

## heroal D 72

Commercial door systems



## Door system

Top-quality materials, technical perfection down to the smallest detail and a wide variety of design options distinguish the efficient system technology available from heroal. These are benefits that speak for themselves. For decades, heroal has been the reliable partner of architects, building constructors and processors thanks to its innovative solutions made of aluminium and aluminium composite materials for the building shell.

Planners appreciate the variety of design options, building constructors can realise their individual wishes with a reliable system and our partners benefit from the economical and efficient heroal system solutions.

The heroal D 72 system offers functional versatility with many conventional types of opening, satisfies the highest heat insulation standards and meets the maximum static requirements. The tried-and-tested heroal system allows all conventional types of openings, including automatic door systems and burglar-resistant doors – also with the emergency exit door function – to be implemented.

Discover the variety of the heroal D 72 door systems!





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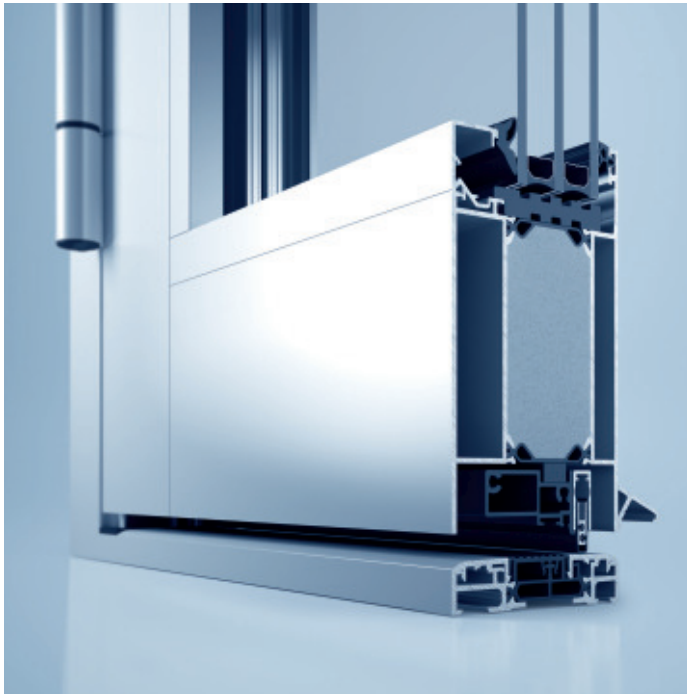
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## heroal D 72

Commercial door system for heavily used entrance areas



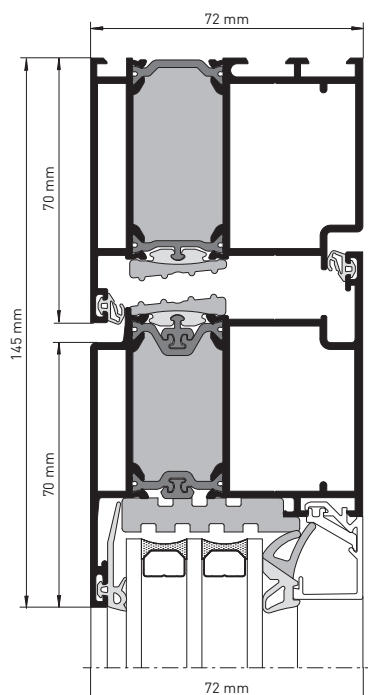
The heroal D 72 door system offers functional versatility with a range of opening types for typical heroal performance features. The tested and certified heroal system allows all conventional types of openings to be implemented, including tested emergency exits and escape routes (according to DIN EN 179/1125), automatic door systems, finger guard doors and burglar-resistant doors – also with the emergency exit door function.

### System dimensions and performance features

- » Installation depth: 72/82 mm
- » Variable view widths: frame 50 – 250 mm, casement 70 – 124 mm, cross bars 74 – 254 mm
- » Max. thickness of infill panel/glass: frame up to 54 mm, casement up to 68 mm (glass) and 92 mm (infill panel)
- » Air permeability: class 4
- » Tightness against driving rain: 5A
- » Heat insulation:  $U_D > 1.0 \text{ W/m}^2\text{K}$
- » Soundproofing class: 1 – 3
- » Complies with all requirements of the current EnEV 2014 (German energy conservation requirements)
- » Certification for burglary resistance up to resistance class RC 3 for profile, fitting and infill technologies
- » Certificate for the approval of emergency exit doors (CE marking)
- » Highly insulated 3-chamber profile system
- » Patented, warp-resistant profile compound

### Design options

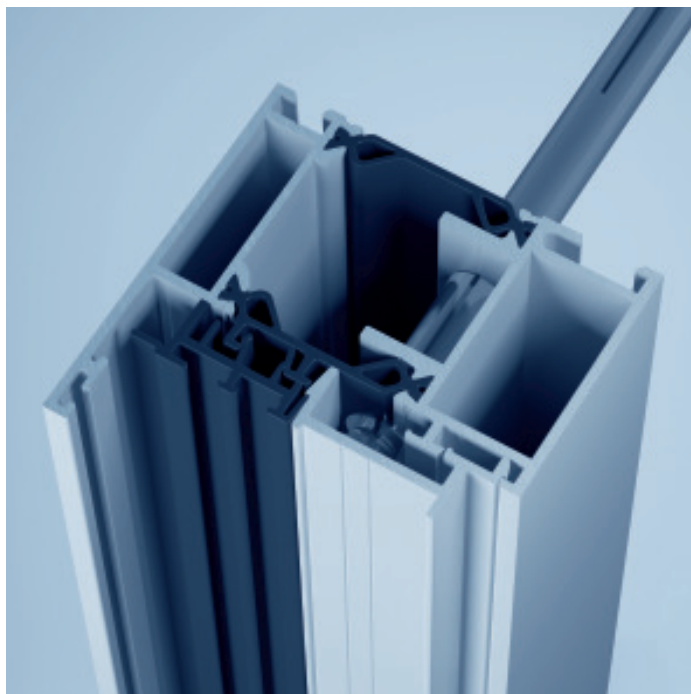
- » Opening types: Single and multi-part swing doors with side section and fanlights, push-pull, half-swing, French and automatic doors
- » Single- and multi-part form elements with side section or fanlight as semicircular, segmental or three-centre arches
- » Framed HT casement frame with base, single-sided casement-enclosing infill
- » Attachment variants for infill panel attachment using conventional adhesive technology or innovative reversible infill panel attachment
- » Casement variants with interior and exterior flush installation and offset installation
- » System-compatible window system: heroal W 72
- » Can be integrated in the C 50 and C 50 HI curtain wall systems
- » Colour design with high-quality heroal hwr powder coating



