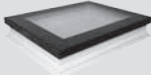




TECHNICAL SPECIFICATION

DXF, DMF, DEF

FLAT ROOF WINDOWS - TYPE F

WINDOW TYPE	DXF	DMF	DEF
			
I. APPLICATION			
Installation	installation angle 2°-15°, min. distance between two mounting holes 40 cm		
roofing base type	roofing felt paper, membrane, green roofs, gravel roofs		
II. FEATURES			
Sash structure	multi-chamber PVC profile		
Profiles fixing roofing	profiles mechanically fixing roofing to the frame		
Opening method	non-opening	manual using the attached rod (2.2 m)	electric in Z-Wave wireless system
Equipment	–	– one screw actuator, max. sash opening: 300mm – two screw actuators: for sizes 140x140cm and 120x220cm	– 1-2* ZWS 12 actuator – max. sash opening: 150mm – ZRH12 remote control – ZZ60h power supply – ZRD rain sensor
Warranty	10 years for windows, 2 years for electric control elements in DEF flat roof window		
III. TECHNICAL PARAMETERS			
Wind load resistance	C5/B5 Class for the window width ≤ 140 cm and height ≤ 140 cm C2/B2 Class for the window width > 140 cm and height > 140 cm		
Snow load resistance	6H-18-4H-18-44.2 6H-16-4H-18-55.2		
Fire resistance	B-s2, d0		
External fire resistance	Broof (t1)		
Watertightness. Unshielded (A)	E1200		
Impact resistance	Class 5 - 950 mm		
Air permeability	Class 4		
IV. OPTIONS			
Glazing units	– DU6 in DXF, DMF Secure version		
Peripheral profile	– coating in colours of RAL Classic spectrum – ColourLine version		
	– non-standard size and shape of the window [cm] in the range from 60 x 60cm to 120 x 220cm		
V. ADDITIONAL PRODUCTS TO BE USED			
Mounting accessories	– the XRD installation base allows raising the window above the roof by 15cm. Maximum two bases can be joined. – the XRD/W installation base allows raising the access roof light above the roof by 15cm. Maximum three bases XRD/W can be joined. – the XRD/A installation base allows raising the roof light mounting angle by 3°.		
External accessories	– AMZ/F Solar awning blinds		
Internal accessories	– ARF/D, ARF/D Z-Wave blackout blinds, APF/D pleated blinds		

as per EN 14351-1:2006+A1:2010

VI. TECHNICAL PARAMETERS FOR WINDOWS WITH PARTICULAR GLAZING UNIT TYPES		
Technical parameters	Glazing unit type	
	DU6	DU8
Glazing structure	6H-18-4HT-18-44.2T 6H-16-4HT-18-55.2T for sizes from 120x120	6H-10-4HT-10-4HT-12-44.2T
glazing U-value as per EN 673	0.5 W/m²K	0.4 W/m²K
window U-value as per EN 14351-1:2006+A2:2016	0.70 W/m²K	0.64 W/m²K
acoustic insulation Rw as per EN 1873:2006 p.5.10 (EN ISO 10140-2)	34(-1;-4)	33(-1;-3)
light transmittance factor τ _v as per EN 410	0.54	0.49
solar factor g as per EN 410	0.43	0.38
frame thermal insulation U _f as per PN-EN ISO 10077-2:2012	0.67 W/m²K	0.66 W/m²K
thermal insulation of frame and glazing connection Ψ as per PN-EN ISO 10077-2:2012	0.055 W/mK	0.055 W/mK

VII. TECHNICAL PARAMETERS FOR WINDOWS IN PARTICULAR SIZES											
commercial size [cm]	60x60	60x90	70x70	80x80	90x90	90x120	100x100	100x150	120x120	140x140	120x220
window size symbol	01K	02K	03K	04K	05K	06K	07K	10K	08K	09K	11K
window internal area [m²]	0.27	0.42	0.38	0.51	0.67	0.91	0.84	1.30	1.25	1.73	2.36
effective glazing area [m²]	0.23	0.37	0.33	0.46	0.60	0.83	0.77	1.21	1.16	1.63	2.23
DXF DU6 window weight [kg]±1kg	39	52	48	58	69	87	82	120	115	148	192
DMF DU6 window weight [kg]±1kg	40	54	50	60	71	88	83	121	116	152	198
DEF DU6 window weight [kg]±1kg	43	57	53	63	75	92	86	127	122	159	205
DXF DU8 window weight [kg]±1kg	43	58	53	65	77	97	91	127	122	157	204
DMF DU8 window weight [kg]±1kg	44	59	55	66	79	98	92	128	123	-	-
DEF DU8 window weight [kg]±1kg	47	62	58	69	82	102	96	134	129	-	-

