

NSAI

Agrément

IRISH AGRÉMENT BOARD
CERTIFICATE No. 07/0276

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FAKRO Roof Window Systems

Fenêtre pour toit en pente
Dach Fenster

NSAI Agrément (Irish Agrément Board) is designated by Government to carry out European Technical Approvals.

NSAI Agrément Certificates establish proof that the certified products are 'proper materials' suitable for their intended use under Irish site conditions and in accordance with the **Building Regulations 1997 to 2017**.



PRODUCT DESCRIPTION:

This Certificate relates to the FAKRO Roof Window Systems:

- Centre Pivot Windows: FTP, FTT, FTS, PTP, FTU
- High Pivot Windows: FYP
- Duet Pivot Windows: FDY
- Top Hung & Pivot Windows: FEP, FPP, FPU & PPP
- Balcony Window: FGH
- L-Shaped Combination: BDL, BDR, BVP, BXP
- Side Hung Escape Windows: FWP

These window systems are constructed from continuous timber or laminated pinewood core, as its basic raw material. The pinewood is vacuum

impregnated and the internal face can be lacquered several times with transparent lacquer to retain a natural internal pinewood finish.

The softwood frames are clad externally with polyester powder-coated aluminium facing which presents a durable external façade.

A range of sealed, argon or krypton gas filled double, triple and quadrupled glazed units with low emissivity coatings are available for any combination of float, toughened or laminated glass combinations.

Readers are advised to check that this Certificate has not been withdrawn or superseded by a later issue by contacting NSAI Agrément, NSAI, Santry, Dublin 9 or online at <http://www.n sai.ie>

This Certificate certifies compliance with the requirements of the Building Regulations 1997 to 2017.

USE:

The FAKRO FTP, FTS, FTT, FTU, and PTP centre pivot windows are the basic type of roof window and are suitable for roof pitches from 15°- 90°. These windows open only in a centre pivot method and the sash can be rotated through 180° and this function is used when cleaning the outer pane or adjusting the awning blind. The FAKRO FTT is a highly energy efficient window system with U6 (highly energy efficient) or U8 (passive) glazing units.

The FAKRO FDY and FYP are similar to the centre pivot range with their axis of rotation is situated above the centre of the window. The FDY range incorporates a fixed sash below the off centred pivot upper sash. Roof window installation is suitable in roof pitches between 20°-60°. The opening sash can rotate to 160°.

The FAKRO FEP top hung window opens to 45° enabling easy approach to the window and offering an unrestricted view. An additional outward opening function to 68° enables access and egress to adjoining roofs if this is required. This window can include the centre pivot function used for cleaning. FAKRO FEP in the appropriate sizes, also provides a means of escape in accordance with the Building Regulations 1997 to 2017.

The FAKRO FPP, FPU, and PPP top hung and pivot windows which are suitable for roof pitches from 15°-55°. This roof window ensures unobstructed access to the window with a wide view to the outside through the open window. The top hung function from 0° to 45° enables an easy approach to the window with a wide view. The centre pivot function is used for cleaning the outer pane and to adjust the awning blind. The FAKRO FPP and PPP in the appropriate sizes also provide a means of escape in accordance with the Building Regulations 1997 to 2017.

The FAKRO FGH balcony window is a large double sashed window whose sashes when opened create a balcony. The upper sash opens upwards to 45° and the lower sash can be tilted forward until vertical. Side safety barriers are integrated into the bottom sash and slide out during opening. When closing the lower sash, balcony rails hide inside the window and are not visible above the roof surface. The FGH roof window is suitable for use in roof pitches between 35°-55°.

The FAKRO BDL, BDR, BVP and BXP are the L-shaped combination windows that are installed where the roof meets a vertical wall. The FAKRO BDL & BDR L-shaped combination windows can be

turned to 90° for the upper section and the lower window section can tilt inwards to 12cm. The FAKRO BVP lower window section can tilt to open 12cm. The FAKRO BXP is a non-opening window. The BDL, BDR, BVP and BXP are suitable for vertical walls with second roof window L-shaped combination suitable for roof pitches between 15° - 55°.

The FAKRO FWP are a side hung window type which enables safe and easy access to the roof and also acts as an escape window. A mechanism fitted in the top part of the window makes opening easier, holds the sash stable when opened and prevents it slamming shut accidentally. The sash can be opened to 90°. The FAKRO FWP range is suitable for roofs with a pitch of between 15° - 55°. In the appropriate sizes, these roof windows provide means of escape in accordance with the Building Regulations 1997 to 2017.

MANUFACTURE AND MARKETING:

The products are manufactured on behalf of:

PP FAKRO Sp z.o.o,
Wegierska 144a,
33-300 Nowy Sacz,
Poland.

The products are marketed by:



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Naas,
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Tel: 045 409050
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1.1 ASSESSMENT

In the opinion of the National Standard Authority of Ireland (NSAI) Agrément Board, the FAKRO Roof Window Systems, if used in accordance with this Certificate can meet the requirements of the Building Regulations 1997 - 2017 as indicated in Section 1.2 of this Certificate.

1.2 BUILDING REGULATIONS 1997 to 2017 REQUIREMENTS:

Part D – Materials and Workmanship

D3 – Proper Materials

FAKRO Roof Window Systems as certified in this Certificate are comprised of proper materials fit for their intended use (see Part 4 of this Certificate).

D1 – Materials & Workmanship

FAKRO Roof Window Systems as certified in this Certificate can meet the requirements of the building regulations for workmanship.

Part A - Structure

A1 – Loading

FAKRO Roof Window Systems, as certified in this Certificate, have adequate strength and stability (see Part 3 and 4 of this Certificate).

Part B – Fire Safety

B1 – Means of Escape in Case of Fire

Windows in ground or higher floors may be used as a means of escape in the case of fire. Where a window is required to provide an alternative means of escape, a FAKRO Roof Window System can meet the requirements when it provides an unobstructed clear open area of at least 0.33m². In providing the required clear open area, the width should not be less than 450 mm and the height should not be less than 450 mm. The windows also need to be positioned as required by BS 9991:2015 *Fire safety in design, management and use of residential buildings – Code of practice* and in accordance with Part B6 of the Building Regulations 1997 to 2017 to meet the requirements to provide a means of escape.

Any restrictor fitted must be easy to operate.

B2 – Internal Fire Spread (Linings)

The glazing used in FAKRO Roof Window Systems can be regarded as non-combustible material and therefore can be taken as having a Class O classification.

B4 – External Fire Spread

When used in roof windows, unwired glass at least 4mm thick can be regarded as having an AA

designation, in accordance with Part B8 of the Building Regulations 1997 to 2017.