heroal D 72, section diagram

# heroal D 72

## Production-optimised profile geometries



The technical perfection thanks to efficient and simple profile processing, reduction in the number of components, optimisation of heat insulation and resistance to burglars are features of the innovative heroal detailed solutions and system technology.

- » Stop bar geometry that is optimised for processing and production
- » Variable and concealed element fixing
- » Secured hardware thanks to additional aluminium profile wall and increased resistance to burglars
- » Improved U-value for the element frame
- » No additional frame insulation on the wall attachment side
- » Fewer components thanks to standardisation of the rebate insulation in the element and casement frames

## System dimensions

Description		heroal D 72
Profile installation depth (mm)	Frame profiles	72
	Casement profiles	72 – 82
	Cross bar profiles	72
Profile view width (mm)	Frame profiles	50 – 250
	Casement profiles	70 – 124
	Cross bar profiles	74 – 254
Max. thickness of glass/ infill panel (mm)	Frame profiles	54
	Casement profiles	68/72
	Cross bar profiles	54
Max. casement weights (kg)		180
Max. casement leaf widths (mm)		1400
Max. casement leaf heights (mm)		2500

## System properties

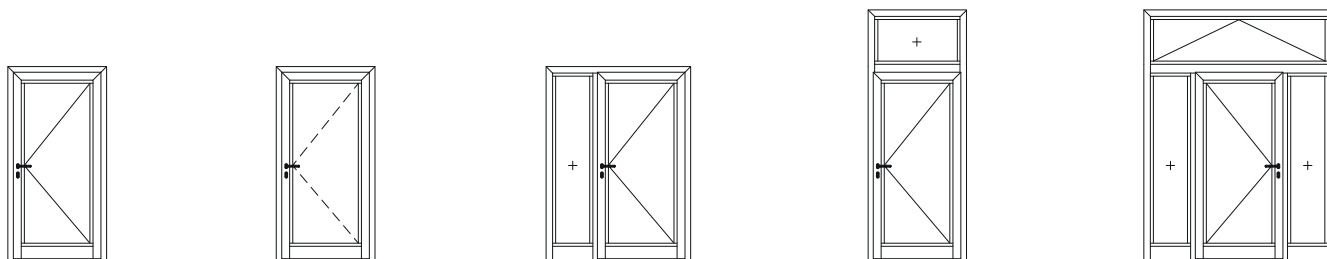
Description	heroal D 72
Heat insulation ( $U_i$ in $W/m^2K$ )	1.7
Heat insulation ( $U_i$ in $W/m^2K$ ) for standard view width (mm)	1.7
Heat insulation ( $U_d$ in $W/m^2K$ )*	≥ 1.0
Air permeability	4
Tightness against driving rain	5A
Wind load resistance	C4
Soundproofing class (SSK)	1 – 3
Burglary resistance (RC) up to	RC 3
Operating forces	2
Shock resistance	4
Mechanical durability	3
Continuous function	6/8
Climate difference test EN 12219 d/e	2

\*U-value according to DIN EN 12567-1, calculated based on element size 1230 x 2180 mm

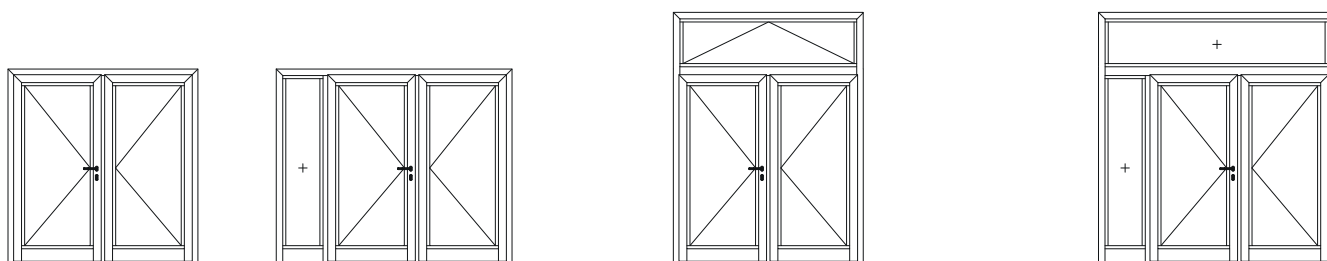
# heroal D 72

## Types of opening

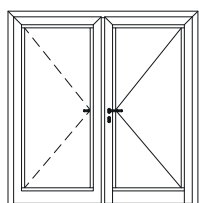
### Single-casement elements:



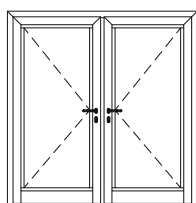
### Double-casement elements:



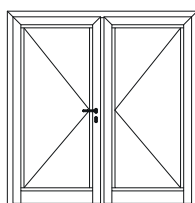
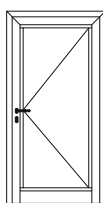
### Push-pull door



