

Powerful window system for the highest requirements
for heat insulation, up to use in passive houses

Window system heroyal W 77



heroyal

Window systems

First-class materials, technical perfection down to the last detail and a wide range of design options are what distinguish the efficient heroal systems technology. These are benefits that impress. For decades, heroal has been a reliable partner for architects, builders and fabricators with innovative aluminium and aluminium composite solutions for the building shell.

Planners appreciate the diversity of the design possibilities, builders can bring their specific requests to life with a reliable system and our partners benefit from the economical and efficient heroal system solutions.

The innovative heroal W 77 window system offers the highest quality, functionality and flexibility. It is a modern, durable and efficient window system solution for every application.

Discover our heroal W 77 window system!





heroal W 77

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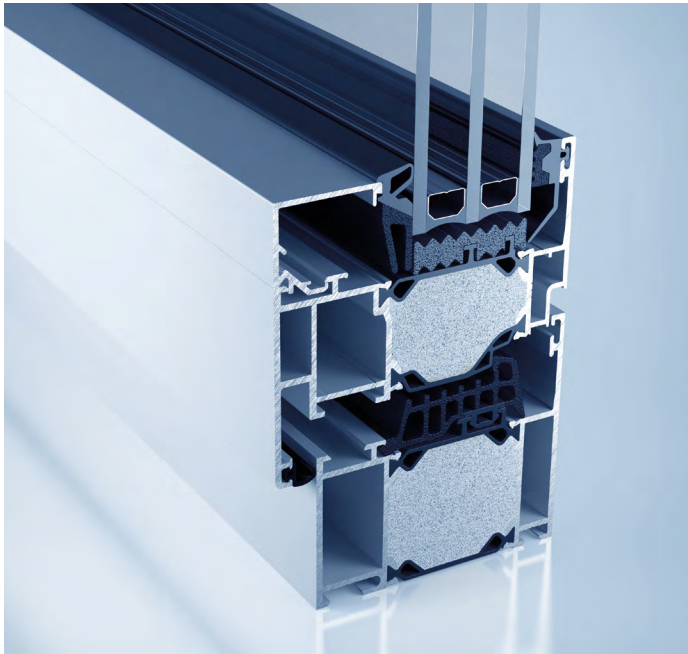
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heroal W 77

The window system of today and tomorrow

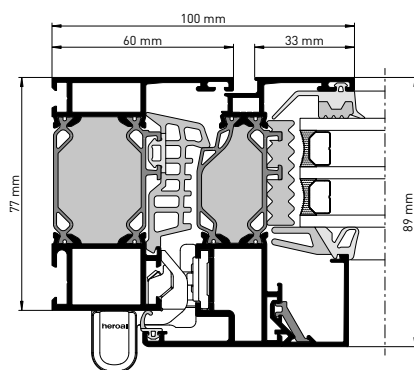


Thanks to an intelligent combination of select materials and geometry, the heroal W 77 window system achieves U_w values up to a passive house level with a design depth of just 77 mm. Sash profiles are available with SBN and KBN grooves, allowing for flexible fabrication. Thanks to the minimal view width of just 90 mm, windows with a high percentage of glass can be produced. With a U_f value of $1.1 \text{ W} / \text{m}^2\text{K}$ at a view width of 120 mm, the heroal W 77 window system serves as the basis for further levels of development. These system development levels are:

» heroal W 77 HI: U_f value of $0.95 \text{ W} / \text{m}^2\text{K}$

» heroal W 77 PH: U_f value of $0.78 \text{ W} / \text{m}^2\text{K}$

» heroal W 77 UD: U_f value of $1.1 \text{ W} / \text{m}^2\text{K}$



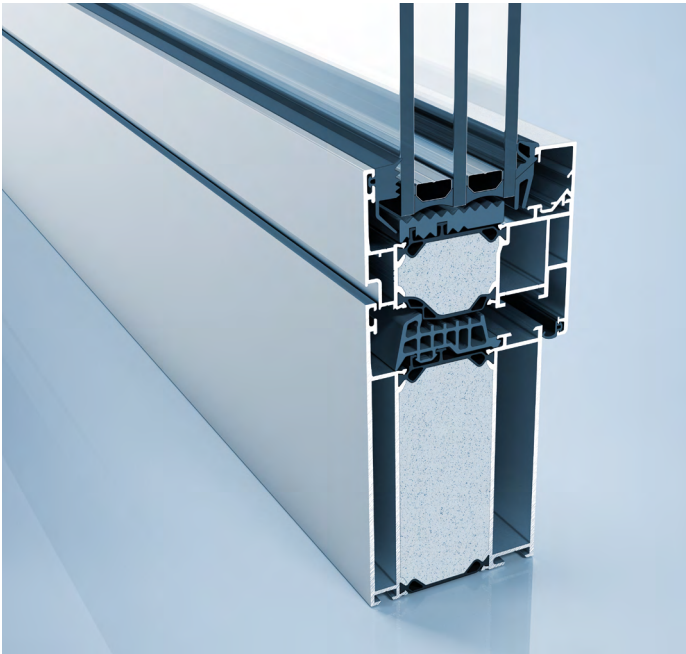
heroal W 77 with heroal WF 100 fitting system

