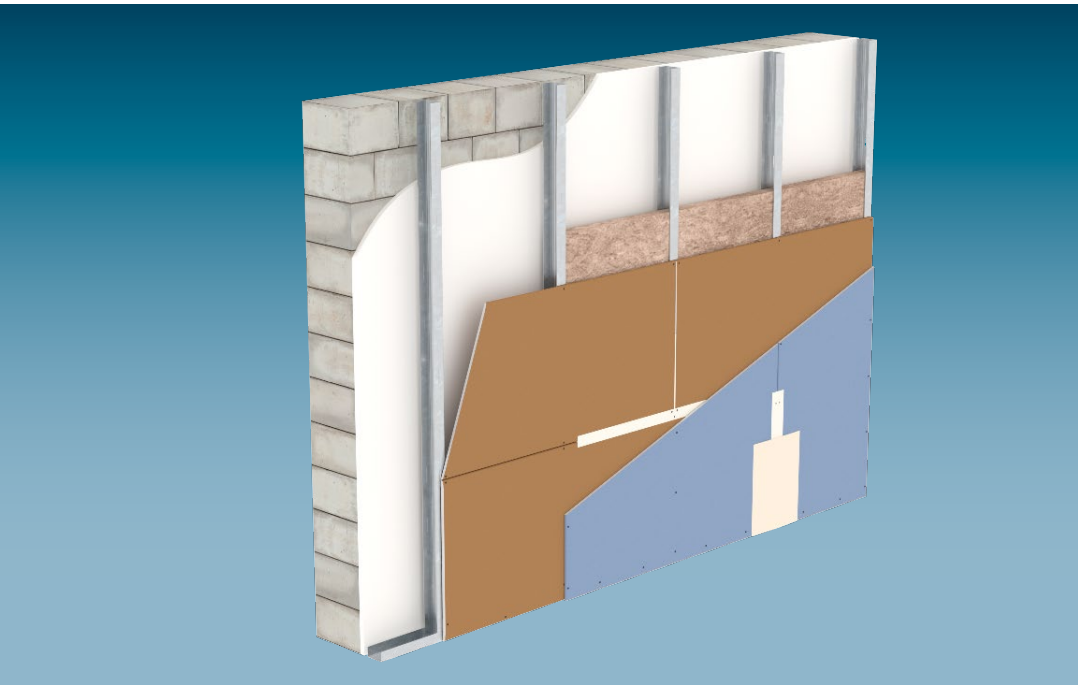


Drywall Systems

W61.de

System Data Sheet 2023-11

Knauf Furring and Lining

W623.de – Knauf Furring with CD 60/27, directly anchored
W625.de – Knauf Furring with CW stud, single-layer cladding
W626.de – Knauf Furring with CW stud, multi-layer cladding
W627.de – Knauf Furring with CW double profile, multi-layer cladding
W653.de – Knauf Furring with CW stud, Solidboard

Note on English translation / Hinweise zur englischen Fassung

This is a translation of the System Data Sheet valid in Germany.
All stated details and properties are in compliance with the regulations of the German standards and building regulations. They are only applicable for the specified products, system components, application rules, and construction details in connection with the specifications of the respective certificates and approvals.
Knauf Gips KG denies any liability for applications outside of Germany as this requires changes acc. to the respective national standards and building regulations.

Dies ist eine Übersetzung des in Deutschland gültigen Detailblattes. Alle angegebenen Werte und Eigenschaften entsprechen den in Deutschland gültigen Normen und bauaufsichtlichen Regelungen. Sie gelten nur bei Verwendung der angegebenen Produkte, Systemkomponenten, Anwendungsregeln und Konstruktionsdetails in Verbindung mit den Vorgaben der bauaufsichtlichen Nachweise.
Die Knauf Gips KG lehnt jegliche Haftung für Einsatz und Anwendung außerhalb Deutschlands ab, da in diesem Fall eine Anpassung an nationale Normen und bauaufsichtliche Regelungen notwendig ist.

Contents

Notes on the document

Knauf system data sheets are the planning and application basis for the planners and professional installers with 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 AQUAPANEL Furring® W68.de
- Knauf Metal Stud Partitions W11.de
- Knauf Installation Shaft Walls W62.de
- Knauf X-Ray Shielding Furring and Lining K15.de
- Knauf Dry Lining W61T.de

Technical brochures

- Knauf Cleaneo Acoustic Wall Systems AK04.de
- Knauf Jointing Competence Tro89.de

Folders

- Sound insulation and room acoustics with Knauf (only sections in English)

Technical Information

- Fastening of Loads to Knauf Wall and Ceiling Systems VT03.de

Product data sheets

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

Symbols in the system data sheet

The following symbols are used in this document:

Legend symbols

1 Legend number that will be explained when used

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

Field of application

The specifications in this system data sheet only applies for furring / lining in interiors.

Application as interior insulation of exterior walls / walls to unheated rooms

The thermal assessment and detail planning must be undertaken by a building physicist.

Fire resistance

In case of fire resistance requirements see system data sheet Knauf Installation Shaft Walls W62.de

Coatings and linings

Ceramic coverings (e.g. tiles):

- Minimum cladding thickness 18 mm (Diamant: 15 mm), e.g. 2x 12.5 mm with stud spacing 625 mm.
- With narrower cladding thickness, reduce the stud spacing to max. 500 mm (417 mm with vertical cladding).
- Tile weights up to 25 kg/m^2 with a max. surface per tile of 1800 cm^2 (e.g. 60 x 30 cm) have proven to be uncritical compare to code of practice 8:2019-12 Partition heights of lightweight partitions [1)].

1) Issued by the German Bundesverband der Gipsindustrie e. V

Note	After wallpapering or after application of plasters, quick drying must be ensured through adequate airing.

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 furring. Movement joints are to be installed about every 15 m on continuous furrings.

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 kPa·s/m^2 ≤ r ≤ 50 kPa·s/m^2 acc. to DIN 4109-33

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

ΔR_w = Calculated sound reduction improvement index DIN 4109-34:2016-07

$\Delta R_{w,heavy}$ = Weighted sound reduction improvement index of the furring in conjunction with a basic wall as a solid wall with a mass per unit area of 350 ± 50 kg/A2 acc. to DIN EN ISO 10140-5:2010-12 appendix B

f_0 = Resonance frequency, determined acc. to DIN 4109-34:2016

Note	Avoid air leaks. In case of deflection heads sealing with permanently elastic sealant material (recommendation: Knauf Insulation LDS Solimur) is required.

Proofs of Usability

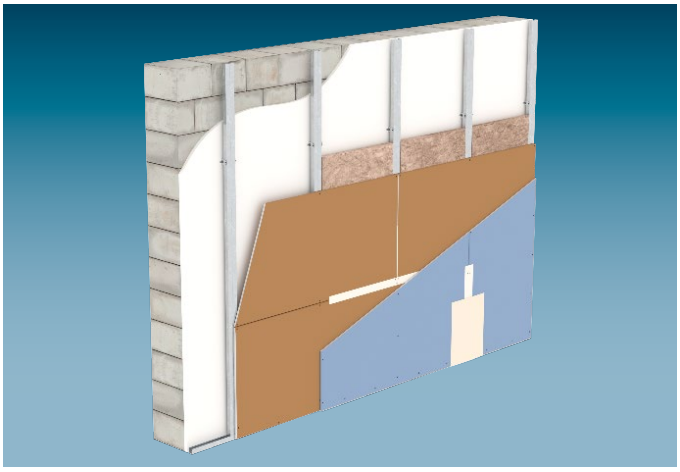
Knauf system	Sound insulation	Structural engineering	
		Knauf Wallboard / Solidboard	Diamant / Silentboard
W623.de	Knauf sound insulation proof SWK 11 108 Knauf sound insulation proof L 043-01.15	–	–
W625.de		AbP P-1403-355-12-MPA BS	AbP P-1100/490/15-MPA BS
W626.de			
W627.de			
W653.de	Knauf sound insulation proof L 043-01.15		–

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.

Knauf Furring and Lining

Furring / lining consist of a metal substructure and one-sided single or multi-layer cladding made of Knauf boards. Insulation materials for sound and thermal insulation, built-ins (sanitary or electric) as well as Sanistands for sanitary items can be installed into the metal frame construction. They provide a significant improvement of the thermal and sound insulation of the existing wall.

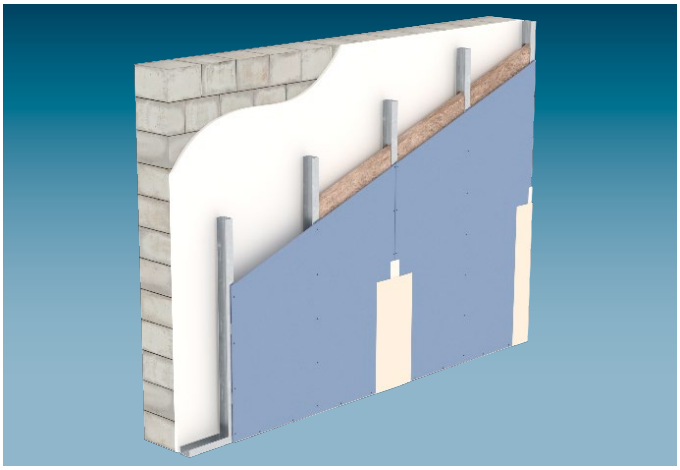
W623.de Furring with CD 60/27, directly anchored



The furring system **W623.de** is applied with a grid made of sheet metal profiles CD 60/27, which is fixed with Damping Universal Bracket / Universal Bracket to the basis wall. Thus a slim construction in conjunction with larger wall heights can be achieved. The cladding is single or double-laye.

- Directly anchored
- Stud spacing up to 625 mm
- Partition height up to 10 m

W625.de Independent furring with CW stud



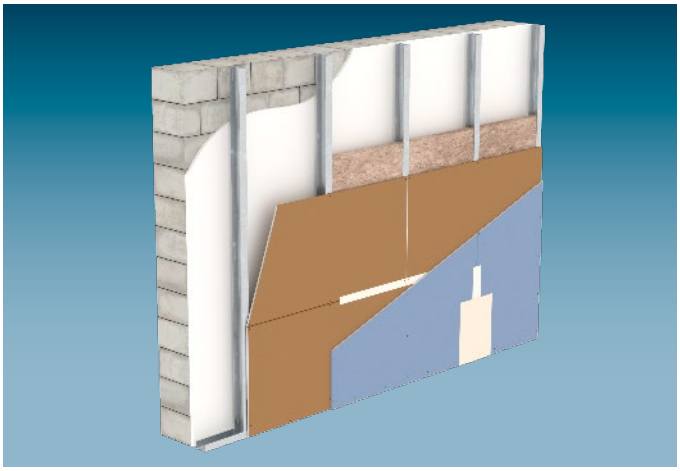
The furring system **W625.de** is applied with a grid made of sheet metal profiles as a single metal stud frame detached before the basis wall. The cladding is a single-layer. The detached design allows partition cavities of various sizes. There is no dependence on the strength of the basis wall.

- Free-standing
- Stud spacing up to 625 mm
- Partition height up to 9.00 m

New

ANDI system variant with CW 70 and 15 mm Diamant cladding

W626.de Independent furring with CW stud

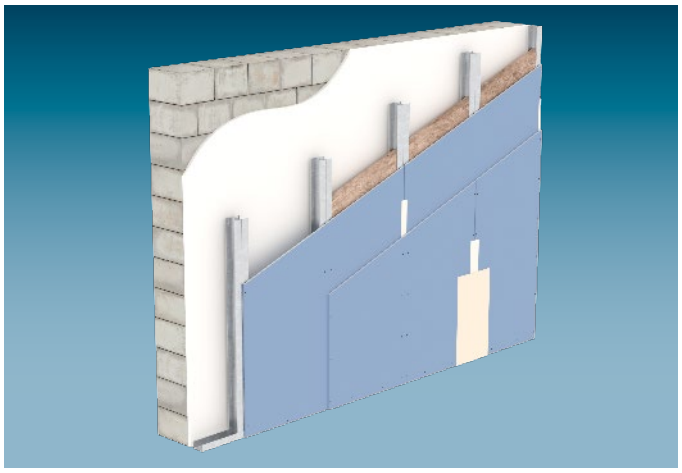


The furring system **W626.de** is applied with a grid made of sheet metal profiles as a single metal stud frame detached before the basis wall. The cladding is double or triple-layer. The detached design allows partition cavities of various sizes. There is no dependence on the strength of the basis wall.

- Free-standing
- Stud spacing up to 625 mm
- Partition height up to 10.70 m

Knauf Furring and Lining (Continuation)

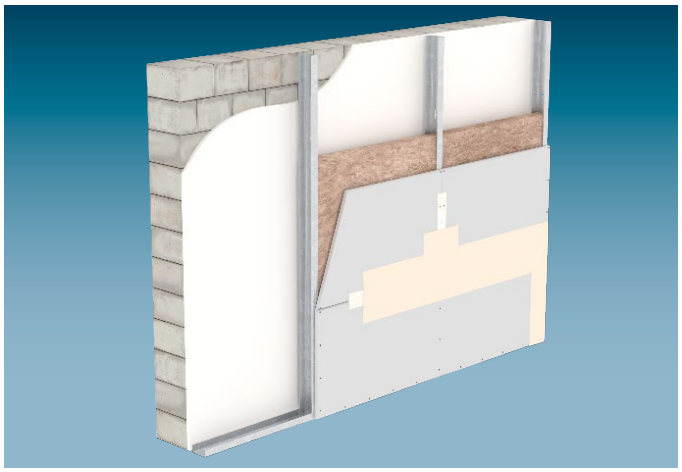
W627.de Independent furring with CW double stud



The furring system **W627.de** is applied with a grid made of sheet metal-double profiles as a single metal stud frame detached before the basis wall. The cladding is double or triple-layer. The detached design allows partition cavities of various sizes. There is no dependence on the strength of the basis wall.