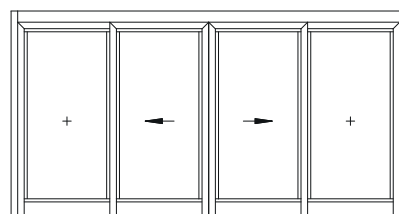
### Half-swing door



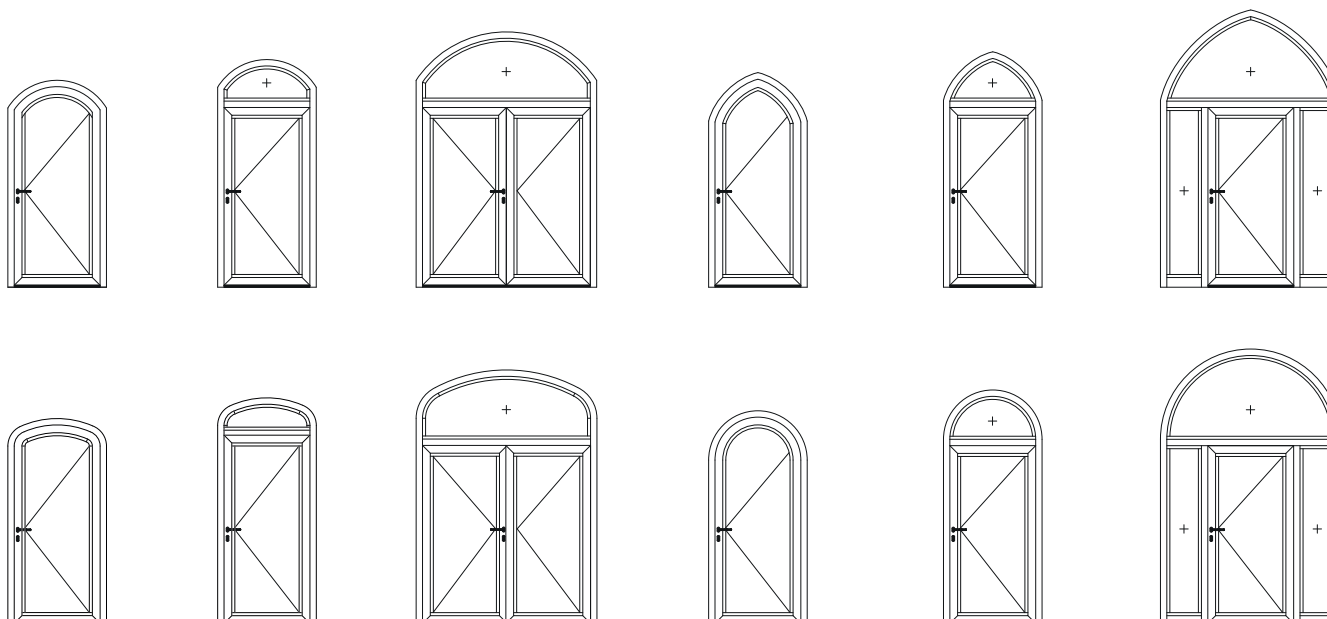
### Finger guard door



### Automatic door



### Single- and double-casement form elements





# Accessible threshold solutions

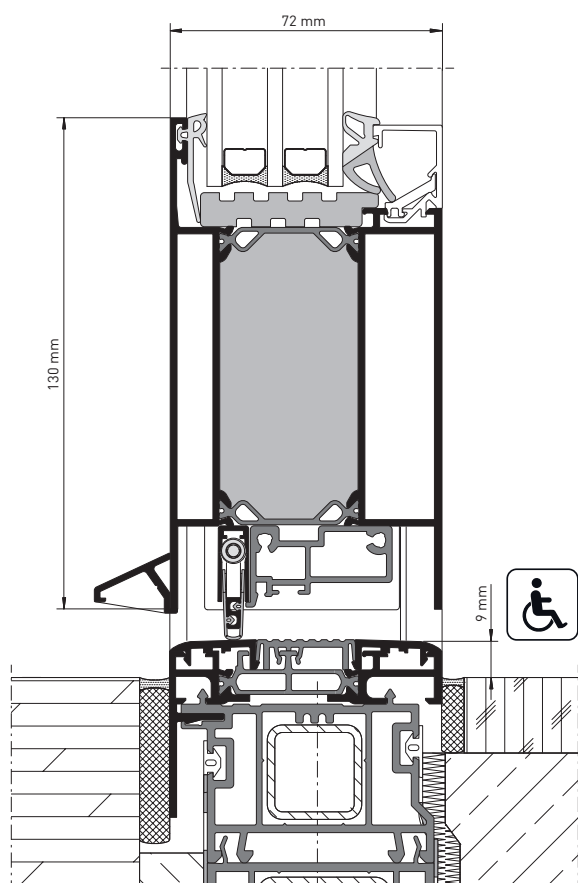
## From special design to standard solution

Step-free threshold solutions are expressly required by DIN 18040-1 for public spaces, as well as DIN 18040-2 for accessible accommodation. A maximum height of 20 mm is only permitted in exceptional cases if the threshold cannot be implemented in another way. The legislator supports these normative requirements through an addition to the German banking group KfW's credit programme 159 for building modification for the elderly ("KfW Kreditprogramm 159, Altersgerechtes Umbauen"). This requires measures such as accessible and burglar-resistant entrance doors to houses and flats. The basic principles for the requirements originate from DIN 18040-2 for single- and double-household houses as well as flats.

