



# TECHNICAL SPECIFICATION








## FWR, FWL SIDE HUNG ESCAPE WINDOWS

WINDOW TYPE	FWR	FWL
		
Opening method	left	right
<b>I. APPLICATION</b>		
Installation	installation angle 15°-55° installation on battens, equipped with brackets screwed to the frame	
<b>II. FEATURES</b>		
Material	pinewood, vacuum impregnated	
Lacquer	acrylic natural colour	
Varnishing	twice	
Air inlet type	-	
Seals	two	
Micro-opening facility	+	
Handle	Standard	
Warranty	10 years for windows, 20 years for glazing unit	
<b>III. TECHNICAL PARAMETERS</b>		
Air permeability class	3 as per EN 1026, EN 12207	
Wind load resistance	class C5* as per EN 12210	
Watertightness – unshielded (A)	9A as per EN 12208	
Impact resistance	class 4 (700mm) as per EN 13049	
Applicability of glazing units	U3	

WINDOW TYPE	FWR	FWL
<b>IV. OPTIONS</b>		
Wooden profiles	<ul style="list-style-type: none"> <li>- painted in colours of RAL spectrum</li> <li>- painted in one of five Lazure colours</li> <li>- coated with polyurethane lacquer (white)</li> <li>- in mahogany woodwork</li> </ul>	
Cladding	<ul style="list-style-type: none"> <li>- painted in colours of RAL spectrum</li> <li>- cladding elements made of different types of sheet metal (CU,TC)</li> <li>- window with black mullion bar and cladding</li> </ul>	
<b>V. ADDITIONAL PRODUCTS TO BE USED</b>		
Flashings	<ul style="list-style-type: none"> <li>- special (E_W) for access roof lights,</li> <li>- combination</li> </ul>	
Control	- manual	
Mounting accessories	- insulation sets	
Internal accessories	<ul style="list-style-type: none"> <li>- ARS standard roller blind</li> <li>- AJP venetian blind</li> <li>- APS pleated blind</li> <li>- APF pleated blind</li> <li>- AMS insect screen</li> </ul>	

VII. TECHNICAL PARAMETERS FOR WINDOWS WITH PARTICULAR GLAZING UNIT TYPES	
Technical parameters	Glazing unit type
	<b>U3</b>
Glazing structure	4H-16-4T
glazing U-value as per EN 673	1.0 W/m²K
window U-value as per EN 12567-2	1.3 W/m²K
acoustic insulation Rw as per EN ISO 717-1	34(-2;-6)
light transmittance factor $\tau_v$ as per EN 410	0.70
solar factor g as per EN 410	0.53
UV radiation as per EN 410	0.26
frame thermal insulation Uf as per EN ISO 10077-1, EN ISO 10077-2	npd
thermal insulation of frame and glazing connection $\Psi$ as per EN ISO 10077-1, EN ISO 10077-2	npd

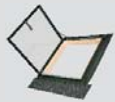
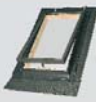
\* for the window width > 114 cm and height > 140 cm: npd  
 \*\* for the FW\_ windows  
 npd – no performance determined

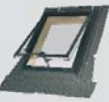
VI. TECHNICAL PARAMETERS FOR WINDOWS IN PARTICULAR SIZES							
frame external size [cm]	66x78	66x98	66x118	78x98	78x118	94x118**	94x98
window size symbol	22	03	04	05	06	08	15
							
window internal area [m²]	0.39	0.51	0.62	0.62	0.75	0.93	0.76
effective glazing area [m²]	0.28	0.38	0.47	0.47	0.59	0.75	0.60
window weight for U3 glazing unit [kg]±1kg	21	25	29	29	33	38	34









