® blades types.

### Maximum unsupported span

Maximum recommended blade length for angles below 45° in relation to the horizontal overhang:

Blade type	Wind load		
	650 Pa	800 Pa	1250 Pa
ICA.100	2450 mm	2270 mm	1960 mm
ICA.125	2800 mm	2600 mm	2225 mm
ICA.150	3430 mm	3185 mm	2735 mm
ICA.200	3740 mm	3460 mm	2970 mm
ICA.250	4140 mm	3940 mm	3350 mm
ICA.300	4610 mm	4520 mm	3850 mm
ICA.360	5280 mm	5260 mm	4470 mm
ICA.400	5330 mm	5330 mm	4580 mm
ICA.480	6000 mm	6000 mm	6000 mm
ICL.150	3640 mm	3515 mm	3320 mm
ICL.200	3825 mm	3685 mm	3440 mm
ICL.300	4610 mm	4520 mm	3850 mm
ICP.060	1610 mm	1490 mm	1270 mm
ICP.150	3850 mm	3850 mm	3540 mm
ICP.200/30	3910 mm	3910 mm	3910 mm
ICP.200/40 (*)	4730 mm	4730 mm	4730 mm

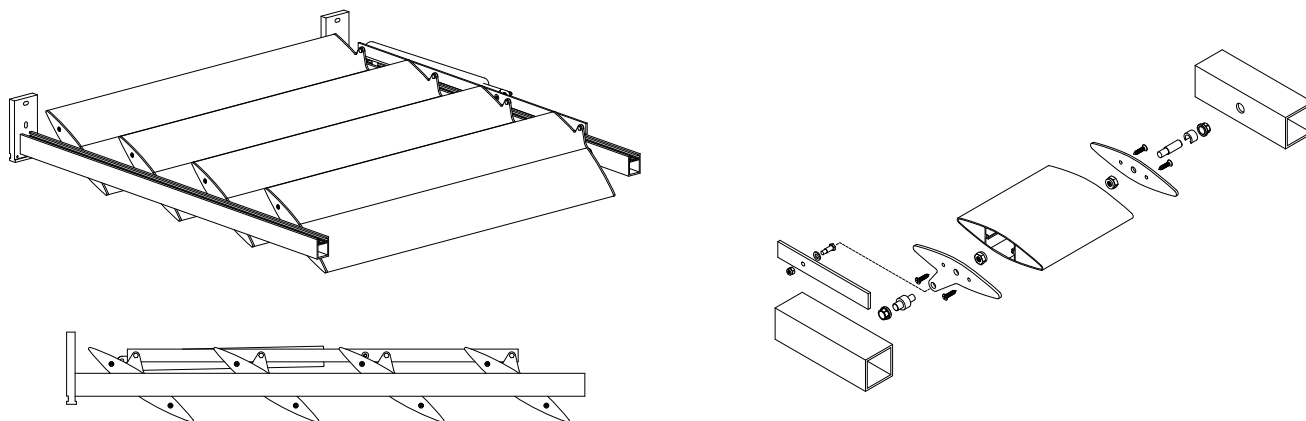
*The maximum unsupported spans described here apply only to the blades and depend on the overhang of the sun protection. Maximum unsupported spans for other blade angles are available upon request.*



## Installation method - Icarus® movable < Systems







**Description**

Horizontal, overhanging, permanent awning with movable blades. The blades can be tilted a standard 90°. Other angles are possible in consultation with our project division.

**Materials and construction**

Blades: aluminium extrusion profile in EN AW-6063 T66 alloy  
 End plates are AlMg3 alloy.  
 Supporting structures in aluminium or steel, according to overhang, blade weight, and wind and snow load.  
 Pivot sleeves are made of stainless steel mounted centrally in aluminium end caps.  
 Bearings and circlips are made of UV-resistant synthetic material.  
 Stainless steel sheet-metal screws and fasteners.

**Surface treatment**

- Anodised (20 micron)
- Polyester powder coating RAL or Syntha Pulvin® colors (60-80 µ/40 µ (UK))
- Steel components are galvanised and powder coated

**Blade type**

Suitable for all Icarus® blades types.

**Maximum unsupported span**

Recommended maximum blade length:

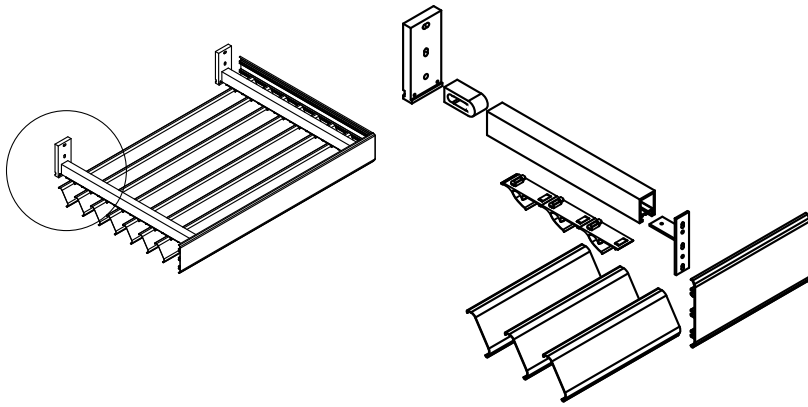
Blade type	Wind load		
	650 Pa	800 Pa	1250 Pa
ICA.100	1870 mm	1750 mm	1520 mm
ICA.125	2080 mm	1950 mm	1700 mm
ICA.150	2540 mm	2390 mm	2070 mm
ICA.200	2790 mm	2620 mm	2270 mm
ICA.250	3190 mm	2990 mm	2600 mm
ICA.300	3690 mm	3460 mm	3010 mm
ICA.360	4280 mm	4020 mm	3500 mm
ICA.400	4320 mm	4070 mm	3540 mm
ICA.480	5170 mm	5170 mm	4590 mm
ICL.150	2830 mm	2660 mm	2310 mm
ICL.200	2980 mm	2800 mm	2430 mm
ICL.300	3690 mm	3460 mm	3010 mm
ICP.150	3120 mm	2940 mm	2550 mm
ICP.200/30	3170 mm	2980 mm	2595 mm
ICP.200/40 (*)	3830 mm	3830 mm	3370 mm

*The maximum unsupported spans described here apply only to the blades and depend on the dimensions of the sun protection. Other spans may be possible after detailed study of the actual project situation.*



Installation method - Sunclips® positioned below < Systems





**Description**

Permanent awning where the blades are positioned continuously under the mullions. This version can be horizontal or projecting at an angle.

**Material**

Aluminium extrusion profile in EN AW-6063 T66 alloy

**Surface treatment**

- Anodised (20 micron)
- Polyester powder coating RAL or Syntha Pulvin® colors (60-80 µ/40 µ (UK))

**Blade type**

Suitable for all Sunclips® blade types

**Blade support**

Blades are clipped to UV-resistant plastic clips

**Blade inclination**

The standard blade inclination is 60°.

**Blade pitch**

The standard blade pitch is 100 mm. A pitch of 133 mm is possible for blade type SE.130. A pitch of 166 mm is recommended for blade type SE.176.

**Fascia profile**

A fascia profile can be added to complete the awning structure. Several types are available. For details, see p. 32/33.

**Wall fixing**

Different solutions are possible for fixing on a wall. For details, see p. 30/31.

**Mullions**

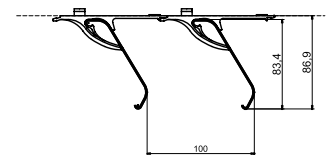
Three types of mullions can be used for horizontal sun awnings with blades positioned below: SD.014, SD.054 and SD.100. For details, see p. 34.

Mullion profiles can be placed under an angle of maximum 30° (see picture on the right).

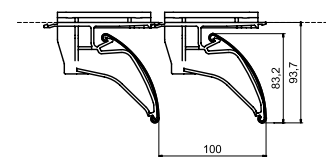
**Intermediate mullion**

An SD.014 intermediate mullion with standard clips may be needed, depending on the unsupported span of the blades and the local wind load.