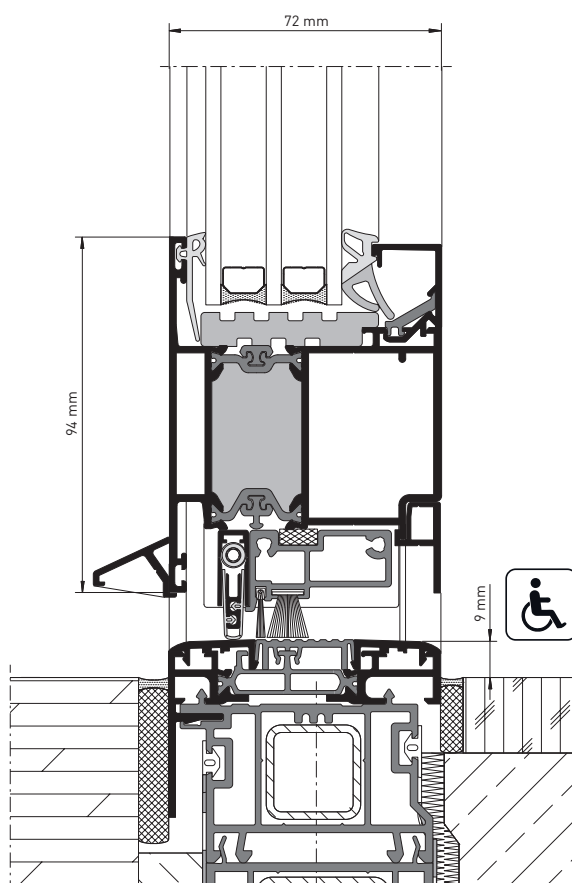
heroal offers solutions across all systems for all openings with large surface areas in the entrance door, French door and lift-ing-sliding door system product sectors which meet these legal requirements.

The universally suitable heroal threshold solutions developed for commercial doors can be used regardless of the type of opening, inward or outward opening, with framed casement frames or base profile.

The zero-barrier design allows free passage through the entrance element without restrictions posed by the threshold variants which are often required and are a technical necessity in order to guarantee a base seal.



heroal D 72, section diagram – accessible according to DIN 18040



heroal D 72, section diagram – accessible according to DIN 18040

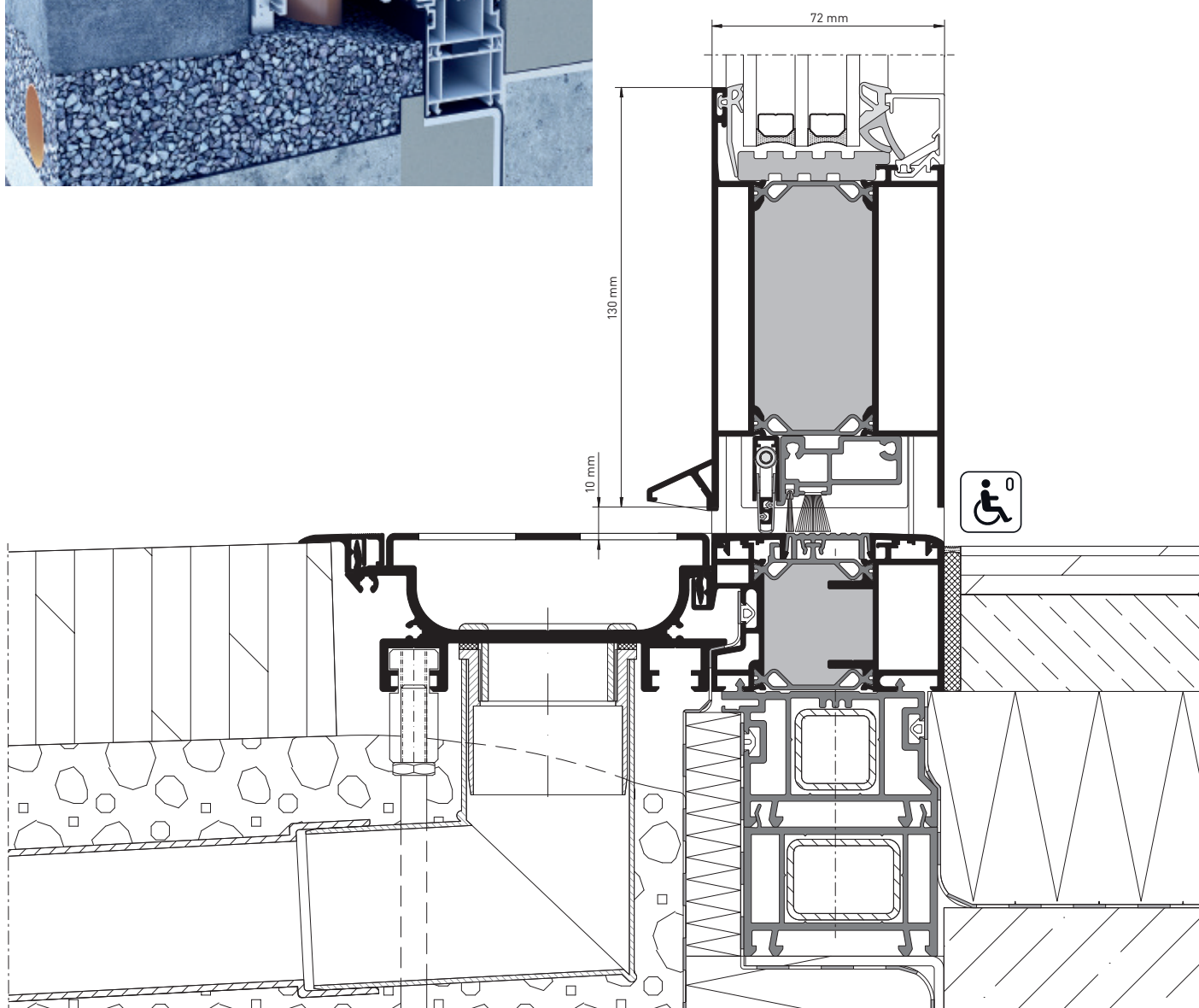
# heroal DS

The drainage system for all fields of application



To implement accessible thresholds properly in the area of door elements while offering protection from moisture damage indoors, particular measures need to be taken. One possible solution is the use of a drainage system, which discharges surface water without any back-up. When choosing the correct drainage system, in addition to the expected amount of rainfall, the finish of the exterior surface is an important consideration in planning the necessary removal of surface water for smooth water discharge.

