

Drywall Systems

W11RC-E01\_SDS.de

System Data Sheet

2024-05

## Knauf Burglar-Retardant Partitions - Supplement

W118.de – Knauf Burglar-Retardant Security Wall – Single metal stud frame

W119.de – Knauf Burglar-Retardant Security Wall – Decoupled double stud frame



- Security Walls - Burglar-retardant RC2 / RC3 with Knauf Diamant GKFI without sheet metal insert acc. to EN 1627

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### Notes on the document

Knauf system data sheets are the planning and application basis for the planners and professional installers in the application of Knauf systems. The contained information and specifications, constructions, details and stated products are based, unless otherwise stated, on the Certificates of Usability (e.g. National Technical Test Certificate (abP)) valid at the date they are published as well as on the applicable standards. Additionally, design and structural requirements and those relating to building physics (fire resistance and sound insulation) are considered.

The contained construction details are examples and can be used in a similar way for various cladding variants of the respective system. At the same time, the demands made on fire resistance and/or sound insulation as well as any necessary additional measures and/or limitations must be observed.

### References to other documents

#### System data sheets

- [Knauf Metal Stud Partitions W11.de](#)
- [Knauf Burglar-Retardant Partitions W11RC.de](#)

#### Technical brochure

- [Knauf Jointing Competence Tro89.de](#)
- [Knauf Diamant Systems DIA01.de](#)

#### Technical information

- [Fastening of Loads to Knauf Wall and Ceiling Systems VT03.de](#)

#### Folders

- [Fire resistance with Knauf BS1.de \(German only\)](#)
- [Sound insulation and room acoustics with Knauf \(only sections in English\)](#)

#### Product data sheets

- Observe the product data sheets of the individual Knauf system components.

### Symbols in the document

The following symbols are used in this document:

#### Insulation layer

- G** Mineral wool insulation layer acc. to EN 13162  
Non-combustible  
(insulating material, e.g. from Knauf Insulation)

### Intended use of Knauf systems

Please observe the following:

#### Caution

Knauf systems may only be used in the applications as described in the Knauf documents. In case third-party products or components are used, they must be recommended or approved by Knauf. Flawless application of products/systems assumes proper transport, storage, assembly, installation and maintenance.

### General notes on Knauf systems

#### The subject of this supplement

This document summarizes the information in the Certificate of Conformity TT-18/2024 and Classification Report C 21/2024 regarding the wall constructions W118.de RC2 / RC3 and W119.de RC2 / RC3 with regard to their burglar-retardant effect in accordance with EN 1627 and supplements these details with the permissible wall heights and the specifications for fire resistance and sound insulation.

#### Note

Further building physical demands can result from the relevant state building codes and special construction regulations, which are not a part of this document.

#### Field of application

The specifications in this document only apply for burglar-retardant partitions in interiors. Burglar-retardant partitions offer protection where there is a need for increased security.

#### Notes on fire resistance

Reinforcing and supporting connection components must at least feature the same fire resistance class.

#### Installation zones acc. to DIN 4103-1

##### Installation zone 1

Partitions in rooms where low numbers of persons gather, e.g. dwellings, hotels, office and hospital rooms including corridors and halls or similar.

##### Installation zone 2

Partitions in rooms where large numbers of persons gather, e.g. meeting halls, school classrooms, auditoria, exhibition halls and sales rooms as well as rooms with a similar use.

Unless otherwise stated, the value in the table is the maximum permissible partition height for installation zone 2.

#### Construction notes

##### Movement joints

Movement joints of the main structure should be integrated into the construction of the burglar-retardant partitions. Movement joints are to be installed every 15 m on continuous burglar-retardant partitions.

#### Notes on sound insulation

Requirements for the insulation layer:

Mineral wool insulation layer acc. to EN 13162

(Insulation materials, e.g. from Knauf Insulation)

Length-related flow resistance of  $5 \text{ kPa}\cdot\text{s}/\text{m}^2 \leq r \leq 50 \text{ kPa}\cdot\text{s}/\text{m}^2$  acc. to DIN 4109-33

$R_w$  = Weighted sound reduction index in dB without sound transmission via flanking constructional components

#### Note

Avoid air leaks.  
For deflection heads sealing with permanently elastic sealant material (recommendation: Knauf Insulation LDS Solimur) required.