System dimensions and system features

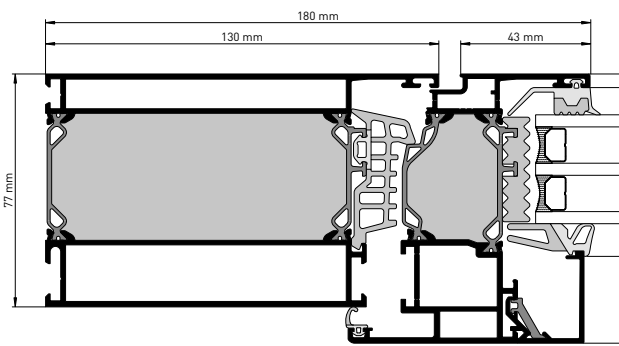
- » design depths: frame 77 mm, casement 89 mm
- » view widths: frame 50 – 250 mm, cross bars 74 – 254 mm, casement 33 – 67 mm
- » max. thickness of glass/infill panel: frame 54 mm, casement 66 mm
- » max. casement weight: 300 kg
- » max. sash height: 2,800 mm
- » highly heat insulated 3-chamber aluminium composite system
- » heat insulation : $U_{f[120]} = 0.95 \text{ W/m}^2\text{K}$
- » U value adjustment thanks to modular insulation zone structure
- » air permeability: 4
- » tightness against driving rain: 9A
- » wind load resistance: C5/B5
- » soundproofing classes: 1-5
- » burglary resistance:
 - window elements: RC 3
 - in combination with heroal safe blinds system RC 3: RC 4
- » system security thanks to the use of surface-mounted (heroal WF 100) and concealed (heroal WF 100 i) heroal aluminium push rod fittings

heroal W 77 PH

The passive house-certified window system



With a design depth of just 77 mm and a view width of 180 mm, the heroal W 77 PH window system meets the high requirements of Dr Feist's Passive House Institute. It reaches a passive house-compatible U_f value of $0.8 \text{ W/m}^2\text{K}$ with a view width of just 120 mm. In addition, the system offers high stability, burglary resistance and sustainable quality materials – ideal for energy-efficient building and renovation at the highest level.