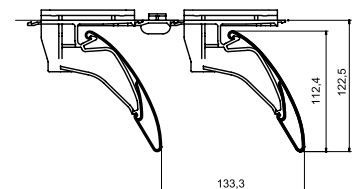
SC.096



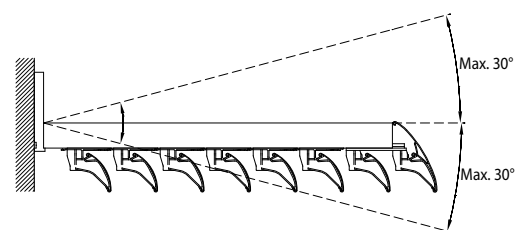
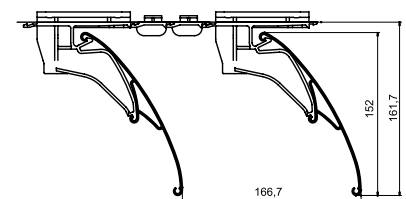
SE.096.01 / SE.096.02



SE.130



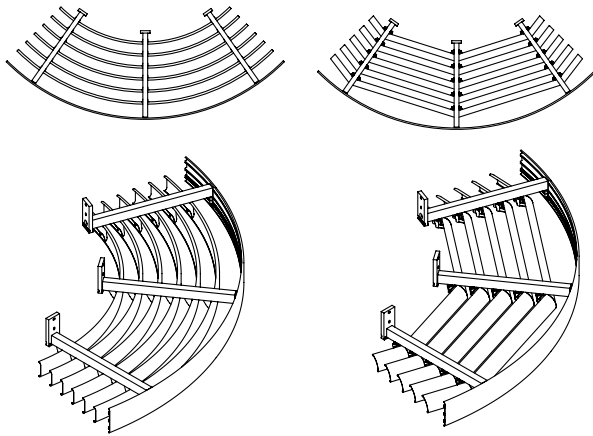
SE.176



Installation method - curved Sunclips® positioned below < Systems



## Systems > Installation method – curved Sunclips® positioned below



### Description

Permanent awning mounted on a curved wall where the blades are positioned continuously under the mullions. The design with curved blades is possible with blade type SC.096 and a minimum radius of 500 mm. Fascia profile SC.155 can also be curved. As an alternative design, the blades can be straight, with or without a curved SC.155 fascia profile. All Sunclips® blade types can be used with this faceted design, which can also be angled.

### Material

Aluminium extrusion profiles in EN AW-6063 T66 alloy

### Surface treatment

- Anodised (20 micron)
- Polyester powder coating RAL or Syntha Pulvin® colors (60-80 µ/40 µ (UK))

### Blade type

- Design with curved blades: SC.096 only
- Faceted design: all Sunclips® blade types

### Blade support

- Design with curved blades: aluminium clip type SC.080.11 - .15
- Faceted design:
  - for SC.096 blade: UV-resistant plastic clips type SC.084.11 - .14
  - for SE.096, SE.130 and SE.176 blades: UV-resistant plastic clips type SE.084.11 - .19

### Blade inclination

- Design with curved blades: 90°
- Faceted design: 60°

### Blade pitch

The standard blade pitch is 100 mm. Pitches of 133 mm and 166 mm are recommended for blade types SE.130 and SE.176, respectively.

### Fascia profile

A fascia profile can be added to complete the awning structure. Only type SC.155 can be curved. For details, see p. 32/33.

### Wall fixing

Different solutions are possible: see p. 30/31

### Mullions

Three standard types of mullions can be used: SD.014, SD.054 and SD.100. For details, see p. 34.

### Intermediate mullion

An SD.014 intermediate mullion with standard clips may be needed, depending on the unsupported span of the blades and the local wind load.



Centre hospitalier, Sunclips® EVO 96, Libourne (FR)



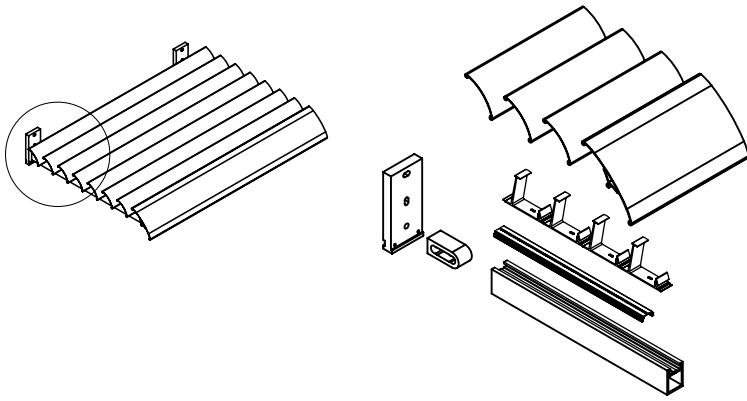
Private woning (BE)



Hotel Mercure (PL)

Installation method - Sunclips® positioned above < Systems





**Description**

Permanent sun awning where the blades are positioned continuously above the mullions. This version can be horizontal or projecting at an angle.

**Material**

Aluminium extrusion profile in EN AW-6063 T66 alloy

**Surface treatment**

- Anodised (20 micron)
- Polyester powder coating RAL or Syntha Pulvin® colors (60-80 µ/40 µ (UK))

**Blade type**

Suitable for all Sunclips® blade types

**Blade support**

Blades are clipped to aluminium clips

**Blade inclination**

The standard blade inclination is 45°.

**Blade pitch**

The standard blade pitch is 100 mm. Pitches of 133 and 176 mm are recommended for blades type SE.130 and SE.176, respectively.

**Fascia profile**

A fascia profile can be added to complete the awning: see p. 32/33

- fascia profile type SC.155: flat fascia profile
- fascia profile blade type SE.176: rounded fascia profile

**Wall fixing**

Different solutions are possible for fixing on a wall. For details, see p.30/31.

**Mullions**

Three types of mullions can be used for horizontal sun awnings with blades positioned above: SD.014, SD.054 and SD.100. Adapter profile LD.0108 is required for Sunclips® Evo, see p. 34.

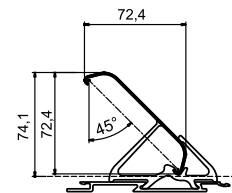
Mullion profiles can be placed under an angle of maximum 30° (see picture on the right).

**Intermediate mullion**

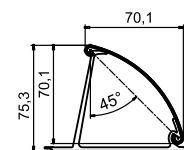
An SD.014 intermediate mullion with standard clips may be needed, depending on the unsupported span of the blades and the local wind load.



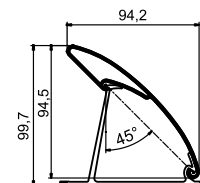
SC.096



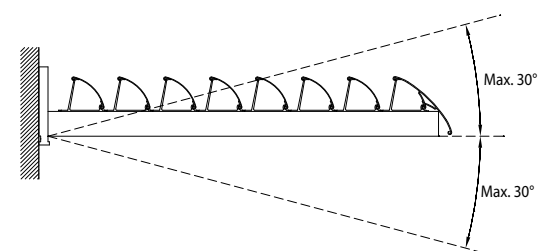
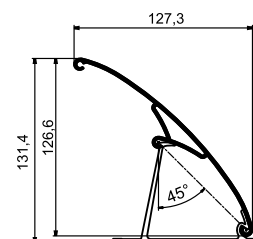
SE.096.01 / SE.096.02



SE.130



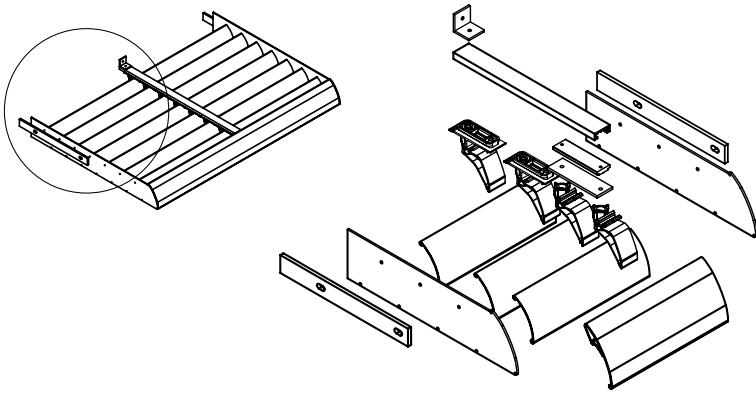
SE.176



## Installation method - Sunclips® cassettes < Systems







#### Description

Overhanging permanent awning where the blades are screwed in place between end plates. This application can be horizontal or projecting at an angle. The cassettes can be delivered to the site fully preassembled.

