



Natural
Daylight



Natural
Ventilation



Natural
Smoke and
Heat Exhaust



Offering a high level of insulation (U-factor $< 1 \text{ W/m}^2\text{K}$) and a lower level of IR-rays transmittance (g-factor), the new generation of Alux Power skylights provides excellent energy efficiency.

The key factor in the development of new products was the impact of extreme weather changes. Therefore the **Alux Power** skylights meet the **highest standards of hail resistance** (HW3 – HW5) and **protection against wind and snow load**. The latter is essential for ensuring a high level of active fire protection because the natural smoke and heat exhaust system (NHSE) provides efficiency even under the most extreme conditions. The new metal curbs with a mineral wool insulation as well as the improved polyester curbs, produced by using a self-extinguishing resin and a self-extinguishing gelcoat contribute to a better passive safety in case of fire.

The Alux Power skylight systems have been certified and comply with EN standards.

In the past the main role of skylights was the illumination of rooms with sunlight and their ventilation. **Nowadays the expectations mainly involve a high level of energy efficiency, a better resistance against adverse weather conditions, a higher level of safety in case of fire and a better protection against falling into the object. That is why Alux Power products are designed in a way that they correspond with such demands of modern times.** Because of different requirements of the installation locations we cannot offer universal solution, but rather a modular one in order to please the needs of every customer. With this intention the solution Alux Power has been brought to life.

* Alux is the skylight trademark of the Akripol Company. Akripol manufactures and process polymers. It is the leading manufacturer in the region with more than 30 years long tradition. With its skylights it operates on the markets of Austria, Germany, Switzerland, Hungary and on all markets of Southeast Europe. For its development achievements Akripol has received many innovation prizes, awarded by The Chamber of Commerce and Industry of Slovenia. It holds 5 patents, amongst them also for the highly insulated skylight.



Years
guarantee
for skydome
material



Years
guarantee
for shew
systems



Protection



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IRR-HEATSTOP (Reduction of g-factor)

Alux Power Heatstop skylights allow natural light into the interior, while reducing energy costs.

They are made from our proprietary Aglas IRR cast acrylic sheets. One of their special features is that they prevent the interior from overheating by keeping ambient heat out, while allowing natural sunlight in. Using skylights made from IRR cast acrylic sheets reduces the use of energy for cooling load and lighting.

Advantages of Alux Power Heatstop skylights

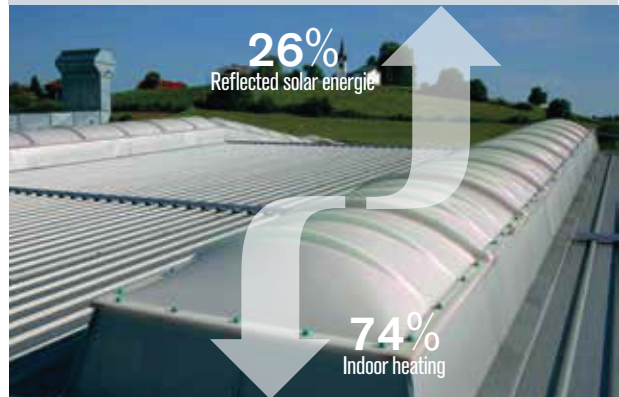
- Plenty of natural, evenly dispersed light
- Prevention of overheating and lower indoor temperature
- Lower energy costs, especially for cooling
- High insulation level
- Excellent UV protection
- A variety of shapes and sizes
- Reflective properties are stable as they are integrated into the material itself
- Smooth and glossy surface
- Blue-purple reflection
- 10-year warranty on the material

G-factor is a coefficient that is often used in Europe to measure the solar energy transmittance of glass - it is often referred to as a solar factor.

The skylights have been certified according to EN 1873.

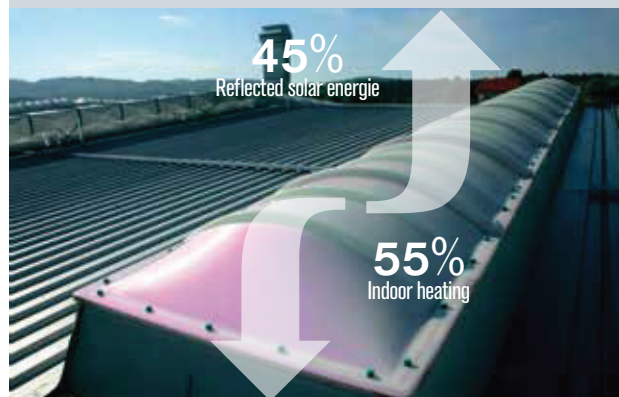
Before

Outer skin: standard acrylic sheet
Inner skin: standard acrylic sheet
Solar energy reflection: 26 %
Room overheating: 74 %



After

Outer skin: Aglas IRR acrylic sheet
Inner skin: standard acrylic sheet
Solar energy reflection: 45 %
Room overheating: 55 %



HIGH LEVEL OF INSULATION (U-factor)

Offering a high level of insulation, the Alux Power skylight systems provide natural lighting in rooms, while enabling substantial cuts in energy costs. A distinguishing feature of the Alux Power skylights is that they offer superior insulation in appropriate skins combinations, which translates to lower heat loss during the colder months and increased protection from heat penetration during the warmer months. The most important feature of Alux Power skylights is the reduction of energy costs for heating, cooling and illumination of interiors. There are several types of Alux Power skylights available (with different material of skins types and thicknesses).