## Certificates of Usability

Knauf system	Burglar-retardant	Fire resistance	Sound insulation	Ball impact safety	Structural engineering
W118.de	Certificate	AbP P-3310/563/07-MPA BS	Knauf sound insulation proof L 037-01.15	904 2509 000/3/Sgm	AbP P-1405/928/10-MPA BS
W119.de	TT-18-2024				AbP P-1100/490/15-MPA BS

The stated constructional and structural properties, and characteristic building physics of Knauf systems can solely be ensured with the exclusive use of Knauf system components, or other products expressly recommended by Knauf. The validity and up-to-datedness of the stated proofs have to be considered.

## Fire resistance

The specifications marked with **plus** offer additional application options, which are not directly included in the Certificate of Usability. On the basis of our technical assessments, we assume that these marked design solutions can be assessed as a non-significant divergence. We can make the documentation on which this assessment is based, such as surveyors' reports or technical assessments, available to you together with the Certificate of Usability on request. We recommend that a non-significant divergence be coordinated and authorised in advance in consultation between the persons responsible for fire resistance and/or the relevant authorities.

**plus** Extension of the fire resistance Proof of Usability

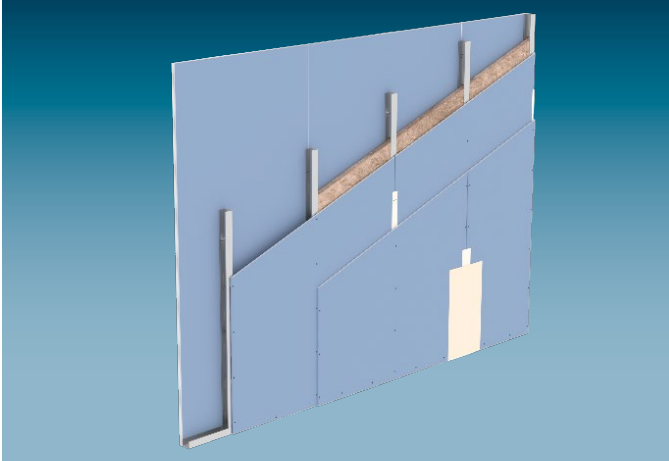
Prior consultation with respect to fire resistance notes recommended.

Knauf system	System-related deviations
W118.de	<ul style="list-style-type: none"> <li>■ When applying the insulation layer <b>G</b> in conjunction with             <ul style="list-style-type: none"> <li>▪ Wall height &gt; 5.00 m</li> </ul> </li> <li>■ For application wall heights with CW 75</li> </ul>
W119.de	<ul style="list-style-type: none"> <li>■ When applying the insulation layer <b>G</b> in conjunction with             <ul style="list-style-type: none"> <li>▪ Wall height &gt; 5.00 m</li> </ul> </li> </ul>

**Knauf Burglar-Retardant Partitions**

Drywall partitions with substructure made of sheet steel profiles and cladding on both sides made of Knauf Diamant boards without sheet steel inserts. As burglar-retardant stud partitions, they achieve burglar-retardant classification A according to VdS (German liability insurance association) or RC3 according to DIN EN 1627 to 1630.

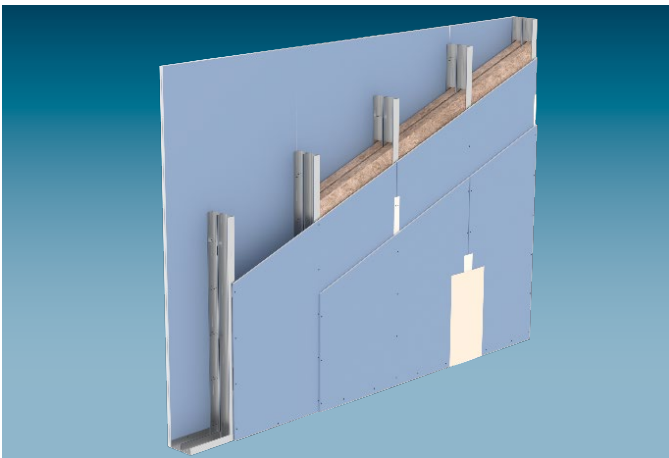
**W118.de** Security Wall RC2 / RC3  
Single stud frame – 2x Diamant