#### Material

Aluminium extrusion profile in EN AW-6063 T66 alloy.  
End plates in aluminium or treated steel

#### Surface treatment

- Anodised (20 micron) (aluminium parts only)
- Polyester powder coating RAL or Syntha Pulvin® colors (60-80 µ/40 µ (UK))
- Steel components are galvanised and powder coated

#### Blade type

Possible with blades SE.096, SE.130. and SE.176

#### Blade support

Only applies to versions with an intermediate mullion

#### Blade inclination

Any blade inclination can be chosen. For cassettes with an intermediate mullion, the inclination is 60°.

#### Blade pitch

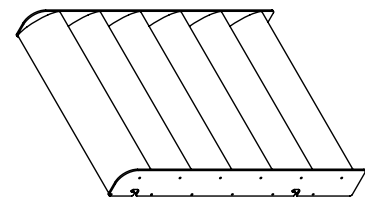
The standard blade pitch is 100 mm. Pitches of 133 mm and 176 mm are recommended for blade types SE.130 and SE.176, respectively, but any pitch can be used.

#### Wall fixing

Knife bracket directly on the wall, see p. 30/31.

#### Intermediate mullion

An SD.014 intermediate mullion with standard clips may be needed, depending on the unsupported span of the blades and the local wind load.



# Attaching Icarus® Quickfix® < Technical details

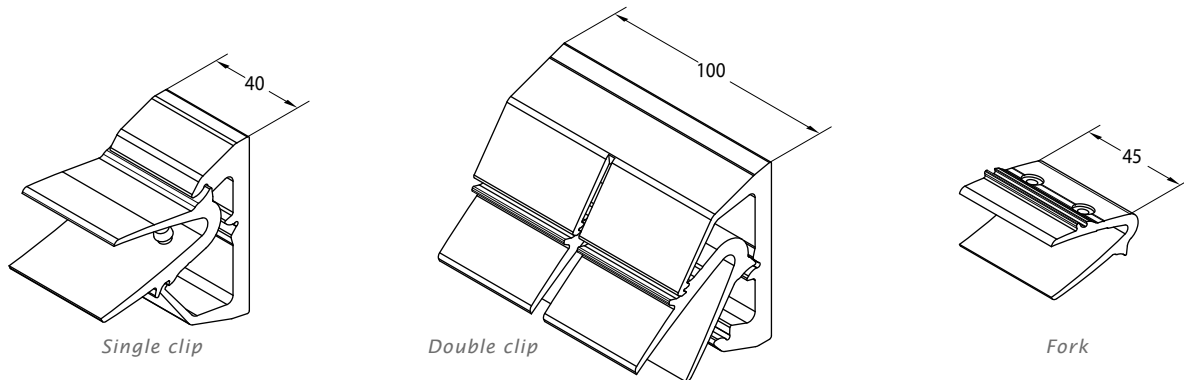
## Brackets

There are four types of Quickfix® clips which can be combined with different fork profiles, depending on the blade inclination.

- **Type 1** : for ICA.100 and ICA.125 blades:  
- clip and fork for 90° / 45° or 75° / 60° blade inclination
- **Type 2** : for ICA.150, ICL150, ICA.200 and ICL.200 blades:  
- clip and two forks for 90° or 45° / 75° or 60° blade inclination
- **Type 3** : for ICA.250, ICA.300 and ICL.300 blades:  
- clip and two forks for 90° or 45° / 75° or 60° blade inclination
- **Type 4** : for ICA.400 blade:  
- clip and two forks for 90° or 45° / 75° or 60° blade inclination

Quickfix® brackets are also available in single or double versions.

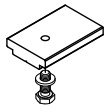
### Widths of Icarus® Quickfix® components:



### Overview of available Quickfix® brackets:

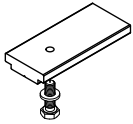
Icarus® Quickfix®		Blade inclination							
		45°		60°		75°		90°	
Bracket type	Blade type	Single bracket	Double bracket	Single bracket	Double bracket	Single bracket	Double bracket	Single bracket	Double bracket
Type 1	ICA.100	IQ.1101	IQ.1201	IQ.1102	IQ.1202	IQ.1102	IQ.1202	IQ.1101	IQ.1201
	ICA.125	IQ.1101	IQ.1201	IQ.1102	IQ.1202	IQ.1102	IQ.1202	IQ.1101	IQ.1201
Type 2	ICA.150	IQ.2101	IQ.2201	IQ.2102	IQ.2202	IQ.2102	IQ.2202	IQ.2101	IQ.2201
	ICL.150	IQ.2101	IQ.2201	IQ.2102	IQ.2202	IQ.2102	IQ.2202	IQ.2101	IQ.2201
	ICA.200	IQ.2101	IQ.2201	IQ.2102	IQ.2202	IQ.2102	IQ.2202	IQ.2101	IQ.2201
	ICL.200	IQ.2101	IQ.2201	IQ.2102	IQ.2202	IQ.2102	IQ.2202	IQ.2101	IQ.2201
Type 3	ICA.250	IQ.3101	IQ.3201	IQ.3102	IQ.3202	IQ.3102	IQ.3202	IQ.3101	IQ.3201
	ICA.300	IQ.3101	IQ.3201	IQ.3102	IQ.3202	IQ.3102	IQ.3202	IQ.3101	IQ.3201
	ICL.300	IQ.3101	IQ.3201	IQ.3102	IQ.3202	IQ.3102	IQ.3202	IQ.3101	IQ.3201
Type 4	ICA.400	IQ.4101	IQ.4201	IQ.4102	IQ.4202	IQ.4102	IQ.4202	IQ.4101	IQ.4201

### Fastener sets



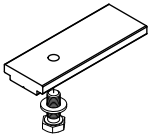
**Fastener set IQ.1002**

Application: fastener set type 1 for Quickfix® on SD mullions See p. 34  
 Suitable for Quickfix® systems ICA.100 and ICA.125



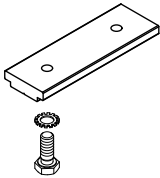
**Fastener set IQ.2002**

Application: fastener set type 2 for Quickfix® on SD mullions See p. 34  
 Suitable for Quickfix® systems ICA.150, ICL.150, ICA.200 and ICL.200



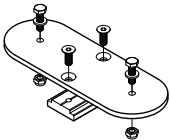
**Fastener set IQ.3002**

Application: fastener set type 3 for Quickfix® on SD mullions See p. 34  
 Suitable for Quickfix® systems ICA.250, ICA.300 and ICL.300



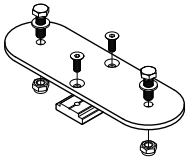
**Fastener set IQ.4002**

Application: fastener set type 4 for Quickfix® on SD mullions See p. 34  
 Suitable for Quickfix® system ICA.400



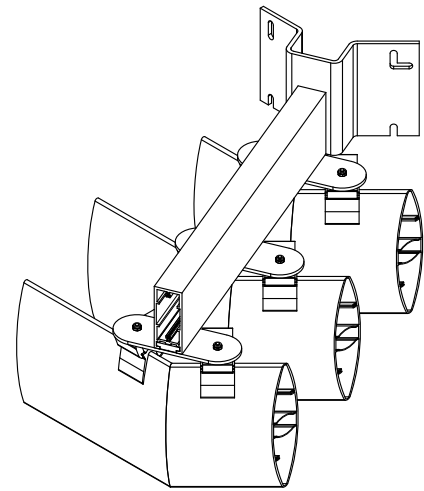
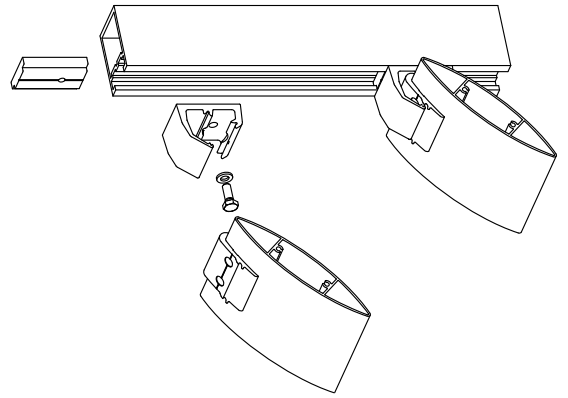
**Fastener set IQ.9001 for corner solutions**

Application: fastener set type 1 for Quickfix® on SD mullions See p. 34  
 Suitable for Quickfix® systems ICA.100, ICA.125, ICA.150, ICL.150, ICA.200 and ICL.200



**Fastener set IQ.9002 for corner solutions**

Application: fastener set type 2 for Quickfix® on SD mullions See p. 34  
 Suitable for Quickfix® systems ICA.250, ICA.300 and ICL.300



### Safety bracket

Each blade must have a safety bracket at one location.  
 The type depends on the kind of blade.