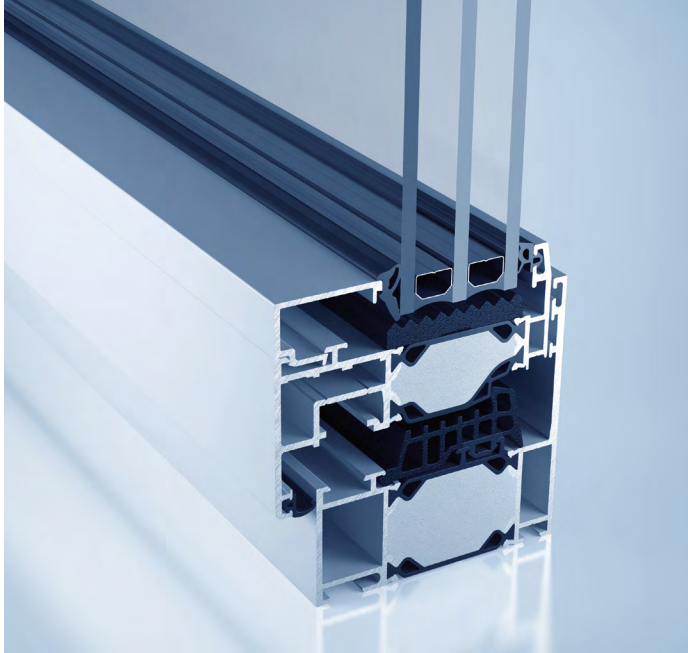
heroal W 77 PH

System dimensions and system features

- » design depths: frame 77 mm, casement 89 mm
- » view widths: frame 70 – 250 mm, cross bars 164 mm, casement 43 mm
- » max. thickness of glass/infill panel: frame 54 mm, casement 66 mm
- » max. casement weight: 300 kg
- » max. sash height: 2,800 mm
- » highly heat insulated 3-chamber aluminium composite system
- » heat insulation : $U_{f[120]} = 0.95 \text{ W/m}^2\text{K}$
- » U value adjustment thanks to modular insulation zone structure
- » air permeability: 4
- » tightness against driving rain: 9A
- » wind load resistance: C5/B5
- » soundproofing classes: 1-5
- » burglary resistance:
 - window elements: RC 3
 - in combination with heroal safe blinds system RC 3: RC 4
- » system security thanks to the use of surface-mounted (heroal WF 100) and concealed (heroal WF 100 i) heroal aluminium push rod fittings

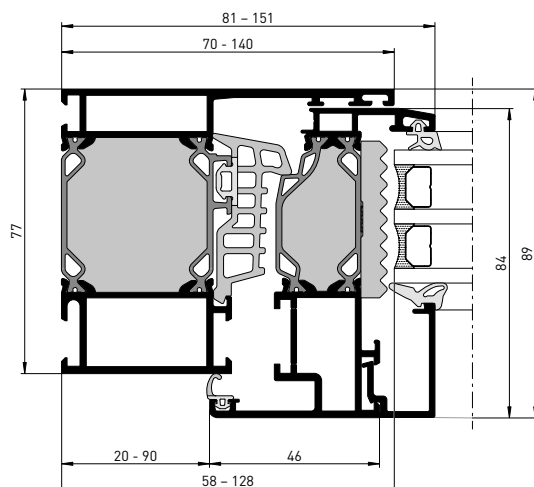
heroal W 77 i

Block window system with interior glazing



The heroal W 77 i block window system stands for architectural design freedom, thanks to sophisticated view widths. Sash profiles are available with SBN and KBN grooves, allowing for flexible fabrication. The minimum view width for this system is just 81 mm. The heroal W 77 i block window system offers a maximum percentage of glass, high heat insulation and an elegant design without a visible casement. It is versatile, for instance for use as a curtain wall insert element. With a U_w value of $1.0 \text{ W/m}^2\text{K}$ at a view width of 101 mm, the heroal W 77 i system serves as the basis for a further level of development. This system development level is the heroal W 77 i UD (Universal Design) for block window doors with a threshold height of $< 20 \text{ mm}$.

- » high heat insulation with relatively design depth
- » proven performance properties with heroal WF and heroal WF EM fittings
- » high percentage of glass, narrow profile view widths



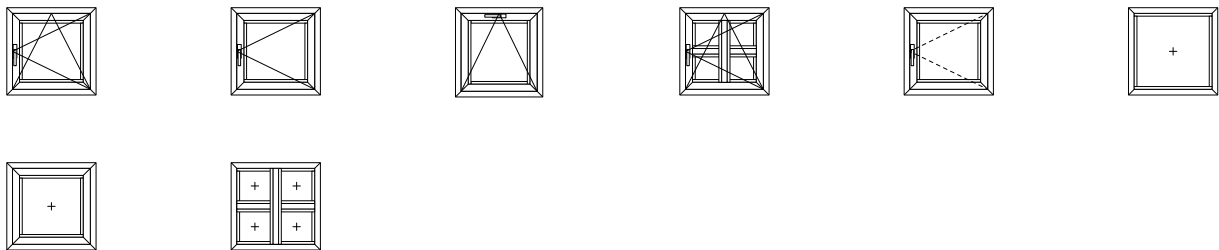
System dimensions and system features

- » design depths: frame 77 mm, casement 84 mm
- » view widths: frame 70 - 140 mm, cross bars 94 - 194 mm, casement 34 mm
- » max. thickness of glass/infill panel: frame 54 mm, casement 64 mm
- » max. casement weight: 300 kg
- » max. sash height: 2,400 mm
- » highly heat insulated 3-chamber aluminium composite system
- » heat insulation : $U_{f[120]} = 0.95 \text{ W/m}^2\text{K}$
- » U value adjustment thanks to modular insulation zone structure
- » air permeability: 4
- » tightness against driving rain: 9A
- » wind load resistance: C5/B5
- » soundproofing classes: 1-5
- » burglary resistance:
 - window elements: RC 2
 - in combination with heroal safe blinds system RC 3: RC 4
- » system security thanks to the use of surface-mounted (heroal WF 100) and concealed (heroal WF 100 i) heroal aluminium push rod fittings