Part C – Site Preparation and Resistance to Moisture

C4 – Resistance to Weather and Ground Moisture

FAKRO Roof Window Systems as certified in this Certificate will not adversely affect the resistance of the roof to the passage of moisture.

Part F – Ventilation

F1 – Means of Ventilation

Opening FAKRO Roof Window Systems can meet or contribute to meeting the requirements of this Regulation. The background ventilation requirements can be met by the adjustable trickle vents incorporated in the roof windows.

Part L – Conservation of Fuel and Energy

L1 - Conservation of Fuel and Energy

For the purpose of heat loss calculations for buildings, the U-value for FAKRO Roof Window Systems when fabricated and installed in accordance with this Certificate shall be taken as indicated on the manufacturer's Declaration of Performance (DOP). Table 2 and Table 3 of this Certificate give U-values for various FAKRO Roof window systems and glazing options. Table 4 of this certificate give guidance on the various glazing options. Specifiers should check the latest version of the DOP to ensure values are current. Due to the low thermal conductance of the frame material, the window systems can readily satisfy the maximum U-value and glazing requirements for heat loss.

2.1 PRODUCT DESCRIPTION

FAKRO Roof Window Systems are fabricated from preserved softwood frames or from polyvinyl chloride (PVC). The softwood frames feature polyester powder-coated aluminium on the external faces and clear water-based acrylic lacquer on the internal faces of the frames and sashes.

Framing members comprise of softwood sections formed by cutting the required profiles from either continuous timber or laminated material. The softwood is also treated with a preservative.

The aluminium profiles covering the outer frame, the sash and the flashings sealing the joint between the frame and the roof slope are extruded from 0.6mm thick aluminium sheet, which meets the requirements of I.S. EN 485-1:2016 *Aluminium and aluminium alloys – Sheet, strip and plate – Part 1: Technical conditions for inspection and delivery*, and is secured to the wood core with stainless steel screws.

The polyester powder coating has a minimum thickness of 25µm and consists of a dry primer thickness of 5µm (± 1µm) and a dry top coat thickness of 20µm (± 2µm).

All windows are factory-glazed using sealed argon or krypton gas filled double, triple or quadrupled glazed units with low emissivity coatings and are available in any combination of float, toughened or laminated glass.

Glazing units are sealed into the wooden or PVC sash using EPDM gaskets on the inside and flexible putty on the outside. The glazing unit is secured with steel brackets.

Opening window sections are operated by either one or two handles constructed from polyester powder-coated aluminium alloy with a polyester varnish. The hinges are constructed from zinc-coated galvanised steel. A key operated lock can be installed at the bottom of the sash pivot.

EPDM weather-stripping is located in the grooves around the periphery of the sash below the hinge axis and around the outer frame above the hinge axis. The weather-stripping above the hinge axis is fixed using special cover strips screwed to the frame, and the weather-stripping below the hinge axis is fixed to the jambs of the sash using cover strips screwed to the jambs. The weather-stripping is pressed into the special groove in the bottom member of the opening light and secured using stainless steel staples.

2.2 WINDOW TYPE DESCRIPTION

2.2.1 FTP Roof Windows

The FAKRO FTP roof windows are centre pivoted and are easy to operate. The two-part hinge allows the sash to be open in a range of positions. The sash can be rotated through almost 180° to allow easy cleaning and maintenance. The handle is positioned on the lower part of the sash for ease of operation, and secured open in two positions. The FAKRO FTP roof windows are suitable for use on roofs with pitches between 15° and 90°.



Figure 1: FTP Roof Window

This FAKRO FTP roof window can accommodate a range of insulated glazing units (IGU) as described in Table 2 of this certificate. These include the energy efficient (U3) IGU, the highly energy efficient (U5) IGU, the anti-burglary (P2) and anti-burglary and highly energy efficient (P5) IGU. FTP is available in a vented or non-vented window frame. See Table 4 for details on IGU.

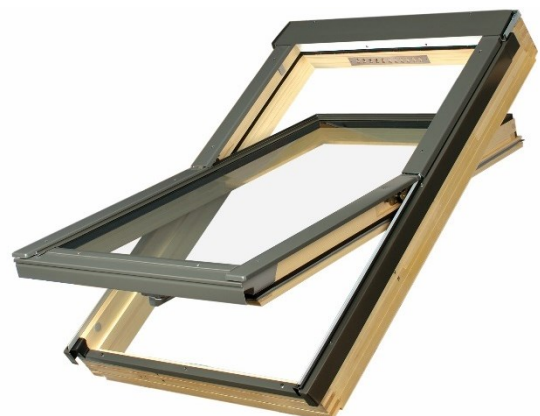


Figure 2: FTS-V Roof Window

2.2.2 FTS-V Roof Windows

The FAKRO FTS roof window centre pivot is hinged in the middle of the window. The sash can

rotate to almost 180° for easy cleaning of the outer pane and adjusting the awning blind. The handle is positioned at the bottom of the sash for convenient use. This roof window is suitable for use on roofs with pitches between 15-90°.

This FAKRO FTS roof window can only accommodate the energy efficient (U2) IGU and is available in a vented or non-vented window frame. See Table 2 and Table 4 for details.

2.2.3 FTT Roof Windows

The FAKRO FTT roof windows are similar to the centre pivot range of windows. The FTT roof window has its axis of rotation situated above the centre of the window. The FTT range are suitable for use on roofs with pitches of 15-70°. The sash can be rotated to almost 180° for cleaning the outer pane and adjusting the awning blind. The handle is located at the bottom of the sash.



Figure 3: FTT Roof Window

This FAKRO FTT roof window comes in a highly energy efficient (U6) and passive (U8) IGU. The frame is not vented. See Table 3 and Table 4 for details.



Figure 4: FTU-V Roof Windows

2.2.4 FTU & PTP Roof Windows

The FAKRO FTU & PTP roof windows are hinged in the middle of the window. These window types can rotate to almost 180° for easy cleaning of

the outer pane and adjusting the awning blind. The handle is positioned at the bottom of the sash for easy use. This roof windows are suitable for use on roofs with pitches of between 15-90°.

This FAKRO FTU & PTP roof window systems can accommodate the energy efficient (U3) IGU, the highly energy efficient (U5) IGU, the anti-burglary (P2) and anti-burglary and highly energy efficient (P5) IGU. The frame is available in a vented or non-vented window frame.

The differences in the two window types relate to finishes, frame profiles and ventilation. See Table 2, Table 3 and Table 4 for details.

2.2.5 FDY & FYP Roof Windows

The FAKRO FDY and FYP roof windows are similar windows, as both can rotate 160° about its pivot above the centre of the window. The handle on both windows is located at the bottom of the sash for ease of use. This type of roof window is suitable for use on roofs with pitches between 25°-65°.