- Free-standing
- Stud spacing up to 625 mm
- Partition height up to 12.00 m
- Non-slip insulation layer installation using a double profile

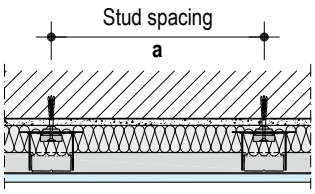
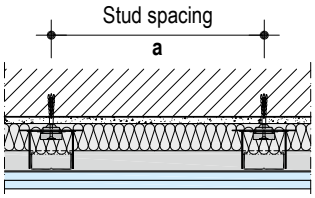
W653.de Independent furring with CW stud



The furring system **W653.de** is applied with a grid made of sheet metal profiles as a single metal stud frame detached before the basis wall. Cladding with Solidboard is applied horizontally and as a single-layer. The detached design allows partition cavities of various sizes. There is no dependence on the strength of the basis wall. The spacing of studs up to 1000 mm is possible with cladding made of Solidboard.

- Free-standing
- Stud spacing up to 1000 mm
- Partition height up to 9.10 m

System variants

Knauf system	Cladding					Weight	Min. thickness	Profiles	Sound insulation[1]			
	Knauf Wallboard	Solidboard	Diamant	Silentboard	Minimum thickness t mm	Without insulation layer approx. kg/m²	D mm	Knauf CD	Cavity h mm	Insulation layer minimum thickness mm	Improvement index $\Delta R_{w,heavy}$ dB	Resonance frequency[2] f_0 Hz
W623.de Furring directly anchored	Metal grid CD 60/27 Directly anchored with damping universal brackets – single-/double-layer cladding											
	•				**12.5**	11.3	≥ 57.5	60/27	≥ 45	30	*8*	74
			•		**12.5**	14.9	≥ 57.5	60/27	≥ 45	30	12	61
				•	**12.5**	20.4	≥ 57.5	60/27	≥ 45	30	14	52
	•				**2x 12.5**	20.8	≥ 70	60/27	≥ 45	30	*11*	53
			•	•	**12.5 + 12.5**	33.4	≥ 70	60/27	≥ 45	30	16	41
			•		**2x 12.5**	28.0	≥ 70	60/27	≥ 45	30	15	44
				•	**2x 12.5**	38.8	≥ 70	60/27	≥ 45	30	16	38

1) Approach for the improvement index acc. to DIN 4109-34:2016-07 demands the use of Knauf Damping Universal Brackets.

2) Resonance frequency calculated acc. to DIN 4109-34:2016-07.

Values in italics: *Calculated improvement ΔR_w on the basis of the DIN 4109-34:2016-07 with a mass per unit area of the basic wall of 340 kg/m².*

With combined cladding always use Diamant as a cover layer.

Requirements for the insulation layer: (Insulation materials, e.g. from Knauf Insulation)
Required for sound insulation: Mineral wool, length-related flow resistance of 5 kPa·s/m² ≤ r ≤ 50 kPa·s/m² acc. to DIN 4109-33

Wall heights

Single or double-layer cladding

Knauf Profile Metal gauge 0.6 mm	Maximum stud spacing a mm	Maximum partition height m
CD 60/27	625	10.00

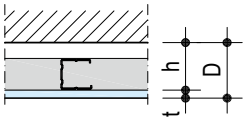
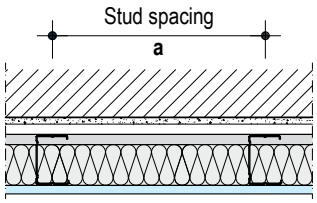
Maximum permissible furring cavity 127 mm

Ball impact safety

Ball impact safety is ensured in case of stud spacing ≤ 625 mm, axial spacing of the **Adjustable Universal Bracket for CD 60/27** ≤ 750 mm and a cladding thickness ≥ 2x 12.5 mm Knauf GKF.

Note Observe the notes on pages 3 to 4.

System variants

Knauf system	Cladding					Weight	Minimum thickness	Knauf profiles CW	Sound insulation			
	Knauf Wallboard	Solidboard	Diamant	Silentboard	Minimum thickness t mm	Without insulation layer approx. kg/m²	D mm		Cavity h mm	Insulation layer minimum thickness mm	Improvement index $\Delta R_{w,heavy}$ dB	Resonance frequency[1] f_0 Hz
W625.de Furring detached								CW metal stud partition detached – single-layer cladding				
	•				**12.5**	12.6	≥ 72.5	50	≥ 60	40	*10*	64
							≥ 97.5	75	≥ 85	60	*11*	54
							≥ 122.5	100	≥ 110	80	*12*	47
			•		**12.5**	16.2	≥ 72.5	50	≥ 60	40	13	53
							≥ 97.5	75	≥ 85	60	*13*	45
							≥ 122.5	100	≥ 110	80	*14*	39
				•	**12.5**	22.0	≥ 72.5	50	≥ 60	40	15	45
							≥ 97.5	75	≥ 85	60	*14*	38
							≥ 122.5	100	≥ 110	80	17	33
							≥ 232.5	100	≥ 220	80	21	24
NEW ANDI			•		**15**	18.4	≥ 95	70	≥ 80	60	*13*	42

1) Resonance frequency calculated acc. to DIN 4109-34:2016-07.

Values in italics: *Calculated improvement ΔR_w on the basis of the DIN 4109-34:2016-07 with a mass per unit area of the basic wall of 340 kg/m².*

Requirements for the insulation layer: (Insulation materials, e.g. from Knauf Insulation)
Required for sound insulation: Mineral wool, length-related flow resistance of 5 kPa·s/m² ≤ r ≤ 50 kPa·s/m² acc. to DIN 4109-33

Note	Observe the notes on pages 3 to 4.

Partition heights

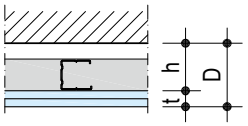
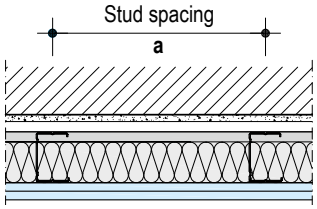
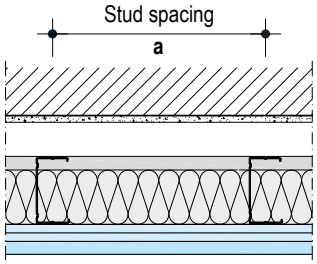
Single-layer cladding

Knauf profile Metal gauge 0.6 mm	Maximum stud spacing a mm	Maximum partition height Knauf Wallboard 12.5 mm m	Diamant 12.5 mm Silentboard 12.5 mm m	Diamant 15 mm m
CW 50	625	2.70[1)] / –	3.00[1)] / 2.15	–
	417	3.25[1)] / 2.50	3.05	–
	312.5	3.65[1)] / 3.35	3.90	–
CW 70	625	–	–	4.00
	417	–	–	4.00
	312.5	–	–	4.30
CW 75	625	4.00	4.00	–
	417	4.00	4.00	–
	312.5	4.15	4.45	–
CW 100	625	4.15	4.50	–
	417	4.95	5.30	–
	312.5	5.55	5.90	–
CW 125	625	5.25	5.70	–
	417	6.25	6.70	–
	312.5	7.05	7.45	–
CW 150	625	6.45	6.95	–
	417	7.65	8.10	–
	312.5	8.50	9.00	–

1) only for installation zone 1

Note	When Sanistands are used, constructional specifications acc. to technical information Fastening of loads to Knauf Wall and Ceiling Systems VT03.de must be observed.

System variants

Knauf system	Cladding					Weight	Mini-mum thick-ness	Knauf profiles CW	Sound insulation			
	Knauf Wallboard	Solidboard	Diamant	Silentboard	Mini-mum thick-ness t mm	Without insu-lation layer approx. kg/m²	D mm		Cavity h mm	Insu-lation layer mini-mum thick-ness mm	Improve-ment index $\Delta R_{w,heavy}$ dB	Resonance frequency[1] f_0 Hz
W626.de Furring detached								CW metal stud partition detached – multi-layer cladding				
	•				**2x 12.5**	22.0	≥ 85	50	≥ 60	40	*13*	46
							≥ 110	75	≥ 85	60	*14*	39
							≥ 135	100	≥ 110	80	*15*	34
				•	**12.5 + 12.5**	34.7	≥ 85	50	≥ 60	40	16	35
			•				≥ 110	75	≥ 85	60	*16*	30
							≥ 135	100	≥ 110	80	*18*	26
				•	**12.5 + 18**	40.7	≥ 90.5	50	≥ 60	40	16	33
			•				≥ 115.5	75	≥ 85	60	*17*	27
							≥ 140.5	100	≥ 110	80	18	24
							≥ 85	50	≥ 60	40	*14*	38
			•		**2x 12.5**	29.3	≥ 110	75	≥ 85	60	*16*	32
							≥ 135	100	≥ 110	80	*17*	28
							≥ 85	50	≥ 60	40	16	33
							≥ 110	75	≥ 85	60	*17*	28
				•	**2x 12.5**	40.2	≥ 135	100	≥ 110	80	18	24
							≥ 245	100	≥ 220	80	24	17
												
				•	**2x 12.5 + 18**	59.3	≥ 263	100	≥ 220	80	25	14
			•									

1) *Resonance frequency calculated acc. to DIN 4109-34:2016-07.*

Values in italics: *Calculated improvement ΔR_w on the basis of the DIN 4109-34:2016-07 with a mass per unit area of the basic wall of 340 kg/m².*

With combined cladding always use Diamant as a cover layer.

Requirements for the insulation layer: (Insulation materials, e.g. from Knauf Insulation)
Required for sound insulation: Mineral wool, length-related flow resistance of 5 kPa·s/m² ≤ r ≤ 50 kPa·s/m² acc. to DIN 4109-33

Note Observe the notes on pages 3 to 4.

Partition heights

Multi-layer cladding

Knauf profile Metal gauge 0.6 mm	Maximum stud spacing a mm	Maximum partition height Knauf Wallboard 2x 12.5 mm m	Diamant 2x 12.5 mm / Silentboard 2x 12.5 mm m	Silentboard 12.5 mm + Diamant 12.5 mm m	Silentboard 12.5 mm + Diamant 18 mm m	Silentboard 2x 12.5 mm + Diamant 18 mm m
CW 50	625	2.95[1] / –	3.35[1] / 2.65	3.35[1] / 2.65	3.65	4.00
	417	3.60[1] / 3.20	4.00	4.00	4.00	4.00
	312.5	4.00	4.00	4.00	4.00	4.50
CW 75	625	4.00	4.00	4.00	4.00	4.60
	417	4.00	4.40	4.40	4.75	5.45
	312.5	4.55	4.95	4.95	5.30	6.15
CW 100	625	4.50	4.95	4.95	5.25	5.95
	417	5.40	5.90	5.90	6.25	7.05
	312.5	6.15	6.65	6.65	7.05	7.85
CW 125	625	5.80	6.30	6.30	6.65	7.40
	417	6.95	7.50	7.50	7.85	8.65
	312.5	7.75	8.35	8.35	8.70	9.45
CW 150	625	7.15	7.70	7.70	8.10	8.80
	417	8.40	9.00	9.00	9.30	9.90
	312.5	9.25	9.70	9.70	10.05	10.70

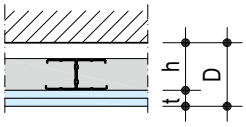
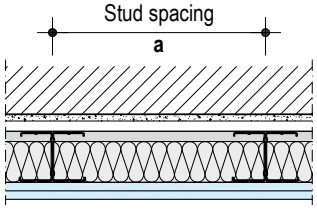
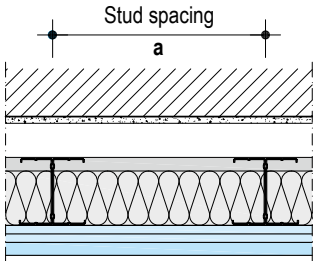
1) only for installation zone 1

Ball impact safety

Ball impact safety is ensured in case of stud spacing ≤ 312.5 mm and a cladding thickness ≥ 2x 12.5 mm Knauf GKF.

Note	When Sanistands are used, constructional specifications acc. to technical information Fastening of loads to Knauf Wall and Ceiling Systems VT03.de must be observed.

System variants

Knauf system	Cladding					Weight	Mini-mum thick-ness	Knauf profiles CW	Sound insulation			
	Knauf Wallboard	Solidboard	Diamant	Silentboard	Mini-mum thick-ness t mm	Without insu-lation layer approx. kg/m²	D mm		Cavity h mm	Insu-lation layer mini-mum thick-ness mm	Improve-ment index $\Delta R_{w,heavy}$ dB	Resonance frequency[1] f_0 Hz
W627.de Furring detached								CW double metal stud detached – multi-layer cladding				
	•				**2x 12.5**	23.4	≥ 85	50	≥ 60	40	*13*	46
							≥ 110	75	≥ 85	60	*14*	39
							≥ 135	100	≥ 110	80	*15*	34
			•	•	**12.5 + 12.5**	36.0	≥ 85	50	≥ 60	40	16	35
							≥ 110	75	≥ 85	60	*16*	30
							≥ 135	100	≥ 110	80	*18*	26
			•	•	**12.5 + 18**	42.1	≥ 90.5	50	≥ 60	40	16	33
							≥ 115.5	75	≥ 85	60	*17*	27
							≥ 140.5	100	≥ 110	80	18	24
			•		**2x 12.5**	30.6	≥ 85	50	≥ 60	40	*14*	38
							≥ 110	75	≥ 85	60	*16*	32
							≥ 135	100	≥ 110	80	*17*	28
				•	**2x 12.5**	41.6	≥ 85	50	≥ 60	40	16	33
							≥ 110	75	≥ 85	60	*17*	28
							≥ 135	100	≥ 110	80	18	24
							≥ 245	100	≥ 220	80	24	17
			•	•	**2x 12.5 + 18**	60.7	≥ 263	100	≥ 220	80	25	14

1) Resonance frequency calculated acc. to DIN 4109-34:2016-07.