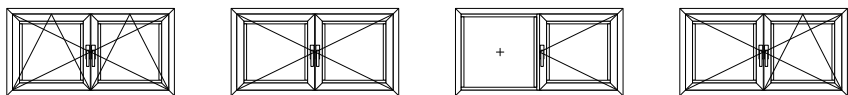
heroal W 77

Opening types

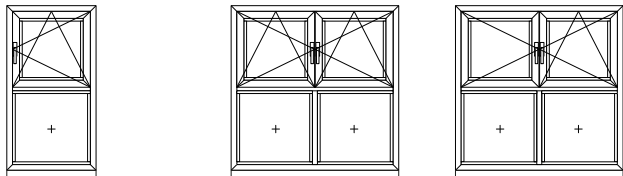
One-piece elements



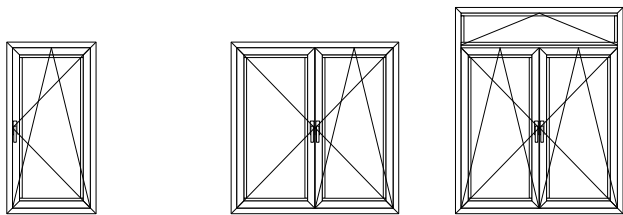
Two-piece elements



Ceiling-height elements



Door elements



Moulded elements



Window fitting system for fast and efficient fabrication



heroal WF EM window fitting system

heroal WF EM

The innovative heroal WF EM window fitting system stands out for its simple, efficient installation: all drive rods are available ready to install in fixed lengths. There is no need to punch or cut push rods to length, or punch out the casement groove corners. All components can be clipped in to the front from the outside. For maximum security, the heroal WF EM is available in burglar-resistant versions up to RC 3. heroal WF EM is suitable for all conventional opening types, including accessible French doors, and is available as a classic surface-mounted swing side (heroal WF EM) or a concealed swing side (heroal WF i EM).



heroal WF closure components with corner guide, locking components and mushroom head locking mechanism

heroal WF

The heroal fitting system is setting standards across the industry. Even with the standard equipment, fitting components are delivered with a basic level of safety. Basic safety is guaranteed by the anti-lift device, the horizontal tipping point and the mushroom head locking mechanism. Tests in the resistance classes RC 2 and RC 3 have been successfully completed without specialised fitting components on the casement side, however the number of RC locking points have been reduced:

In the resistance class RC 2, with a casement leaf size of 1,250 x 1,400 mm, from 12 to 4 closure points and in resistance class RC 3, with the same casement leaf size, from 18 to 12 closure points. heroal WF is also available as a concealed swing side (heroal WF i).

Profile and production technologies



heroal insulating bar technology

Unique, innovative heroal insulating bar technology combines maximum load-bearing capabilities with minimum heat loss. The geometry of the insulating bars helps reduce the flow of energy, while at the same time significantly reducing thermal conduction. Due to the unique bar geometry, heroal W 77 achieves U_w values that exceed the requirements of the current Energy Saving Ordinance EnEV and meet the requirements of the future, with a design depth of 77 mm in the frame and 89 mm in the casement.

heroal foaming process

Foaming in the insulated zone is carried out with PU foams based on polyol and isocyanates, using a proprietary process developed by heroal. The natural raw materials sugar and starch are used as additional stabilisers. In contrast to the so-called "backpack" variants, in which the insulating material is glued to the insulating bars, heroal achieves optimal use of the heat insulation thanks to filling the insulation chambers 100%.

heroal proprietary profile composite

heroal is the only company that manufactures a third-party monitored (if Rosenheim) plant-produced composite of heat insulated aluminium-plastic composite profiles, based on the QM 323. The perfect combination of adhesive cord and knurling used in the heroal insulating process ensures above-average rigidity and push-off values for the aluminium composite profiles.



heroal T-connector technology

heroal T-connector technology offers a high level of system safety thanks to the use of closed-cell sponge for rebate sealing and optimal sealing of T-connections/joints. Innovative sealant injection guarantees low material usage.

heroal corner angle technology

Innovative heroal sealant injection guarantees an optimal seal of the element mitre with low material usage, with complete sealant coating of the corner connectors. Efficient and time-saving element production is ensured by the heroal corner angle technology that optimises the fabrication processes during corner angle installation. Optimal and controlled sealant distribution and the innovative corner angle geometries save a considerable amount of material.

heroal internal seal technology

heroal delivers vulcanised internal seal frames for all element sizes with extremely short delivery times. Machine production guarantees almost 100% repeat accuracy, and maximum system security. In addition, quicker element production is ensured and costs are reduced. heroal internal seals guarantee optimal rebate and mitre sealing with respect to heat insulation thanks to the multi-chamber construction and sealant channels.