The Security Wall **W118.de RC2 / RC3** consists of a single metal stud frame and two layers of Knauf Diamant metal-free cladding on both sides. They achieve burglar-retardant classification of resistance class RC3

- Partition heights up to: 10.00 m
- Fire resistance class up to: F90

**W119.de** Security Wall RC2/ RC2  
Double metal stud frame – 2x Diamant



The Security Wall **W119.de RC3 / RC3** consists of a double metal stud frame and double-sided metal-free cladding made of two layers of Knauf Diamant boards. They achieve burglar-retardant classification of resistance class RC3

- Partition heights up to: 6.65 m
- Fire resistance class up to: F90

System variants

Knauf system	Fire resistance class	Cladding per wall side		Weight	Wall thickness	Profiles Knauf CW	Insulation layer		Sound insulation	
		Diamant	Minimum thickness				Technical fire protection requirement	Minimum thickness	Minimum Density	Insulation layer
		t		approx. kg/m <sup>2</sup>	D	h	mm	kg/m <sup>3</sup>	mm	R <sub>w</sub> dB
W118.de Security Wall RC2 / RC3										
Single metal stud frame – Double-layer metal-free cladding with Diamant										
	F90	• 2x 12.5	56		100	50	None		–	–
					125	75			–	–
					150	100			–	–

Screw spacing of Diamant Screws XTN or XTB 1st layer and 2nd layer ≤ 250 mm.

Demands on the insulation layer (Insulation materials, e.g. from Knauf Insulation):

- Required for fire resistance: None
- Fire protection permissible: Mineral wool

Wall heights

Maximum permissible wall heights

Knauf profile	Stud spacing	Diamant 2x 12.5 mm	
		None Fire resistance	With Fire resistance F90
Metal gauge 0.6 mm	a mm	m	m
CW 50	625	4.75	4.75
	417	5.40	5.00
	312.5	5.80	5.00
CW 75	625	7.20	7.00
	417	7.85	7.00
	312.5	8.20	7.00
CW 100	625	9.30	7.00
	417	9.75	7.00
	312.5	10.00	7.00

Ball impact safety

Ball impact safety is provided with spacing of studs ≤ 312.5 mm.

Notes	Extension of the fire resistance Proof of Usability see <a href="#">Page 4</a> .
	Observe the notes on <a href="#">Page 3</a> .

### System variants

Knauf system	Fire resistance class	Cladding per wall side		Weight	Wall thickness	Profiles Knauf CW	Cavity	Insulation layer		Sound insulation	
		Minimum thickness	None	Insulation layer				Technical fire protection requirement	Insulation layer	Sound reduction index	
	Diamant	t	approx. kg/m <sup>2</sup>	D	mm	h	mm	Minimum thickness	Minimum Density	Minimum thickness	R <sub>w</sub> dB
W119.de Security Wall RC2 / RC3											
Double metal stud frame – Double-layer metal-free cladding with Diamant											
	F90	• 2x 12.5	59	155	2x 50	105	None			2x 40	69
				205	2x 75	155				2x 60	72
				255	2x 100	205				2x 80	74

Screw spacing of Diamant Screws XTN or XTB 1st layer and 2nd layer ≤ 250 mm.

Sound reduction index values represented in italics are derived values from measurements on divergent constructions.

Demands on the insulation layer (Insulation materials, e.g. from Knauf Insulation):

- Required for fire resistance: None
- Fire protection permissible: Mineral wool
- Required for sound insulation: Mineral wool, length-related flow resistance of  $5 \text{ kPa}\cdot\text{s}/\text{m}^2 \leq r \leq 50 \text{ kPa}\cdot\text{s}/\text{m}^2$  acc. to DIN 4109-33

### Partition heights

Maximum permissible wall heights

Knauf profile	Stud spacing	Diamant 2x 12.5 mm	
		None Fire resistance	With Fire resistance
Metal gauge 0.6 mm	a mm	m	F90 m
CW 50	625	3.35 <sup>1)</sup>	3.35 <sup>1)</sup>
	417	4.00	4.00
	312.5	4.00	4.00
CW 75	625	4.00	4.00
	417	4.40	4.40
	312.5	4.95	4.95
CW 100	625	4.95	4.95
	417	5.90	5.90
	312.5	6.65	6.65

1) only for installation zone 1

### Ball impact safety

Ball impact safety is provided with spacing of studs ≤ 312.5 mm.

