



JET composite profiles for systematic energy efficiency, European Technical Approved (ETA)

### Energy efficiency through

#### JET composite profiles

In the basic profile and flap frame as a combination of:

- rigid PVC multi-chamber insulation structure inside
- aluminium covering profile for design and protection outside (patented construction: Patent number DE 10 2010 000 018)
- continuous rooflight and rooflight flaps have no thermal bridges

#### JET kerb connection profile

- rigid PVC multi-chamber insulation profile for kerb head
- system connection for perfect roof seals

#### Application of heat insulated glazing

- e.g. PC 10 mm + 10 mm ( $U_g$ -value of glazing: 1.50 W/m<sup>2</sup>K)
- e.g. PC 10 mm + PC 4 + PC 10 mm ( $U_g$  value of glazing: 1.16 W/m<sup>2</sup>K)

#### Performance of hail protection glazing

- PC 16 mm seven-skinned + 3 mm air + PC 3 mm ( $U_g$  value of the glazing: 1.58 W/m<sup>2</sup>K) HW5 for water tightness, light transmission and appearance (according to testing regulation no. 24, VKF / Bern VKF classification no. 25036)

#### JET energy efficiency equipment

- thermal decoupling and thermal insulation of the eaves area and the kerb head
- transparent, valid European heat insulation certificate
- allows a total heat transmission ( $U_w$ -value) of 1.02 W/m<sup>2</sup>K according to European Technical Assessment

### Safety through

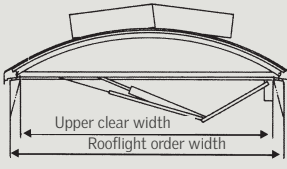
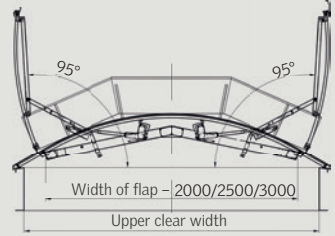
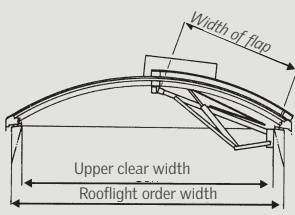
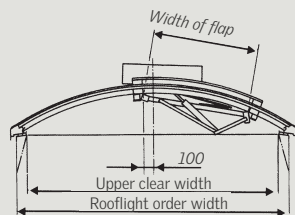
#### European Technical Approval (ETA)

- construction tested and approved by all European building authorities
- legally secure proof of placing on the market throughout Europe



- static design according to Eurocode (DIN EN 1991-1-3 and 1991-1-4)
- EC Certificate of Conformity for all NSHEV flaps
- coordinated, BG-certified system accessories with JET VARIO-PROTECT shading system, JET LB-DSL and JET VARIO-SAFEGUARD "fall-through" protection and JET VARIO-PROTECT 120 VWS traffic route securing
- Environmental Product Declaration Type II according to DIN EN ISO 14021 for use in sustainability certification e.g. DGNB, LEED, BREEAM
- hard roofing according to DIN 4102, part 7 or DIN EN 13501-5
- general type approval no. Z-10.19-739

