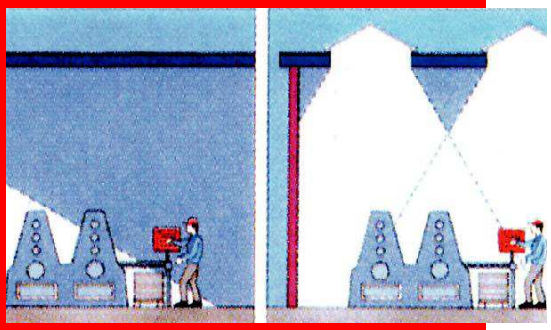
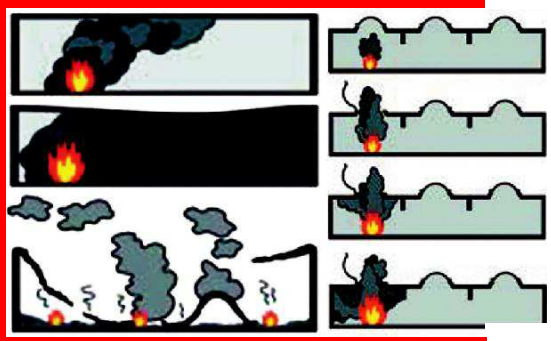
ACO LICHT VARIODOME

product line





Variodome – dome

EN 12101 certified VARIODOME dome product line with high-quality technical solutions, primarily for illumination, ventilation, and smoke & heat exhausting of halls, industrial premises and warehouses. Products are made using the latest manufacturing process (ISO 9001). During the production the protection of the environment is an important factor

(ISO 14001).The VARIODOME products are available in a wide range and in different sizes. Due to their variability they offer solutions for all unique architectural opportunities, ensuring maximum designer freedom.

Our skylight systems perform three different, but interconnected functions.

1. Daylighting

Instead of glass the natural light comes through lightweight, translucent, functionally selected plastic layers with good thermal insulation capacity. The picture above demonstrates the efficiency of light through the roof seam. Skylights are essential so that we can use the benefits of natural light for iluminating large indoor areas. The energy requirement for artificial light sources can be significantly reduced.

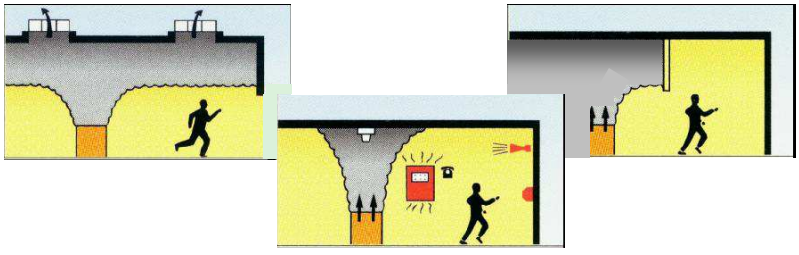
2. Ventilation

Besides lighting, ventilation flaps and opening devices allow natural ventilation. It is particularly important where providing air exchange and avoiding overheating need to be solved.

3. Heat and smoke exhausting

In closed areas the greatest danger for human life and material possession is posed by smoke. In case the drainage of hot, upload, quickly spreading smoke is not solved, the chance of saving people, goods and at last but not least the property itself is greatly reduced.

Besides bringing light in and providing ventilation, the roof skylight systems provide excellent serve for controlled draining of fire generated climbing smoke and hot gases.



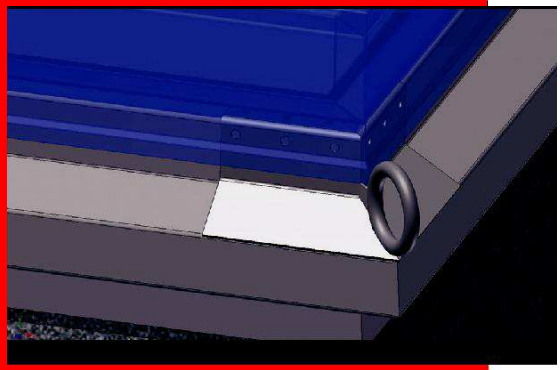
VARIDOME dome family size chart and effective open areas:

Numbers	Basic dimensions (cm)	Opening mechanism size (mm)	Geometric area (m2)	DOP-EN12101	Cv value	Effective area Aa (m^2)
1	100x100	880	1,00	WL 1500, SL 500, RE 11, Re 1.000 - 10.000, B 300, T (00)	0,67	0,67
2	100x150	880	1,50		0,7	1,04
3	100x200	880	2,00		0,71	1,41
4	100x250	880	2,50		0,71	1,79
5	120x120	1080	1,44	WL 1500, SL 500, RE 11, Re 1.000 - 10.000, B 300, T (00)	0,7	1,00
6	120x150	1080	1,80		0,71	1,27
7	120x180	1080	2,16		0,72	1,55
8	120x240	1080	2,88		0,73	2,09
9	150x150	1380	2,25	WL 1500, SL 500, RE 11, Re 1.000 - 10.000, B 300, T (00)	0,72	1,62
10	150x180	1380	2,70		0,73	1,96
11	150x210	1380	3,15		0,73	2,31
12	150x240	1380	3,60		0,73	2,63
13	150x250	1380	3,75		0,74	2,77
14	180x180	1680	3,24	WL 1500, SL 500, RE 11, Re 1.000 - 10.000, B 300, T (00)	0,74	2,38
15	180x210	1680	3,78		0,74	2,80
16	180x240	1680	4,32		0,75	3,22
17	180x250	1680	4,50		0,75	3,36
18	200x200	1880	4,00	WL 1500, SL 500, RE 11, Re 1.000 - 10.000, B 300, T (00)	0,74	2,97
19	200x250	1880	5,00		0,72	3,60
20	200x300	1880	6,00		0,71	4,26

1. In terms of function opening options are as follows:

- Ensuring opening above 165° angle in order to evacuate heat and smoke
  a, with a pneumatic cylinders with optional heat automatics b, with 24 to 48 V motors
- Daily ventilation

  a, with a pneumatic cylinder - opening height of 30-100 cm b, with 24 to 48 V motors - opening height of 30-100 cm c, with 230 V opening motor - opening height of 30-50 cm d, manual spindle opening device – opening height 30 cm
- Combined heat- and smoke evacuation, and daily ventilation



2. Available options for opening device control:

- In case of heat and smoke extraction:
  a, with CO^2 control panel, optional with
  magnetic switch (version that can accept fire center signal)
  pressure switch (signal repeater if needed)
  b, 24- 48 V electric monitoring and controlling center
  equipped with battery

- For daily ventilation

  a, three-way switch, optionally with
  indicator light
  Rain and wind detector unit with sensors
  b, compressed air ventilation panel, optionally with
  pressure reducer
  compressor and buffer reservoie
  Rain and wind detector unit with sensors
  version that can accept CO^2 centre overpressure

Protection grids against falling and security grids

The whole skylight system can be fitted with anti-burglar and fall protection steel guards to comply with the more increased regulations for protection of life and property. We use steel guards with 150 x 150 spacing with diam-eters D= 6 mm for anti-fall protection and with diameters D=10 mm for security.

Insect and bird nets

Special manufacturing or other hygienic requirements (e.g.: pharmaceuti-cal and food industry) and regulations require ventilation flaps to be equipped with nets protecting against insects and birds.

The framed, customized nets made by ACO are adjusted with high preci-sion to the existing or newly made ventilation flaps and they provide com-plete protection against birds and insects. Nets do not in any way hinder the ventilation or heat- and smoke extraction function.