The variety of combinations within the heroal systems ensures planning security for builders, architects and processors.



heroal D 72, section diagram – 0-barrier according to DIN 18040



# heroal D 72

## Façade integration

With its versatile profile design the heroal D 72 commercial door system provides a key basis for integration into the heroal C 50 curtain wall system.

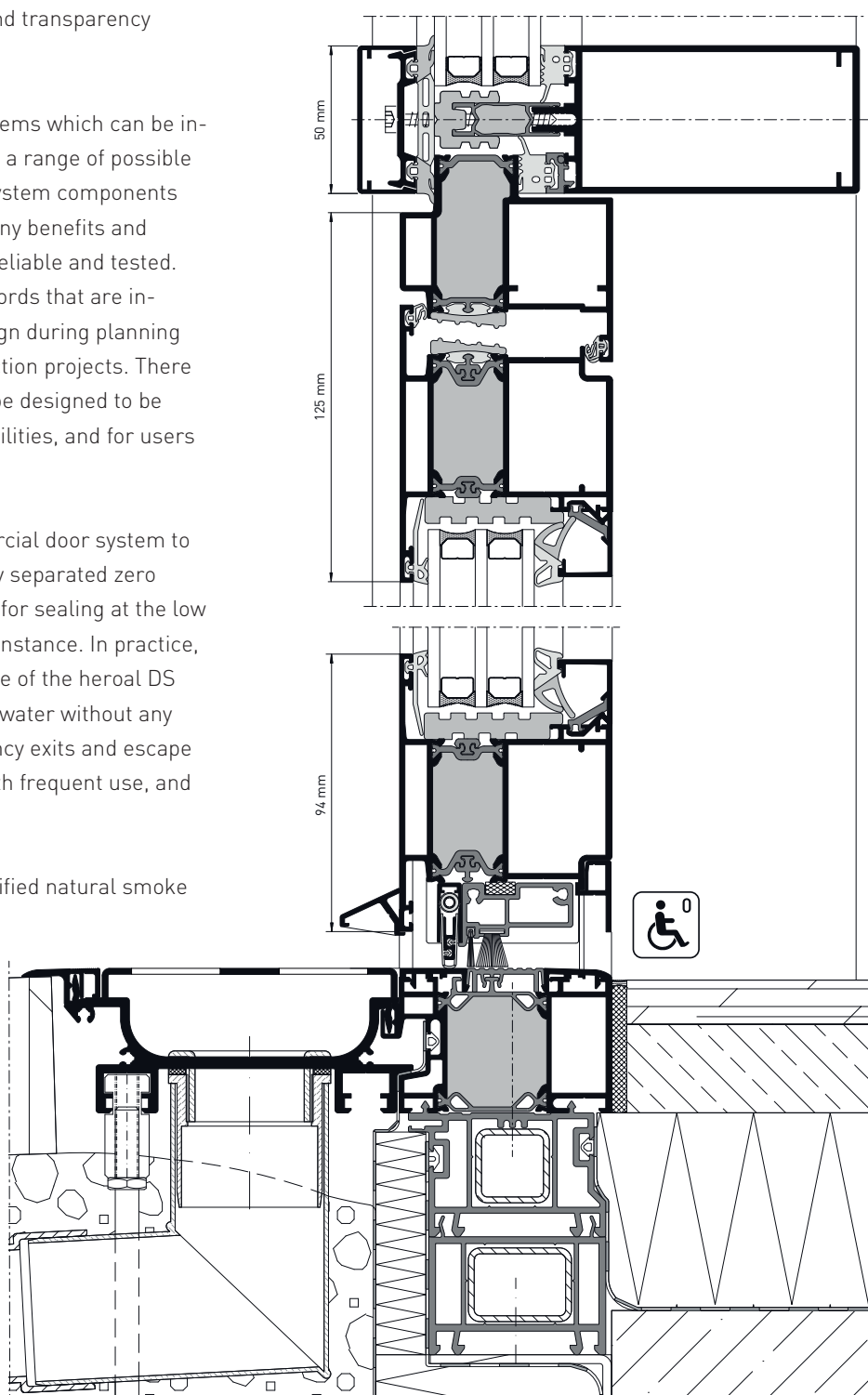
The heroal C 50 façade's modular construction offers the optimum solution for the different energy and transparency requirements for buildings.

Coupled with heroal's window and door systems which can be integrated, it offers architects and processors a range of possible configurations. It is thanks to the variable system components that the heroal system can demonstrate many benefits and strengths – visually attractive, functionally reliable and tested. Barrier-free and universal design are key words that are increasingly being stressed in relation to design during planning and execution of public and private construction projects. There is a requirement for the use of products to be designed to be simple and flexible for people with varied abilities, and for users with experience as well as those without.

heroal is expanding the heroal D 72 commercial door system to include the threshold solution of a thermally separated zero barrier. Particular measures are necessary for sealing at the low connection height (threshold height) in this instance. In practice, necessary measures are for example the use of the heroal DS drainage system, which discharges surface water without any back-up. Proven door solutions for emergency exits and escape routes, fitting variants for durability even with frequent use, and maximum production sizes are a given.

In combination with the heroal profiles, certified natural smoke and heat exhaust ventilators and heat and smoke exhaust ventilation systems can be used. Our partners will be pleased to advise you on the wide range of possible solutions that are available. A natural smoke and heat exhaust ventilator discharges smoke and hot gases from construction works in the event of a fire.