# TECHNICAL SPECIFICATION

## WLI, WG\_, WS\_ ACCESS ROOF LIGHTS FOR UNHEATED ROOMS

WINDOW TYPE	WLI	WG_
		
Opening method	left/right side	upwards
<b>I. APPLICATION</b>		
Installation	15°-70°	15°-60°
	installation on battens integrated flashing	
Flashing	universal	in S, Z, H version
<b>II. FEATURES</b>		
Frame material	pinewood, vacuum impregnated	
Sash material	aluminium profile	
Glazing unit	4H-8-4H	4H (WGT) 4H-9-4H (WGI)
Control	manual	
Locking of access roof light	3 positions	
Warranty	5 years	
<b>III. TECHNICAL PARAMETERS</b>		
Air permeability class	2 as per EN 1026, EN 12207	3 as per EN 1026, EN 12207
Wind load resistance	class C4 as per EN 12210	klasa C2 as per EN 12210
Watertightness – unshielded (A)	5A as per EN 12208	8A as per EN 12208
Impact resistance	npd	
<b>IV. OPCJE</b>		
Wooden profiles	- painted in colours of RAL spectrum - painted in one of five Lazure colours	
Cladding	- painted in colours of RAL spectrum - cladding elements made of different types of sheet metal (CU, TC) - window with black mullion bar and cladding	

WINDOW TYPE	WSS	WSZ	WSH
			
Opening method	upwards		
<b>I. APPLICATION</b>			
Installation	15°-55°		
	installation on battens integrated flashing		
Flashing	type S	type Z	type H
Roofing	flat	corrugated	high profile
<b>II. FEATURES</b>			
Frame material	pinewood, vacuum impregnated		
Dome	semicircular polycarbonate dome		
Control	manual		
Locking of access roof light	3 positions		
Warranty	5 years		
<b>III. TECHNICAL PARAMETERS</b>			
Air permeability class	1 as per EN 1026, EN 12207		
Wind load resistance	class C2 as per EN 12210		
Watertightness – unshielded (A)	E1050 as per EN 12208		
Impact resistance	npd		
<b>IV. OPCJE</b>			
Wooden profiles	- painted in colours of RAL spectrum - painted in one of five Lazure colours		
Cladding	- painted in colours of RAL spectrum - cladding elements made of different types of sheet metal (CU, TC)		

V. TECHNICAL PARAMETERS FOR ACCESS ROOF LIGHTS IN PARTICULAR SIZES				
ACCESS ROOF LIGHT TYPE	WLI		WG_	
frame external dimensions [cm]	54x83	86x87*	46x55	46x75
				
access roof light internal dimensions [cm]	48x77	80x81	42x51	42x71
WLI access roof light weight [kg]±1kg	19	26		
WGT access roof light weight [kg]±1kg			8	9
WGI access roof light weight [kg]±1kg			11	13

ACCESS ROOF LIGHT TYPE	WSS, WSZ, WSH	
frame external dimensions [cm]	54x75	86x86*
		
access roof light internal dimensions [cm]	48x69	80x80
WSS access roof light weight [kg]±1kg	9	12
WSZ access roof light weight [kg]±1kg	9	14
WSH access roof light weight [kg]±1kg	11	14

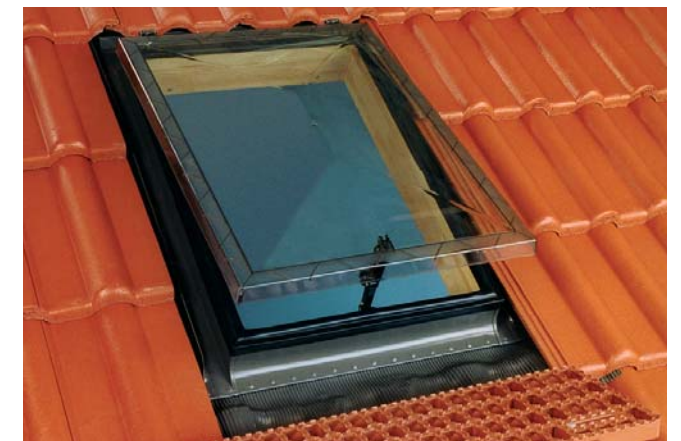
VI. TECHNICAL PARAMETERS FOR ACCESS ROOF LIGHTS WITH PARTICULAR GLAZING UNIT TYPES			
Technical parameters	Glazing unit type		
	4H-8-4H	4H	4H-9-4H
glazing U-value as per EN 673	npd	npd	npd
light transmittance factor $\tau_v$ as per EN 410	0.83	0.91	0.83
solar factor g as per EN 410	0.79	0.88	0.79
UV radiation as per EN 410	npd	npd	npd