Values in italics: *Calculated improvement ΔR_w on the basis of the DIN 4109-34:2016-07 with a mass per unit area of the basic wall of 340 kg/m².*

With combined cladding always use Diamant as a cover layer.

Requirements for the insulation layer: (Insulation materials, e.g. from Knauf Insulation)
Required for sound insulation: Mineral wool, length-related flow resistance of 5 kPa·s/m² ≤ r ≤ 50 kPa·s/m² acc. to DIN 4109-33

Note Observe the notes on pages 3 to 4.

Partition heights

Multi-layer cladding

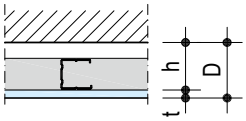
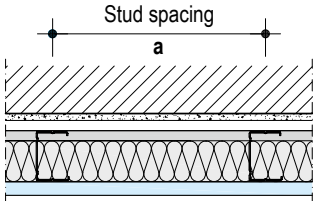
Knauf profiles Metal gauge 0.6 mm	Maximum stud spacing a mm	Maximum partition height				
		Knauf Wallboard 2x 12.5 mm m	Diamant 2x 2.5 mm / Silentboard 2x 12.5 mm m	Silentboard 12.5 mm + Diamant 12.5 mm m	Silentboard 12.5 mm + Diamant 18 mm m	Silentboard 2x 12.5 mm + Diamant 18 mm m
2x CW 50	625	4.00	4.00	4.00	4.00	4.50
	312.5	4.05	4.45	4.45	4.80	5.75
2x CW 75	625	4.55	4.95	4.95	5.30	6.15
	312.5	6.00	6.45	6.45	6.90	7.85
2x CW 100	625	6.15	6.65	6.65	7.05	7.85
	312.5	8.00	8.50	8.50	8.95	9.70
2x CW 125	625	7.75	8.35	8.35	8.70	9.45
	312.5	9.70	10.15	10.15	10.45	11.20
2x CW 150	625	9.25	9.70	9.70	10.05	10.70
	312.5	11.10	11.60	11.60	11.95	12.00

Ball impact safety

Ball impact safety is ensured in case of stud spacing ≤ 312.5 mm and a cladding thickness ≥ 2x 12.5 mm Knauf GKF.

Note	When Sanistands are used, constructional specifications acc. to technical information Fastening of loads to Knauf Wall and Ceiling Systems VT03.de must be observed.

System variants

Knauf system	Cladding					Weight	Minimum thickness	Knauf profiles CW	Sound insulation			
	Knauf Wallboard	**Solidboard**	Diamant	Silentboard	Minimum thickness **t** mm	Without insulation layer approx. kg/m²	**D** mm		Cavity **h** mm	Insulation layer minimum thickness mm	Improvement index ΔR_w dB	Resonance frequency[1] f_0 Hz
W653.de Furring detached								CW metal stud partition detached – single-layer cladding				
		•			**20**	21.2	≥ 105	75	≥ 85	60	*14*	38
							≥ 130	100	≥ 110	80	*15*	34
		•			**25**	25.6	≥ 110	75	≥ 85	60	*15*	35
							≥ 135	100	≥ 110	80	*16*	31

1) Resonance frequency calculated acc. to DIN 4109-34:2016-07.

Values in italics: *Calculated improvement on the basis of the DIN 4109-34:2016-07 with a mass per unit area of the basic wall of 340 kg/m².*

Requirements for the insulation layer: (Insulation materials, e.g. from Knauf Insulation)
Required for sound insulation: Mineral wool, length-related flow resistance of 5 kPa·s/m² ≤ r ≤ 50 kPa·s/m² acc. to DIN 4109-33

Note	Observe the notes on pages 3 to 4.

Wall heights

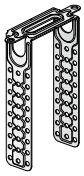
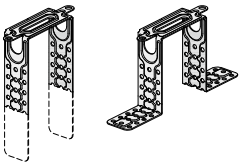
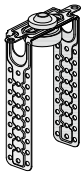
Single-layer cladding

Knauf profile Metal gauge 0.6 mm	Maximum stud spacing a mm	Maximum partition height Solidboard 20 mm m	 Solidboard 25 mm m
CW 75	1000	2.30	2.45
	625	4.00	4.00
	417	4.00	4.00
	312.5	4.15	4.30
CW 100	1000	4.00	4.00
	625	4.00	4.20
	417	5.00	5.15
	312.5	5.70	5.90
CW 125	1000	4.15	4.25
	625	5.30	5.45
	417	6.45	6.65
	312.5	7.30	7.55
CW 150	1000	5.15	5.30
	625	6.65	6.80
	417	7.95	8.20
	312.5	8.85	9.10

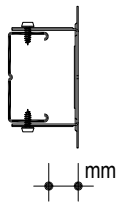
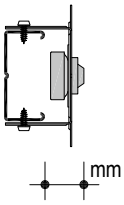
Note	When Sanistands are used, constructional specifications acc. to technical information Fastening of loads to Knauf Wall and Ceiling Systems VT03.de must be observed.

Direct lining/fastening system W623.de

Dimensions in mm

Fastening	Drawing	Comment
Universal Bracket For CD 60/27 Maximum permissible furring cavity 127 mm	 	Anchoring to existing wall with 1x suitable fastener at centre (observe anchoring depth) e.g. Knauf Drehstiftdübel nailable plug for masonry max. axial spacing 1500 mm
Damping Universal Bracket For CD 60/27 Maximum permissible furring cavity 127 mm	 Bend or cut the Universal Bracket / Damping Universal Bracket according to the required cavity depth, screw fix to CD 60/27 (2x Metal Screws LN 3.5 x 11).	

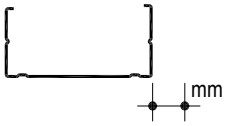
CD Channel spacing to the existing wall system W623.de

System	Direct suspension Universal Bracket	Damping Universal Bracket
		
W623.de	10 – 100	18 – 110

Calculation example – determination of the thickness of the furring

Steps			Dimensions in mm
1	**Spacing of stud to wall**		10
2	**Flange width of the studs** CD channel	+	27
3	**Sub-total cavity depth**	**=**	**37**
4	**Cladding thickness** 2x 12.5 mm	+	25
5	**Sum**	**=**	**62**

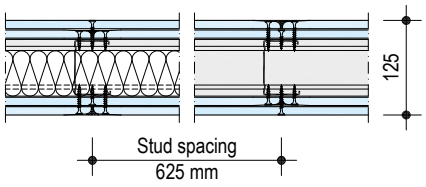
Minimum spacing of CW stud to the existing wall systems W625.de/W626.de/W627.de/W653.de

System	Profile CW
	
W625.de **W626.de** **W627.de** **W653.de**	≥ 10

Calculation example – determination of the thickness of the furring

Steps			Dimensions in mm
1	**Spacing of stud to wall**		10
2	**Lap width of the studs** CW profile	+	75
3	**Sub-total cavity depth**	**=**	**85**
4	**Cladding thickness** 2x 12.5 mm	+	25
5	**Sum**	**=**	**110**

Sound insulation improvement of existing stud partitions with furring/ doubling-up



Existing/basic wall G = W112.de with R_w = 49.7 dB

- 2x 12.5 mm Knauf Wallboard
- Profile CW 75; a = 625 mm
- Insulation layer 60 mm Thermolan TI 140 T
- 2x 12.5 mm Knauf Wallboard
- Fastening of the cladding
  - 1st layer TN 3.5 x 25; a = 750 mm
  - 2nd layer TN 3.5 x 35; a = 250 mm

Upgrading with furring / doubling-up with Silentboard cladding (applied horizontally)

Upgrading measures on wall side A	Upgrading measures on wall side B	Thickness of additional application t in mm	Wall thickness D in mm	Sound reduction index R_w (improvement index ΔR_w in dB)
Furring W623.de ■ 1x 12.5 mm Silentboard ■ Damping Universal Bracket with profile CD 60/27; a = 625 mm ■ 30 mm Thermolan TP 120 A ■ XTN 3.9 x 23; a = 200 mm	–	57.5	182.5	**64.4 (15)**
Furring W625.de ■ 1x 12.5 mm Silentboard ■ Profile CW 50; a = 625 mm ■ 40 mm Thermolan TI 140 T ■ XTN 3.9 x 23; a = 200 mm	–	67.5	192.5	**67.9 (18)**
Furring W625.de ■ 1x 12.5 mm Silentboard ■ Profile CW 50; a = 625 mm ■ 40 mm Thermolan TI 140 T ■ XTN 3.9 x 23; a = 200 mm	**Doubling-up** ■ 1x 12.5 mm Silentboard ■ XTN 3.9 x 55; a = 200 mm ■ Flange centre or screw fastening removed from the lap	67.5 + 12.5	205	**71.5 (22)**
Furring W626.de ■ 2x 12.5 mm Silentboard ■ Profile CW 50; a = 625 mm ■ 40 mm Thermolan TI 140 T ■ 1st layer XTN 3.9 x 23; a = 600 mm ■ 2nd layer XTN 3.9 x 38; a = 200 mm	–	80	205	**72.7 (23)**
Furring W625.de ■ 1x 12.5 mm Silentboard ■ Profile CW 50; a = 625 mm ■ 40 mm Thermolan TI 140 T ■ XTN 3.9 x 23; a = 200 mm	**Furring W623.de** ■ 1x 12.5 mm Silentboard ■ Damping Universal Bracket with profile CD 60/27; a = 625 mm ■ 30 mm Thermolan TP 120 A ■ XTN 3.9 x 23; a = 200 mm	57.5 + 67.5	250	**75.4 (26)**
Furring W626.de ■ 2x 12.5 mm Silentboard ■ Profile CW 50; a = 625 mm ■ 40 mm Thermolan TI 140 T ■ 1st layer XTN 3.9 x 23; a = 600 mm ■ 2nd layer XTN 3.9 x 38; a = 200 mm	**Furring W623.de** ■ 1x 12.5 mm Silentboard ■ Damping Universal Bracket with profile CD 60/27; a = 625 mm ■ 30 mm Thermolan TP 120 A ■ XTN 3.9 x 23; a = 200 mm	57.5 + 80	262.5	**79.5 (30)**

Note

If divergent wall constructions are to be upgraded with the measures described here, the listed sound reduction improvement measures may not be implemented. However, the absolute value of the sound reduction index can be scheduled for assessment.

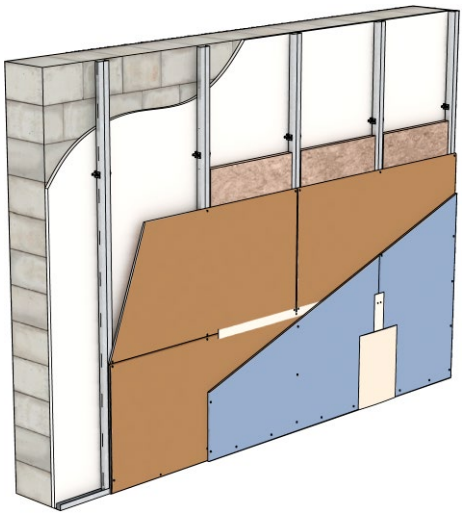
W623.de Furring with CD 60/27, directly anchored

Details

Scale 1:5

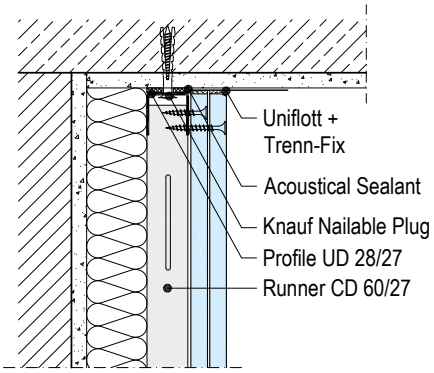
W623.de-P1 Board layer 1 horizontal, board layer 2 vertical

12.5 mm Silentboard + 12.5 mm Diamant



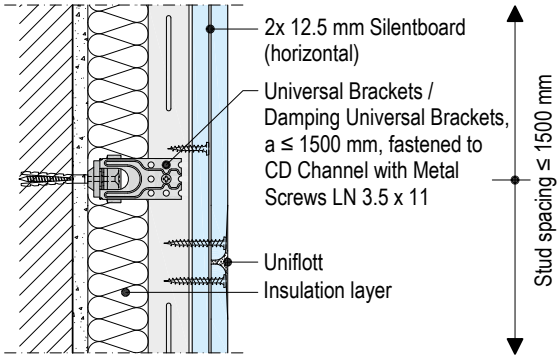
W623.de-VO1 Ceiling connection to solid ceiling

