Flat roof windows are designed and constructed using the highest quality materials, innovative solutions and with impeccable aesthetics in mind. Excellent thermal performance, an abundance of natural light, ventilation of the room, easy operation of windows and a wide range of accessories make these products ideal and perfect for the comfort of living in rooms under a flat roof.

Flat roof windows are available in three versions:
- type F window with innovative flat glazing unit
- type C window with glazing unit and a dome

The flat roof window frame is constructed using reinforced multi-chamber PVC profiles. The internal surface of the frame is white (RAL 9010). The material used in the profile features high resistance against acids and has low moisture absorption. As a result, the window can be installed in every room type.

Profiles are filled with insulation material, thus additionally improving the energy saving parameters of the product. The specially profiled covering material under the frame drip cap further improves the ultimate finish between the window and the roof covering.

The type F flat roof window is available with a passive, quadruple DU8 glazing unit characterised by a heat transfer coefficient with a rating of $U_w = 0.64 \text{ W/m}^2\text{K}$ (EN 14351-1) which makes the window suitable for use in energy-efficient and passive buildings.

The special structure of FAKRO flat roof windows provides excellent thermal insulation. The DEC U8 (VSG) window with a passive, quadruple U8 (VSG) glazing unit is characterised by a heat transfer coefficient with a rating of $U = 0.55 \text{ W/m}^2\text{K}$ (EN 1873). This result is for a 120x120cm window with frame, sash and dome.
# Flat Roof Window Construction

## Standard Glazing Units

<table>
<thead>
<tr>
<th>GLAZING UNIT</th>
<th>U6</th>
<th>DU6*</th>
<th>DU6 Secure*</th>
<th>DW6</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Ug (as per EN 673)</em></td>
<td>0.5 W/m²K</td>
<td>0.5 W/m²K</td>
<td>0.5 W/m²K</td>
<td>0.5 W/m²K</td>
</tr>
</tbody>
</table>

### Glazing Structure
- 6H-18-4HT-18-33.2T
- 6H-18-4HT-18-44.2T
- 6H-18-4HT-18-44.4T
- 888.44(VSG) 247VG
- 16-4HT-18-66.2T

### Chambers
- Double Chamber
- Double Chamber
- Double Chamber
- Double Chamber

### Toughened Outer Pane
- +
- +
- +
- +

### Laminated Inner Pane
- + class P2A
- + class P2A
- + class P2A
- + class P2A

### Spacer
- WARM TGI
- WARM TGI
- WARM TGI
- WARM TGI

### Inert Gas
- ARGON
- ARGON
- ARGON
- ARGON

### Sun Rays Transmission (τV)
- 0.67
- 0.54
- 0.54
- npd

### Sun Energy Transmission (Solar Factor G)
- 0.47
- 0.43
- 0.43
- 0.35

### UV Rays Transmission (τUV)
- 0.01
- npd
- npd
- npd

### General Information

- 6H - toughened glass
- 18 - spacer
- 4HT - toughened glass with low-emission layer
- 18 - spacer
- 33.2T - laminated glass with low-emission layer

- 6H - toughened glass
- 18 - spacer
- 4HT - toughened glass with low-emission layer
- 18 - spacer
- 44.2T - laminated glass with low-emission layer

### Passive

<table>
<thead>
<tr>
<th>U8(VSG)</th>
<th>DU8*</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRIPLE CHAMBER</td>
<td>TRIPLE CHAMBER</td>
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<tr>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>+ class P2A</td>
<td>+ class P2A</td>
</tr>
<tr>
<td>WARM TGI</td>
<td>WARM TGI</td>
</tr>
<tr>
<td>KRYPTON</td>
<td>KRYPTON</td>
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<tr>
<td>0.55</td>
<td>0.49</td>
</tr>
<tr>
<td>npd</td>
<td>0.38</td>
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</table>

### Anti-Burglary

<table>
<thead>
<tr>
<th>P2</th>
<th>P4</th>
</tr>
</thead>
<tbody>
<tr>
<td>SINGLE CHAMBER</td>
<td>SINGLE CHAMBER</td>
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<tr>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>+ class P2A</td>
<td>+ class P4A</td>
</tr>
<tr>
<td>WARM TGI</td>
<td>WARM TGI</td>
</tr>
<tr>
<td>ARGON</td>
<td>ARGON</td>
</tr>
<tr>
<td>0.75</td>
<td>0.75</td>
</tr>
</tbody>
</table>

### Window Construction

- Reflective outer pane

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[www.fakro.com](http://www.fakro.com)

**GENERAL INFORMATION 35/39**
FLAT ROOF PRODUCTS

WINDOWS

Features:
- Type Window. Suitable for pitches from 3-15°.
- Can be manufactured in any size within the range of 60x60-1200x200cm.
- Covered with a special glass section.
- The frame is constructed from multi-chamber PVC profiles filled with insulation material.
- The window can be manufactured as a non-opening.
- Suitable for installation in green roofs.