## SHEV flaps for JET VARIO-THERM continuous rooflights

Flap type	Opening angle	Upper clear width of the kerb	Width/length	$A_g$	$A_a$
		cm	cm x cm	m <sup>2</sup>	m <sup>2</sup>
<b>Full flap</b> 165° 		from 100 to 250	b/100	from 1.000 to 2.500	from 0.700 to 1.998
		from 100 to 250	b/134	from 1.340 to 3.350	from 0.940 to 2.538
		from 100 to 300	b/204	from 2.040 to 6.120	from 1.530 to 4.284
<b>Double flap</b> 95° 		from 200 to 600	200/100	2.00	1.48
		from 200 to 600	200/204	4.08	3.05
		from 250 to 600	250/100	2.50	1.88
		from 250 to 600	250/204	5.10	3.89
		from 300 to 600	300/100	3.00	2.31
		from 300 to 600	300/204	6.12	4.70
		from 350 to 600	350/100	3.50	2.54
		from 350 to 600	350/204	7.14	5.28
		from 400 to 600	400/100	4.00	2.77
		from 400 to 600	400/204	8.16	5.83
<b>Side flap</b> 130° 		from 250 to 350	180/100	1.800	1.158
		from 250 to 350	180/204	3.672	2.387
		from 280 to 410	215/100	2.150	1.384
		from 280 to 410	215/204	4.386	2.851
		from 300 to 480	250/100	2.500	1.609
		from 300 to 480	250/204	5.100	3.315
<b>Beam flap</b> 130° 		from 350 to 1090	180/100	1.800	1.158
		from 350 to 1090	180/204	3.672	2.387
		from 400 to 1090	215/100	2.150	1.384
		from 400 to 1090	215/204	4.386	2.851
		from 480 to 1090	250/100	2.500	1.609
		from 480 to 1090	250/204	5.100	3.315

**Note:**  
 $A_g$  values (aerodynamic effective opening surface) and  $A_a$  values (geometrical surface)

## JET composite profiles

### Innovative combination of materials for function and design

Basic profile made of rigid PVC and aluminium covering profile

### Advantages of the JET composite profiles in detail

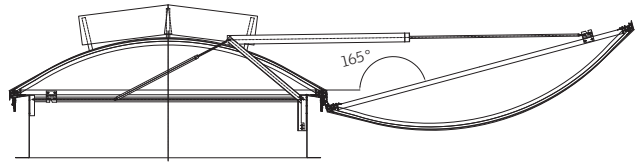
- high-quality and robust construction
- for secure and easy implementation of the roof sealing
- for prevention against fire flashover according to DIN 18234

### Advantages of the continuous rooflight construction

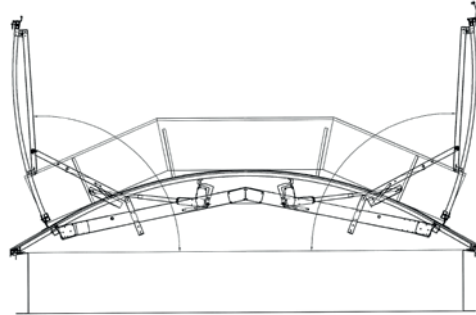
- type static according to Eurocode (DIN EN 1991-1-3 and DIN EN 1991-1-4)
- complete load distribution of the wind suction forces via the PVC surface without metallic penetration of the insulation level

### Advantages of rooflight accessories

- high-quality plastic flap, thermal separation and heat insulated with glazing analogous to the continuous rooflight



Sectional view of a JET VARIO-THERM continuous rooflight with full flap



Sectional view of a JET VARIO-THERM double flap.

## JET energy efficiency

### Thermal decoupling and heat insulation of the eaves area

(Basic profile made of rigid PVC and aluminium covering profile)

- multi-chamber insulation profile without thermal bridges

### Thermal decoupling and heat insulation of the kerb head

(Kerb connection profile made of rigid PVC supplementing the eave profile)

- multi-chamber insulation profile without thermal bridges
- highly insulating, effective kerb head covering
- lowers the  $U_w$  value of the continuous rooflight construction up to an additional  $0.2 \text{ W/m}^2\text{K}$