Vertical section



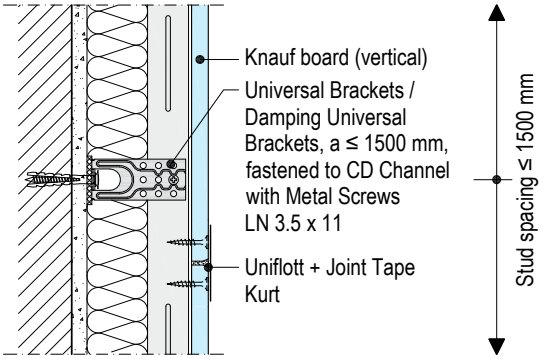
W623.de-VM2 Wall centre / board joint

Vertical section



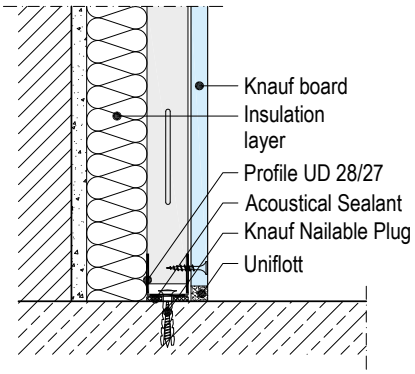
W623.de-VM1 Wall centre / board joint

Vertical section



W623.de-VU1 Connection to basic floor slab

Vertical section

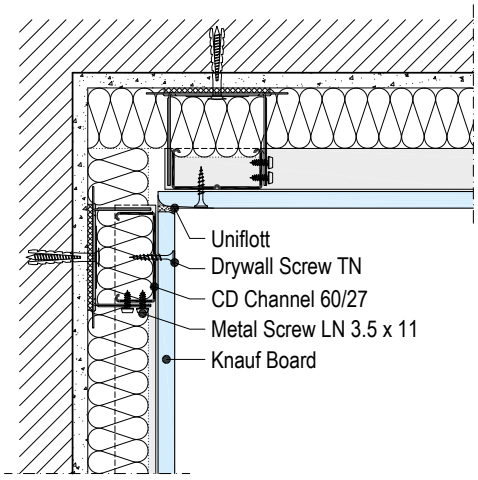


Details

Scale 1:5

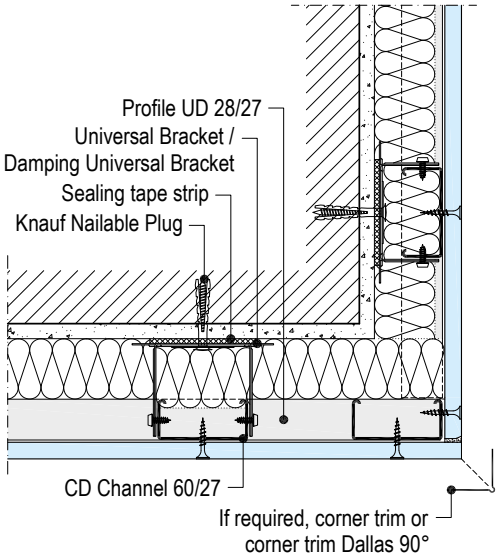
W623.de-A1 Inside corner

Horizontal section



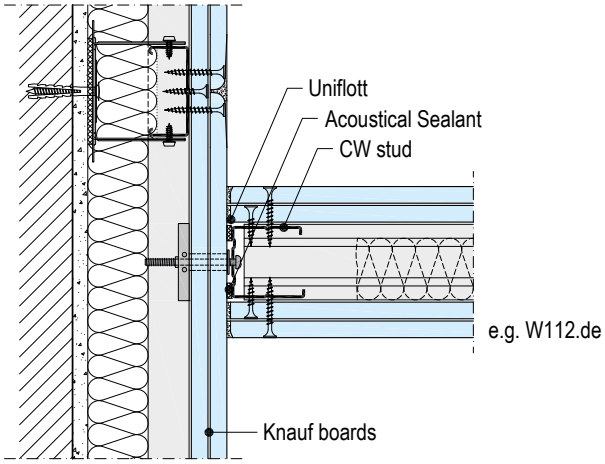
W623.de-E1 Outside corner

Horizontal section



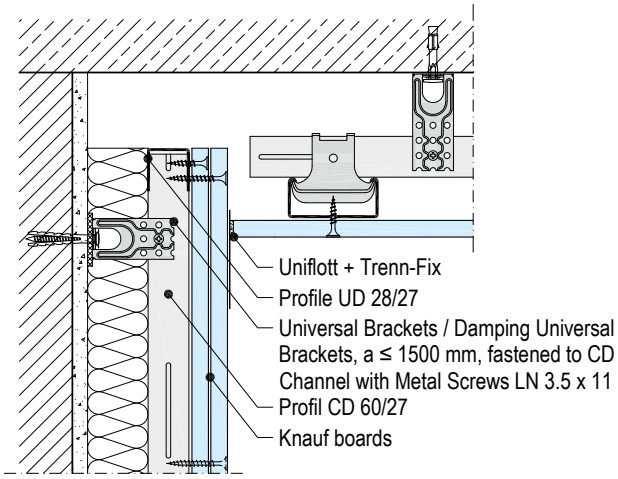
W623.de-B1 Connection to metal stud partition

Horizontal section



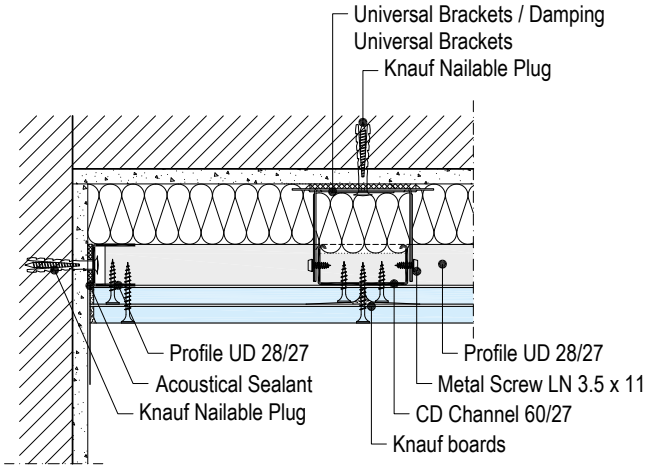
W623.de-V1 Termination with UA profile

Vertical section



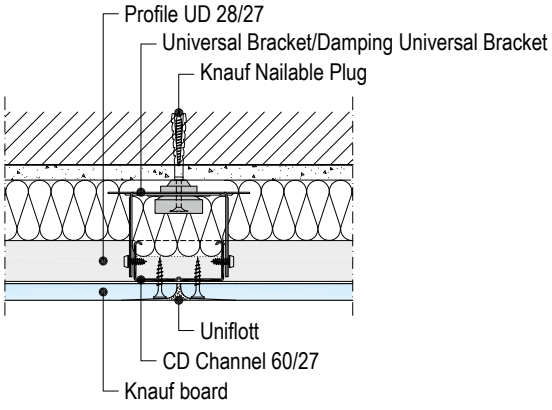
W623.de-B2 Connection solid wall

Horizontal section



W623.de-H1 Board joint

Horizontal section



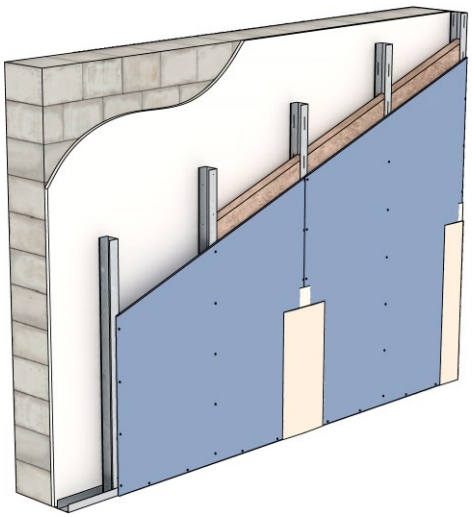
W625.de Furring with CW stud, single-layer cladding

Details

Scale 1:5

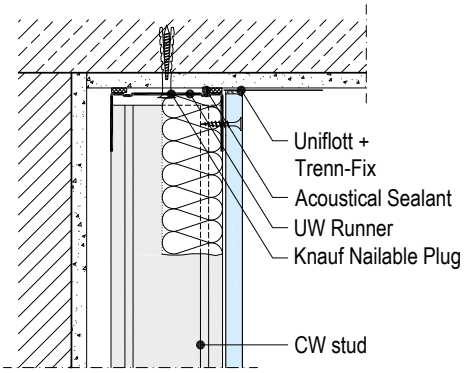
W625.de-P1 Vertical board layer

e.g. 12.5 mm Diamant



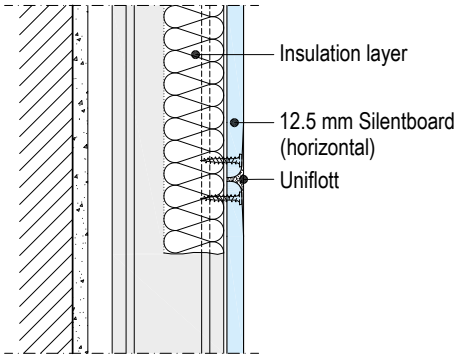
W625.de-VO1 Ceiling connection to solid ceiling

Vertical section



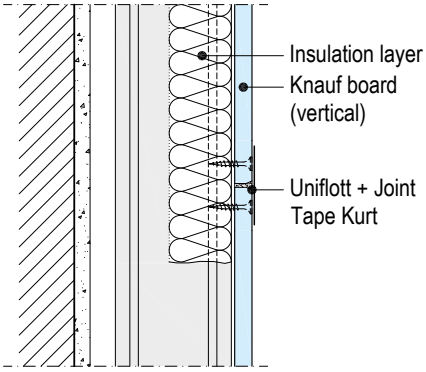
W625.de-VM2 Wall centre / board joint

Vertical section



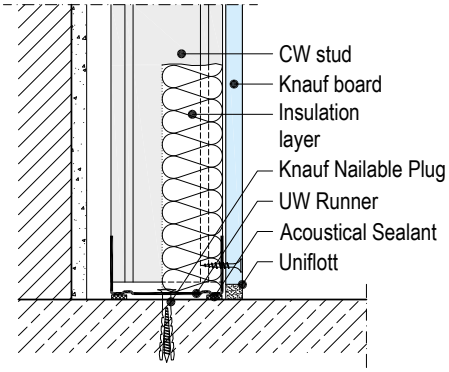
W625.de-VM1 Wall centre / board joint

Vertical section



W625.de-VU1 Connection to basic floor slab

Vertical section

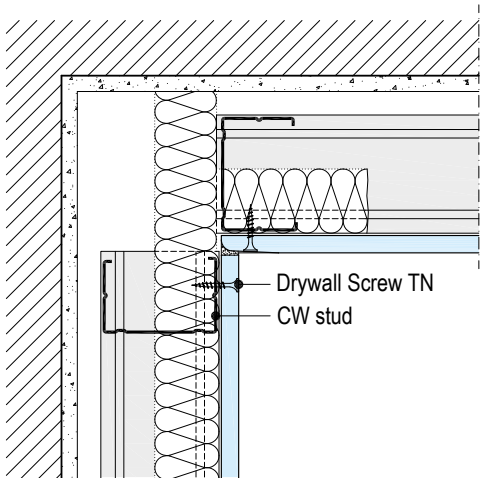


Details

Scale 1:5

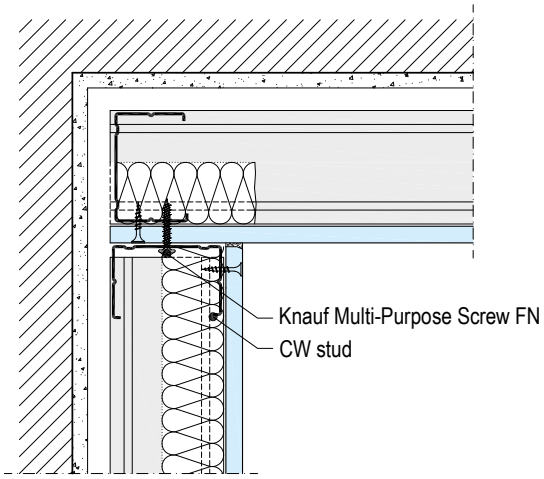
W625.de-A1 Inside corner

Horizontal section



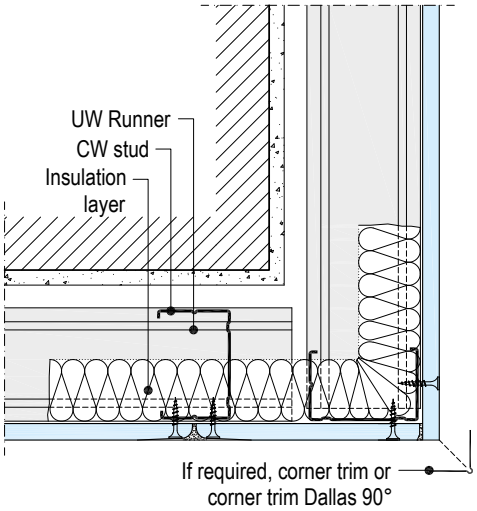
W625.de-A2 Inside corner

Horizontal section



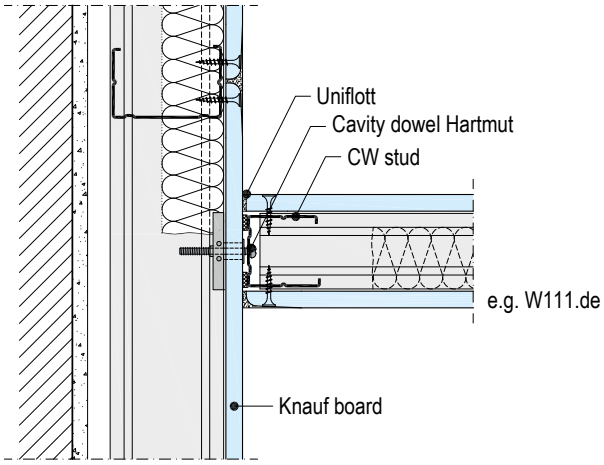
W625.de-E1 Outside corner

Horizontal section



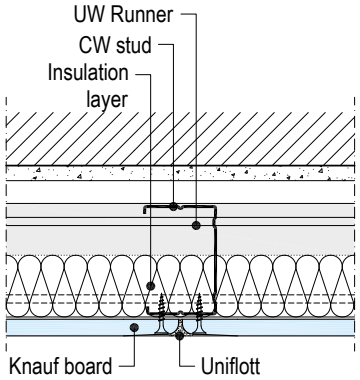
W625.de-B1 Connection to metal stud partition