TECHNICAL SPECIFICATION

DXG, DMG, DEG

FLAT ROOF WINDOWS - TYPE G

WINDOW TYPE	DXG	DMG	DEG
I. APPLICATION			
Installation	installation angle 2-15°		
roofing base type	roofing felt paper, membrane, green roofs, gravel roofs		
II. FEATURES			
Sash structure	multi-chamber PVC profile		
Profiles fixing roofing	profiles mechanically fixing roofing to the frame		
Opening method	non-opening	manual using the attached rod (2.2 m)	electric in Z-Wave wireless system
Equipment	–	– one screw actuator (for sizes: 140x140, 120x220: two screw actuators); max. sash opening 300 mm	– 1-2* ZWS 12 actuator – max. sash opening: 150mm – ZRH12 remote control – ZZ60h power supply – ZRD rain sensor
Warranty	10 years for windows, 2 years for electric control elements in DEG flat roof window		
III. TECHNICAL PARAMETERS			
Wind load resistance	Klasa C5/B5 (1)		
Snow load resistance	4H+4H-14-33.2 (for sizes ≤ 100x100) 6H+4H-14-33.2 (for sizes > 100x100)		
Fire resistance	npd		
External fire resistance	npd		
Watertightness. Unshielded (A)	E1200		
Impact resistance	Class 5 – 950 mm		
Air permeability	Class 4		
Glazing units	P2		
IV. OPTIONS			
Peripheral profile	– coating in colours of RAL Classic spectrum		
	– non-standard size and shape of the window [cm] in the range from 60 x 60cm to 120 x 220cm		
Glazing units	– possibility to manufacture with P4 glazing unit		
V. ADDITIONAL PRODUCTS TO BE USED			
Mounting accessories	– the XRD installation base allows raising the window above the roof by 15cm. Maximum two bases can be joined. – the XRD/W installation base allows raising the access roof light above the roof by 15cm. Maximum three bases XRD/W can be joined.		
External accessories	–		
Internal accessories	– ARF/D, ARF/D Z-Wave blackout blinds, APF/D pleated blinds		

as per EN 14351-1:2006+A2:2016

VI. TECHNICAL PARAMETERS FOR WINDOWS WITH PARTICULAR GLAZING UNIT TYPES

Technical parameters	Glazing unit type
	P2
Glazing structure	4H – Tg14Ar – 33.2T + 4H (for sizes ≤ 100 x 100) 4H – Tg14Ar – 33.2T + 6H (for sizes > 100 x 100)
glazing U-value as per EN 673	1.1 W/m ² K
window U-value as per EN 14351-1:2006+A2:2016	0.92 W/m ² K (size 123 x 148 cm)
acoustic insulation Rw as per EN 1873:2006 p.5.10 (EN ISO 10140-2)	36 (-1,-4)
light transmittance factor τ _v * as per EN 410	0.64
solar factor g** as per EN 410	0.49 (sizes ≤ 100 x 100 cm) 0.48 (sizes > 100 x 100 cm)

npd – no performance determined

VII. TECHNICAL PARAMETERS FOR WINDOWS IN PARTICULAR SIZES

commercial size [cm]	60x60	60x90	70x70	80x80	90x90	90x120	100x100	100x150	120x120
window size symbol	01K	02K	03K	04K	05K	06K	07K	10K	08K
window internal area [m ²]	0.27	0.42	0.38	0.51	0.67	0.91	0.84	1.30	1.25
effective glazing area [m ²]	0.23	0.37	0.33	0.46	0.60	0.83	0.77	1.21	1.16
DXG P2 window weight [kg]±1kg	35	47	43	52	61	76	72	107	102
DMG P2 window weight [kg]±1kg	35	46	43	51	60	74	70	105	101
DEG P2 window weight [kg]±1kg	39	51	47	57	66	81	76	115	111