*Safety bracket  
 Type 1 - IQ.1001  
 (ICA.100 and  
 ICA.125)*



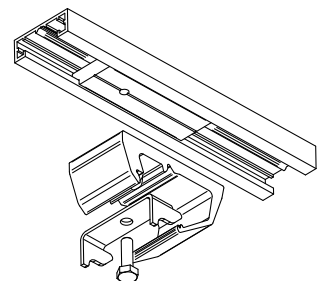
*Safety bracket  
 Type 2 - IQ.2001  
 (ICA.150, ICL.150,  
 ICA.200 and ICL.200)*



*Safety bracket  
 Type 3 - IQ.3001  
 (ICA.250, ICA.300  
 and ICL.300)*



*Safety bracket  
 Type 4 - IQ.4001  
 (ICA.400)*



## Sunclips® blade supports for blades positioned below

The blade supports for Sunclips® with blades positioned below are made of black or grey UV-resistant POM plastic and have a fixed blade installation angle of 60° to the horizontal.

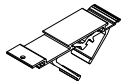
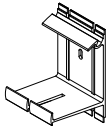
The blade supports are available in single and double versions for joints and angle clips for inner and outer corners.

	<p><b>Standard blade support SC.084.11</b>          Application: for attaching continuous type SC.096.01 blades.          Suitable for SD.014, SD.054 and SD.100 mullions.          See p. 34</p>
	<p><b>Blade support SC.084.12</b>          Application: for attaching two type SC.096.01 blades.          Suitable for SD.014, SD.054 and SD.100 mullions.          See p. 34</p>
	<p><b>Blade support SC.084.13</b>          Application: for outer corner solution using two type SC.096.01 blades.          Suitable for SD.014, SD.054 and SD.100 mullions.          See p. 34</p>
	<p><b>Blade support SC.084.14</b>          Application: for inner corner solution using two type SC.096.01 blades.          Suitable for SD.014, SD.054 and SD.100 mullions.          See p. 34</p>
	<p><b>Standard blade support SE.084.11</b>          Application: for attaching continuous type SE.096.01, SE.096.02, SE.130.01 and SE.176.01 blades.          Suitable for SD.014, SD.054 and SD.100 mullions.          See p. 34</p>
	<p><b>Blade support SE.084.12</b>          Application: for attaching two type SE.096.01, SE.096.02, SE.130.01 and SE.176.01 blades.          Suitable for SD.014, SD.054 and SD.100 mullions.          See p. 34</p>
	<p><b>Blade support SE.084.13</b>          Application: for outer corner solution using two type SE.096.01, SE.096.02, SE.130.01 and SE.176.01 blades.          Suitable for SD.014, SD.054 and SD.100 mullions.          See p. 34</p>
	<p><b>Blade support SC.084.14</b>          Application: for inner corner solution using two type SE.096.01, SE.096.02, SE.130.01 and SE.176.01 blades.          Suitable for SD.014, SD.054 and SD.100 mullions.          See p. 34</p>
	<p><b>Connector for 33 mm clip SE.084.10</b>          Application: as a connecting piece for widely separated type SE.130.01 and SE.176.01 blades.          Suitable for SD.014, SD.054 and SD.100 mullions.          See p. 34</p>

## Sunclips® blade supports for blades positioned above

The blade supports for Sunclips® with blades positioned above are made of aluminium and have a fixed blade installation angle of 45° to the horizontal.

The blade supports are available in single and double versions for joints.

	<p><b>Blade support SC.082.11</b>                  Application: for attaching continuous type SC.096.01 blades.                  Suitable for SD.014, SD.054 and SD.100 mullions.                  See p. 34</p>
	<p><b>Blade support SC.082.12</b>                  Application: for attaching two type SC.096.01 blades.                  Suitable for SD.014, SD.054 and SD.100 mullions.                  See p. 34</p>
	<p><b>Blade support SE.082.11</b>                  Application: for attaching continuous type SE.096.01, SE.096.02, SE.130.01 and SE.176.01 blades.                  Suitable for SD.014, SD.054 and SD.100 mullions, provided adapter profile LD.0108 is used.                  See p. 34</p>
	<p><b>Blade support SE.082.12</b>                  Application: for attaching two type SE.096.01, SE.096.02, SE.130.01 and SE.176.01 blades.                  Suitable for SD.014, SD.054 and SD.100 mullions, provided adapter profile LD.0108 is used.                  See p. 34</p>

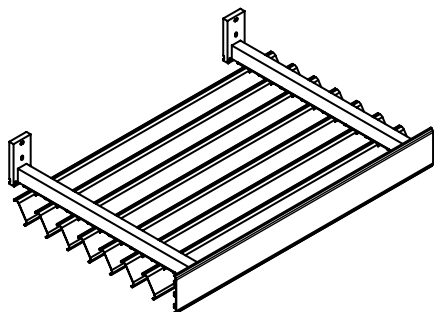
## Other types of Sunclips® blade supports

Other blade supports are available for different applications in addition to the standard blade supports for Sunclips®.

<b>SC.080.11</b> Aluminium clip for Sunclips® Classic, for three blades positioned below or curved blades, with a fixed installation angle of 90° to the horizontal.	<b>SE.084.16</b> Plastic clip (black or grey POM) for Sunclips® EVO, same design as type SE.084.11, with M8 x 40 set screw to attach the clip to the mullion.
<b>SC.080.12</b> Aluminium joint clip for Sunclips® Classic, for blades positioned below or curved blades, with a fixed installation angle of 90° to the horizontal.	<b>SE.084.17</b> Plastic clip (black or grey POM) for Sunclips® EVO, same design as type SE.084.11, with M6 x 8 set screws to stop the blade coming away as a result of thermal expansion, and an M8 x 40 set screw to attach the clip to the mullion.
<b>SC.080.13</b> Aluminium clip for Sunclips® Classic, for blades positioned below or curved blades, with a fixed installation angle of 90° to the horizontal.	<b>SE.084.18</b> Plastic joint clip (black or grey POM) for Sunclips® EVO, same design as type SE.084.12, with M8 x 40 set screw to attach the clip to the mullion.
<b>SC.080.15</b> Aluminium external corner clip for Sunclips® Classic, for blades positioned below or curved blades, with a fixed installation angle of 90° to the horizontal.	<b>SE.084.19</b> Plastic corner clip (black or grey POM) for Sunclips® EVO, same design as type SE.084.11, with M6 x 8 set screw to stop the blade coming away as a result of thermal expansion.
<b>SC.081.11</b> Aluminium clip for Sunclips® Classic, for continuous blades positioned below, with a fixed installation angle of 60° to the horizontal.	<b>SE.084.23</b> Plastic corner clip (black or grey POM) for Sunclips® EVO with blades positioned below and a fixed installed angle of 60° to the horizontal, suitable for outer corner on knife bracket SD.110.11 or SD.110.12.
<b>SC.081.12</b> Aluminium joint clip for Sunclips® Classic, for fastening two blades positioned below, with a fixed installation angle of 60° to the horizontal.	<b>SE.084.24</b> Plastic corner clip (black or grey POM) for Sunclips® EVO with blades positioned below and a fixed installed angle of 60° to the horizontal, suitable for inner corner on knife bracket SD.110.11 or SD.110.12.

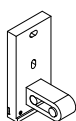
## Wall fixing with brackets < Technical details

The method of fixing is determined by the dimensions of the awning, the wind load and the type of wall structure on which the awning is installed. We can offer various standard solutions.



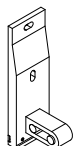
### Type: RENSON® bracket

RENSON® has a number of standard brackets that can be assembled beforehand on type SD mullions. They are mainly used for direct attachment to steel, concrete or 50/60 mm curtain walls.