Figure 5: FDY Duet Pro Sky Roof Window



Figure 6: FYP-V Roof Window

The FDY window is a two-sash window and can accommodate the energy efficient (U3) IGU and has a ventilated frame. The FYP window is a single sash window and can accommodate the energy efficient (U3) IGU, the highly energy

efficient (U5) IGU and the anti-burglary (P2) IGU. Further details on both window types are illustrated in Table 3 and Table 4.

2.2.6 FPP, FPU & PPP Roof Windows

The FAKRO FPP, FPU and PPP roof windows are similar functioning windows with the difference between them being the frame sash profiles and finishes.



Figure 7: FPP Roof Window

The FPP, FPU & PPP windows are all top hung and pivot window that can be opened in two distinct ways: outwards from the top and via a centre pivot. The outward opening function enables the sash to be opened in any position from 0° to 45°, whilst the pivot function allows the sash to be rotated through almost 180°. The window is operated by handle positioned on the lower part of the sash. The opening method can be switched using the sliding switch on the frame. The FPP roof windows are suitable for use on roofs with pitches between 15° and 55°.

The FAKRO FPP, FPU & PPP roof windows can accommodate the energy efficient (U3) IGU, the highly energy efficient (U5) IGU, the anti-burglary (P2) and anti-burglary and highly energy efficient (P5) IGU. The frame has a vent. See Table 2 and Table 4 for details.



Figure 8: FEP Roof Window

2.2.7 FEP Roof Windows

The FAKRO FEP roof window is a top hung emergency escape window which allows the user to open the emergency exit upward to an angle of 40° or 68°. The window has a centre pivot option. The handles are placed on the bottom part of the window sash and enables the user to raise the sash to 40°. The window is fitted with two locking catches which after release raises the sash from an angle of 40° or 68°. This sash can rotate to almost 180° for easy cleaning of the outer surface. FEP roof windows are suitable for use on roofs with pitches between 15° and 55°.

The FAKRO FEP roof window can accommodate the Anti-burglary (P2) IGU and does not have a vented frame. See Table 2 and Table 4 for details.



Figure 9: FGH-V - Balcony Roof Window

2.2.8 FGH Roof Windows

The FAKRO FGH roof window can be opened to create a balcony bay. It does this by having two opening sashes. The upper sash is opened upwards to 45° and the lower sash is opened until vertical. The handle is located on the bottom of the upper sash for easy use. The sash can be rotated to almost 180° for cleaning. This roof window is suitable for use on roofs with pitches between 35-55°.

The FAKRO FGH roof window can accommodate the anti-burglary (P2) and anti-burglary and highly efficient (P5) IGU and has a vented frame. See Table 3 and Table 4 for details.

2.2.9 BDL (Left), BDR (Right), BVP & BXP Roof Windows

The FAKRO BDL, BDR, BVP & BXP roof windows are suitable to install where a roof meets a vertical wall. The lower section of the L-shaped combination can be non-opening, tilt only or tilt and turn opening. The FAKRO roof window installed at the pitch of the roof in the L-shaped combination must be suitable to be installed in roofs with a pitch of 15°-55°.



Figure 10: BDL/BDR - Tilt & Turn System

The BDL and BDR windows have a tilt and turn opening system, the BVP window has a tilt opening system only while the BXP is a fixed system. The tilt function, where present, opens 12cm forward and the turn function where present, rotates to 90°. Where a handle is present in these windows, it is positioned in the middle of the unhinged vertical sash.



Figure 11: BVP - Tilt Opening

The FAKRO BDL, BDR, BVP & BXP roof windows is available in an anti-burglary (P2) and anti-burglary and highly energy efficient (P5) IGU. The frames are non-vented. See Table 3 and Table 4 for details.



Figure 12: BXP - Non-Opening

2.2.10 FWP Roof Windows

The FAKRO FWP roof window is designed to be an escape roof window. The sash can be hinged to the left or the right of the window frame. The roof window rotates to 90°. The handle is positioned in the middle of the vertical sash for easy use. The handle is positioned on the vertical

sash opposite to the hinged side. This roof window is suitable for use on roofs with pitches between 15°-55°.

The FAKRO FWP roof window can accommodate the energy efficient (U3) and anti-burglary (P2) IGU within a non-vented frame. See Table 3 and Table 4 for details.



Figure 13: FWP Roof Window

2.2.11 Roof Window Flashing

The FAKRO flashings are available for the window systems; however, they are outside the scope of this certificate.

The FAKRO flashings for roof windows are made from aluminium sheets protected by polyester lacquer. The flashings are suitable for roof windows with a pitch ranging from 15° to 90°. FAKRO have a range of flashings suitable for flat tile roof, slated roof, steel panel sheet and flat sheet roofs made of copper and titanium-zinc. The ELV (Figure 14) is the flashing used for windows in standard slate roofs, while the EZV (Figure 15) is the flashing used for roof windows in standard tiled roofs.

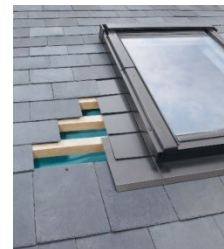


Figure 14: ELV Roof Flashing

Other types of flashings used in FAKRO roof windows include tiled roof flashings EHV-A, EHV-AT, EHN, flat sheet roof flashings EBV-A, upstand roof flashings EFW and slate roof flashings ELJ, ELN, ELV-T, ELW, ESA, EPV.

Table 1: Product Range

Window Type	Window Code	Modular Size (mm)	Glazing Area (m ²)	Opening Area (m ²)
FTS FTS-V FTP FTP-V FTU FTU-V	01	547x781	0.22	0.27
	02	547x981	0.29	0.35
	03	657x981	0.38	0.44
	04	657x1181	0.47	0.55
	05	777x981	0.47	0.54
	06	777x1181	0.59	0.67
	07	777x1401	0.72	0.82
	08	937x1181	0.75	0.84
	09	937x1401	0.92	1.02
	10	1137x1181	0.95	1.04
	11	1137x1401	1.16	1.26
	12	1337x981	0.92	1.00
	13	777x1601	0.85	0.95
	16	547x1181	0.37	0.44
17	1337x1401	1.40	1.51	
80	937x1601	1.07	1.18	
PTP PTP-V FTT [#]	01 [#]	547x770	0.22	0.27
	02	547x970	0.29	0.35
	03	657x970	0.38	0.44
	04	657x1170	0.47	0.55
	05	777x970	0.47	0.54
	06	777x1170	0.59	0.67
	07	777x1390	0.72	0.82
	08	937x1170	0.75	0.84
	09	937x1390	0.92	1.02
	10	1137x1170	0.95	1.04
	11	1137x1390	1.16	1.26
	12	1337x970	0.92	1.00
	13	777x1591	0.85	0.95
	16	547x1170	0.37	0.44
17	1337x1390	1.40	1.51	
80	937x1591	1.07	1.18	
FYP FYP-V FYP/U FYP-V/Y	40	777x1801	0.96	NPD
	41	777x2061	1.12	NPD
	42	937x1801	1.22	NPD
	43	937x2061	NPD	NPD
FDY FDY-V/U FYP/U FYP-V/U	CA	777x1861	0.91	0.82
	CB	777x2061	1.03	0.95
	CC	777x2350	1.20	0.95
	CD	780x2550	1.32	0.95
	DA	937x1861	1.15	1.02
	DB	937x2060	1.30	1.18
	DC	937x2350	1.52	1.18
	DD	937x2550	1.67	1.18

