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**European Technical Assessment Body
for construction products**



European Technical Assessment

ETA-06/0232
of 22 May 2025

English translation prepared by DIBt - Original version in German language

General Part

Technical Assessment Body issuing the European Technical Assessment:	Deutsches Institut für Bautechnik
Trade name of the construction product	"HANSE-HAUS"
Product family to which the construction product belongs	Timber building kits
Manufacturer	Hanse Haus GmbH & Co. KG Ludwig-Weber-Straße 18 97789 Oberleichtersbach DEUTSCHLAND
Manufacturing plant	Herstellwerk 1
This European Technical Assessment contains	74 pages including 2 annexes which form an integral part of this assessment
This European Technical Assessment is issued in accordance with Regulation (EU) No 305/2011, on the basis of	EAD 340308-00-0203
This version replaces	ETA-06/0232 issued on 2 October 2018

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Specific part

1 Technical description of the product

"HANSE-HAUS" is a timber building kit.

The building kit consists of pre designed and prefabricated building components such as walls, roofs and floors in varying numbers according to the scope of application (building project). Depending on the building project the kit is put together at the factory and mounted on site.

The main load-bearing structure is a timber frame with planking.

The prefabricated building components and the relevant components are shown in Annex A. Essential construction details including their joints are described in Annex B.

The brick facing, the internal linings, roofing materials, stairs, service installations and other building components which are needed for a complete building are not part of this European Technical Assessment, hereinafter referred to as ETA.

Floor lining is also not subject of this ETA.

This also applies to additional load-bearing components (e.g., joists or steel girders for concentrated loads / point loads) which according to its structural analysis are required for each individual construction works.

Windows and doors are not part of the kit. No used wood shall be used for this kit.

The substructure of the building is not part of this European Technical Assessment.

2 Specification of the intended use in accordance with the applicable European Assessment Document

The range of application of "HANSE-HAUS" is:

- residential building (single-storey, multi-storey)
- commercial buildings (hotel complexes, office buildings, industrial buildings)

The kit can be used for separate building works or be placed as a heightening on an existing building. The tolerances of the surface of the substructure amount to ± 10 mm.

The performance given in section 3 is only valid if the timber building kit is used in compliance with the specifications and conditions given in Annex A and B.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the timber building kit of at least 50 years and of at least 25 years for the exterior wall cladding. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

3 Performance of the product and references to the methods used for its assessment

3.1 Mechanical resistance and stability (BWR 1)

Essential characteristic	Performance
Resistance, stiffness and stability of wall, floor and roof elements and their connections against vertical and horizontal loads	See Annex A All building components are described with regard to their components and their structure
Shear resistance in plane direction against horizontal loads	No performance assessed
Compression resistance - log walls	No performance assessed
Settling of construction of log	No performance assessed
Corrosion protection of metal fasteners	No performance assessed

By means of this description of the load-bearing building components both mechanical resistance and stability for each load-bearing building component and their connections between the components shall be determined.

3.2 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire of materials and components	The classification for reaction to fire of materials and components is given in Annex A
Resistance to fire	No performance assessed
External fire performance of roof covering	No performance assessed

3.3 Hygiene, health and the environment (BWR 3)

Essential characteristic	Performance
Water vapour resistance	See Annex A
Watertightness	See Annex A
Durability class/ use class	See Annex A
Content, emission and/or release of dangerous substances	No performance assessed

3.4 Safety and accessibility in use (BWR 4)

Essential characteristic	Performance
Impact resistance	Wall construction with wood-based panels $d \geq 12,5$ mm have an appropriate impact resistance.

3.5 Protection against noise (BWR 5)

Essential characteristic	Performance
Airborne sound insulation of walls, ceilings and roof structures	No performance assessed
Impact sound insulation of floors	No performance assessed
Sound absorption	No performance assessed

3.6 Energy economy and heat retention (BWR 6)

Essential characteristic	Performance
Thermal resistance	Thermal transmittance coefficients according to EN ISO 6946 of exterior walls and roofs are given in Annex A.
Air permeability	When the kit has been properly manufactured and assembled the building envelope is sufficiently airtight. The measuring shall be performed according to ISO 9972 ¹ if necessary.
Thermal inertia	No performance assessed

4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

According to Decision 99/455/EC of the Commission², the system to be applied is 1.

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Anja Dewitt
Head of Section

beglaubigt:
Vössing

¹ EN ISO 9972:2018 Thermal performance of buildings - Determination of air permeability of buildings - Fan pressurization method

² Official Journal of the European Communities L 178/56-57 of 14.07.1999

ANNEX A - DESCRIPTION OF THE BUILDING COMPONENTS

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A.1 Specification of the technical description

Technical description of building elements

The single-wall elements have a width of 1.25 m up to 1.45 m and a height of 2.54 m up to 2.90 m. All walls, external and internal (load bearing and non-load-bearing), are assembled with single-wall elements. The connection between the individual single-wall elements to complete walls is done with static load-bearing connections of the projecting planking with the connection posts (Annex A) by nails or staples. On delivery at the plant the wooden components have a moisture content of $\leq 15\%$. The single-wall elements (external wall, internal wall) are covered on both sides; the covering is glued over the entire surface to the timber frame structure, followed by applying the insulation to the external walls. The gable elements are nailed.

For window and door openings glued single-wall elements with standard openings are used.