Horizontal section



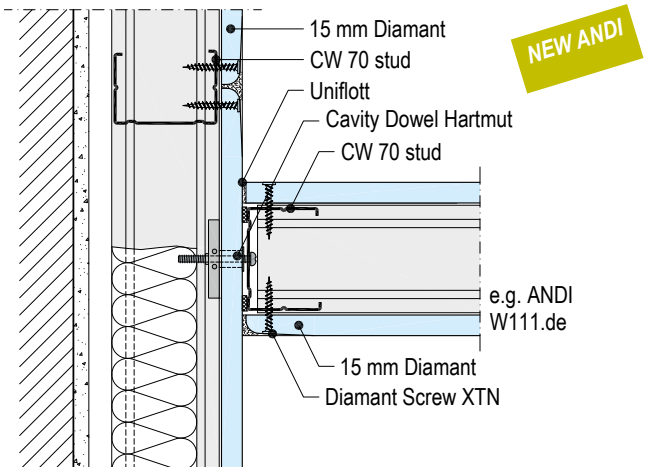
W625.de-H1 Board joint

Horizontal section



W625.de-B2 Connection to metal stud partition ANDI W111.de

Horizontal section

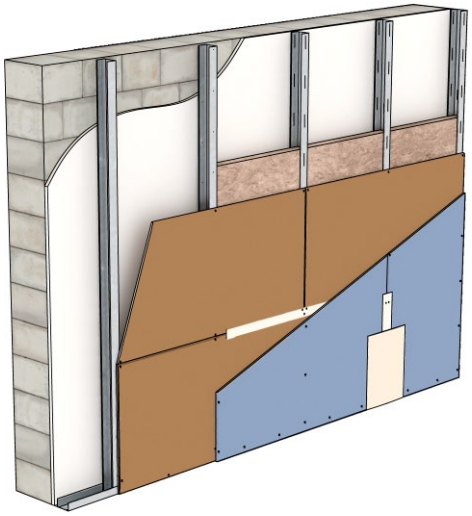


Details

Scale 1:5

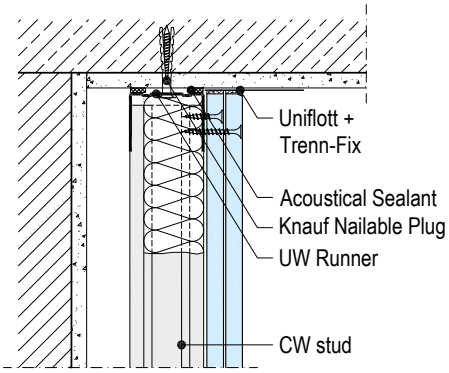
W626.de-P1 Board layer 1 horizontal, board layer 2 vertical

12.5 mm Silentboard + 12.5 mm Diamant



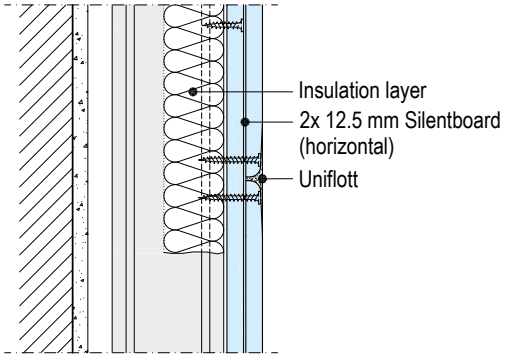
W626.de-VO1 Ceiling connection to solid ceiling

Vertical section



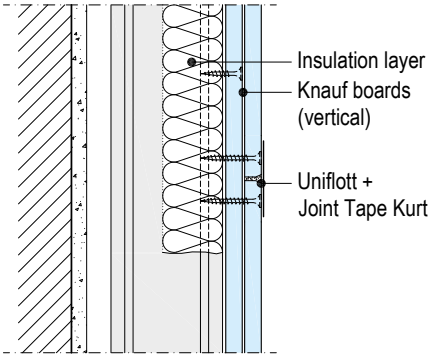
W626.de-VM2 Wall centre / board joint

Vertical section



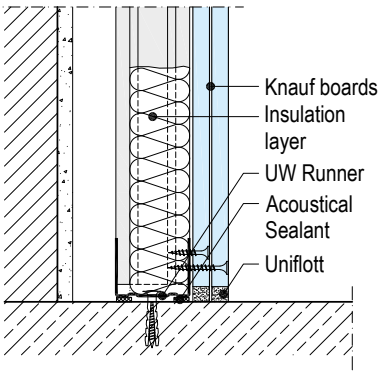
W626.de-VM1 Wall centre / board joint

Vertical section



W626.de-VU1 Connection to basic floor slab

Vertical section

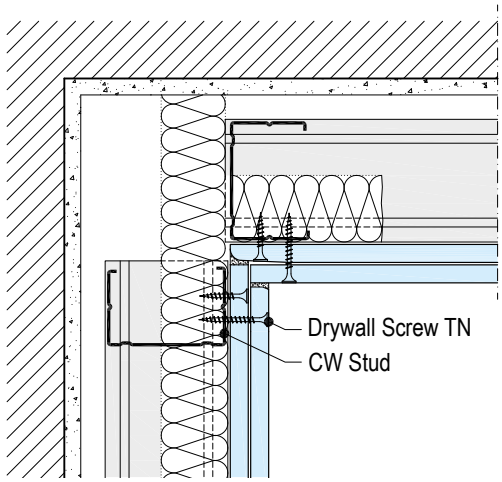


Details

Scale 1:5

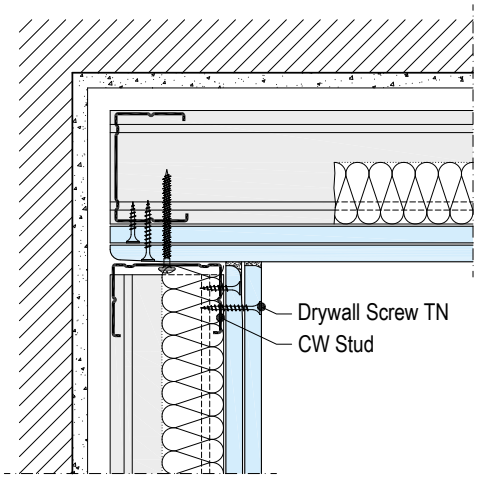
W626.de-A1 Inside corner

Horizontal section



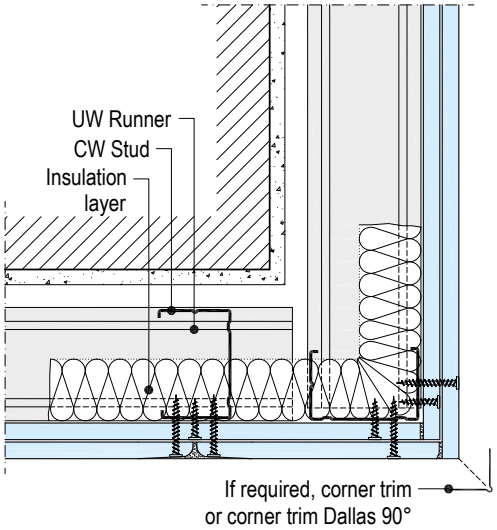
W626.de-A2 Inside corner

Horizontal section



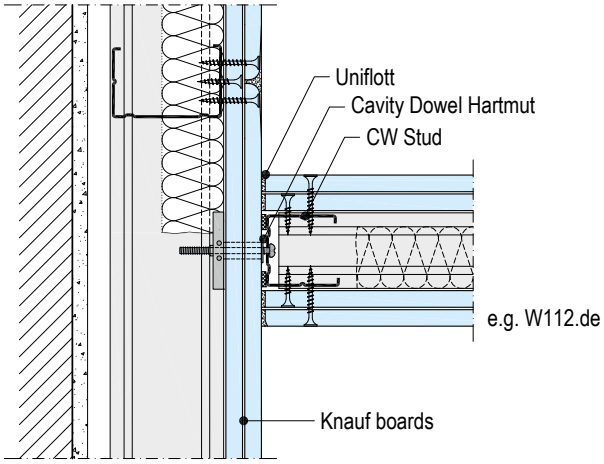
W626.de-E1 Outside corner

Horizontal section



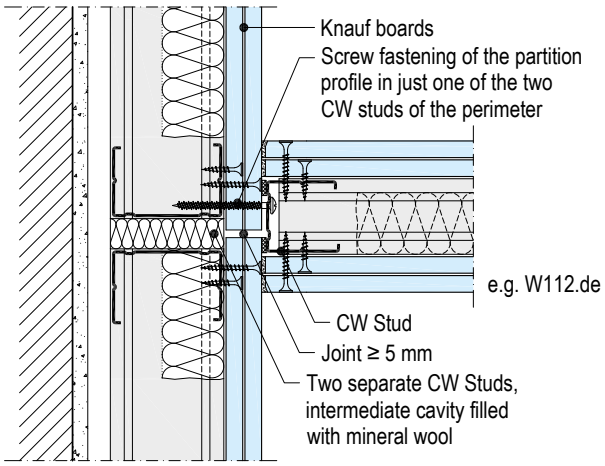
W626.de-B1 Connection to metal stud partition

Horizontal section



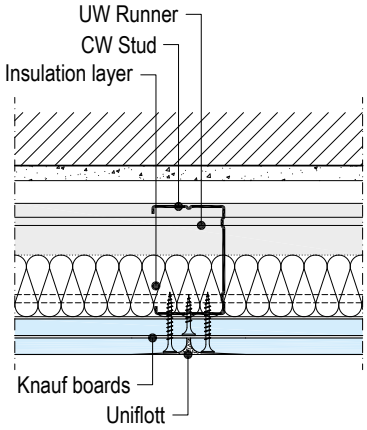
W626.de-B2 Connection to metal stud partition

Horizontal section



W626.de-H1 Board joint

Horizontal section



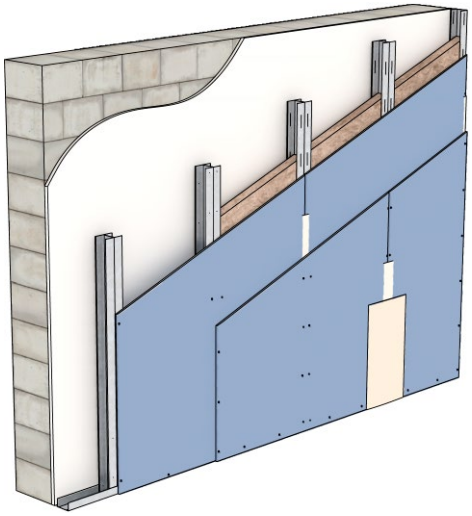
W627.de Furring with CW double profile, multi-layer cladding

Details

Scale 1:5

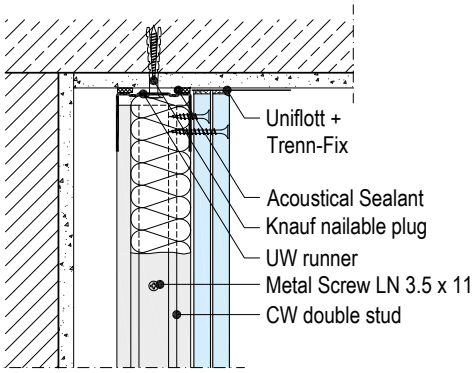
W627.de-P1 – Vertical board layer

e.g. 2x 12.5 mm Diamant



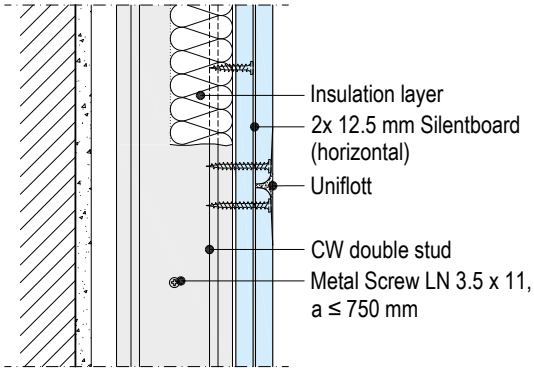
W627.de-VO1 Ceiling connection to solid ceiling