Window Type	Window Code	Modular Size (mm)	Glazing Area (m ²)	Opening Area (m ²)	
FPP FPP-V FPU FPU-V	02	547x981	0.29	0.35	
	03	657x981	0.38	0.44	
	04	657x1181	0.47	0.55	
	05	777x981	0.47	0.54	
	06	777x1181	0.59	0.67	
	07	777x1401	0.72	0.82	
	08	937x1181	0.75	0.84	
	09	937x1401	0.92	1.02	
	10	1137x1181	0.95	1.04	
	11	1137x1401	1.16	1.26	
	12	1337x981	0.92	1.00	
	13	777x1601	0.85	0.95	
	16	547x1181	0.37	0.44	
	17	1337x1401	1.40	1.51	
	80	937x1601	1.07	1.18	
	FGH-V	CD	780x2550	1.32	NPD
	FGH-V/U	DD	940x2550	1.67	NPD
PPP PPP-V	02	547x970	0.29	0.35	
	03	657x970	0.38	0.44	
	04	657x1170	0.47	0.55	
	05	777x970	0.47	0.54	
	06	777x1170	0.59	0.67	
	07	777x1390	0.72	0.82	
	08	940x1180	0.75	0.84	
	09	937x1170	0.92	1.02	
	10	1137x1170	0.95	1.04	
	11	1137x1390	1.16	1.26	
	12	1337x970	0.92	1.00	
	13	777x1591	0.85	0.95	
	FWP FWU	01	547x781	0.22	0.27
02		547x981	0.29	0.35	
03		657x981	0.38	0.44	
04		657x1181	0.47	0.55	
05		777x981	0.47	0.54	
06		777x1181	0.59	0.67	
07		777x1401	0.72	0.82	
08		937x1181	0.75	0.84	
09		937x1401	0.92	1.02	
16		547x1181	0.37	0.44	
22		657x781		0.35	
22		777x1601		0.95	
24		947x981		0.71	
24		947x1601		1.20	

NPD: No Performance Values Declared
[#] not available in this size

Table 1A: Product Range (Continued)

Window Type	Window Code	Modular Size (mm)	Glazing Area (m ²)	Opening Area (m ²)
FXP	CU	777x945	0.45	NPD*
FXU	DU	937x945	0.57	NPD*
FEP	07	777x1401	0.72	0.82
	09	937x1401	0.92	1.02
	11	1137x1401	1.16	1.26
BDL	33	756x592	0.25	0.26
	81	756x737	0.33	0.34
	82	756x937	0.45	0.46
	83	756x1137	0.57	0.57
BDR	84	756x1357	0.71	0.70
BVP	34	916x592	0.31	0.34
BXP	85	916x737	0.42	0.44
BDL/U	86	916x937	0.58	0.59
BDR/U	87	916x1137	0.73	0.73
	88	916x1357	0.89	0.89
BVP/U	35	1116x592	0.40	0.43
BXP/U	89	1116x737	0.53	0.56
	90	1116x937	0.73	0.75
	91	1116x1137	0.92	0.93
	92	1116x1357	1.13	1.15



Figure 15: EZV Roof Flashing

2.3 MANUFACTURE

The cores of the window framing members are profiled from softwood and treated with preservative. Members of the outer frames and sashes are glued at the corners and additionally joined with quadruple and triple tenons respectively. External profiles are covered with aluminium sections which are secured with stainless steel screws.

2.4 Quality Control

Quality control checks are carried out on the incoming raw materials, during production and on the finished product. These checks include timber quality, quality and strength of glue laminated wood, preservative treatment, dimensions, operation, and colour.

2.5 DELIVERY, STORAGE AND MARKING

FAKRO Roof Windows are delivered to site fully glazed and suitably protected to avoid damage during transportation. The windows should be stored under cover in a clean area, on edge and suitably supported to avoid distortion or damage prior to installation.

Each window has a label bearing the marketing company's mark, the NSAI logo and the NSAI Certificate number.

2.6 INSTALLATION

2.6.1 The FAKRO roof window types must only be installed in roofs of a suitable pitch. The acceptable roof pitch range for each window type is given in Table 2 and Table 3 of this certificate.

2.6.2 The recommended distances from the bottom edge of the operable roof window sash and the floor is 1300mm for roof window types FTS, FTP, FTU and PTP. The recommended distance from bottom edge of the operable roof window sash and the floor for FPP, FPU, PPP, FEP, FYP, FTT and FWP is 1100mm. FDY has a recommended distance of 700mm from the bottom edge of the fixed roof window section to the floor and 1100mm from the bottom edge of the operable sash to the floor. The recommended distances are based on heights of a person being able to comfortably approach the roof window without being impeded. Fire regulation and Engineer's reports may suggest alternative distances for means of emergency escape.

2.6.3 The roof window must be installed above a complete row of tiles or slates – tiles/slates under the window must not be cut. In the case of metal roof sheets or similar, the roof window must be installed above a horizontal lap. In the case of roofing materials with a high or large profile, it is recommended that the upper edge should be cut (tile or slates), or flattened (metal roof sheets or similar) under the edge of roof window to prevent front flashing apron against tearing.

2.6.4 The left-hand and right-hand abutment gaps should be set at between 30-60mm on either side from the tile edge to the window frame. A back gutter of between 60-150mm at the head of the frame to the bottom edge of the tile or slate.

2.6.5 The roof window sits directly on the rafters and is secured by four brackets. The distance between the two rafters should be approximately 20-50mm wider than the width of the roof window. If the roof has a different rafter spacing, a vertical trimmer may be necessary. If a vertical trimmer is needed, positioning of a head trimmer and a sill trimmer should allow proper lining construction. The trimming should

be made in a way that will give the structural stability required to meet the Building Regulations 1997 to 2017.

2.6.6 Mark the roof window opening depicting the window dimensions and then cut the felt leaving 100mm upstand to the head, sill and both side abutments. Cut the battens out where the window is to be fitted. In order to install a drainage gutter above the roof window, which will divert water around the back of the window, cut out a section of counter batten and cut the felt diagonally.