TECHNICAL SPECIFICATION

DXZ-A, DMZ-A, DEZ-A FLAT ROOF WINDOWS - TYPE Z

WINDOW TYPE	DXZ-A	DMZ-A	DEZ-A
I. APPLICATION			
Installation	installation angle 0°-15°		
roofing base type	roofing felt paper, membrane, green roofs, gravel roofs		
II. FEATURES			
Sash structure	multi-chamber PVC profile		
Profiles fixing roofing	profiles mechanically fixing roofing to the frame		
Opening method	non-opening	manual by means of included 2.2 m long control rod	electric in Z-Wave wireless system
Equipment	–	– one screw actuator, max. sash opening: 300 mm	– one actuator ZWS12 (for sizes ≥ 120 x 120: two actuators); max. sash opening 150 mm – ZRH12 remote control – ZZ60h power supply – ZRD rain sensor
Warranty	10 years for windows, 2 years for electric control elements in DEZ flat roof window		
III. TECHNICAL PARAMETERS			
Wind load resistance	Class C5/B5 (1)		
Snow load resistance	4H+4H-14-33.2 (2,3) 6H+4H-14-33.2 (2,4)	4H+4H-14-33.4 (2,3) 6H+4H-14-33.4 (2,4)	
Reaction to fire	npd		
External fire performance	npd		
Watertightness. Unshielded (A)	E1200		
Impact resistance	Class 3 - 450 mm		
Load-bearing capacity of safety device	npd		
Acoustic insulation (dB)	npd		
Air permeability	Class 4		
Glazing units	P2		
IV. OPTIONS			
Peripheral profile	– coating in colours of RAL Classic spectrum – non-standard window size [cm] in the range from 60x60 to 120x120 – option to order the window with factory fitted AMZ Z-Wave awning blind under the glass section		
Glazing units	– option to produce windows with P4 glazing unit – option to produce riveted glass section (D_Z-B)		
V. ADDITIONAL PRODUCTS TO BE USED			
Mounting accessories	– 15 cm high XRD installation base to raise the window. A maximum of two bases can be joined. – 15 cm high reinforced XRD/W installation base to raise the window. A maximum of three bases can be joined under one window.		
External accessories	–		
Internal accessories	ARF/D, ARF/D Z-Wave blackout blinds, APF/D pleated blinds		

as per EN 14351-1:2006+A2:2016

VI. TECHNICAL PARAMETERS FOR WINDOWS WITH PARTICULAR GLAZING UNIT TYPES	
Technical parameters	Typ pakietu szybowego P2
Glazing unit structure	4H – Tg14Ar – 33.2T + 4H (for sizes ≤ 100 x 100) 4H – Tg14Ar – 33.2T + 6H (for sizes > 100 x 100)
glazing U-value as per EN 673	1.1 W/m ² K
window U-value as per EN ISO 10077-1:2007	0.95 W/m ² K
Acoustic insulation Rw as per EN 1873:2006 p.5.10 (EN ISO 10140-2)	npd
light transmittance factor τ _v as per EN 410	0,64
solar factor g** as per EN 410	0.49 (for sizes ≤ 100 x 100 cm) 0.48 (for sizes > 100 x 100 cm)

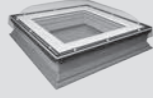
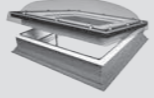
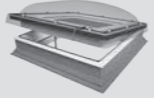
** FAKRO internal test results
npd – no performance determined