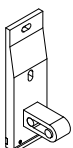
#### Standard bracket SD.088.11

Application: for attachment to solid background such as concrete.  
Suitable for SD.054 mullions.



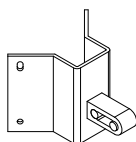
#### Bracket SD.088.41

Application: for attachment to weak background such as facing brick.  
Suitable for SD.054 mullions.



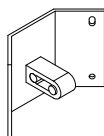
#### Standard bracket SD.088.71

Application: for attachment to solid background such as concrete and large overhangs.  
Suitable for SD.100 mullions.



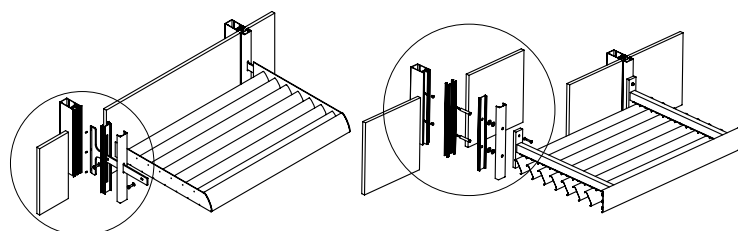
#### Steel bracket SD.088.23

Application: bearer for outer corners.  
Suitable for SD.054 and SD.100 mullions.



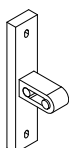
#### Steel bracket SD.088.24

Application: bearer for inner corners.  
Suitable for SD.054 and SD.100 mullions.



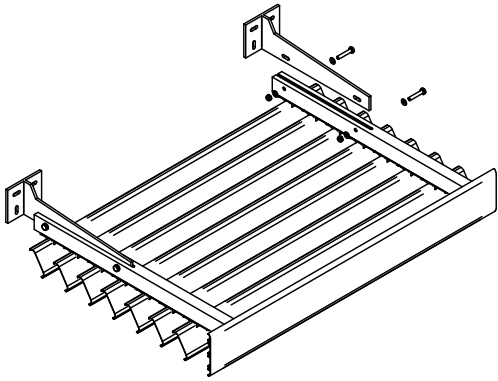
### Type: curtain wall attachment

Specific project solutions can be developed, depending on the type of curtain profile. Similar to fixing to a knife bracket.



#### Brackets SD.088.51/SD.088.61

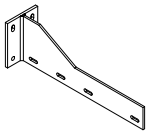
Application: for attachment to curtain walls (SD.088.51 = 50 mm / SD.088.61 = 60 mm).  
Suitable for SD.054 mullions.



**Type: attachment to knife bracket**

The knife brackets are installed beforehand. The awning structure can be fitted afterwards. Mainly used with system construction.

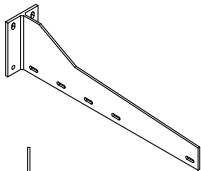
Optional: knife brackets with thermal break.



**Steel knife bracket SD.089.01 - type 1, 450 mm long**

Application: - normal overhangs and wind loads  
 - wall thicknesses up to 100 mm

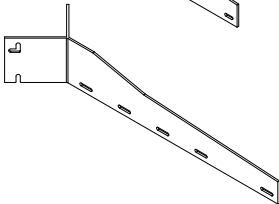
Suitable for SD.054 and SD.100 mullions



**Steel knife bracket SD.089.02 - type 2, 650 mm long**

Application: - large overhangs and wind loads  
 - wall thicknesses up to 200 mm

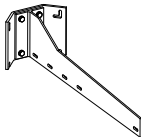
Suitable for SD.054 and SD.100 mullions



**Steel knife bracket SD.089.03 – for outer corners**

Application: bearer for outer corners.

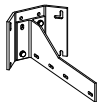
Suitable for SD.054 and SD.100 mullions



**Steel knife bracket SD.089.04 – type 1, for inner corners**

Application: bearer for inner corners, normal overhangs and wind loads

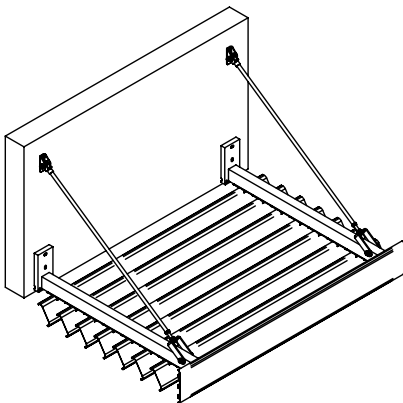
Suitable for SD.054 and SD.100 mullions



**Steel knife bracket SD.089.05 – type 2, for inner corners**

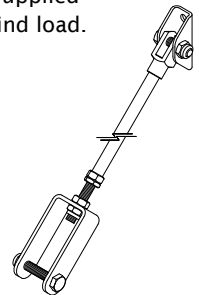
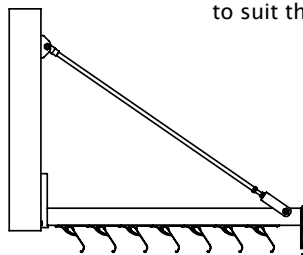
Application: bearer on inner corners, large overhangs and wind loads

Suitable for SD.054 and SD.100 mullions



**Tie rod**

A custom-made adjustable tie rod can be supplied to suit the overhang, fixing method and wind load.

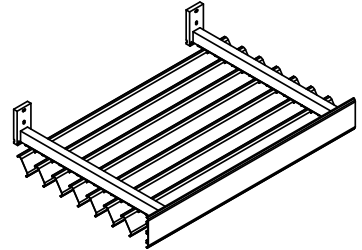
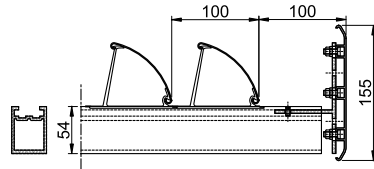
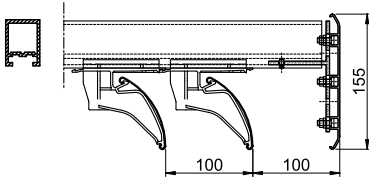


# Sunclips® fascia profiles < Technical details

Different fascia profiles can be added to complete the awning structure, depending on the fixing method.

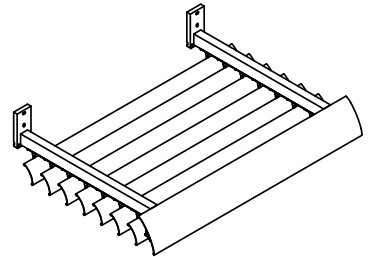
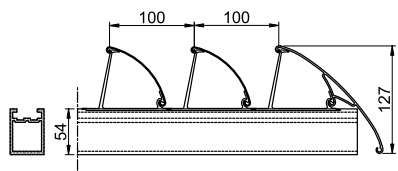
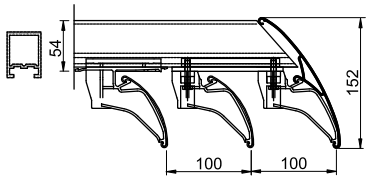
## Fascia profile SC.155

- Installation method: awning with blades positioned above or below
- Application: recommended for combination with blade types Sunclips® Classic SC.096 or Evo SE.096 and mullion SD.054



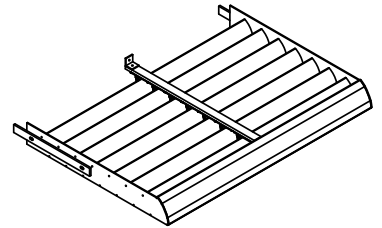
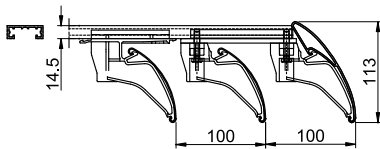
## Fascia profile Sunclips® Evo-blade SE.176

- Installation method: awning with blades positioned above or below
- Application: recommended for combination with blade types Sunclips® Classic SC.096 or Evo SE.096 and mullion SD.054