2.6.7 Unpack the window, take out the metal claddings and installation kit.

2.6.8 Take out the sash from the window frame by opening the bottom handle and rotating the sash approximately 150°. Press the push button in the hinge pins. Remove the sash, making sure that the pins slide out from both of the hinges simultaneously.

2.6.9 Unscrew the bottom sill flashing cover from the frame. Remove the wooden protection slats from the frame.

2.6.10 Screw the four metal brackets to the frame, two to each side abutment, approximately 100mm from the corners. Metal brackets should be screwed to the frame so that the number on the metal angle corresponds to the thickness of the batten and the groove on the frame appropriate to the desired installation depth.

2.6.11 Place the frame in the prepared opening in the roof ensuring the brackets are resting on the rafters or counter battens, and check that the groove to the side of the frame relating to the depth of installation is level with the top surface of the battens. Use a spirit level to check that the bottom of the frame is horizontal. Secure only the bottom two brackets to the rafters.

2.6.12 Re-connect the sash to the frame holding it with the sill section in an upward direction, with the outside surface of the sash facing towards installer. Slide the protruding sash pins simultaneously into the frame hinges.

2.6.13 Close the roof window. The push button is automatically released when the sash is closed.

2.6.14 Open the roof window slightly and check if the gap between the bottom edge of the frame sill and the bottom edge of the sash is even along its whole length. If it is not, put a plastic wedge (from assembly kit) under the upper left-hand or right-hand side metal angle, on the side where the gap is narrower.

2.6.15 Close the roof window and check if the vertical gaps between the sash and the frame are equal along their whole length. If they are not, slightly move the upper part of the frame left or right with a chisel, hammer or crowbar. Fix the upper metal brackets to the rafters once the frame has been levered into the correct position.



2.6.16 If vapour-permeable felt is used it is recommended to install a back-drainage gutter above the window. Cut the felt across the full width of the frame, approximately 200mm up from the back of the frame corner on one side, with the diagonal line meeting a point approximately 250mm up from the other corner at the back of the frame. Ensure the felt laps the back-gutter piece by at least 100mm. This will drain away any water from condensation or leaks. Fix the felt to the sides of the frame using felt tacks or staples.

2.6.17 Fit the top metal cladding supplied with the window. Make sure that the window is in proper working condition. Ventilation air inlet should be left in a fully opened position.

2.6.18 Flashing fitting instructions are provided in the flashing package supplied with the window system.

2.6.19 When installing the window onto battens, a separate and additional set of installation instructions will be included with the window system.

Table 2: FAKRO Roof Window Details











Roof Window Frames	Roof Window Pivots								Roof Windows Top Hung & Pivot		
											
Roof Window Frame Codes	FTS	FTS-V	FTP-V	FTU-V	PTP (PVC)	PTP-V (PVC)	FTT U6	FTT U8 Thermo	FPP-V PreSelect	FPU-V PreSelect	PPP-V PreSelect
Access Roof Light Opening	Pivot 180°	Pivot 180°	Pivot 180°	Pivot 180°	Pivot 180°	Pivot 180°	Pivot 180°	180°	Top Hung 0-35° Pivot 180°	Top Hung 0-35° Pivot 180°	Top Hung 0-35° Pivot 180°
Suitable Roof Pitch	15°-90°	15°-90°	15°-90°	15°-90°	15°-90°	15°-90°	15°-70°	15°-70°	15-55°	15-55°	15-55°
Sash, Frame	Pine - Wood	Pine - Wood	Pine - Wood	Pine - Wood	PVC Profile	PVC Profile	Pine Wood	Pine Wood	Pine - Wood	Pine - Wood	PVC Profile
Wood Coating (Lacquer)	One Layer	One Layer	Two Layers	Three Layers	N/A	N/A	Two Layers	Two Layers	Three Layers	Three Layers	N/A
Colour	Natural Pine	Natural Pine	Natural Pine	White	White	White	Natural Pine	Natural Pine	Natural - Pine	White	White
Recommended Distance from Floor to Bottom Edge of Cill	130cm	130cm	130cm	130cm	130cm	130cm	110cm	110cm	110cm	110cm	110cm
Glazing Code ⁽¹⁾	U2	U2	P2, P5, U3, U5	P2, P5, U3, U5	P2, P5, U3, U5	P2, P5, U3, U5	U6	U8	P2, P5, U3, U5	P2, P5, U3, U5	P2, P5, U3, U5
Acoustic Performance [dB]*	33(-1;-5)	32(-1;-5)	U3: 32 (-1;-5) P2: 35 (-1;-3) U5: 33 (-2;-6) P5: 33 (-2;-4)	U3: 33 (-1;-5) P2: 35 (-1;-3) U5: 33 (-2;-6) P5: 35 (-2;-4)	U3: 34 (-2;-5) P2: 36 (-1;-4) U5: 34 (-2;-6) P5: 38 (-1,-4)	U3: 32 (-1;-4) P2: 33 (-1;-4) U5: 34 (-2;-6) P5: 36 (-1,-3)	38 (-1;-4)	36 (-2;-5)	U3: 32 (-1;-5) P2: 35 (-1;-3) U5: 33 (-2;-6) P5: 35 (-2;-4)	U3: 32 (-1;-5) P2: 35 (-1;-3) U5: 33 (-2;-6) P5: 35 (-2;-4)	U3: 32 (-1;-4) P2: 33 (-1;-4) U5: 34 (-2;-6) P5: 36 (-1;-3)
Thermal Transmittance [W/m²k]*	1.30	1.30	U3, P2: 1.20 U5, P5: 0.97	U3, P2: 1.20 U5, P5: 0.97	U3, P2: 1.30 U5: 0.95 P5: 1.10	U3, P2: 1.30 U5: 1.10 P5: 1.10	0.80	0.68	U3, P2: 1.20 U5, P5: 0.97	U3, P2: 1.20 U5, P5: 0.97	U3, P2: 1.30 U5, P5: 1.10

Air Inlet Capacity at a pressure differential of 10Pa are available from the manufactures technical data sheets.

⁽¹⁾ Refer to Glazing in Table 4 for Solar Factor and light transmittance.

* Values are taken from the manufactures DOP and specifiers should check the latest version of the DOP to ensure values are current.