\* for the window width > 114 cm and height > 140 cm: npd  
npd – no performance determined

Access roof light WLI



Access roof light WSZ



# TECHNICAL SPECIFICATION

## DRF DU6, DRC-C P2, INSULATED FLAT ACCESS ROOF LIGHT

WINDOW TYPE	DRF DU6
<b>I. APPLICATION</b>	
Installation	installation angle 2°-15°
Roofing base type	roofing felt paper, membrane, green roofs, gravel roofs
<b>II. FEATURES</b>	
Sash structure	multi-chamber PVC profile
Dome	domeless
Installation set	domeless
Profiles fixing roofing	profiles mechanically fixing roofing to the frame
Opening method	manually, up to an angle of 80°
Equipment	gas springs to facilitate operation of the sash
Warranty	10 years for access roof light, 2 years for gas springs
<b>III. PARAMETRY TECHNICZNE</b>	
Wind load resistance	Class C5/B5
Snow load resistance	6H*-18-4H-18-44.2** 6H*-18-4H-18-44.4**
*toughened outer pane ** laminated inner pane	6H*-16-4H-18-55.2** 6H*-16-4H-18-55.4**
Fire resistance	npd
External fire resistance	npd
Watertightness. Unshielded (A)	E1200
Impact resistance	Class 5 - 950mm
Air permeability	Class 4
as per EN 14351-1:2006+A1:2010	
<b>IV. OPTIONS</b>	
Glazing unit	DU8
Peripheral profile	- coating in colours of RAL Classic spectrum (ColourLine version)
<b>V. ADDITIONAL PRODUCTS TO BE USED</b>	
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	AMZ/F Solar awning blinds
Internal accessories	ARF/D blackout blinds, APF/D pleated blind

WINDOW TYPE	DRC-C P2
<b>I. APPLICATION</b>	
Installation	installation angle 0°-15°
Roofing base type	roofing felt paper, membrane, green roofs, gravel roofs
<b>II. FEATURES</b>	
Sash structure	multi-chamber PVC profile
Dome	transparent, UV-stabilized polycarbonate with a thickness of 3mm (sizes up to 06K) or 4mm (sizes from 07K)
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	manually, up to an angle of 80°
Equipment	gas springs to facilitate operation of the sash
Warranty	10 years for access roof light, 2 years for gas springs
<b>III. PARAMETRY TECHNICZNE</b>	
Tearing out load resistance	UL 1500
Clamping load resistance	DL 2500
Watertightness	meets
Impact resistance small hard body	meets
Impact resistance large soft body	SB 1200
Air permeability	Ap 0,32
Laminated inner pane	P2A as per EN 356
Toughened outer pane	1C3 as per EN 12600
as per EN 1873:2014	
<b>IV. OPTIONS</b>	
Glazing unit	U6, U8 (VSG), P4
Dome	transparent dome can be produced (DRC-M)
<b>V. ADDITIONAL PRODUCTS TO BE USED</b>	
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 blackout blinds, APF/D pleated blind