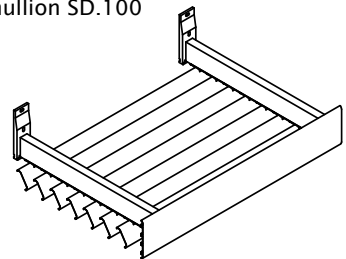
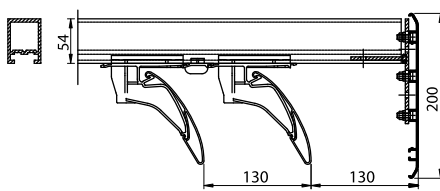
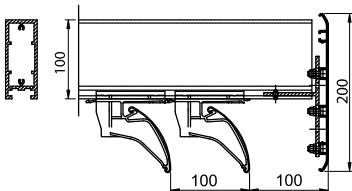
## Fascia profile Sunclips® Evo-blade SE.130

- Installation method: cassette
- Application: recommended for mullion SD.014



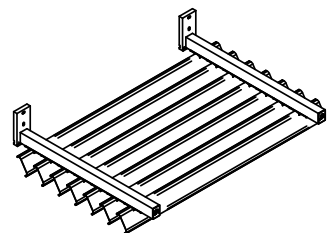
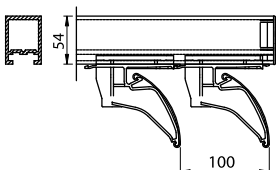
## Fascia profile SC.200

- Installation method: awning with blades positioned above or below
- Application: in combination with
  - blade types Sunclips® Classic SC.096 or Evo SE.096 and mullion SD.100
  - blade types Sunclips® Evo SE.130 and mullion SD.054

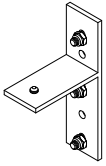
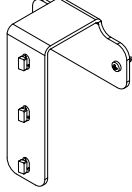
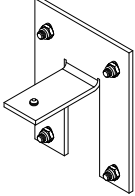
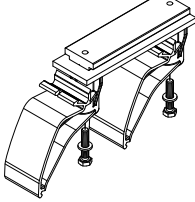
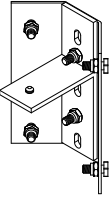
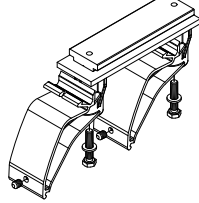
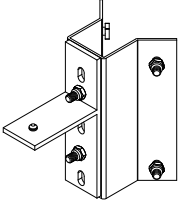
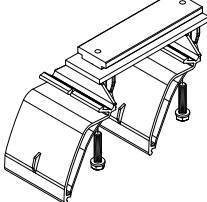

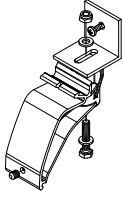


## Without fascia profile - End cap SD.054.98

- Application: in combination with mullion SD.054





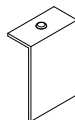
	<p><b>Standard fascia profile attachment SC.087.11</b>                  Application: for attaching a continuous fascia profile type SC.155 or SC.200.                  Suitable for SD.014, SD.054 and SD.100 mullions.</p>		<p><b>Fascia profile side attachment SC.091</b>                  Application: for side attachment of a fascia profile type SC.155 or SC.200 to the mullion.                  Suitable for SD.054 and SD.100 mullions.</p>
	<p><b>Fascia profile joint attachment SC.087.12</b>                  Application: for attaching two fascia profiles type SC.155 or SC.200.                  Suitable for SD.014, SD.054 and SD.100 mullions.</p>		<p><b>Fascia profile attachment SE.095.01</b>                  Application: plastic clip (black or grey POM) for attaching a continuous fascia profile type SE.176.                  Suitable for SD.014, SD.054 and SD.100 mullions.</p>
	<p><b>Fascia profile outer corner attachment SC.087.13</b>                  Application: for attaching two fascia profiles type SC.155 or SC.200 to outer corners.                  Suitable for SD.014, SD.054 and SD.100 mullions.</p>		<p><b>Fascia profile attachment SE.095.02</b>                  Application: Plastic clip (black or grey POM) with M6 x 8 set screw to stop fascia profile SE.176 coming away as a result of thermal expansion.                  Suitable for SD.014, SD.054 and SD.100 mullions.</p>
	<p><b>Fascia profile inner corner attachment SC.087.14</b>                  Application: for attaching two fascia profiles type SC.155 or SC.200 to inner corners.                  Suitable for SD.014, SD.054 and SD.100 mullions.</p>		<p><b>Fascia profile joint attachment SE.095.12</b>                  Application: plastic clip (black or grey POM) for attaching two fascia profiles type SE.176.                  Suitable for SD.014, SD.054 and SD.100 mullions.</p>
	<p><b>Fascia profile end corner attachment SC.090</b>                  Application: for attaching two fascia profiles type SC.155 or SC.200 to outer ends of the corners.                  Suitable for SD.014, SD.054 and SD.100 mullions.</p>		<p><b>Fascia profile side attachment SE.091</b>                  Application: for side attachment of a fascia profile type SC.176 to the mullion.                  Suitable for SD.054 and SD.100 mullions.</p>

### Sunclips® end cap

If required, Sunclips® can also be supplied without a fascia profile. Here, the ground edges of the mullions are sealed with end caps.



**SD.054.98**  
 POM plastic end cap  
 for SD.054 mullion

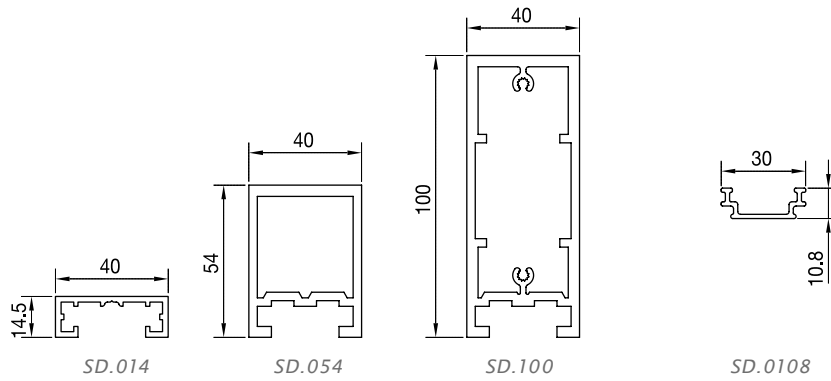


**SD.054.99**  
 Aluminium end cap  
 for SD.054 mullion



**SD.100.99**  
 Aluminium end cap  
 for SD.100 mullion

## SD type mullions from the Sunclips® range



### Description

Extruded aluminium profiles used as mullions for permanent horizontal sun shades.

### Material

Aluminium extrusion profile in EN AW-6063 T66 alloy

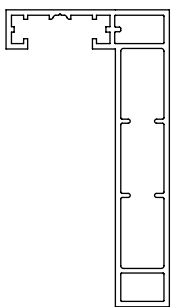
### Surface treatment

- Anodised (20 micron)
- Polyester powder coating RAL or Syntha Pulvin® colors (60-80 µ/40 µ (UK))

Technical data				
	LD.0108 *	SD.014	SD.054	SD.100
Profile depth (mm)	10,8	14,5	54	100
Profile width (mm)	30	40	40	40
Moment of inertia (mm <sup>4</sup> )	987	4510	208672	1248414
Flexural modulus (mm <sup>3</sup> )	147	497	7360	24405

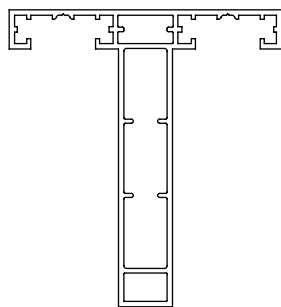
(\*) Adapter profile for combination with SD.014, SD.054 or SD.100 mullions

## Mullions for clip system with intermediate blades



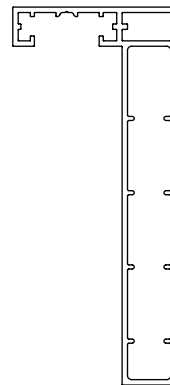
**SD.110.11**

Single knife bracket  
Profile height = 110 mm



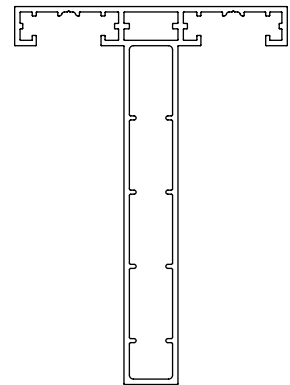
**SD.110.12**

Double knife bracket  
Profile height = 110 mm



**SD.140.11**

Single knife bracket  
Profile height = 140 mm



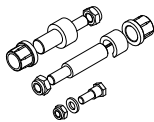
**SD.140.12**

Double knife bracket  
Profile height = 140 mm

(Mullions for clip system with intermediate blades are project-specific = not in stock.)