Vertical section



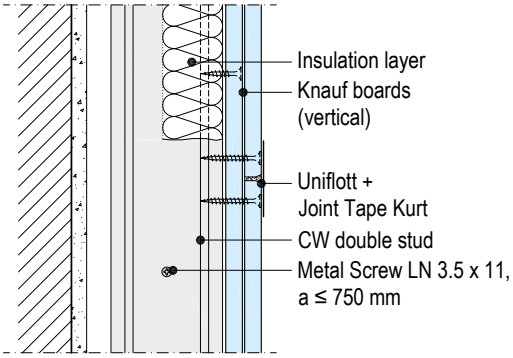
W627.de-VM2 Wall centre / board joint

Vertical section



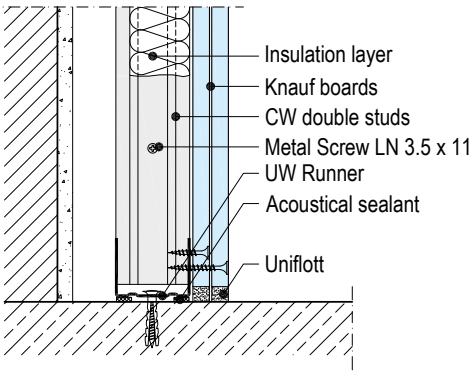
W627.de-VM1 Wall centre / board joint

Vertical section



W627.de-VU1 Connection to basic floor slab

Vertical section

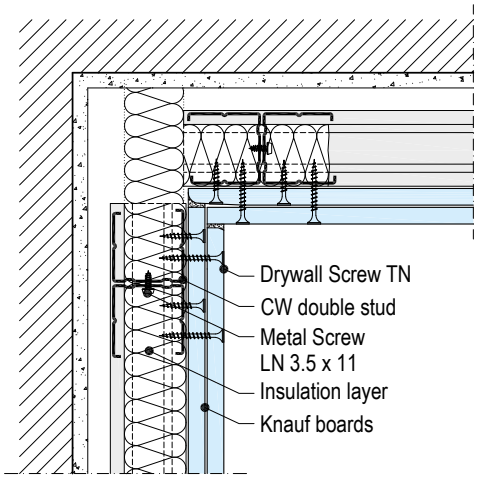


Details

Scale 1:5

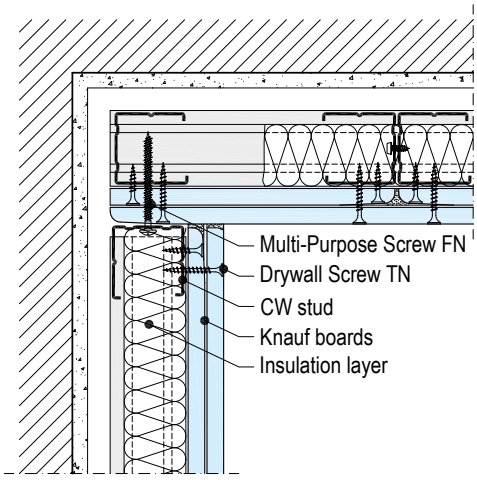
W627.de-A1 Inside corner

Horizontal section



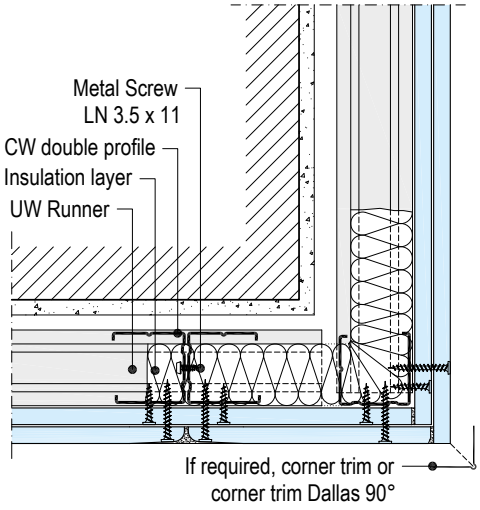
W627.de-A2 Inside corner

Horizontal section



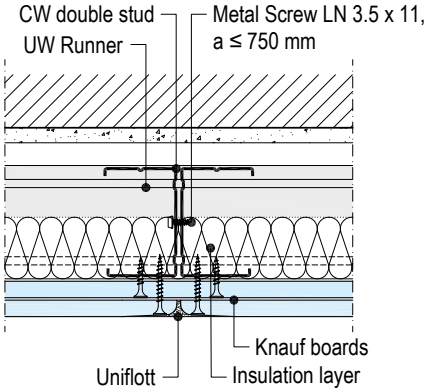
W627.de-E1 Outside corner

Horizontal section



W627.de-H1 Board joint

Horizontal section



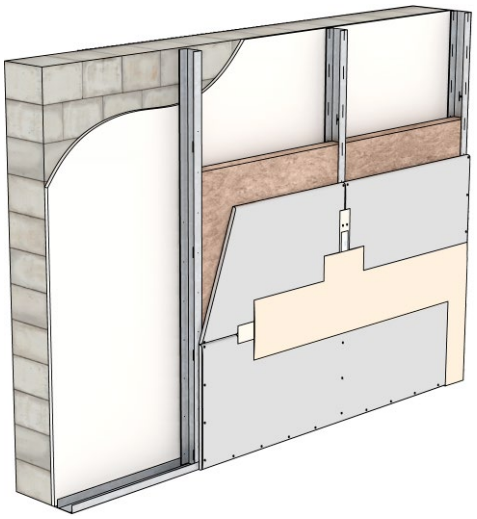
W653.de Furring with CW stud, single-layer cladding

Details

Scale 1:5

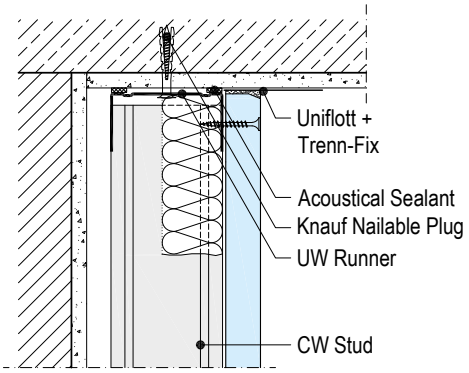
W653.de-P1 Horizontal board layer

e.g. 25 mm Solidboard



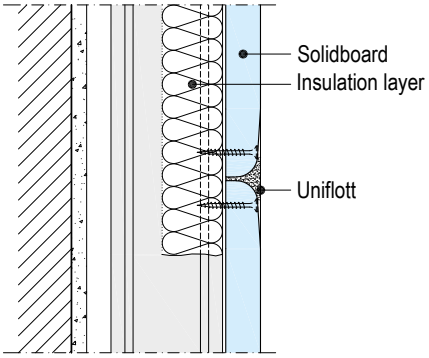
W653.de-VO1 Ceiling connection to solid ceiling

Vertical section



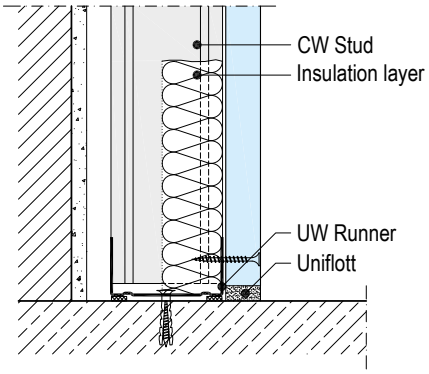
W653.de-VM1 Wall centre / board joint

Vertical section



W653.de-VU1 Connection to basic floor slab

Vertical section

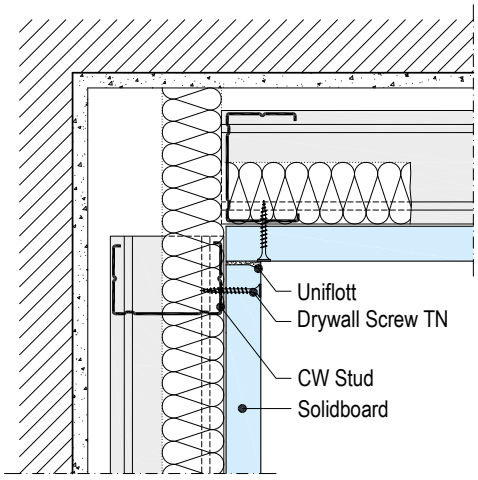


Details

Scale 1:5

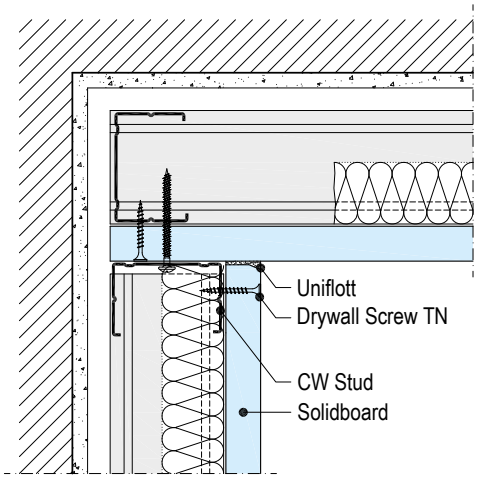
W653.de-A1 Inside corner

Horizontal section



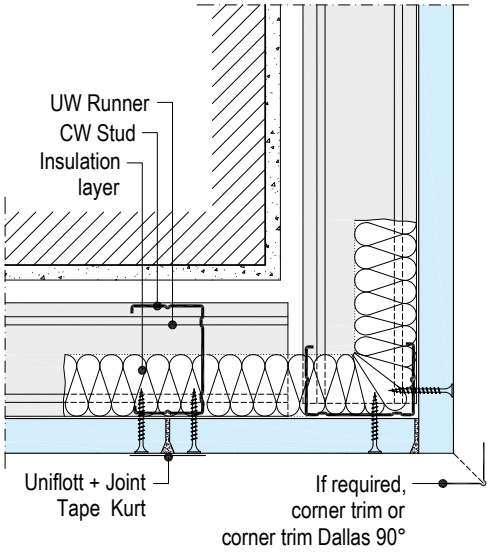
W653.de-A2 Inside corner

Horizontal section



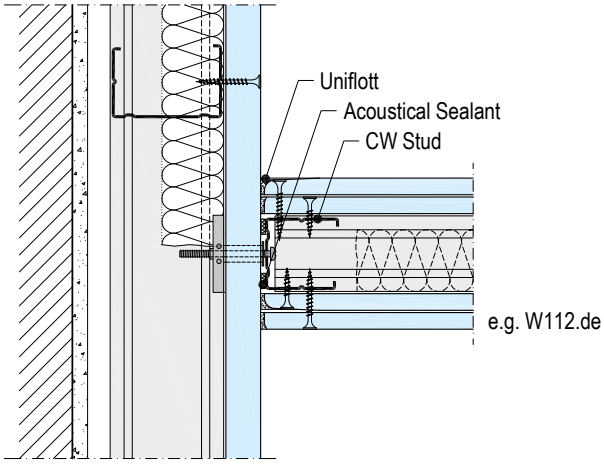
W653.de-D1 Outside corner

Horizontal section



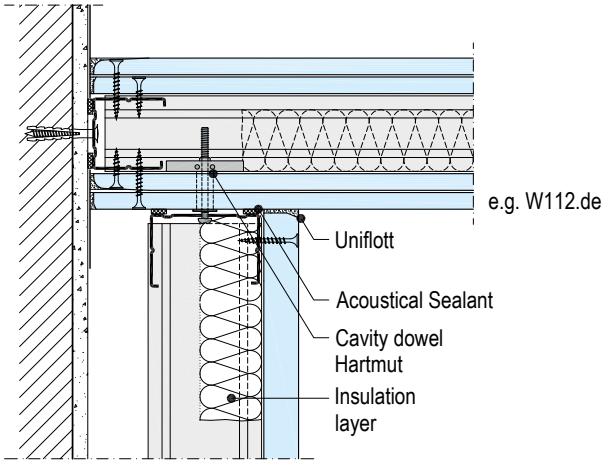
W653.de-B1 Connection to metal stud partition

Horizontal section



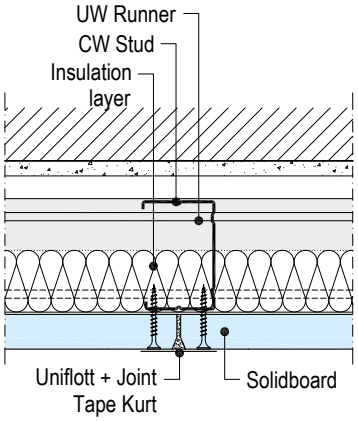
W653.de-E1 Connection to metal stud partition