VI. TECHNICAL PARAMETERS FOR PARTICULAR ACCESS ROOF LIGHTS			
Technical parameters	Access roof light type		Technical parameters
	DRF DU6		
Glazing structure	6H-18-4HT-18-44.2T 6H-16-4HT-18-55.2T		4H-14-33.2T
izolacyjność cieplna szyby Ug wg normy EN 1279-5+A2:2010	0.5 W/m²K		1.1 W/m²K
izolacyjność cieplna okna Uw wg normy EN 14351-1:2006+A1:2010	0.74 W/m²K		
izolacyjność akustyczna okna Rw wg normy EN 14351-1:2006+A1:2010	38 (-1;-3)		0.88 W/m²K 3.66 m²
przenikalność światła τ <sub>v</sub> wg normy EN 1279-5+A2:2010	0.54		35(-1;-3)
współczynnik promieniowania słonecznego g wg normy EN 1279-5+A2:2010	0.43		
izolacyjność cieplna ramy Uf wg normy EN 14351-1:2006+A1:2010	0.78 W/m²K		
izolacyjność cieplna połączenia ramy z oszkleniem Ψ wg normy EN 14351-1:2006+A1:2010	0.055 W/m²K		

VII. TECHNICAL PARAMETERS FOR ACCESS ROOF LIGHTS IN PARTICULAR SIZES				
frame external size [cm]	90x90	90x120	100x100	120x120
window size symbol	05K	06K	07K	08K
window internal area [m²]	0.67	0.91	0.84	1.25
effective glazing area [m²]	0.60	0.83	0.77	1.16
access roof light weight DRF DU6 [kg]	89	109	103	139
access roof light weight DRC-C P2 [kg]	72	87	86	107

# TECHNICAL SPECIFICATION

## DRL

### FLAT ROOF ACCESS DOOR







ROOF ACCESS TYPE	DRL
	
<b>I. APPLICATION</b>	
Installation	installation angle 0-5°
Roofing base type	roofing felt paper, membrane, green roofs, gravel roofs
<b>II. FEATURES</b>	
Structure	The frame is constructed of multi-chamber PVC profiles filled with insulation material, while the whole structure is insulated. Insulated sash equipped with a rubber seal ensures perfect thermal insulation performance.
Profiles fixing roofing	profiles mechanically fixing roofing to the frame
Opening method	manually, up to an angle of 60°
Equipment	gas springs to facilitate operation of the sash
Warranty	10 years for access roof light, 2 years for gas springs

ROOF ACCESS TYPE	DRL
<b>III. TECHNICAL PARAMETERS</b>	
Wind load resistance	Class C5/B5
Snow load resistance	npd
Fire resistance	npd
External fire resistance	npd
Watertightness. Unshielded (A)	E900
Impact resistance	Class 5 – 950 mm
Air permeability	Class 4
<b>IV. OPTIONS</b>	
Sizes	- sizes compatible with the size of LML loft ladders (sold separately)
<b>V. ADDITIONAL PRODUCTS TO BE USED</b>	
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.

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

VII. TECHNICAL PARAMETERS FOR PARTICULAR FLAT ROOF ACCESS DOOR	
Uw value as per EN 14351-1:2006+A1:2010	0.67 W/m²K
acoustic insulation Rw as per EN 14351-1:2006+A1:2010	30 (0; -2) dB
frame thermal insulation Uf as per EN 14351-1:2006+A1:2010	npd
thermal insulation of frame and glazing connection Ψ as per EN 14351-1:2006+A1:2010	npd

#### VI. TECHNICAL PARAMETERS FOR FLAT ROOF ACCESS DOOR IN PARTICULAR SIZES

Commercial size [cm]	60x120	70x120	70x130	70x140	86x130	92x130
						
Access roof light symbol	13K	14K	15K	16K	17K	18K
Frame size [cm] [cm]	81x165	90x165	90x175	90x185	106x175	112x175
Frame internal dimensions [cm]	50.6x134.8	59.6x134.8	59.6x144.8	59.6x154.8	75.6x144.8	81.7x144.8
Heigh [cm]	20.2					
Flat roof access door weight DRL [kg]±1kg	63	67	70	73	76	79