According to EN 12101-2 this regulated construction product consists of a window with its component parts (profiles, seals, fittings), the infill (glass, panels, etc.) and the drive system with its component parts (drive, consoles, fittings).



heroal D 72, section diagram – façade integration

# heroal D 72

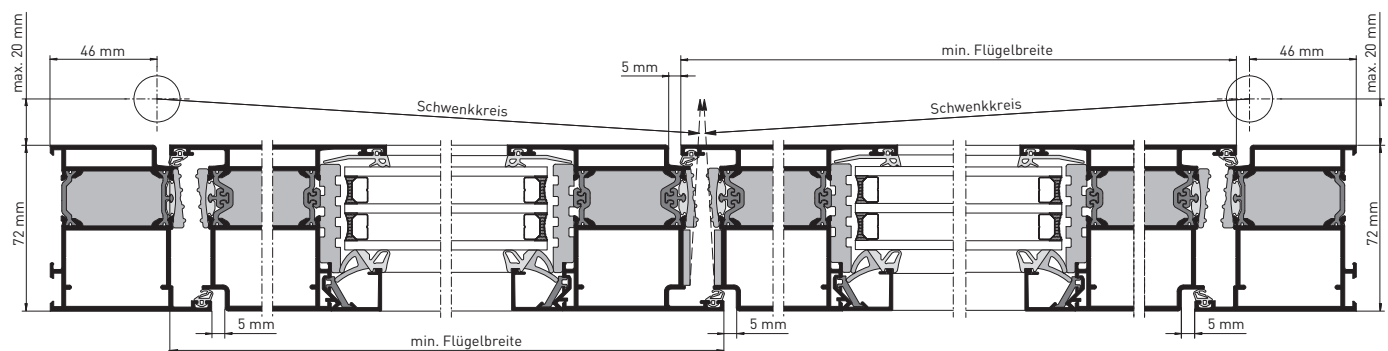
## Ease of opening and access

The heroal D 72 commercial door system offers proven door solutions for emergency exits and escape routes. Fitting variants for durability even with frequent use and maximum production sizes are given. Emergency or panic doors are doors which are used for emergency exits and escape routes. The basis for the requirements for exterior doors at emergency exits is regulated in the product standard EN 14351-1. These building components are subject to conformity assessment 1. Integral to this is externally regulated monitoring of the element, an integrated factory production control in-house, which ultimately allows a CE marking to be given.

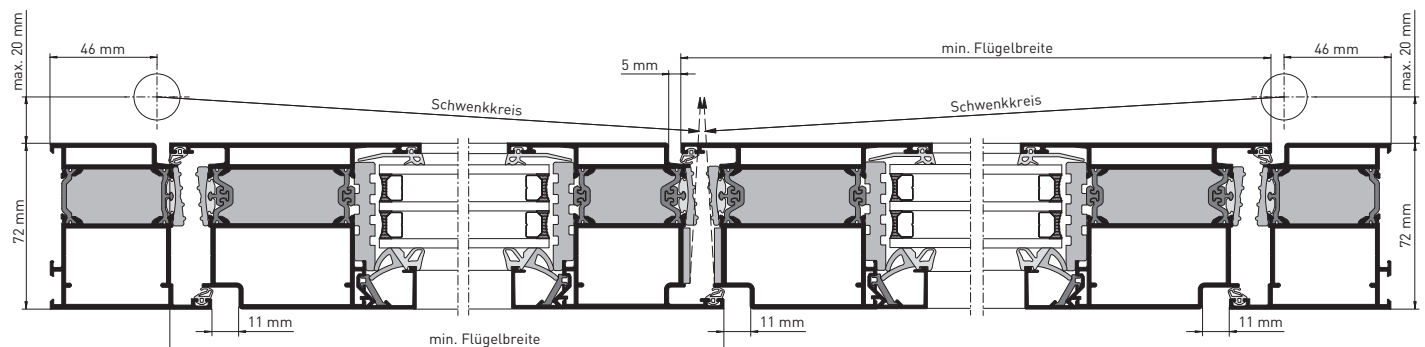
An emergency or panic door is the combination of the frame, casement and fitting components, as well as their "individual" installation situation. Simply joining together components that carry CE marks does not necessarily produce a secure and functioning emergency door. Depending on the installation situation,

opening both door casements simultaneously can stop the opening process, which is also described as jamming. Due to the rebate geometry of the door casement combined with the gap size between the door casements, opening the emergency and panic doors via the inactive casement leaf results in both door casements "sticking together".

Achieving long-term restraint-free functioning starts at the planning stage with the choice of profiles and fitting variants. The trickle ventilation specifications provided must be strictly observed during cutting and production, according to the widths of the active and inactive casement leaf. For this process, heroal offers coordinated profiles, panic casement leaves with a gap size of 5/11 mm and corresponding fitting variants; the use of appropriate door sequence selector systems should be checked.



heroal D 72, section diagram – ease of opening, gap size 5 mm



heroal D 72, section diagram – ease of opening, gap size 11 mm

# heroal D 72

## Manufacturing technology



### Sustainable and innovative reversible infill panel attachment

With its heroal D 72 front door system, heroal provides an innovative infill panel attachment for aluminium materials. This variant offers the possibility of fixing the prefabricated infill panel in the casement by means of joints. As a result, it has been possible to harmonise the typically opposing features of proven security and habitual convenience. Due to the different possibilities provided by the heroal infill panel attachments, maximum casement leaf sizes can be manufactured. Processors are offered many benefits as the heroal D 72 door system can be extended thanks to a profile design for this type of infill panel attachment. Easy installation even at the construction site, reversibility for design modifications and the time-saving processing of the entire system are just a few aspects of the new design.



### heroal corner angle technology

The innovative heroal sealant injection method guarantees an optimum seal for the element mitre with less material, with a complete four-sided sealant coating for the corner cleating set. Door production is guaranteed to be efficient and therefore time-saving thanks to the heroal corner cleating set technology with the optimised manufacturing processes for corner angle fitting. The optimal, guided sealant distribution along with the innovative corner angle technology enable considerable material savings. There are special heroal tool solutions, adapted to a variety of production batch sizes for efficient and cost-effective unit assembly.