Advantages of Alux Power skylights

- Plenty of natural, evenly dispersed light
- Prevention of overheating and lower indoor temperature
- Lower energy costs
- Energy sustainability
- High level of insulation ($U \leq 1,0 \text{ W/m}^2\text{K}$)
- Excellent UV protection
- 10-year warranty on the material

The skylights have been certified according to EN 1873.



SMOKE AND HEAT EXHAUST - NSHE (24/48 V and CO₂-systems)

Skylights equipped with a natural smoke and heat exhaust system (NSHE) are one of the essential elements that ensure safety in case of fire. These systems save lives, protect the property and are a required part of safety measurements in case of fire.

In the first phase the smoke is even more dangerous than fire. Smoke exhaust and control ensure safe evacuation routes, make the intervention from firemen and rescue units easier, to some extent protect the property and the environment against contamination caused by fire. Devices for smoke exhaust and control are used where their basic purpose of protection against fire can be achieved.

The NSHE-systems provide safety (smoke and heat exhaust) and ventilation.

NSHE-system purpose:

- Exhaust of smoke, flammable gases and temperature control in buildings, protection of escape or evacuation routes

Advantages in case of fire:

- Reduction of smoke in the areas (escape and evacuation routes)
- Lower explosion hazard
- Human safety
- Reduction of damage to the environment and material

CO₂ systems

- **EC-Certificate of Conformity according to EN 12101-2 (CE-mark)**
- SOLO versions (depends on system type and dimension)



Nominal size:

- Up to 200 x 250 cm

Aerodynamic effective smoke exhaust surface (according to EN 12101-2):

- Up to 3.5 m² (depending on skydome size and upstand type)

Max. snow load:

- Max. SOLO version SL 2500 N/m² (depending on dome size)

24/48V electrical systems

- **EC-Certificate of Conformity according to EN 12101-2 (CE-mark)**
- SOLO or TANDEM version (depending on skydome size)
- Rugged, powerful and fast gear motor with low noise
- Corresponding 24/48 V SHEV control panels with extensive accessories and various activation opportunities

Nominal size: up to 200 x 250 cm**Aerodynamic effective smoke exhaust surface (according to EN 12101-2):** up to 3.5 m² (depending on skydome size and upstand type)**Max. snow load:**

- Max. SOLO version SL 2500 N/m² (depending on dome size and nominal voltage)
- Max. TANDEM version SL 3750 N/m² (depending on dome size and nominal voltage)



FIRE RESISTANCE

Fire protection features of the built-in construction materials and elements of the building construction are an essential part of construction and fire safety measurements in terms of fire development.

Different building materials can be used in production of construction elements and other building products (fire doors, fire dampers, skylights...); however, from the viewpoint of fire safety the self-extinguishing or mild burning materials that do not further contribute to the fire load are a far better option.

Akripol products with better fire resistance:

- **Metal curb (Fe) with insulation (mineral wool), pre-assembled**
- According to standard EN 13501: class A2
- **Polyester curb (PES), based on self-extinguishing resin and gelcoat**
- According to standard BS 476 part 7: Class 2 (or in compliance with EN classification: class C)



HAIL RESISTANCE

Increasingly, hail damages buildings and materials or built-in products. This leads to immense costs of restoration and replacement of damaged elements. That is why we commit ourselves to use only the best materials and implement them into our roof systems and to achieve the highest standards of resistance.

Tested according to FM Approvals Nr. 4473

Results:

- **PMMA 4 mm: class 1** or complies with classification **HW3**
 - Ice ball diameter 32 mm
 - Grain speed (impact speed): 28 m/s
 - Nominal impact energy 10.4 J
- **PC solid 3 mm: class 4** complies with classification **HW5**
 - Ice ball or grain diameter: 52 mm
 - Grain speed (impact speed): 34 m/s
 - Nominal impact energy: 36.4 J



PROTECTION AGAINST FALLING

Prevents people or objects from falling through the roof skylight into the building. This product is of particular importance because it ensures roof work safety.

Akripol safety net protects against falling into the building. It is made out of zinc-plated bars that are available in different RAL colours and is located underneath the curb.