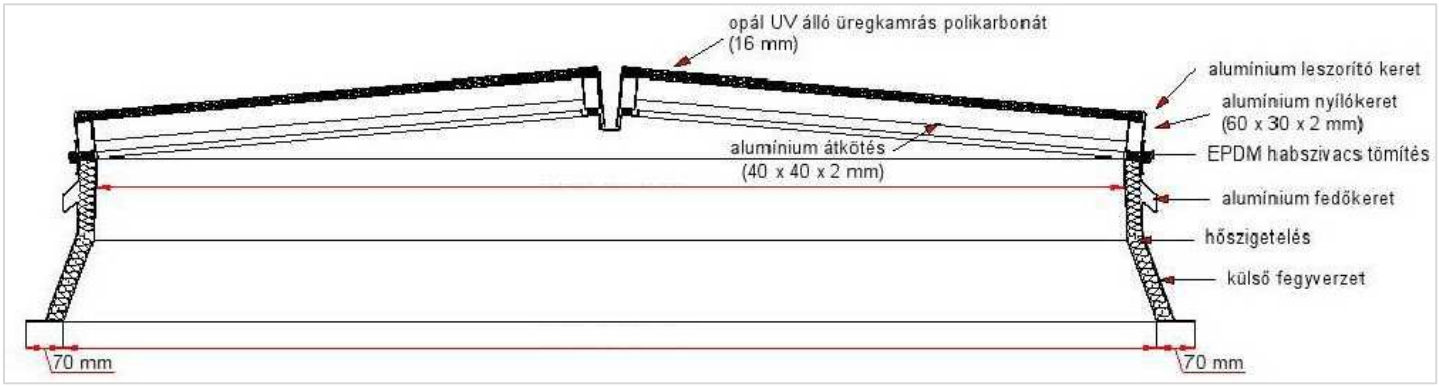
Mooring eye against falling

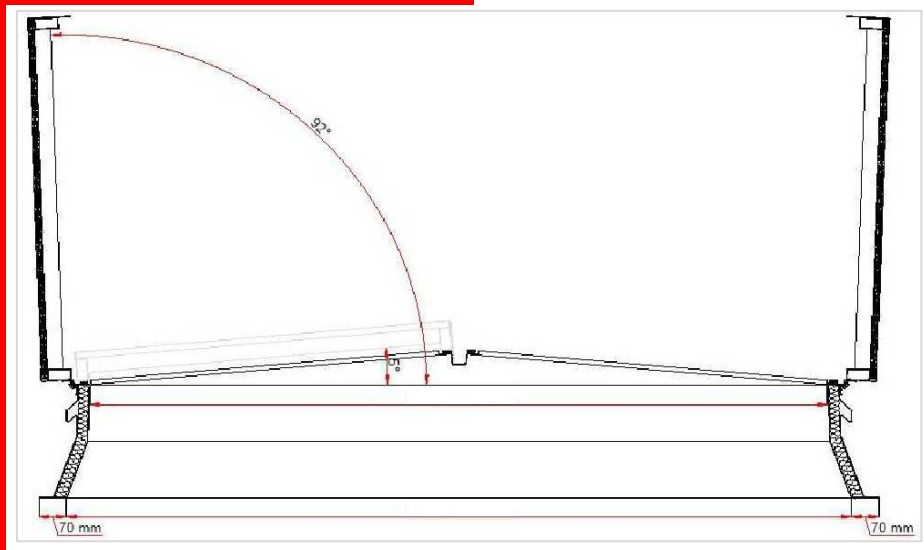
At today's modern construction sites in addition to complying with the law, physical integrity of persons engaged in the work area is essential to pre-serve. The VARIODOME product line includes the mooring safety eye of the dome fixed to the base. Applying it in addition to the personal protective equipment provides protection against falls locally, obviating the need for costly to build cableway.

Technical data of polycarbonate built in skylights

Sash windows	Color	Translucency (%)	Heat transmission (U=W/m2K)	Sound inhibition (Rw)
1 layer PETG	clear	94	5,4	-
1 layer PETG	opal	84	5,4	-
2 layer PETG	clear/clear	87	2,7	24
2 layer PETG	clear/opal	77	2,7	24
2 layer PETG	opal/opal	68	2,7	24
3 layer PETG	clear/clear/clear	79	1,8	28
3 layer PETG	clear/clear/opal	70	1,8	28
3 layer PETG	clear/opal/opal	65	1,8	28
3 layer PETG	opal/opal/opal	59	1,8	28
10 mm pc	clear	65	2,48	20
10 mm pc	opal	60	2,48	20
16 mm pc	clear	61	1,77	22
16 mm pc	opal	55	1,77	22
25 mm pc	clear	54	1,4	22
25 mm pc	opal	44	1,4	22
40 mm pc	clear	51	1,1	25
40 mm pc	opal	43	1,1	25
50 mm pc	clear	50	0,99	26
50 mm pc	opal	40	0,99	26
10 mm pc + 1 layer PETG	clear/opal	62	2,08	23
16 mm pc + 1 layer PEG	clear/opal	59	1,57	26
16 mm pc + 2 layer PETG	clear/clear/opal	55	1,25	30
25 mm pc + 2 layer PETG	clear/clear/opal	49	0,95	31

Pedestal	Color	Translucency (%)	Heat transmission (U=W/m2K)	Sound inhibition (Rw)
30 mm insulation	-	-	0,92	35
60 mm insulation	-	-	0,55	44





number	Basic dimensions (cm)
1	170 x 190
2	170 x 210
3	170 x 240
4	170 x 270
5	170 x 300
6	180 x 250
7	190 x 210
8	190 x 250
9	190 x 270
10	190 x 300
11	200 x 300
12	210 x 240
13	210 x 270
14	210 x 300
15	230 x 270
16	230 x 300
17	250 x 300