VII. TECHNICAL PARAMETERS FOR WINDOWS IN PARTICULAR SIZES								
commercial size [cm]	60x60	60x90	70x70	80x80	90x90	90x120	100x100	120x120
window size symbol	01K	02K	03K	04K	05K	06K	07K	08K
window internal area [m ²]	0.27	0.42	0.38	0.51	0.67	0.91	0.84	1.25
effective glazing area [m ²]	0.23	0.37	0.33	0.46	0.60	0.83	0.77	1.16
DXZ-A P2 window weight [kg]±1kg	36	47	44	53	64	78	74	106
DMZ-A P2 window weight [kg]±1kg	36	47	44	52	63	77	73	103
DEZ-A P2 window weight [kg]±1kg	40	51	48	57	69	83	79	113

TECHNICAL SPECIFICATION

DXC-C, DMC-C, DEC-C

FLAT ROOF WINDOWS WITH TRANSPARENT DOME – TYPE C

WINDOW TYPE	DXC-C	DMC-C	DEC-C
			
I. APPLICATION			
Installation	installation angle 0°-15°, min. distance between two mounting holes 40 cm		
roofing base type	roofing felt paper, membrane, green roofs, gravel roofs		
II. FEATURES			
Sash structure	multi-chamber PVC profile		
Dome	transparent, UV-stabilized polycarbonate with a thickness of 3mm (sizes up to 06K – 90x120) or 4mm (sizes from 07K – 100x100)		
Installation set	set fixing dome and hindering its removal – material resistant to weather conditions (alloy of Al-Zn)		
Profiles fixing roofing	profiles mechanically fixing roofing to the frame		
Opening method	non-opening	manual using the attached rod (2.2 m)	electric in Z-Wave wireless system
Equipment	–	– one screw actuator, max. sash opening: 300mm	– one actuator ZWS12 (for sizes 140 x 140, 120 x 220: two actuators); max. sash opening 150 mm – ZRH12 remote control – ZZ60h power supply – ZRD rain sensor
Warranty	10 years for windows, 2 years for electric control elements in DEC flat roof window		
III. TECHNICAL PARAMETERS			
Tearing out load resistance	UL 1500 as per EN 1873:2005		
Clamping load resistance	DL 2500 as per EN 1873:2005		
Watertightness	meets as per EN 1873:2005		
Impact resistance small hard body	meets as per EN 1873:2005		
Impact resistance large soft body	SB 1200 as per EN 1873:2005		
Fire resistance	B-s2, d0 as per EN 1873:2005		
External fire resistance	Broof (t1) as per EN 1873:2005		
Air permeability	class A3 as per EN 1873:2005	class 4 as per EN 1873:2005	
Glazing units	P2, U6, U8(VSG) and in SECURE/PK –P4 versions		
IV. OPTIONS			
Glazing units	– possibility to manufacture DXC, DMC windows in P4 Secure version – possibility to manufacture with U6 glazing unit		
Dome	– possibility to manufacture an opaque dome (D_C-M)		
V. ADDITIONAL PRODUCTS TO BE USED			
Mounting accessories	– the XRD installation base allows raising the window above the roof by 15cm. Maximum two bases can be joined. – the XRD/W installation base allows raising the access roof light above the roof by 15cm. Maximum three bases XRD/W can be joined.		
External accessories	– AMZ/C Z-Wave awning blinds		
Internal accessories	– ARF/D, ARF/D Z-Wave blackout blinds, APF/D pleated blinds		

VI. TECHNICAL PARAMETERS FOR WINDOWS WITH PARTICULAR GLAZING UNIT TYPES

Technical parameters	Glazing unit type	
	P2	U8 (VSG)
Glazing structure	4H-14-33.2T	4H-10-4HT-12-4HT-12-33.2T
glazing U-value as per EN 673	1.1 W/m²K	0.3 W/m²K
window U-value as per EN 12567-2	1.2 W/m²K	0.72 W/m²K
acoustic insulation Rw as per EN 1873:2006 p.5.10 (EN ISO 10140-2)	35(-1;-3)	36(-1;-3)
light transmittance factor τ _v as per EN 410	0.577 (0.219*)	0.397 (0.159*)
solar factor g** as per EN 410	0.435	0.221
frame thermal insulation U _f as per PN-EN ISO 10077-2, PN-EN 1873:2006 p.5.9	0.90 W/m²K	0.72 W/m²K
thermal insulation of frame and glazing connection Ψ as per PN-EN ISO 10077-2, PN-EN 1873:2006 p.5.9	0.036 W/mK	0.038 W/mK