System and performance characteristics

System dimensions

Description		heroal W 77 PH	heroal W 77 HI	heroal W 77	heroal W 77 i Interior glazing
Profile installation depth (mm)	Frame profiles	77	77	77	77
	Sash profiles	89	89	89	84
	Cross bar profiles	77	77	77	77
Profile view widths (mm)	Frame profiles	130	50 - 250	50 - 250	70 - 140
	Sash profiles	43	33 - 67	33 - 67	34
	Glazing bar profiles	164	74 - 254	74 - 254	94 - 194
min. view width frame/sash profile (mm)		180	90	90	81
Sash profile variants	SBN ¹⁾	•	•	•	•
	KBN ²⁾	•	•	•	•
max. glass/infill panel thickness (mm)	Frame profiles	55	55	55	54
	Sash profiles	66	66	66	63
Glass depth	Frame profiles	18	18	18	11
	Sash profiles	18	18	18	11
max. casement weight (kg) ³⁾		300	300	300	300
max. sash height (mm) ³⁾		2,800	2,800	2,800	2,400

System features

Heat insulation (U_f in W/m ² K)	DIN EN ISO 10077	0.78	≥ 0.68	≥ 0.74	≥ 0.77
Heat insulation (U_f in W/m ² K)/ Profile view width (mm)	DIN EN ISO 10077	0.78 180	0.95 120	1.1 120	1.0 101
Heat insulation (U_w in W/m ² K)	DIN EN ISO 10077	0.79	≥ 0.72	≥ 0.77	≥ 0.72
Air permeability	DIN EN 12207	4	4	4	4
Tightness against driving rain	DIN EN 12208	E900	E1050	E1050	E1050
Wind load resistance	DIN EN 12210	C5/B5	C5/B5	C5/B5	C5/B5
Soundproofing class (SSK)	DIN EN ISO 717-1	1-5	1-5	1-5	1-5
Burglary resistance	DIN V ENV 1627	in connection with	RC 3	RC 3	RC 2
Operating forces	DIN EN 12217	1	1	1	1
Mechanical durability	DIN EN 13115	4	4	4	4
Load-bearing capacity of safety devices	DIN EN 14354	fulfilled	fulfilled	fulfilled	fulfilled

¹⁾ Push rod fitting groove

²⁾ Plastic fitting groove

³⁾ Certified heroal WF fitting systems

System and performance characteristics

Opening types and design

Description		heroal W 77 PH	heroal W 77 HI	heroal W 77	heroal W 77 i Interior glazing
Turn (D), tilt and turn (DK), tilt before turn elements (TBT)		•	•	•	•
Forend elements		–	•	•	•
Parallel sliding/tilting elements (PSK)		–	•	•	–
Fanlight elements (OL)		•	•	•	•
Outward opening elements (o.o.)		–	•	•	–
Fixed glazing	Interior glazing	•	•	•	•
	Exterior glazing	•	•	•	–
Accessibility (DIN 18040)	Accessible	–	•	•	•
	Accessible (0-barriers)	–	–	–	–
heroal DS drainage system		–	•	•	•
Curtain wall insert elements		–	•	•	•
System-compatible door system		–	–	–	–
Fitting variants	heroal WF 100	RC 3	RC 3	RC 3	RC 2
	heroal WF 200	RC 3	RC 3	RC 3	•
	heroal WF 300	RC 3	RC 3	RC 3	•

heroal surface coating

heroal hwr powder coating	•	•	•	•
Eloxal coating	•	•	•	•
heroal Surface Design (SD)	•	•	•	•

heroal Service

Bending technology (formed elements)	–	–	–	–
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¹⁾ Only non-foam-filled profiles (without PU) may be bent.

heroal



simply better *spaces for life*

As a manufacturer of aluminium system solutions for roller shutters, sun protection, roller doors, windows, doors, sliding doors, curtain walls and patio roofs, heroal is an international market leader, supporting high-quality residential and commercial construction projects worldwide. heroal products are developed and manufactured in Germany and set themselves apart with their premium quality and exceptional performance features. As a result, the innovative system solutions contribute to greater sustainability, security, comfort and architectural freedom for both current and future building projects and impress with simple and efficient planning and fabrication by heroal specialist partners.

Roller shutters | Sun protection | Roller doors
Windows | Doors | Sliding doors | Curtain walls | Patio roofs

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