Horizontal section



W653.de-H1 Board joint

Horizontal section

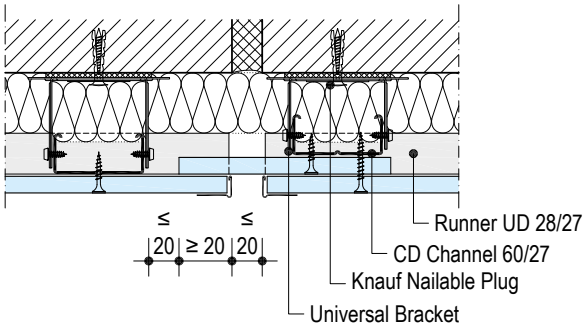


Movement joint, deflection head, window reveal

Scale 1:5 I Dimensions in mm

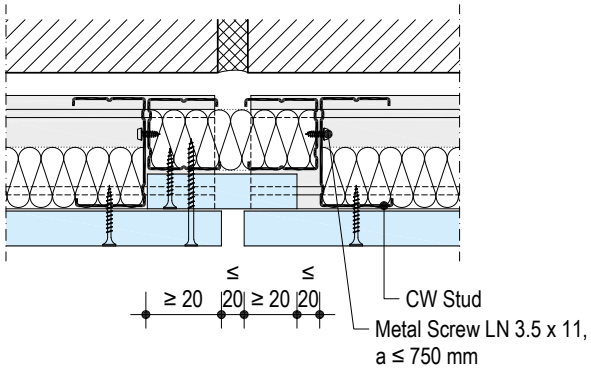
W623.de-BFU1 Movement joint

Horizontal section



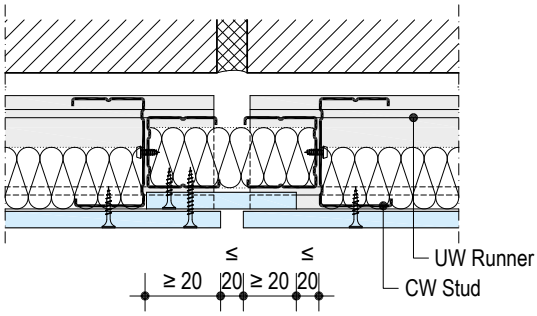
W653.de-BFU1 Movement joint

Horizontal section



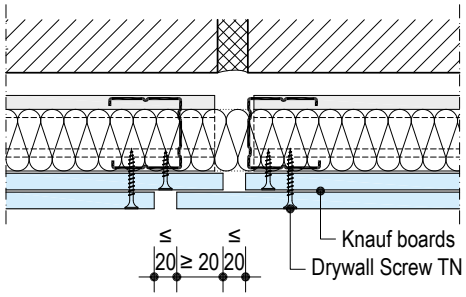
W625.de-BFU1 Movement joint

Horizontal section



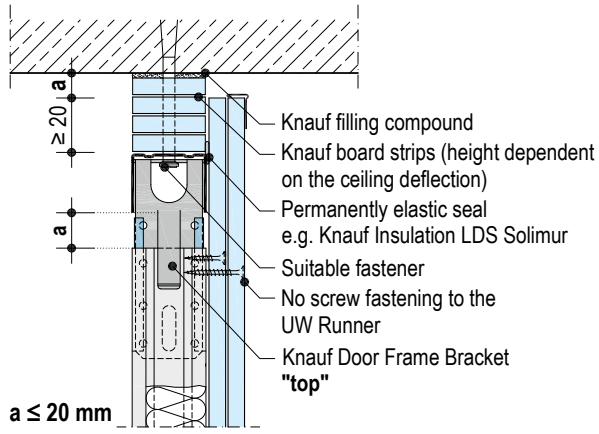
W626.de-BFU1 Movement joint

Horizontal section



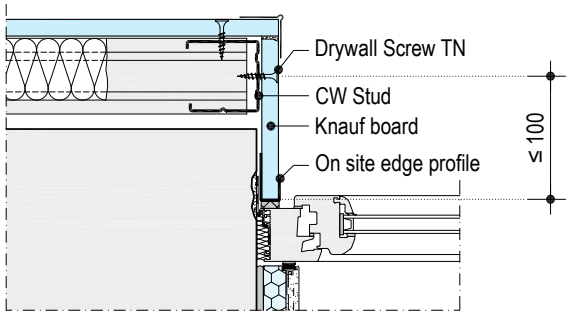
W626.de VO2 Connection to deflection head

Vertical section



W625.de-SO1 Connection window reveal

Horizontal section



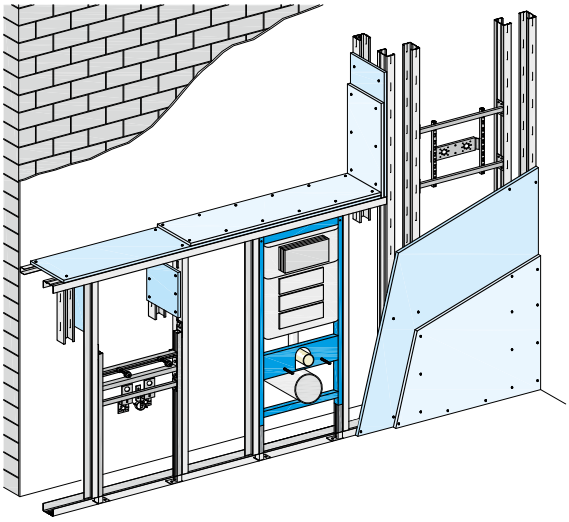
Note	Apply a deflection head in case of ceiling deflection ≥ 10 mm.

Furring / lining

Scale 1:5 I Dimensions in mm

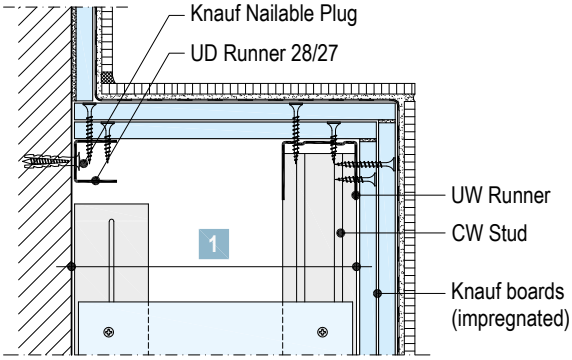
Furring with front wall installation

Without building physics-based requirements — Scheme drawing



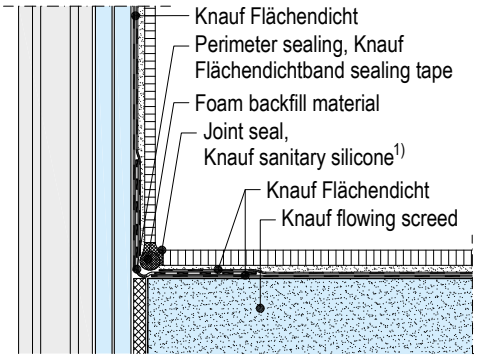
W626.de-SO1 Furring half-height

Vertical section, e.g. for WC Sanistands



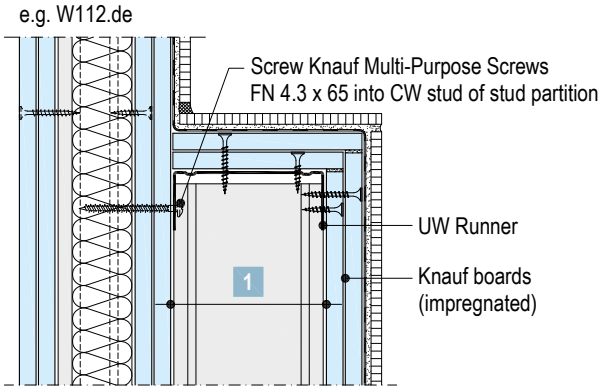
Wall connection in wet rooms

Vertical section



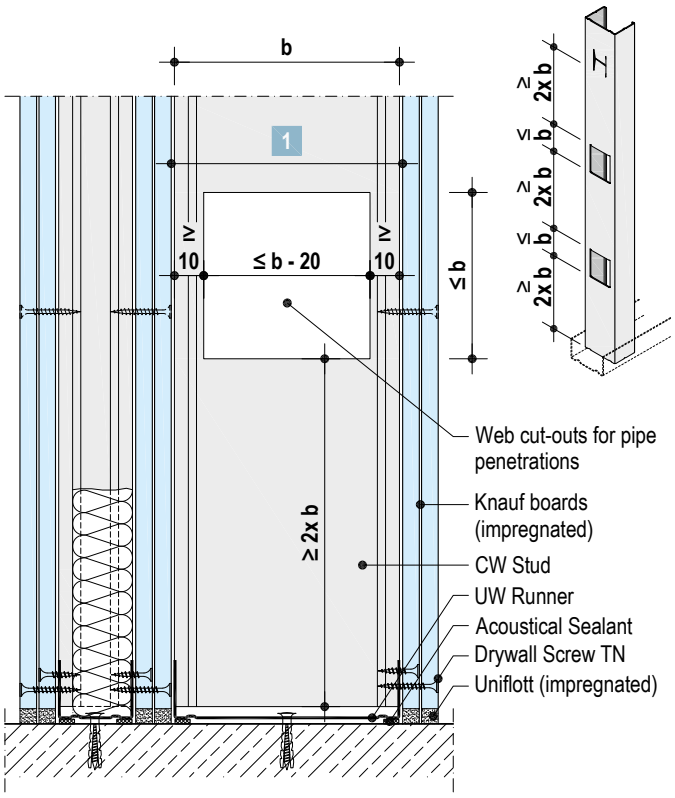
W626.de-SO2 Furring half-height

Vertical section



W626.de-SO9 Furring half-height with pipe penetration

Vertical section I Representation **without** waterproofing and lining



- Pipe penetration only permitted for half-height furring
- Maximum 2 web cut-outs per stud

1) Knauf Bauprodukte GmbH

1 The required partition cavity depends on the dimension of the installation.

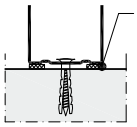
Notes	
	In the area of Sanistands for washbasin, urinal, bidet, WC and traverses, connect Knauf UA/CW profiles with approx. 30 cm high gypsum board brackets to Knauf UW/CW profiles fixed to the existing wall.
	Rear anchoring of Sanistands according to manufacturer's instructions.
	For minimum cladding of pre-wall installations, see technical information Fastening of loads to Knauf Wall and Ceiling Systems VT03.de

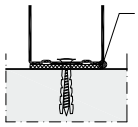
Frame

Scheme drawings

General

Apply a suitable sealant to the rear side of runners for the connection to flanking constructional components. Ensure a carefully applied seal for sound insulation requirements analogue to the specifications of the DIN 4109-33:2016-07 section 4.1.1.3 (Recommendation: Trennwandkitt acoustical sealant).





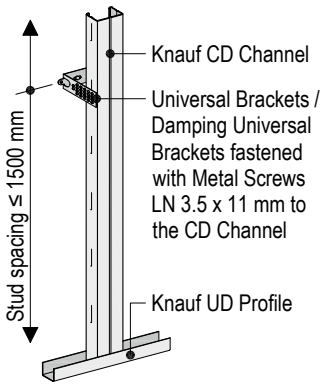
Fix wall perimeter runners to the floor and ceiling. Anchor wall perimeter runners with suitable dowels to flanking walls.

Fasten perimeter runners using suitable anchors on the flanking constructional components. Fasteners for solid flanking constructional components: Drehstiftdübel nailable plug, Deckennagel ceiling steel dowel or multi-purpose screw FN with wooden substrates / other substrates: Anchors specially suited to the building material.

W623.de Directly anchored

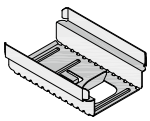
Maximum distance between UD Runner fastener centres 1000 mm. Install cut-to-length CD channels at ≤ 625 mm stud spacing into the UD runners and align. Anchoring of the CD channels on the existing partition with Universal Brackets / Damping Universal Brackets and suitable fasteners at spacings of 1500 mm. Fastening to CD channel with LN 3.5 x 11. Maximum permissible furring cavity 127 mm

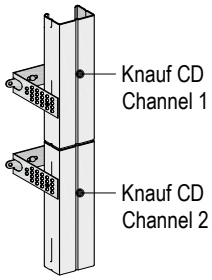
Notes	Use Damping Universal Brackets in case of sound insulation requirements. The dampening rubbers may only be slightly compressed when the Damping Universal Brackets are fastened.



Vertical profile extensions CD channel

2 CD Channels butt jointed, connected with additional CD longitudinal connectors.





- Fasten one Universal Bracket / Damping Universal Bracket onto the existing wall per profile end / start.
- Stagger the heights of the profile joints (alternating upper and lower wall half)

W625.de/W626.de/W627.de/W653.de Detached

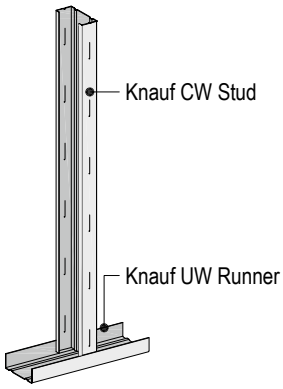
Maximum permissible fastener spacings

≤ 3.00	1000	1000	1000
> 3.00 to ≤ 6.50	1000	500	500
> 6.50 to ≤ 12.00[1)]	500	–	Check the loadbearing capacity of the substrate – select suitable fasteners/anchors (for 2 kN/m)

1) Observe max. partition heights

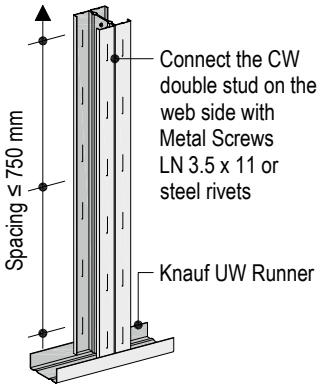
Stud construction with CW profiles

Place the CW studs into the UW runners arranged along the length at the required axial spacing and align them.



Stud partition with CW double profile

Connect longitudinally aligned CW Profiles as double profiles at the web with Metal Screws LN 3.5 x 11 or steel rivets at a clearance of max. 750 mm. Place the double profile into the UW Runners and align at the required axial spacing.



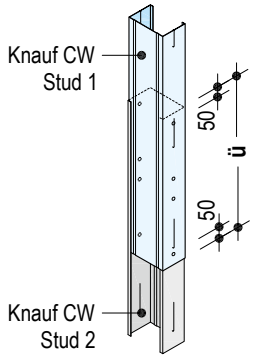
Grid (continued)

Vertical profile extensions CW stud Dimensions in mm

Stagger the heights of the profile joints (alternating upper and lower wall half).

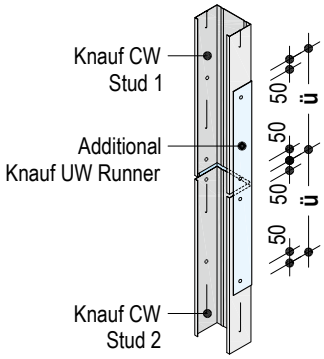
Alternative 1

2 CW profiles connected to form a box.



Alternative 2

2 CW profiles butt jointed, connected by an additional UW runner.



Alternatives 1 and 2

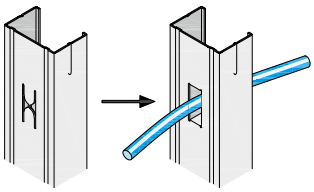
Rivet, screw fix or, if possible, crimp the profiles in the overlapping area.