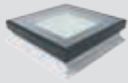
* for D_C-M models
** FAKRO internal test results
nfd – no performance determined

VII. TECHNICAL PARAMETERS FOR WINDOWS IN PARTICULAR SIZES

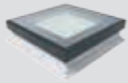
commercial size [cm]	60x60	60x90	70x70	80x80	90x90	90x120	100x100	100x150	120x120	140x140	120x220
window size symbol	01K	02K	03K	04K	05K	06K	07K	10K	08K	09K	11K
window internal area [m²]	0.27	0.42	0.38	0.51	0.67	0.91	0.84	1.30	1.25	1.73	2.36
effective glazing area [m²]	0.23	0.37	0.33	0.46	0.60	0.83	0.77	1.21	1.16	1.63	2.23
DXC P2 window weight [kg]±1kg	30	40	37	45	53	65	64	87	84	106	136
DMC P2 window weight [kg]±1kg	30	39	37	44	52	64	62	85	81	105	135
DEC P2 window weight [kg]±1kg	39	49	46	54	62	75	73	97	93	120	152
DEC U8(VSG) window weight [kg]±1kg	47	59	55	67	79	98	94	120	138	-	-

TECHNICAL SPECIFICATION

DXW FLAT ROOF WINDOW

WINDOW TYPE	DXW
	
I. APPLICATION	
Installation	installation angle 0-15°
roofing base type	roofing felt paper, membrane, green roofs, gravel roofs
II. FEATURES	
Sash structure	multi-chamber PVC profile
Profiles fixing roofing	profiles mechanically fixing roofing to the frame
Opening method	non-opening
Glazing unit	DW6, highly energy-efficient, toughened outer pane, laminated inner pane (class PZA)
Warranty	10 years for windows
III. TECHNICAL PARAMETERS	
Wind load resistance	Class C5/B5
Snow load resistance	888.44H-16-4H-18-66.2
Fire resistance	Class F
External fire resistance	npd
Impact resistance	Class 5 – 950 mm
Air permeability	Class 4
Watertightness. Unshielded (A)	E1200
Glazing units	DW6

as per EN 14351-1:2006+A1:2010

WINDOW TYPE	DXW
	
IV. OPTIONS	
	- non-standard size and shape of the window [cm] in the range from 60 x 60cm to 120 x 120cm
V. ADDITIONAL PRODUCTS TO BE USED	
Mounting accessories	- the XRD/W installation base allows raising the access roof light above the roof by 15cm. Maximum three bases XRD/W can be joined.
External accessories	-
Internal accessories	- ARF/D, ARF/D Z-Wave blackout blinds, - APF/D pleated blinds

VI. TECHNICAL PARAMETERS FOR WINDOWS WITH PARTICULAR GLAZING UNIT TYPES	
Technical parameters	Glazing unit type
	DW6
Glazing structure	888.44-16-4HT-18-66.2T
glazing U-value as per 673	0.5 W/m²K
window U-value as per EN 14351-1:2006+A2:2016	0.7 W/m²K
acoustic insulation Rw as per EN 14351-1:2006+A2:2016	npd
light transmittance factor τ _v as per EN1279-5+A2:2010	npd
solar factor g as per EN1279-5+A2:2010	0.35
frame thermal insulation U _f as per EN 14351-1:2006+A2:2016	0.67 W/m²K
thermal insulation of frame and glazing connection Ψ as per EN 14351-1:2006+A2:2016	0.055 W/m²K

VII. TECHNICAL PARAMETERS FOR WINDOWS IN PARTICULAR SIZES								
commercial size [cm]	60x60	60x90	70x70	80x80	90x90	90x120	100x100	120x120
window size symbol	01K	02K	03K	04K	05K	06K	07K	08K
window internal area [m²]	0.27	0.42	0.38	0.51	0.67	0.91	0.84	1.25
effective glazing area [m²]	0.23	0.37	0.33	0.46	0.60	0.83	0.77	1.16
DXW DW6 window weight [kg]	72	97	90	110	132	167	157	212