#### Notes

Extension of the fire resistance Proof of Usability see Page 4.  
Observe the notes on Page 3.

### Spacing of fasteners

Use suitable fasteners

- Solid flanking constructional components: Knauf Drehstiftdübel nailable plugs with masonry or Knauf Deckennagel ceiling steel dowels with reinforced concrete.
- Non-solid flanking constructional components: Anchors specially suited for the building material, e.g. Knauf Universalschraube FN multi-purpose screws for metal stud partitions, etc...

### Max. permissible fastener spacings – supporting fastening of perimeter runner (UW) connection to basic floor and basic ceiling

Without fire resistance

Partition heights m	Knauf Deckennagel ceiling steel dowel (with reinforced concrete) 1x mm	Knauf Drehstiftdübel nailable plug 1x mm	Knauf Universalschraube FN multi-purpose screw 1x mm
≤ 6.50	500	500	500
> 6.50 to ≤ 10.00	500	–	Verify the stability of the anchoring substrate and select suitable fasteners (for 2 kN/m).

- Constructional anchoring of the wall connection profiles (CW) to the flanking walls at centres of max. 500 mm (min. 3 anchoring points).

With fire resistance

Partition heights m	Knauf Deckennagel ceiling steel dowel (with reinforced concrete) 1x mm	Knauf Drehstiftdübel nailable plug 1x mm	Knauf Universalschraube FN multi-purpose screw 1x mm
≤ 6.50	500	500	500
<b>W119.de</b> > 6.50 to ≤ 6.65	500	–	Verify the stability of the anchoring substrate and select suitable fasteners (for 2 kN/m).
<b>W118.de</b> > 6.50 to ≤ 7.00			

- Constructional anchoring of the wall connection profiles (CW) to the flanking walls at centres of max. 500 mm (min. 3 anchoring points).

### Fastening of the cladding

#### Fasteners to be used

Cladding Thickness mm	Metal stud frame (Penetration ≥ 10 mm)	
	Metal gauge s ≤ 0.7 mm Diamant screws XTN	Metal gauge 0.7 mm < s ≤ 2.25 mm Diamant screws XTB
2x 12.5	XTN 3.9 x 23 + XTN 3.9 x 38	XTB 3.9 x 38 + XTB 3.9 x 55

#### Maximum fastener spacings, all board layers fastened to frame with screws

Cladding	1st layer Vertical Board width 1250	2nd layer Vertical Board width 1250
2-layer	250	250



**Power socket installation (without fire resistance)**

Power sockets may be installed at any position, except not directly opposite one another.

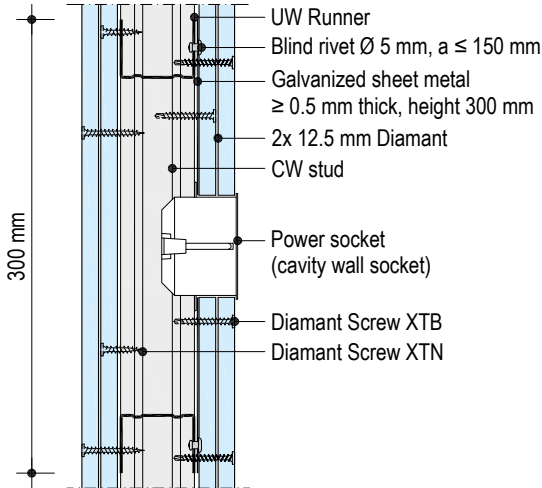
In the power socket area, sheet metal inserts  $\geq 0.5$  mm thick must be applied. The following areas must be fully covered.