Profile extensions Knauf profiles	Overlap ü
CW 50	≥ 500 mm
CW 70	≥ 700 mm
CW 75	≥ 750 mm
CW 100	≥ 1000 mm
CW 125	≥ 1250 mm
CW 150	≥ 1500 mm

H punches

H punches – factory-made

For cable penetrations in Knauf CW studs

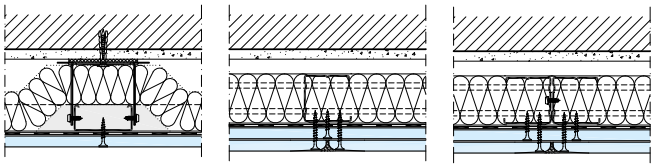


Insulation layer

General

Depending on the requirements for sound insulation or thermal insulation, arrange the insulation material between the furring and the existing wall. Apply the insulation material tightly and secure it against sliding out.

CD Channel with Damping Universal Bracket	CW stud detached	CW double stud detached
W623.de	W625.de/W626.de/ W653.de	W627.de



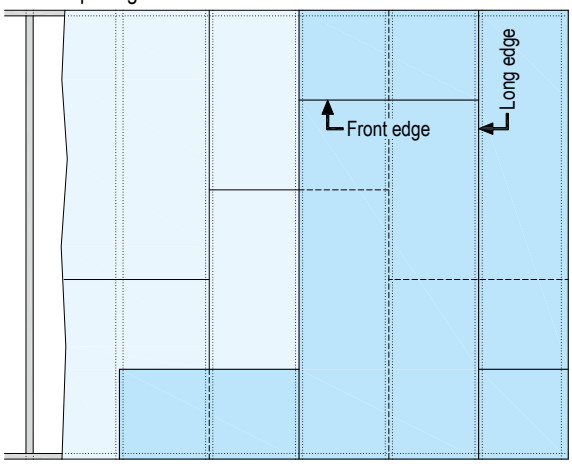
Note	In case of use as interior insulation observe the details specified by the building physicist.

Installation schemes

Scheme drawings

W623.de/W625.de/W626.de/W627.de Board layer vertical

- Board width: **1250 mm** (Knauf Wallboard / Diamant)
- Stud spacing: 625 mm

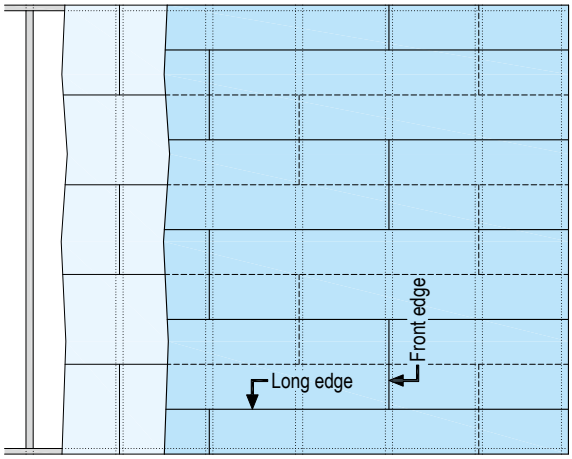


Lower/upper layer:

- Stagger the long edge joints by at least one stud spacing and arrange on the studs.
- If floor-to-ceiling boards are not used, stagger the front edge joints ≥ 400 mm in a cladding layer.
- Stagger the front edge joints between board cladding layers in case of multi-level cladding (approx. 250 mm).

W623.de/W625.de/W626.de/W627.de Board layer horizontal

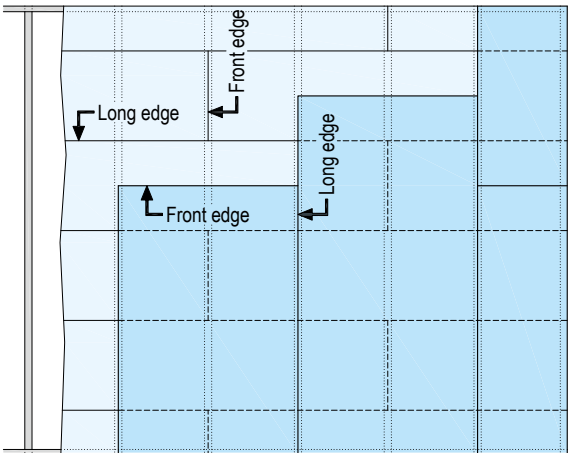
- Board width: **625 mm** (Silentboard)
- Stud spacing: 625 mm



- Recommendation: Board length 2500 mm
- Front edge joints must be staggered by at least one stud spacing.
- Stagger the long joints between the cladding layers by at least half a board width.

W623.de/W626.de/W627.de
Board layer 1 horizontal, board layer 2 vertical

- Board width 1 layer: **625 mm** (Silentboard)
- Board width 2 layer: **1250 mm** (Diamant)
- Stud spacing: 625 mm



Lower layer:

- Recommendation: Board length 2500 mm
- Front edge joints must be staggered by at least one stud spacing.

Upper layer:

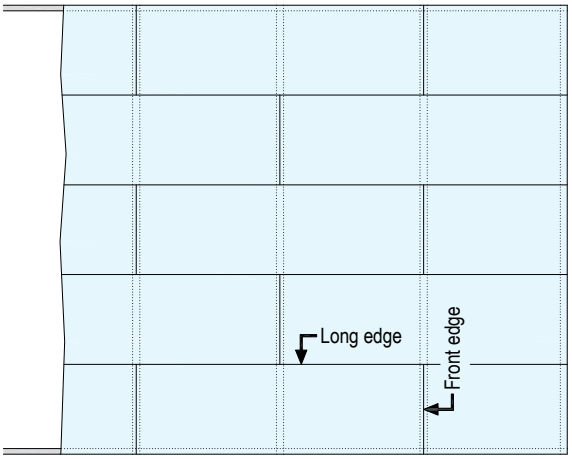
- If floor-to-ceiling boards are not used, stagger the front edge joints by ≥ 400 mm.

Offset between lower and upper layer:

- Stagger the board joints of the upper layer by approx 312.5 mm to the board joints of the lower layer

W653.de Board layer horizontal

- Board width: **625 mm** (Solidboard)
- Stud spacing: 1000 mm



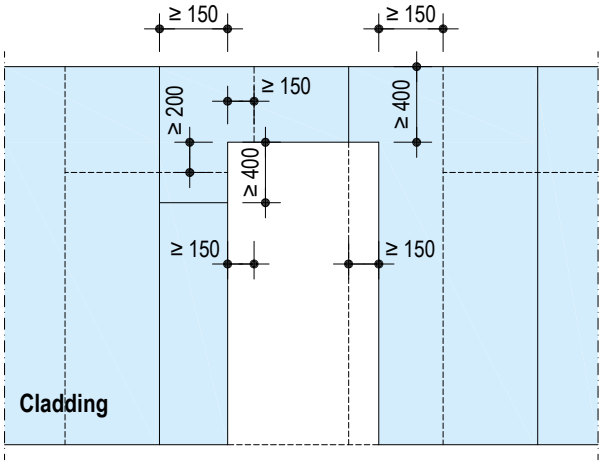
- Recommendation: Board layer 2000 mm at 1000 mm stud spacing, otherwise 2500 mm.
- Front edge joints must be staggered by at least one stud spacing.

Door and wall openings

Scheme drawings I Dimensions in mm

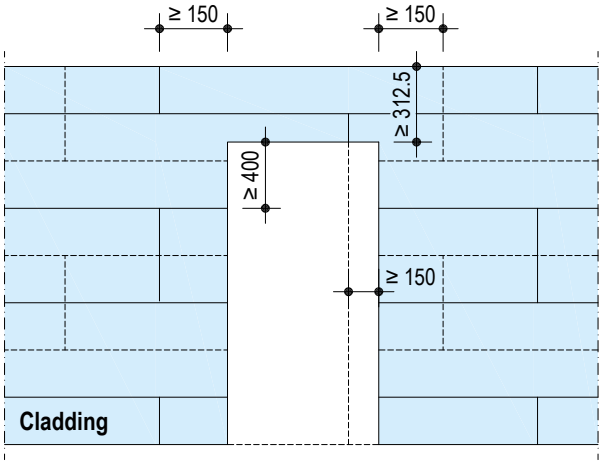
Board layer vertical

- Arrange the long joints on the door lintel and not along the door opening, rather offset it to the door lintel centre.
- Arrange the horizontal joints on the door lintel and not along the door opening, rather offset it to the door opening centre.
- Cladding above the door lintel < 400 mm is only permissible in case of floor-to-ceiling boards.



Horizontal board layer

- Arrange the front joints on the door lintel and not along the door opening, rather offset it to the door lintel centre.
- Arrange the horizontal joints on the door lintel and not along the door opening, rather offset it to the door opening centre.



Legend

- - - - - - Lower layer
——— Upper layer

Notes	Do not apply board joints to door opening profiles. Door opening profiles - metal grid with CW/UA profiles as well as further details for planning and design see system data sheet Knauf Metal Stud Partitions W11.de

Fastening of the cladding

Scheme drawings I Dimensions in mm

Fasteners to be used

Cladding Thickness mm	Metal stud frame (penetration ≥ 10 mm) Metal gauge **s ≤ 0.7 mm** Drywall Screws **TN**	 Diamant Screws **XTN**	 Metal gauge **0.7 mm < s ≤ 2.25 mm** Drywall Screws **Drywalling**	 Diamant Screws **XTB**
12.5	TN 3.5 x 25	XTN 3.9 x 23	TB 3.5 x 25	XTB 3.9 x 38
15	–	XTN 3.9 x 33	–	XTB 3.9 x 38
20	TN 3.5 x 35	–	TB 3.5 x 35	–
25	TN 3.5 x 35	–	TB 3.5 x 35	–
2x 12.5	TN 3.5 x 25 + 3.5 x 35	XTN 3.9 x 23 + 3.9 x 38	TB 3.5 x 25 + 3.5 x 35	XTB 3.9 x 38 + 3.9 x 38
12.5 + 18	–	XTN 3.9 x 23 + 3.9 x 55	–	XTB 3.9 x 38 + 3.9 x 55
2x 12.5 + 18	–	XTN 3.9 x 23 + 3.9 x 55 + 3.9 x 55	–	XTB 3.9 x 38 + 3.9 x 55 + 3.9 x 55

■ Always use Diamant Screws when cladding Diamant and Silentboard.

Maximum fastener spacings

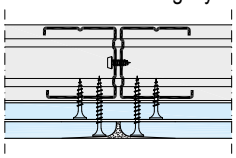
Cladding	1st layer Vertical Board width 1250	 Horizontal Board width 625	2nd layer Vertical Board width 1250	 Horizontal Board width 625	3rd layer Vertical Board width 1250	 Horizontal Board width 625
1-layer	250	200	–	–	–	–
2-layer	750	600[1)]	250	250	–	–
3-layer	750	600[1)]	500	300[2)]	–	200

1) At least 2 screws per board width and stud.

2) At least 3 screws per board width and stud.

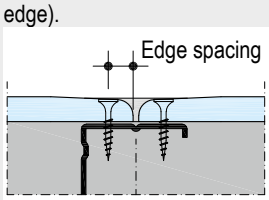
Screw fastening of system W627.de Furring with CW double stud

1st and 2nd cladding layers must be screwed to each CW profile flange of the double profile at the spacings specified above.



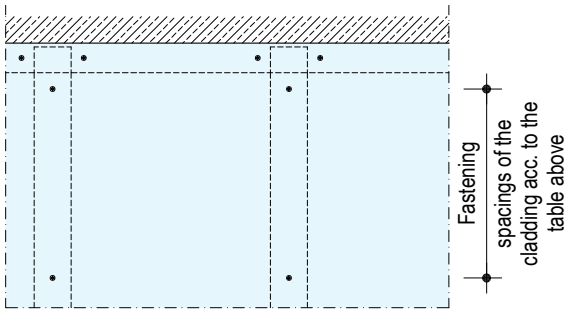
Note

For optimum sound insulation arrange the screws as far as possible from the profile lap, i.e. with minimum spacing from edge (10 mm edge covered with board liner, 15 mm cut edge).



Arrange board joint on centre of profile flange.

Screw fastening UW runner



Note For details on jointing as well as coating and claddings, see brochure Knauf Jointing Competence Tro89.de

Information on Sustainability

Knauf Furring and Lining

Information on sustainability of Knauf Furring and Linings

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 der DGNB (German association for environmentally sustainable building)
- 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 Furring and Lining can positively influence many of these criteria.

DGNB/BNB/QNG

Ecological quality

- Criterion: Ecological performance evaluation of the building
  Relevant environmental data are contained in the EPD for gypsum boards and filler.
- Criterion: Risks for the local environment
  Gypsum as an ecological material. Relevant environmental data are contained in the EPD for gypsum products

Economic quality

- Criterion: Building related life-cycle costs
  Cost-effective Knauf Drywalling
- Criterion: Flexibility and suitability for conversion
  Flexible Knauf Drywalling

Technical quality

- Criterion: Sound insulation
  Exceeding the demands of the standard with Knauf sound protection
- Criteria: Ease of dismantling and recycling
  The possibility with Knauf Drywalling

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 environmental data are contained in the EPD for gypsum boards and filler.
- Sourcing of Raw Materials
  Recycling share in Knauf gypsum boards, e.g. board liner

Indoor Environmental Quality

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

Videos for Knauf systems and products can be found under the following link:
youtube.com/knauf

Find the right system for your requirements!
knauf.de/systemfinder

The Knauf Infothek App now provides all the current information and documents from Knauf Gips KG at any time and in every location in a clear and comfortable way.
knauf.de/infothek

Knauf Direct
Technical Advisory Service:

knauf-direkt@knauf.com

www.knauf.de

Knauf Gips KG Am Bahnhof 7, 97346 Iphofen, Germany

W61.de/eng/11.23/0/Dbl

The stated constructional and structural design specifications and characteristics of building physics of Knauf systems can only be ensured with the exclusive use of Knauf system components, or other products expressly recommended by Knauf.