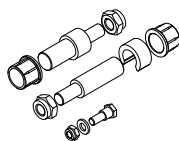
## Rotation sets

Three types of rotation sets are available, depending on the blade system used. A rotation set consists of two stainless steel pivot sleeves (1x long; 1x short), two plastic bearing bushes, one plastic circlip for attaching the blade, two lock nuts to secure the pivot sleeves to the end caps and one set for connecting the rod, consisting of one Ø8-M6 shaft with one plastic washer for M8 and one M6 lock nut.



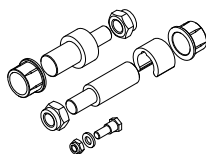
### Rotation set IM.9001

Application: fastener set for movable system type 1.  
Suitable for type ICA.100, ICA.125, ICA.150, ICL.150, ICA.200, ICL.200 and ICP.150, ICP.200/30, ICP.200/40 (\*) blades



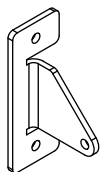
### Rotation set IM.9002

Application: fastener set for movable system type 2.  
Suitable for type ICA.250, ICA.300, ICA.360 and ICL.300 blades



### Rotation set IM.9003

Application: fastener set for movable system type 3.  
Suitable for type ICA.400 and ICA.480 blades.



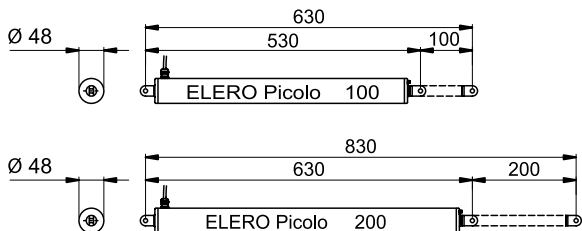
### Stainless steel motor support IM.9201

Application: Stainless steel support for attaching motors to substructures.  
Suitable for several types of motors.

## Icarus® movable: control options

### Automatic

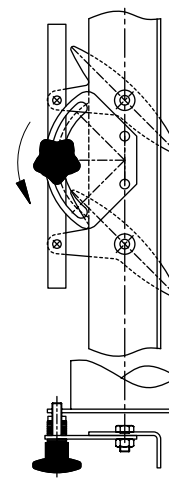
Examples of suitable motors



The type of motor is a function of the length of travel needed.

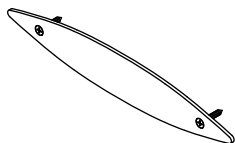
### Manual

Direct manual control



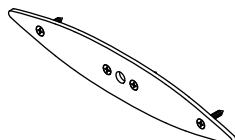
## Icarus® end caps < Technical details

The ground edges of Icarus® blades are sealed with end caps, depending on the application. The end caps are attached by screws in the threaded channels in the blades.



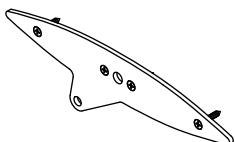
### End cap fixed - type 1

Application: fitted to the ends of the Icarus® blades in Icarus® Quickfix® systems



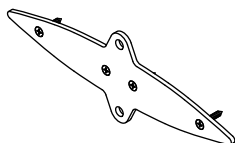
### End cap movable without command - type 2

Application: fitted to the ends of the Icarus® blades in movable Icarus® systems  
- on a side without command



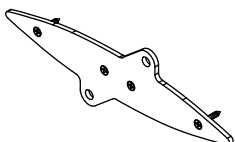
### End cap movable with command - type 3

Application: fitted to the ends of the Icarus® blades in movable Icarus® systems  
- on a side with command



### End cap fixed for 90° attachment - type 4

Application: fitted to the ends of Icarus® blades with 90° inclination



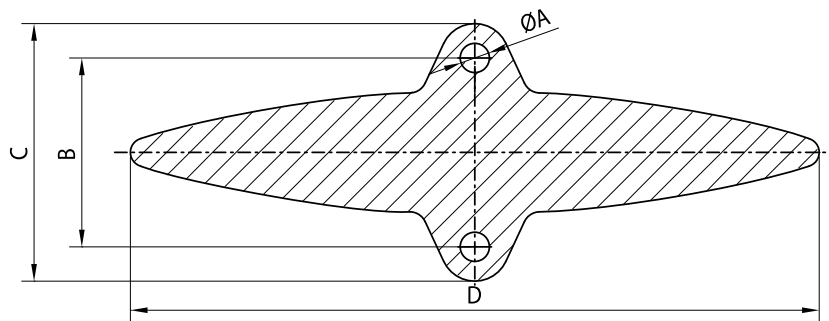
### End cap fixed for 45° attachment - type 5

Application: fitted to the ends of Icarus® blades with 45° inclination

Summary table - end cap types

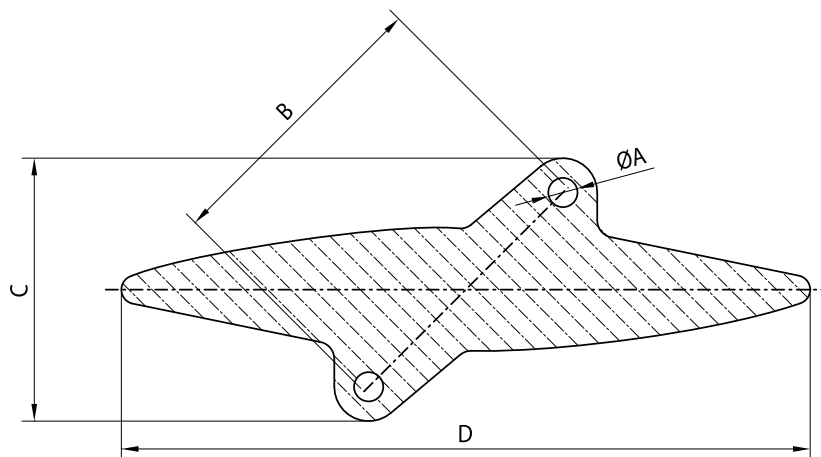
	End cap type				
	type 1	type 2	type 3	type 4	type 5
ICA.100	ICA.100.11	ICA.100.12	ICA.100.13	ICA.100.14	ICA.100.15
ICA.125	ICA.125.11	ICA.125.12	ICA.125.13	ICA.125.14	ICA.125.15
ICA.150	ICA.150.11	ICA.150.12	ICA.150.13	ICA.150.14	ICA.150.15
ICA.200	ICA.200.11	ICA.200.12	ICA.200.13	ICA.200.14	ICA.200.15
ICA.250	ICA.250.11	ICA.250.12	ICA.250.13	ICA.250.14	ICA.250.15
ICA.300	ICA.300.11	ICA.300.12	ICA.300.13	ICA.300.14	ICA.300.15
ICA.360	ICA.360.11	ICA.360.12	ICA.360.13	ICA.360.14	ICA.360.15
ICA.400	ICA.400.11	ICA.400.12	ICA.400.13	ICA.400.14	ICA.400.15
ICA.480	ICA.480.11	ICA.480.12	ICA.480.13	ICA.480.14	ICA.480.15
ICL.150	ICL.150.11	ICL.150.12	ICL.150.13	ICL.150.14	ICL.150.15
ICL.200	ICL.200.11	ICL.200.12	ICL.200.13	ICL.200.14	ICL.200.15
ICL.300	ICL.300.11	ICL.300.12	ICL.300.13	ICL.300.14	ICL.300.15
ICP.150	ICP.150.11	ICP.150.12	ICP.150.13	ICP.150.14	ICP.150.15
ICP.200/30	ICP.200.31	ICP.200.32	ICP.200.33	ICP.200.34	ICP.200.35
ICP.200/40 (*)	ICP.200.11	ICP.200.12	ICP.200.13	ICP.200.14	ICP.200.15

End cap type 4 dimensions  
for fixed installation - 90° inclination:



End cap type	Dimensions as per sketch (mm)			
	Size D	Size Ø A	Size B	Size C
ICA.100.14	100	6,5	45	57
ICA.125.14	125	8,5	45	65
ICA.150.14	150	8,5	50	70
ICA.200.14	200	8,5	55	75
ICA.250.14	250	8,5	65	85
ICA.300.14	300	8,5	70	90
ICA.360.14	360	10,5	85	110
ICA.400.14	400	10,5	85	110
ICA.480.14	480	10,5	120	150
ICL.150.14	150	8,5	50	70
ICL.200.14	200	8,5	60	80
ICL.300.14	300	8,5	70	90
ICP.150.14	150	8,5	50	70
ICP.200.34	200	8,5	50	70
ICP.200.14	200	8,5	60	80

End cap type 5 dimensions  
for fixed installation - 45° inclination:



End cap type	Dimensions as per sketch (mm)			
	Size D	Size Ø A	Size B	Size C
ICA.100.15	100	6,5	60	55
ICA.125.15	125	8,5	65	66
ICA.150.15	150	8,5	70	70
ICA.200.15	200	8,5	80	77
ICA.250.15	250	8,5	90	84
ICA.300.15	300	8,5	100	94
ICA.360.15	360	10,5	120	110
ICA.400.15	400	10,5	120	110
ICA.480.15	480	10,5	160	144
ICL.150.15	150	8,5	75	73
ICL.200.15	200	8,5	85	80
ICL.300.15	300	8,5	100	94
ICP.150.15	150	8,5	75	73
ICP.200.35	200	8,5	75	73
ICP.200.15	200	8,5	90	84

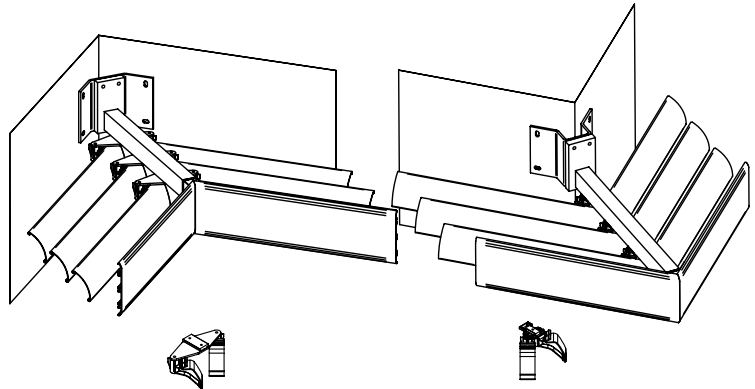
## Sunclips® corner solutions < Technical details



*Apotheek De Pauw, Sunclips® Classic, Varsenare (BE), arch.: Ivan De Coster*

RENSON® has a unique corner solution for awnings with blades positioned below, offering these significant advantages:

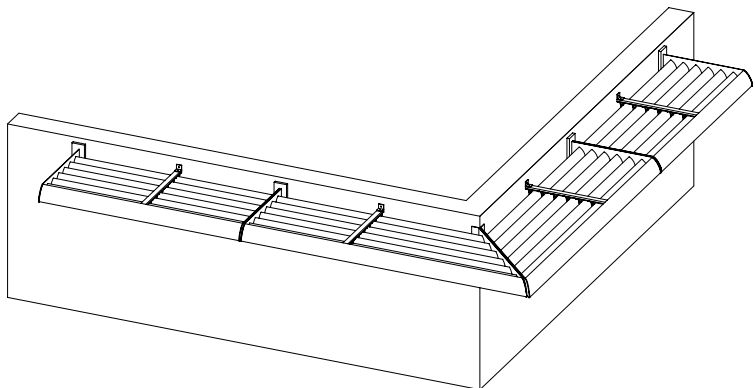
- only 1 mullion is required
- all angles are possible
- inner and outer corners are possible
- blades are continuous with perfect connections
- suitable for all types of Sunclips® blades



*Kantoor KVLV, Sunclips® EVO SE.096, Wijgmaal (BE)*

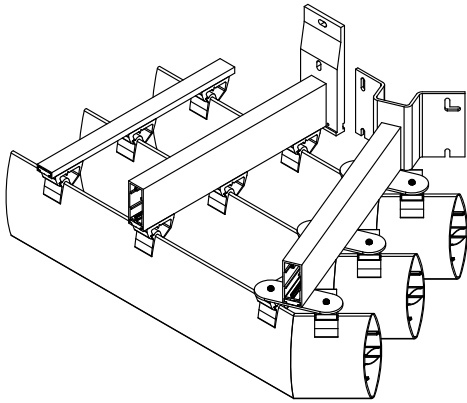
Blade supports and attachment components for fascia profiles: see pages 26/27 and 30/31.

Corner solutions are also possible for framed sun awnings (with Sunclips® EVO blade). To be dimensioned per project.

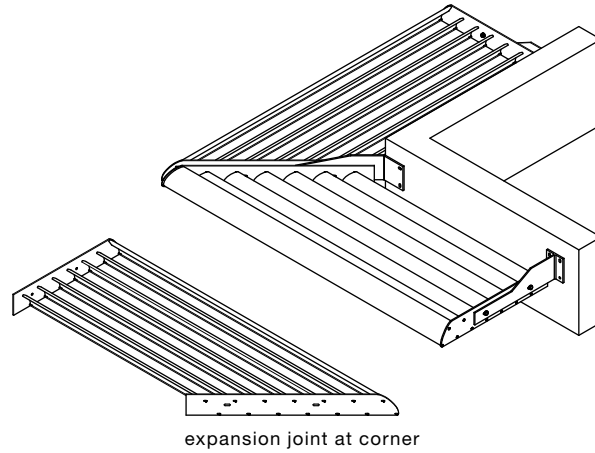
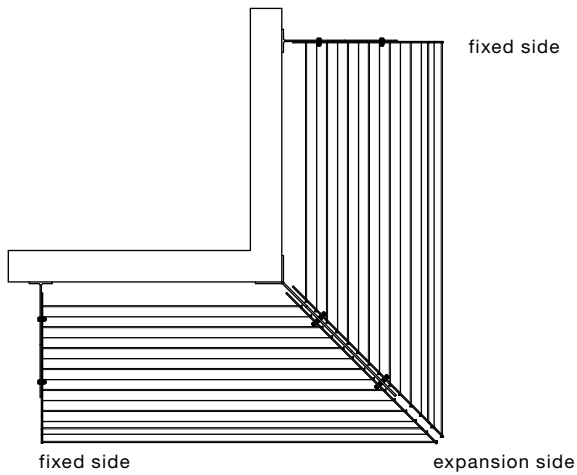


*Franki, Sunclips® EVO SE.096, Flémalle (BE)*

### Icarus® Quickfix® corner solutions



### Icarus® / Sunclips® cassette corner solutions



### Project solutions

This brochure merely gives you an overview of our standard solutions. Our project leaders can advise you and work with you to detail and develop any desired system on a project basis.



*Transat, Lorient (FR).  
Conception: Atelier Roland Castro - Sophie Denissof.  
Réalisation: Louis Mollo arch.*



## Creating healthy spaces

### RENSON®: your partner in ventilation and sun protection

RENSON®, headquartered in Waregem (Belgium), is a trendsetter in Europe in natural ventilation and sun protection.

- **Creating healthy spaces**

From 1909, we've been developing energy efficient solutions assuring a healthy and comfortable indoor climate.

Our remarkable headquarters - built according to the 'Healthy Building Concept' - is a beautiful example portraying our corporate mission.

- **No speed limit on innovation**

A multidisciplinary team of more than 40 R&D employees continually optimize our products and develop new and innovative concepts.

- **Strong in communication**

Contact with the customer is of the utmost importance. A group of 65 in-the-field employees worldwide and a powerful international distribution network are ready to advise you on site. The RENSON® Experience Center at Waregem gives you the possibility to experience our products on your own and provides necessary training for installers.

- **A reliable partner in business**

We can guarantee our customers optimal quality and service thanks to our environmentally friendly and modern production sites (with automated powder coating line, anodisation line, uPVC injection molding machinery and mold making shop) covering an area of 75.000 m<sup>2</sup>.

Dealer



RENSON® reserves the right to make technical changes to the products shown.  
The latest brochures may be downloaded from [www.renson.eu](http://www.renson.eu)



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