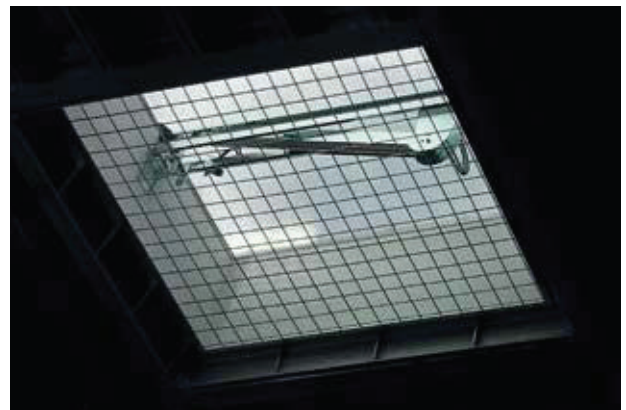
Advanced assembling or installation of safety nets:

- The nets are mounted onto the basic roof substructure prior to mounting of skylights.
- This ensures safety from the very beginning of the roof work.

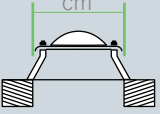
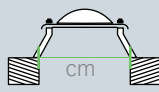
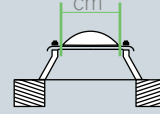

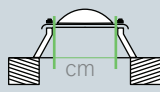
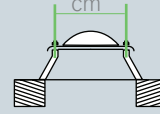
There are many dimensions and colours of safety nets available.

Different changes that take part on this segment due to safety reasons result in lower costs and in a complete solution of care and protection of roof workers.

Nets comply with certification GS-BAU 18.



STANDARD DIMENSIONS OF SKYDOMES

N	K	L		O	V
					
56 x 56*	60 x 60	40 x 40*	0,16	41 x 41	46 x 46
56 x 86	60 x 90	40 x 70	0,28	41 x 71	46 x 76
76 x 76*	80 x 80	60 x 60	0,36	61 x 61	66 x 66
86 x 86	90 x 90	70 x 70	0,49	71 x 71	76 x 76
86 x 116	90 x 120	70 x 100	0,70	71 x 101	76 x 106
96 x 96*	100 x 100	80 x 80	0,64	81 x 81	86 x 86
96 x 116	100 x 120	80 x 100	0,80	81 x 101	86 x 106
96 x 146	100 x 150	80 x 130	1,04	81 x 131	86 x 136
96 x 176	100 x 180	80 x 160	1,28	81 x 161	86 x 166
96 x 196	100 x 200	80 x 180	1,44	81 x 181	86 x 186
96 x 206	100 x 210	80 x 190	1,52	81 x 191	86 x 196
96 x 216	100 x 220	80 x 200	1,60	81 x 201	86 x 206
96 x 236	100 x 240	80 x 220	1,76	81 x 221	86 x 226
96 x 246	100 x 250	80 x 230	1,84	81 x 231	86 x 236
96 x 266	100 x 270	80 x 250	2,00	81 x 251	86 x 256
96 x 296	100 x 300	80 x 280	2,24	81 x 281	86 x 286
116 x 116*	120 x 120	100 x 100	1,00	101 x 101	106 x 106
116 x 146	120 x 150	100 x 130	1,30	101 x 131	106 x 136
116 x 176	120 x 180	100 x 160	1,60	101 x 161	106 x 166
116 x 196	120 x 200	100 x 180	1,80	101 x 181	106 x 186
116 x 206	120 x 210	100 x 190	1,90	101 x 191	106 x 196
116 x 236	120 x 240	100 x 220	2,20	101 x 221	106 x 226
116 x 296	120 x 300	100 x 280	2,80	101 x 281	106 x 286
146 x 146*	150 x 150	130 x 130	1,69	131 x 131	136 x 136
146 x 176	150 x 180	130 x 160	2,08	131 x 161	136 x 166
146 x 206	150 x 210	130 x 190	2,47	131 x 191	136 x 196
146 x 236	150 x 240	130 x 220	2,86	131 x 221	136 x 226
146 x 296	150 x 300	130 x 280	3,64	131 x 281	136 x 286
176 x 176*	180 x 180	160 x 160	2,56	161 x 161	166 x 166
176 x 206	180 x 210	160 x 190	3,04	161 x 191	166 x 196
176 x 236	180 x 240	160 x 220	3,52	161 x 221	166 x 226
176 x 296	180 x 300	160 x 280	4,48	161 x 281	166 x 286
196 x 196*	200 x 200	180 x 180	3,24	181 x 181	186 x 186
196 x 296	200 x 300	180 x 280	5,04	181 x 281	186 x 286
206 x 206	210 x 210	190 x 190	3,61	191 x 191	196 x 196
216 x 216	220 x 220	200 x 200	4,00	201 x 201	206 x 206
φ 56	φ 60	φ 40	0,12	φ 41	φ 46
φ 86	φ 90	φ 70	0,38	φ 71	φ 76
φ 96	φ 100	φ 80	0,50	φ 81	φ 86
φ 116	φ 120	φ 100	0,78	φ 101	φ 106
φ 146	φ 150	φ 130	1,33	φ 131	φ 136
φ 176	φ 180	φ 160	2,00	φ 161	φ 166
φ 196	φ 200	φ 180	2,54	φ 181	φ 186

* Option - shape of the pyramid

* Other non-standard or. intermediate sizes (not in the table) - on demand



Certificates:

- Certified to EN 12101-2
- Certified to EN 1873
- Tested to FM Approvals No. 4473
- Certified to GS-BAU 18




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