### heroal T-connector technology

Optimised and thus time-saving door assemblies are made possible by the heroal T-connector technology. The new and innovative heroal sealant injection has been developed for the best possible sealing of T-connections/joints. It ensures a high level of system reliability as a result of closed-cell sponge piping for rebate sealing. The innovative sealant injection provides the best possible sealing of T-connections/joints with just a small amount of sealant.

## heroal fitting technology



In addition to design and energy requirements, functionality and security are important performance features for door systems. While a window has an operating life of 10 to 25 years, an entrance door remains in the building for significantly longer. Therefore, flexible, adaptable usability and the appearance of front doors are of particular importance. The heroal DF fitting technology for commercial and front door systems guarantees the highest level of flexibility and follows the universal design approach, which can be individually tailored to the requirements of the user at any time and furthermore is distinguished by intuitive handling and user-friendliness.

Versatile combinations of mechanical and electronic building components and consistent lock dimensions are an important factor. The heroal door fittings are compatible with the latest technologies such as keyless entry and Bluetooth, which also increase ease of use. Proven fitting units for emergency exits and escape routes according to DIN EN 179 or DIN EN 1125 are part of the standard. By integrating various functions, warehousing requirements for the lock components can be reduced to a quarter, with up to four times as much scope for use on doors. Self-locking and multi-point locking panic fitting variants with panic bar handles or push-bar-operable opening variants complete the programme.

For resistance class (RC) requirements, certificates for single- and double-casement doors with side sections are available up to RC 3, backset dimensions of up to 45 mm are available for the processors. The manufacturing requirements provided in the test documentation must be observed.

## heroal compound technology

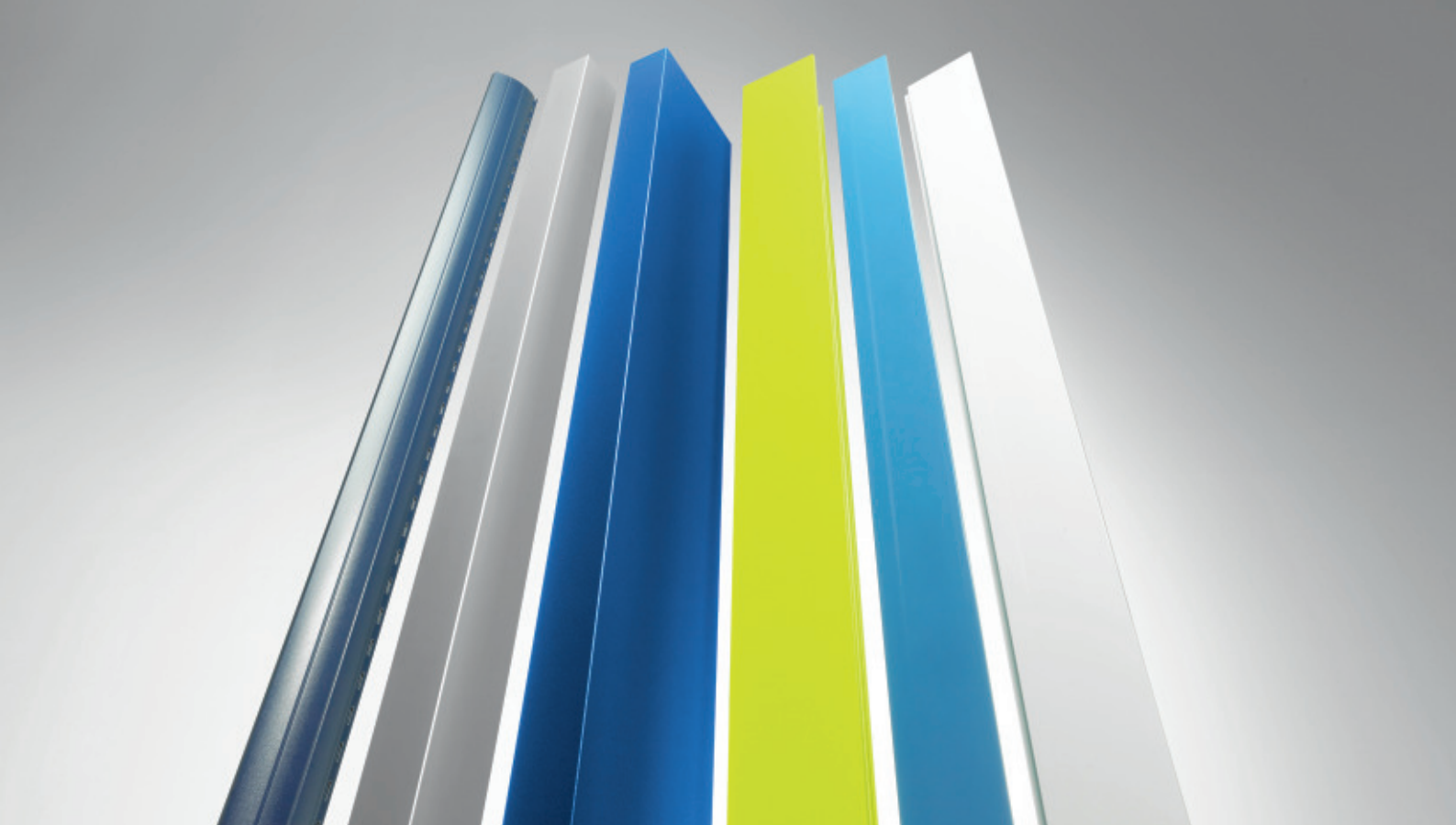


Thanks to three innovative production stages, the heroal D 72 door system offers effective protection against the bi-metal effect. This is when large temperature differences between the interior and exterior cause deformations on the casement frame.

**Step 1:** The patented, warp-resistant profile compound from heroal is used to help avoid the huge influence that the difference in temperature can have on the function and appearance of the door elements. It protects the profile against the damaging shear forces. This compound consists of a tightly rolled thermal break and a slide-in spring.