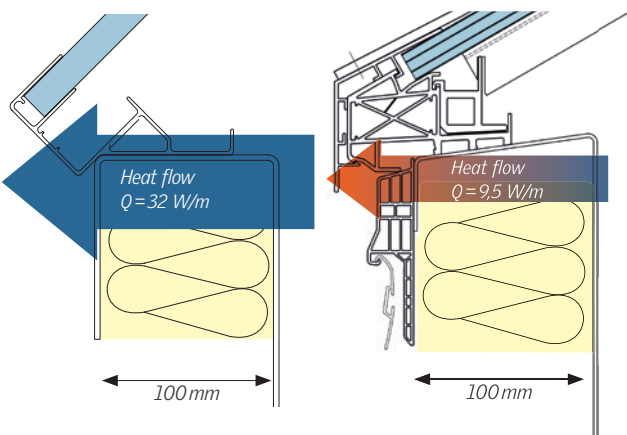
Enables a total heat transfer ( $U_w$  value) of  $1.02 \text{ W/m}^2\text{K}$

(Considerably better than the current EnEV reference value of  $\leq 2.4 \text{ W/m}^2\text{K}$ )

- ideal for projects with sustainability certification
- ideal for energy efficiency refurbishment

## Isothermal performance for continuous rooflight with heat flow compared with conventional rooflight eave profiles

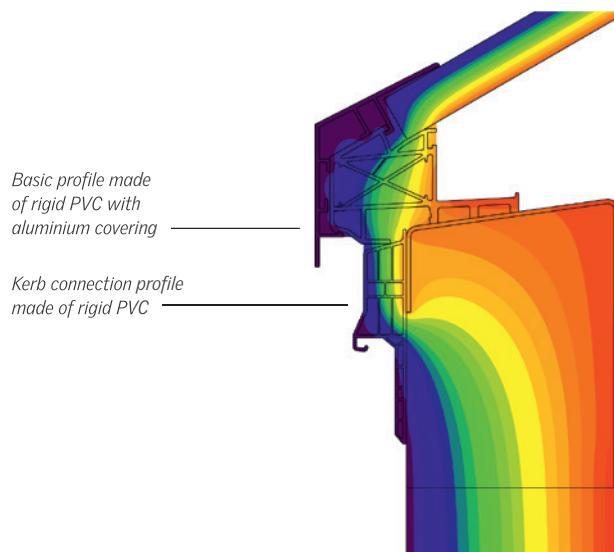
Perfect interaction: The heat insulating multi-chamber eave and kerb connection profiles result in ideal isothermal performance.



Heat flow of conventional constructions

Heat flow of JET VARIO-THERM

A low heat flow stands for less loss of heat.



The risk of condensate formation will be further minimised.

## Technical data for glazing variants

Description	$U_g$ value of the glazing [W/m <sup>2</sup> K]	$U_w$ value of the rooflight construction <sup>1</sup> [W/m <sup>2</sup> K]	Special features
PC 16/7	1.82	1.46	Optional as variant IR control
PC 20/7	1.61	1.32	Optional as variant IR control green
PC 16/7 + PC 3	1.58	1.29	JET hail protection: HW 5 in all categories Sound insulation: 26 dB
PC 10/4 + GFK + PC 10/4	1.54	1.26	Hard roofing: $B_{\text{Roof}}$ (t1) Sound insulation: 27 dB
PC 10/4 + PC 10/4	1.50	1.24	Fire behaviour: B-s2, d0 Sound insulation: 24 dB
PC 10/4 + non-woven fabric + PC 10/4	1.50	1.24	Hard roofing: $B_{\text{Roof}}$ (t1) Melting area according to DIN 18230-1
PC 10/4 + PC 10/4 DI	1.31	1.13	Sound insulation: 24 dB
PC 10/4 + GFK + PC 10/4 DI	1.20	1.05	Hard roofing: $B_{\text{Roof}}$ (t1) Sound insulation: 27 dB
PC 10/4 + PC 4/2 + PC 10/4 DI	1.16	1.02	Sound insulation: 24 dB
PC 16/7 + GFK DI	1.33	1.12	Hard roofing: $B_{\text{Roof}}$ (t1) melttable area according to DIN 18230-1

### Note:

1) Data relates to a continuous rooflight with the dimension 2 x 10 m with insulated kerbs of 50 cm height