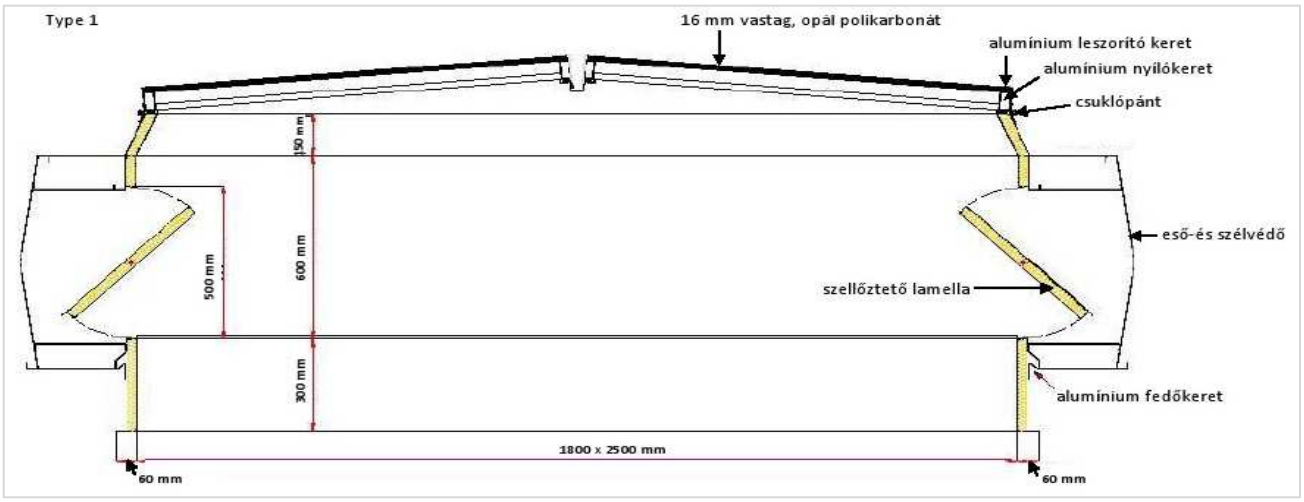
Variodome twin flap system

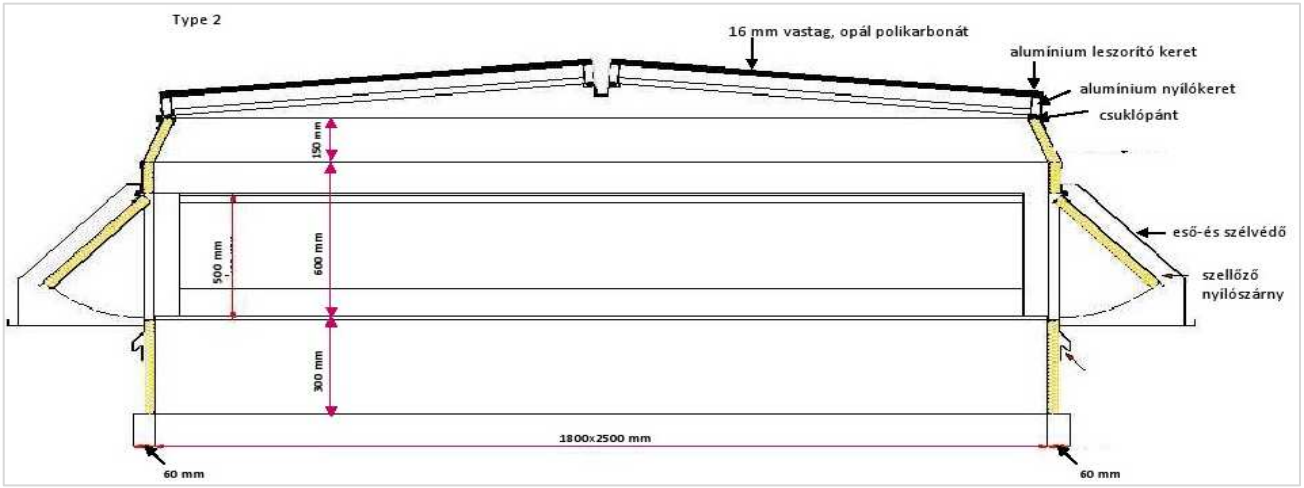
The twin flap system is ideally suited for buildings in respect of which stringent requirements are stipulated in respect of air sealing and thermal and/or acoustic insulation, and for buildings with a high moisture level.

To minimise the formation of condensation the Variodome twin flap system can be supplied in a thermally insulated design.

The twin flap system complements well the single flap dome size assortment.

The twin flap system operation - similar to a single flap dome - can be electric or pneumatic,using the same controls as in the case of single flap dome.





Variodome twin flap system with ventilation louvres

The twin flap system be supplemented with ventilation louvres. It is ideal for buildings with high heat load and continuous ventilation of the building is required.

The ventilation louvers are fitted to the base of the dome.
The advantage is that ventilation louvers can be used in rainy weather.
Against rain and wind mounted on protective plate .

The ventilation louver operated electrical or pneumatic, using 24V or 230V motors or pneumatic cylinder.

The ventilation louvers can also be used for single flap domes.

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