**Step 2:** First the HT casement frame is cut, milled and drilled. Before the casement is pressed or nailed, the slide-in springs are removed from the casement profiles. The thermal break is then split into sub-areas of the casement profile using a specially developed tool.

**Step 3:** The slide-in springs are replaced. The profile compound remains partially intact, and potential shear forces cannot be applied to the multi-point locking or the closing cylinder. In the event of transversal shear pull forces in the area where the compound has been separated, for example during a break-in attempt, the slide-in spring allows the profile to behave like a profile with a conventional compound.



## heroal surfaces

Surface finishing is an integral part of heroal system components. heroal offers optimally matched systems for windows, doors, façades, as well as roller shutters, roller doors and sun protection. With our heroal hwr powder coating, we rely on quality from our own coating plants. The award as the official GSB Premium coater and the Qualicoat quality seal underline the quality leadership! Apart from the powder coating, heroal also offers its customers Eloxal surfaces and laminations. A twin-coat thick coating is used in the roller shutter field in particular. heroal delivers its entire product portfolio directly ex-works, thus ensuring the shortest delivery times for its partners.

## Our service is consistently geared to your needs

Alongside its extensive system portfolio with perfectly coordinated products, heroal also provides a service that is unique and the most efficient in the sector – founded on a consistent focus on customers' requirements, wishes and needs. The basis of heroal service – alongside the trained team of employees – is the in-house, energy-efficient production, made in Germany with an unparalleled manufacturing range and process reliability, which ensures optimum product quality for sustainable, cost-effective and value-enhancing construction for processors, architects and constructors. This is also ensured by the new heroal logistics centre, covering an area of around 40000 m<sup>2</sup>, and the company truck fleet. The heroal service portfolio is rounded off by the testing centre for roller shutters, roller doors, sun protection, windows, doors and façades, which is certified by ift Rosenheim and can also be used by customers, as well as by the efficient, in-house profile bending and edging service: heroal is the only systems supplier in the sector to offer such a service to its customers.

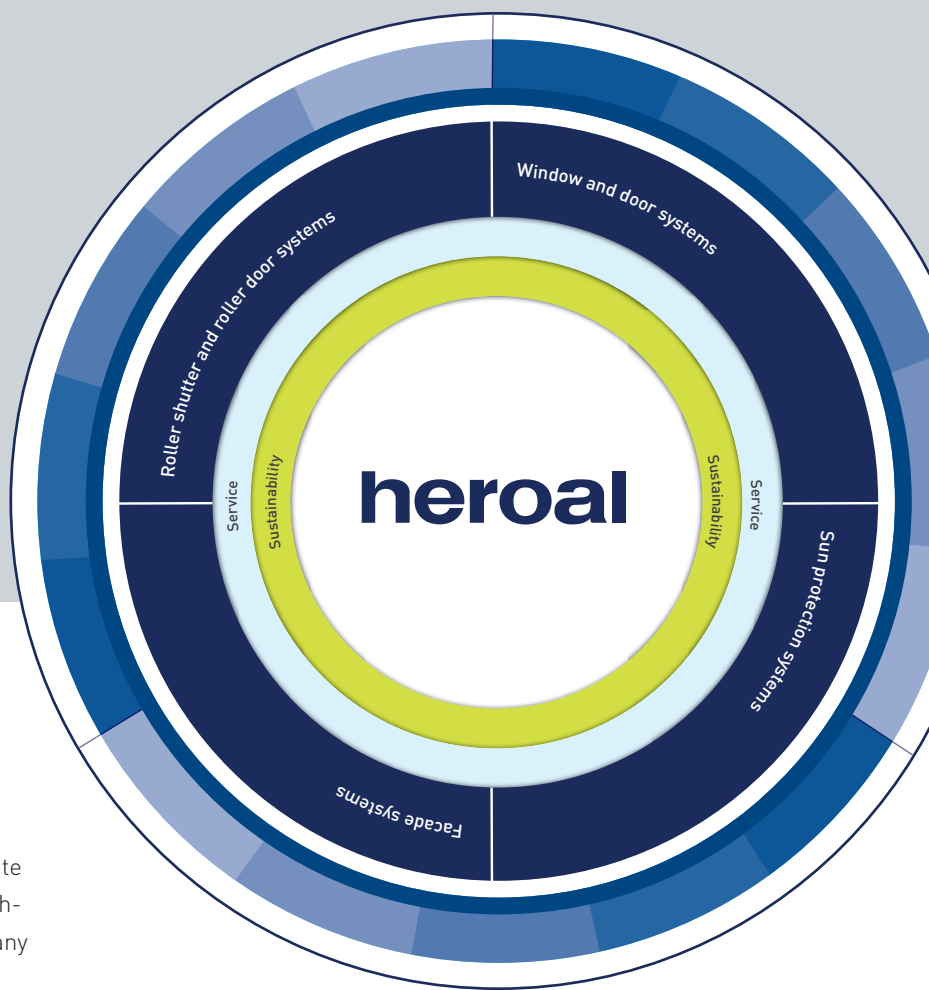


# heroal – the aluminium systems supplier

As one of the leading aluminium systems suppliers, heroal develops and produces perfectly coordinated systems for windows, doors, façades, roller shutters, roller doors and sun protection, complemented by louvre and sliding shutters, insect protection and terrace roofs and carports. By minimising energy consumption during production, maximising energy conservation during usage and ensuring optimum profitability during system processing and building improvement, heroal makes a significant contribution to sustainable construction.

## Innovation, service, design, sustainability

The heroal brand represents system solutions that unite practical innovations, industry-leading service and high-quality design that can be sustainably integrated into any architecture.



Roller shutters | Roller doors | Sun protection | Windows | Doors | Façades | Service

**heroal – Johann Henkenjohann GmbH & Co. KG**  
Österwieher Str. 80 | 33415 Verl (Germany)  
Telephone +49 5246 507-0 | Fax +49 5246 507-222  
[www.heroal.com](http://www.heroal.com)