Features:
- Type Window. Suitable for pitches from 0-15°.
- Can be manufactured in any size within the range of 60x60-1200x200cm.
- Covered with a special glass section.
- The frame is constructed from multi-chamber PVC profiles filled with insulation material.
- The window can be manufactured as a non-opening.
- Suitable for installation in green roofs.

SMOKE VENTILATION WINDOWS

Features:
- Type Window with a dome. Suitable for pitches from 3-15°.
- Covered with a special glass section which consists of toughened glass featuring a thickness of 4mm or 6mm. Windows are factory-equipped with glass section.
- Special design ensures safe walk across the window surface.
- The frame is constructed from multi-chamber PVC profiles filled with insulation material.
- The window can be manufactured as a non-opening.

Features:
- Type Window with a dome. Suitable for pitches from 0-15°.
- Covered with a special glass section which consists of toughened glass featuring a thickness of 4mm or 6mm. Windows are factory-equipped with glass section.
- Special design ensures safe walk across the window surface.
- The frame is constructed from multi-chamber PVC profiles filled with insulation material.
- The window can be manufactured as a non-opening.

ACCESS ROOF LIGHTS

Features:
- Room illumination.
- Easy and convenient operation thanks to gas springs.
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Features:
- Safe access to the roof.
- Designed to be installed together with FAKRO loft ladders (convenience solution providing convenient access to the flat roof).
- Easy and convenient operation thanks to gas springs.

Features:
- Safe access to the roof.
- Designed to be installed together with FAKRO loft ladders (convenience solution providing convenient access to the flat roof).
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ROOF ACCESS DOOR

Features:
- Suitable for pitches from 3-15°.
- Designed for installation in FAKRO loft ladders (convenience solution providing convenient access to the flat roof).
- Easy and convenient operation thanks to gas springs.

Features:
- Safe access to the roof.
- Designed to be installed together with FAKRO loft ladders (convenience solution providing convenient access to the flat roof).
- Easy and convenient operation thanks to gas springs.

LIGHT TUNNEL WITH FLEXIBLE LIGHT TRANSMITTING TUBE

Features:
- Illumination with natural light for all rooms under flat roofs.
- Dome made of durable polycarbonate.
- Good thermal insulation performance.

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LIGHT TUNNEL WITH RIGID LIGHT TRANSMITTING TUBE

Features:
- Illumination with natural light for all rooms under flat roofs.
- Dome made of durable polycarbonate.
- Good thermal insulation performance.

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### ACCESSORIES FOR FLAT ROOF WINDOWS

<table>
<thead>
<tr>
<th></th>
<th>INTERNAL ACCESSORIES</th>
<th>EXTERNAL ACCESSORIES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BLACKOUT BLINDS</td>
<td>PLEATED BLIND</td>
</tr>
<tr>
<td>ARF/D, ARF/D Z-Wave</td>
<td></td>
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</tr>
</tbody>
</table>

#### BLACKOUT BLINDS
- Type F flat roof windows.
- Type C flat roof windows.
- Type G flat roof windows.

**Features:**
- Variable reduction of incoming light.
- Lockable in any position thanks to the side guides.
- Protection from overheating inside.
- Reduced heat loss during winter.
- Resistant to moisture.

**Control mode:**
- **ARF/D** - manual operation (ZSD control rod).
- **ARF/D Z-Wave** - operated by remote control or wall switch; powered from the mains. If the ARF/D Z-Wave blind is mounted onto DM, DX windows, power supply and control unit must be purchased separately.

#### PLEATED BLIND
- Type F flat roof windows.
- Type C flat roof windows.
- Type G flat roof windows.

**Features:**
- Protection against intense sunlight.
- Enhanced interior design.
- Darkening of the interior on sunny days.
- Partial protection against heat gain.
- Lockable in any position.
- Fabric with a honeycomb structure and an internal aluminium coating provides blackout and good thermal performance.
- Aluminium guides are available in two colour versions: lacquered white and anodised silver.
- Provision of complete privacy when closed.

**Control mode:**
- **APF/D** - manual operation (ZSD or ZST control rod)

#### AWNING BLINDS
- Type F flat roof windows.

**Features:**
- Protection against excessive heat gain.
- Ingress of natural light and view to the outside.
- Protection against UV radiation.
- Protection against light reflection on computer and TV screen.
- When rolled up, it does not limit the glazing surface.
- Comfortable and automatic operation (intelligent system controls the awning blind depending on the insolation level).
- High insolation level triggers the blind to unroll automatically.
- Blind rolls up automatically in cloudy weather.

**Control mode:**
- **AMZ/F Solar** - powered by solar battery pack. It can be operated in one of three control modes:
  - Automatic (automatically unrolls and rolls up depending on the insolation level).
  - Semi-automatic (automatically unrolls, it is rolled up using a remote control).
  - Operated by means of included remote control.
- **AMZ/C Z-Wave** - operated by remote control or wall switch in wireless Z-Wave system; powered from the mains (15V). If the AMZ/C Z-Wave blind is mounted onto DM, DXC windows, power supply and control unit must be purchased separately.