Table 3: FAKRO Roof Window Details

Roof Window Frames	Roof Windows Pivot		Roof Windows Pivot (With Raised Axis)		Panoramic Top Hung & Pivot	Balcony Window	Windows L-Shaped			Access Roof Lights
										
Roof Window Frame Codes	FTP-V Electro	FTU-V-Z Wave	FDY-V Duet ProSky	FYP-V ProSky	FEP	FGH-V Gallery	BDL, BDR	BVP	BXP	FWP
Access Roof Light Opening	Pivot** Determined by Actuator	Pivot** Determined by Actuator	High Pivot 160°	160°	Top Hung Up to 68° Pivot 180°	180°	Tilt & Turn 90°	Tilting – 12cm	Non-Opening	Tilting 90°
Suitable Roof Pitch	15-90°	15-90°	25°-65°	25°-65°	15-55°	15°-70°	15°-55°	15°-55°	15°-55°	15°-55°
Sash, Frame	Pine Wood	Pine Wood	Pine Wood	Wood	Pine Wood	Pine Wood	Pine Wood	Pine Wood	Pine Wood	Pine Wood
Wood Coating (Lacquer)	Two Layers	Three Layers	Two Layers	Two Layers	Two Layers	Two Layers	Two Layers	Two Layers	Two Layers	Two Layers
Colour	Natural Pine	White	Natural Pine	Natural Pine	Natural Pine	Natural Pine	Natural Pine	Natural Pine	Natural Pine	Natural Pine
Glazing Code⁽¹⁾	P2, P5, U3, U5	P2, P5, U3, U5	U3	U3, P2, U5	P2	P2, P5	P2, P5	P2, P5	P2, P5	U3, P2
Recommended Distance from Floor to Bottom Edge of Cill	130cm	130cm	70cm Fixed 110cm Open	110cm	110cm	N/A	N/A	N/A	N/A	110cm
Acoustic Performance [dB]*	U3: 32 (-1; -5) P2: 35 (-1; -3) U5: 33 (-2; -6) P5: 33 (-2; -4)	U3: 33 (-1;-5) P2: 35 (-1;-3) U5: 33 (-2;-6) P5: 35 (-2;-4)	32 (-1;-5)	U3: 32 (-1;-5) P2: 35 (-1;-3) U5: 31 (-1;-4)	35(-1;-3)	P2: 35 (-1;-3) P5: 34 (-1;-4)	P2: 37 (-2;-5) P5: 38 (-2;-5)	P2: 37 (-2;-5) P5: 38 (-2;-5)	P2: 37 (-2;-5) P5: 38 (-2;-5)	U3: 33 (-1;-5) P2: 35 (-1;-5)
Thermal Transmittance [W/m²k]*	U3, P2: 1.20 U5, P5: 0.97	U3, P2: 1.20 U5, P5: 0.97	1.3	U3, P2: 1.30 U5: 0.97	1.40	P2: 1.50 P5: 1.10	P2: 1.30 P5: 0.88	P2: 1.30 P5: 0.88	P2: 1.30 P5: 0.88	U3: 1.30 P2: 1.30

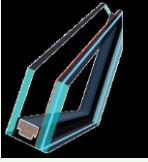
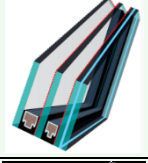
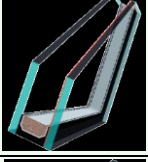
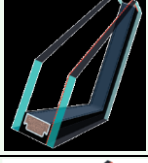
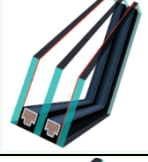
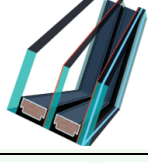
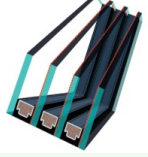
Air Inlet Capacity at a pressure differential of 10Pa are available from the manufactures technical data sheets.

⁽¹⁾ Refer to Glazing in Table 4 for Solar Factor and light transmittance.

* Values are taken from the manufactures DOP and specifiers should check the latest version of the DOP to ensure values are current.

**Pivot with An Integrated Electrical System

Table 4: Technical Specification of Glazing

Glazing Code	Glazing Unit Types	Description	Glazing Spec (Width)	Centre pane U-value (U_g) W/m ² .k	Radiation Properties	
					Solar Factor (g-value)	Light Transmittance
P2		Double Glazed ⁽¹⁾ with 90% Argon	4H-Tg14Ar-33.2T (24.76mm)	1.0	0.52	0.70
P5		Triple Glazed ⁽¹⁾ with 90% Krypton	4HS-Tg10Kr-4HT-Tg8Kr-33.2T (32.76mm)	0.5	0.48	0.63
U2		Double Glazed with 90% Argon	4H-St16Ar-4T (24mm)	1.1	0.64	0.82
U3		Double Glazed with 90% Argon	4H-Tg16Ar-4T (24mm)	1.0	0.53	0.70
U5		Triple Glazed with 90% Krypton	4HT-Tg10Kr-4H-Tg10Kr-4HT (32mm)	0.5	0.53	0.73
U6		Triple Glazed ⁽¹⁾ with 90% Argon	6HT-Tg18Ar-4H-Tg18Ar-33.2T (52.76mm)	0.5	0.47	0.62
U8		Quadruple Glazed with 90% Krypton	4H-Tg12Kr-4HT-Tg12Kr-4HT-Tg12Kr-4HT (52mm)	0.3	0.48	0.66

Notes:
⁽¹⁾ & 33.2

Inner pane consists of 2x3mm glass sheet laminated together with 0.76mm PVB to achieve Anti-burglary class P2A.

PVB Normally 0.76mm (2x0.38mm) layer of Polyvinyl butyral film

H External pane toughened Glass

HT Toughened Glass with low emissivity coating

Ar Glass cavity filled with 90% Argon/10% Air

Kr Glass cavity filled with 90% Krypton/10% Air

T Low emissivity coating

P2A Anti-Burglary Glass with Low emissivity Coating

St Galvanised Steel Spacer bar

Tg TGI Warm edged Spacer bar

3.1 GENERAL

FAKRO Roof Window Systems are suitable for most existing roofs, however, it is important that the roof is checked by a suitably qualified person to ensure that the possible removal of roof supporting members will not cause any problems. The roof also needs to be checked by a suitably qualified person to ensure that it can bear any possible additional loads imposed on it by the installation of the roof windows. This is the responsibility of the installation contractor and not the responsibility of Trade Craft or FAKRO Windows.

FAKRO Roof Window Systems are also suitable for replacing existing roof windows.

3.2 STRUCTURAL DESIGN

FAKRO Roof Window Systems can be selected to have adequate resistance to wind loads calculated in accordance with I.S. EN 1991-1-4:2005 *Eurocode 1: Actions on Structures Part 1-4: General Actions - Wind Actions (including Irish National Annex)*.

When larger modular units from Table 1 are selected, guidance must be sought from the manufacture on the structural adequacy of the selected IGU. Factors such as exposure, orientation, inclination and altitude will all factor into the selection of a suitable IGU.

3.3 WEATHERTIGHTNESS

When installed in accordance with the Certificate holder's instructions and this Certificate, the FAKRO Roof Window Systems will provide a weatherproof construction.