- At least 150 mm above and below the center of the built-in element
- Laterally to each of the next stud profiles on each side

**W118.de Power socket installation – RC2 / RC3**

Vertical section

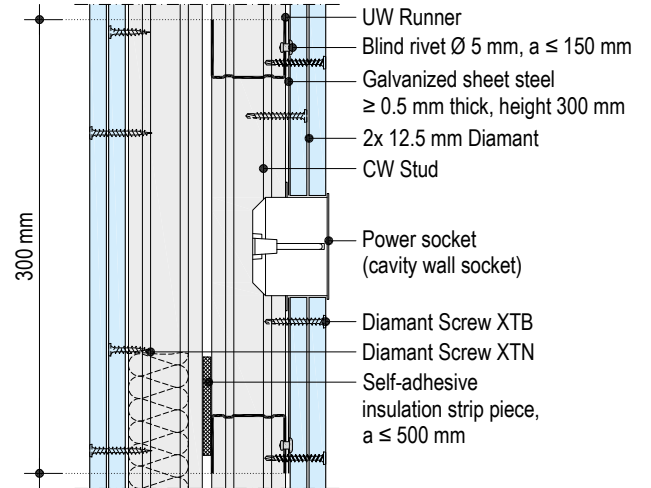
Scale 1:5



**W119.de Power socket installation – RC2 / RC3**

Vertical section

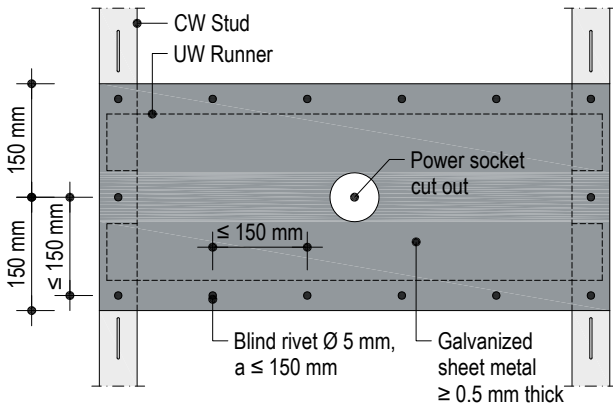
Scale 1:5



**Sheet metal installation view**

Scheme drawing

Not to scale



### Information on sustainability of Knauf burglar-retardant partitions

Building assessment systems ensure the sustainable quality of buildings and constructional structures by a detailed assessment of ecological, economic, social, functional and technical aspects.

In Germany the following certification systems are of particular relevance:

- DGNB System  
Deutsches Gütesiegel Nachhaltiges Bauen
- BNB  
Bewertungssystem Nachhaltiges Bauen - Quality rating system for environmentally sustainable building)
- QNG  
Quality seal for sustainable buildings
- LEED  
Leadership in Energy and Environmental Design

Knauf products and Knauf burglar-retardant partitions can positively influence many of these criteria.

#### DGNB/BNB/QNG

##### Ecological quality

- Climate protection and energy / Life Cycle Assessment  
Relevant environmental data are contained in the EPD for gypsum boards and fillers.
- Risks for the local environment:
  - Gypsum as an ecological material
  - Profiles are hot-dip galvanized and free of Chromium VI

##### Economic quality

- Building related life-cycle costs:  
Cost-effective Knauf Drywalling
- Value stability and adaptability  
Flexible Knauf Drywalling (conversion)

##### Technical quality

- Sound insulation:  
Exceeding the demands of the standard with Knauf sound installation
- Circularity:
  - Gypsum multi-recyclable capability
  - Demolition and dismantling capability



Videos for Knauf systems and products can be found under the following link:

[youtube.com/knauf](https://youtube.com/knauf)



Find the right systems for your requirements!

[knauf.com/systemfinder](https://knauf.com/systemfinder)

#### Knauf Direct

Technical Advisory Service:

▶ [knauf-direkt@knauf.com](mailto:knauf-direkt@knauf.com)

▶ [www.knauf.com](https://www.knauf.com)

### LEED

#### Materials and resources

- Building Life-Cycle Impact Reduction:  
Relevant ecological performance evaluation data are contained in the EPDs for gypsum boards and filler.
- Environmental Product Declarations:  
Relevant data are contained in the EPD for gypsum boards and fillers.
- Sourcing of Raw Materials:  
Recycled content in Knauf gypsum boards, e.g. board liner

#### Indoor Environmental Quality

- Low-Emitting Materials:  
Knauf products are regularly subject to VOC measurement.



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