The FAKRO Window Systems has been CE marked in accordance with the harmonised standard I.S. EN 14351-1:2006+A2:2016 *Windows and doors - Product standard, performance characteristics - Part 1: Windows and external pedestrian doorsets without resistance to fire and/or smoke leakage characteristics*. As a result, the Windows Systems have been water tightness tested in accordance with I.S. EN 1027:2016 *Windows and Doors - Watertightness - Test Method* as required under Section 4.5 of I.S. EN 14351-1:2006+A2:2016 with the results expressed in the relevant DOP's in accordance with I.S. EN 12208:2000 *Windows and Doors - Watertightness - Classification*.

Similarly, the Window Systems have also been air permeability tested in accordance with I.S. EN 1026:2016 *Windows and Doors - air Permeability*

- *Test Method* with the results expressed in the relevant DOP's in accordance with I.S. EN 12207:2016 *Windows and Doors - air Permeability - Classification* in accordance with Section 4.14 of 14351-1:2006+A2:2016.

For unusual building layouts, building shapes, or ground topography, the designer will need to give particular consideration to prevailing exposure conditions and should design in accordance with I.S. EN 1991-1-4:2005+NA:2010 *Irish National Annex to Eurocode 1: Actions on Structures Part 1-4: General Actions - Wind Actions* and I.S. EN 1991-1-3 *National Annex: 2007 Irish National Annex (informative) to Eurocode 1 - Actions on Structures Part 1-3: General Actions - Snow Load*.

3.4 VENTILATION

The approximate opening area for rapid natural ventilation for the roof windows is shown in Table 1. The background ventilation requirements of the Building Regulations 1997 to 2017 can be met by the adjustable trickle vents incorporated in the roof windows.

3.5 THERMAL PERFORMANCE

The thermal performances of the FAKRO Roof Window Systems have been assessed in accordance with the requirements of I.S. EN ISO 10077-1 & I.S. EN ISO 10077-2. Area weighted U-value for the frame and glazing options are taken from the manufacture DOP and are given in Table 2 and Table 3 of this certificate.

The maximum area weighted U-value required under TGD Part L to the building regulations is 1.6W/m²K.

3.6 SAFETY

FAKRO Roof Window Systems can comply with the recommendations of BS 8213-1:2004 *Windows doors and rooflights - Design for safety in use and during cleaning of windows, including door-height windows and roof windows - Code of practice with regard to the positioning of hand operated controls*.

Account must be taken of the recommendations given in BS 6262-1:2005 *Glazing for buildings - General methodology for the selection of glazing*.

3.7 SECURITY AGAINST INTRUSION

The opening lights are fitted with a lock mechanism. When fastened in the closed position the opening light cannot be opened by

manipulation from the outside. In addition, key operated locks are available.

The arrangement of the aluminium cladding and glazing retaining profiles with screw fixings ensures that removal of the glass is difficult.

3.8 EASE OF OPERATION

The FAKRO Roof Windows can be operated without difficulty when correctly installed.

3.9 MAINTENANCE

FAKRO Roof Window Systems can be re-glazed and the gaskets, putty and weather-stripping replaced, but these operations should be carried out by a representative of the Certificate holder.

The external glazing and external frame members can be cleaned using water containing household detergent. If dirt is allowed to build up on the members over long periods it may become more difficult to restore the surface appearance. The external pane of the glazing unit can be cleaned from the interior of the building.

Care should be taken when using proprietary materials for cleaning the glass, to ensure that deposits are not allowed to remain on the wood

or aluminium surfaces where they may cause discolouration and damage to the surface. In addition, care must be taken to avoid damage to, or discolouration of, the members when stripping paint from adjacent timber.

The pivot hinges and locking mechanism should be lubricated periodically to minimise wear and to ensure smooth operation.

3.10 CE MARKING

The manufacturer has taken the responsibility of CE marking the products in accordance with harmonised standard I.S. EN 14351-1:2006+A2:2016 *Windows and doors – Product standard, performance characteristics – Part 1: Windows and external pedestrian doorsets without resistance to fire and/or smoke leakage characteristics*. An asterisk (*) appearing in this Certificate indicates that data shown is given in the manufacturer's Declaration of Performance.

Reference should be made to the latest version of the manufacturer's DoP for current information on any essential characteristics declared by the manufacturer.

4.1 BEHAVIOUR IN FIRE

The glazing used in FAKRO Roof Window Systems can be regarded as non-combustible material and therefore can be taken as having a Class O classification.

When used in roof windows, unwired glass at least 4mm thick can be regarded as having an AA designation and is classified as low vulnerability material.

4.2 STRUCTURAL STABILITY

FAKRO Roof Window Systems can be selected to have adequate resistance to wind loads as described in Part 3 of this certificate.

The FAKRO Roof windows have been tested in accordance with the classification of wind load outlined in I.S. EN 12210:2016 *Windows and doors – Resistance to wind load – Classification*. The FAKRO DOP's state the classification of each window type in accordance with the standard.

Similarly, FAKRO Roof Window Systems can be selected to have adequate resistance to snow loads. The magnitude of the actual snow load imposed will depend on a number of factors, such as height above sea level, geographical location and roof arrangement. Therefore, it is

recommended that I.S. EN 1991-1-3:2003 *Eurocode 1 - Actions on Structures Part 1-3: General Actions - Snow Loads (including Irish National Annex)* is used to calculate the actual snow load when the roof is used in situations where a load greater than stated in the window DOP can be expected.

4.3 THERMAL INSULATION

The thermal transmittance (U-value) of the FAKRO Roof Window Systems can be taken as stated in Table 2 and Table 3 of this Certificate. U-value for various glazing options are provided in accordance with the requirements of I.S. EN 14351-1:2006+A1:2016. The U-values published in Table 2 and Table 3 are taken from the manufacturer's declaration of performance (DOP) at the time of publication of this certificate and specifier and BER assessors should reference the latest DOP for the most accurate and up to date U-values.

U-value published in accordance with I.S. EN 14351-1:2006+A1:2016 are based on a standard 1.48 x 1.23m window as specified in the standard. The U-value is the area weighted U-values based on U_f (U-frame) x A_f (frame area) + U_g (U-glass centre pane) x A_g (glass area) + Ψ -

spacer bar x opening light length all divided by the area of the standard window size.

Table 4 gives values of centre pane u-values for the various glazing options.

4.4 CONDENSATION RISK

Experience of window systems similar to the FAKRO Roof Window Systems has shown that, in normal domestic or similar applications, roof windows do not constitute a significant condensation risk when correctly installed.

4.5 GLAZING RADATION PROPERTIES

The determination of the total solar energy transmittance (solar factor, g-value) and light transmittance of translucent glazing options given in Table 4 of this certificate have been carried out in accordance with the requirements of I.S. EN 410 *Glass in building – Determination of luminous and solar characteristics of glazing*.

The total solar energy transmittance (g-value) measures how well a product blocks heat caused by sunlight. Heat gain can be beneficial in winter months but can also present consumers with additional cooling loads in summer months. The Solar Factor is expressed as a number between 0 and 1. A lower Solar Factor means less heat gain.

Light transmittance (τ_v) is a measure the fraction of incident light that is either absorbed or transmitted through the glass. If light were to pass through the glazing unit with 30% absorption then the light transmittance for the glazing unit would be 0.7.

4.6 DURABILITY

The windows are constructed from preservative treated softwood, which is covered by aluminium cladding. Therefore, the life of the FAKRO Roof Window Systems is expected to be at least equal to conventional timber windows.

Fittings, including the pivot hinges and locking handles, will have similar durability except where windows are to be installed in areas subject to particularly aggressive conditions. These conditions can prevail in coastal locations or near sources of industrial pollutants and replacement of fittings may be necessary within the life of the window.

The gaskets and weather-stripping may need to be replaced within the life of the window.

4.7 TESTS AND ASSESSMENTS WERE CARRIED OUT TO DETERMINE THE FOLLOWING:

4.7.1 Effect of Wind Loads

Fakro Declaration of Performance states the resistance to wind loads in accordance with the

criteria set out in 4.2 of I.S. EN 14351-1:2006+A2:2016.

4.7.2 Effect of Snow Loads

Fakro Declaration of Performance states the resistance to snow loads in accordance with the criteria set out in Section 4.3 of I.S. EN 14351-1:2006+A2:2016.

4.7.3 Reaction to Fire

Fakro Declaration of Performance states the reaction to fire performance in accordance with the criteria set out in Section 4.4 of I.S. EN 14351-1:2006+A2:2016.

4.7.4 Water Tightness

Fakro Declaration of Performance states the water tightness performance in accordance with the criteria set out in Section 4.5 of I.S. EN 14351-1:2006+A2:2016.

4.7.5 Impact Resistance

Fakro Declaration of Performance states the impact resistance performance in accordance with the criteria set out in Section 4.7 of I.S. EN 14351-1:2006+A2:2016.

4.7.6 Air Permeability

Declaration of Performance states the air permeability performance in accordance with the criteria set out in Section 4.14 of I.S. EN 14351-1:2006+A2:2016.

4.7.7 Ease of Operation

FAKRO have undertaken test on its window products to EN 12046-1 after which the windows are classified to EN 13115:2001 *Windows – Classification of mechanical properties – Racking, torsion and operation forces*. Different windows achieved different classification dependent on the window pivot location and weight. FAKRO should be consulted for further information on the Ease of Operation of the Windows to which certificate relates.

4.7.8 Efficiency of Window Fittings

FAKRO have undertaken tests on its window products to EN 13126-1 *Building Hardware – Hardware for windows and door height windows – Requirements and test methods*. FAKRO should be consulted for further information on the Ease of Operation of the Windows to which certificate relates.

FAKRO should be consulted when window specifiers are consulting this certificate to obtain the most up to date information contained in the FAKRO Declaration of Performance's.

4.7.9 OTHER INVESTIGATIONS

Existing data on product properties in relation to fire, environmental impact and the effect on

mechanical strength/stability and durability were assessed.

The manufacturing process was examined including the methods adopted for quality control, and details were obtained of the quality and composition of the materials used.

Site visits were conducted to assess the practicability of installation and the history of performance in use of the product.

A condensation risk analysis was performed.

Part Five / Conditions of Certification

5

5.1 National Standards Authority of Ireland ("NSAI") following consultation with NSAI Agrément has assessed the performance and method of installation of the product/process and the quality of the materials used in its manufacture and certifies the product/process to be fit for the use for which it is certified provided that it is manufactured, installed, used and maintained in accordance with the descriptions and specifications set out in this Certificate and in accordance with the manufacturer's instructions and usual trade practice. This Certificate shall remain valid for five years from date of issue or revision date so long as:

- (a) the specification of the product is unchanged.
- (b) the Building Regulations 1997 to 2017 and any other regulation or standard applicable to the product/process, its use or installation remains unchanged.
- (c) the product continues to be assessed for the quality of its manufacture and marking by NSAI.
- (d) no new information becomes available which in the opinion of the NSAI, would preclude the granting of the Certificate.
- (e) the product or process continues to be manufactured, installed, used and maintained in accordance with the description, specifications and safety recommendations set out in this certificate.
- (f) the registration and/or surveillance fees due to NSAI Agrément are paid.

5.2 The NSAI Agrément mark and certification number may only be used on or in relation to product/processes in respect of which a valid Certificate exists. If the Certificate becomes invalid the Certificate holder must not use the NSAI Agrément mark and certification number and must remove them from the products already marked.

5.3 In granting Certification, the NSAI makes no representation as to;

(a) the absence or presence of patent rights subsisting in the product/process; or

(b) the legal right of the Certificate holder to market, install or maintain the product/process; or

(c) whether individual products have been manufactured or installed by the Certificate holder in accordance with the descriptions and specifications set out in this Certificate.

5.4 This Certificate does not comprise installation instructions and does not replace the manufacturer's directions or any professional or trade advice relating to use and installation which may be appropriate.

5.5 Any recommendations contained in this Certificate relating to the safe use of the certified product/process are preconditions to the validity of the Certificate. However, the NSAI does not certify that the manufacture or installation of the certified product or process in accordance with the descriptions and specifications set out in this Certificate will satisfy the requirements of the Safety, Health and Welfare at Work Act 2005, or of any other current or future common law duty of care owed by the manufacturer or by the Certificate holder.

5.6 The NSAI is not responsible to any person or body for loss or damage including personal injury arising as a direct or indirect result of the use of this product or process.

5.7 Where reference is made in this Certificate to any Act of the Oireachtas, Regulation made thereunder, Statutory Instrument, Code of Practice, National Standards, manufacturer's instructions, or similar publication, it shall be construed as reference to such publication in the form in which it is in force at the date of this Certification.

NSAI Agrément

This Certificate No. **07/0276** is accordingly granted by the NSAI to **PP FAKRO Sp z.o.o** on behalf of The Irish Agrément Board.

Date of Issue: **June 2007**

Signed



Seán Balfé
Director of NSAI Agrément

Readers may check that the status of this Certificate has not changed by contacting NSAI Agrément, NSAI, 1 Swift Square, Northwood, Santry, Dublin 9, Ireland.

Telephone: (01) 807 3800. Fax: (01) 807 3842. www.nσαι.ie

January 2018

- Revision in accordance with requirements of Building Regulations 1997 to 2017.
- Product specification updated to reflect manufactures Declaration of Performance.
- Product range updated to reflect manufacturers new roof windows.