The ceiling elements (suspended floor) are manufactured according to statics. The ceiling elements are manufactured with a width of 1.25 m up to 2.50 m maximum. The ceiling beams are arranged in a grid pattern of 62.5 cm. The minimum height of the beams is 22 cm and the maximum 28 cm. The widths of the beams are 7 cm up to 24 cm maximum, and they are a combination of the widths with 7 cm and 10 cm. On delivery to the plant the wooden components have a moisture content of $\leq 18\%$.

The roofing elements are manufactured according to statics. The roofing elements are manufactured with a width of 1.25 m up to 2.50 m maximum. The rafters are arranged in a grid pattern of 1.25 m. The height of the rafters is 22 cm up to 28 cm maximum. The width of the rafters is 7 cm up to 24 cm maximum. On delivery to the plant the wooden components have a moisture content of $\leq 18\%$.

Non-load-bearing internal walls may be arranged in any way.

Exterior wall cladding:

Exterior walls get an external insulation system according to ETA-09/0266 (see description in Annex A).

In individual cases, the walls are cased or clad with suitable materials in accordance with the technical state of the art.

The connections to each other of the individual building components are shown in Annex B.

The anchorage of the external wall building components to the substructure (basement or foundation slab made of concrete) is performed with galvanized angle brackets which are connected with nails with the external walls and with anchors with the foundation slab. The anchorage of the external wall building components to the substructure is shown in Annex B. The verification of the suction safety of the wall building components with the substructure is subject of a separate verification of stability.

Specification of production and manufacturing

The manufacture of a kit is conducted on the basis of a specific structural design for the construction works.

The factory production of the building components and the temporary storage of the components are done in dry and heatable premises.

A.2 Specification of essential characteristics

Mechanical Resistance and Stability:

The building components are prefabricated and brought to site as assembled elements.

The load-bearing gluing of the wall elements (external wall, internal wall) is performed at the factory with melamine-resin adhesive, type I (the composition is deposited at DIBt) according to EN 301¹. The bonding is taken into account in the control plan.

The gypsum board of the "floor slab", the "collar beam ceiling of the purlin roof", the "collar beam ceiling of the rafter roof" and the gypsum board of the "roof" form part of the building kit; however, they are installed on site.

The individual building components are interconnected by corner posts on site. These are made of solid timber according to EN 338². They are included in the delivery, but are not part of the kit.

Usually plastic-windows (PVC) are used (Annex A). Wooden, aluminium or wood-aluminium windows may also be used.

For roof coverings normally concrete tiles according to EN 490³/ EN 491⁴ or clay tiles according to EN 1304⁵ are used. Other roofing may also be used. The roofing is not part of the kit.

All components marked with an asterisk (Annex A) are not part of the kit and are installed on site.

By means of this exactly description of the load-bearing building components may both mechanical resistance and stability for each load-bearing building component and their connections between the components be determined.

Vapour permeability and moisture resistance:

The works are designed such that the building envelope with regards to interstitial and surface condensation meets the general requirements.

The building components of the kit are made such that sweating (condensation) on the inside of building components as well as on the inner surface do not have any harmful effects. The calculation was carried out following EN ISO 13788⁶, with the following boundary conditions:

	warm side	cold side
Condensation period		
Air temperature	20 °C	- 5 °C
Relative humidity	50,0 %	80,0 %
Duration of condensation	2160 hours	
Evaporation period		
Vapour pressure	1200 Pa	1200 Pa
Vapour pressure failure point	1700 Pa	
Duration of evaporation	2160 hours	

Water tightness:

Provided the kit is manufactured and assembled according to this ETA the building envelope is resistant to penetrating water (also driving rain-resistant) and snow. In case of ranges of application with extreme conditions of driving rain and snow the intended use shall be assessed in the individual case.

1	EN 301:2023	Adhesives, phenolic and amino-plastic, for load-bearing timber structures-
2	EN 338:2016	Timber structures - Strength classes
3	EN 490:2017	Concrete roofing tiles and fittings for roof covering and wall cladding – Product specifications
4	EN 491:2011	Concrete roofing tiles and fittings for roof covering and wall cladding – Test methods
5	EN 1304:2013	Clay roofing tiles and fittings – Product definitions and specifications
6	EN ISO 13788:2013	Hygrothermal performance of building components and building elements. Internal surf temperature to avoid critical surface humidity and interstitial condensation - Calculation methods

Durability:

Softwood that fulfils the need of natural durability classes 3, 4 or 5 of solid wood according to EN 350⁷ is used as construction wood.

Building components are usually not treated with chemical wood preservatives.

The use of timber without any chemical wood preservatives in areas where termites may attack the kit is not planned.

The fasteners used for this kit meet the requirements of service class 1 in accordance with EN 1995-1-1⁸ as far as no special corrosion conditions exist.

Only technically dried timber with the following moisture content is used:

Building components	Max. moisture content
Interior- and exterior walls, glued	15 %
Gables and knee pole walls, sleeper- and frame wood, ceilings and floors	18 %

Execution of construction works

The manufacturer presented specific instructions for the installation of the kit into the works to the approval body. The specific instruction covers all important aspects related to the work on site, such as:

- erection techniques and necessary equipment
- temporary bracing and weather protection
- completion of joints between components of the kit (fixing, sealing against climatic influences, etc.)
- fixing of wind anchorage to the substructure and between building parts
- additional building materials and building components applied on site and which are a precondition for the fitness of use of the kit
- special boundary conditions (e.g., special crane requirements, hoisting strap positions, etc.)

⁷ EN 350:2016

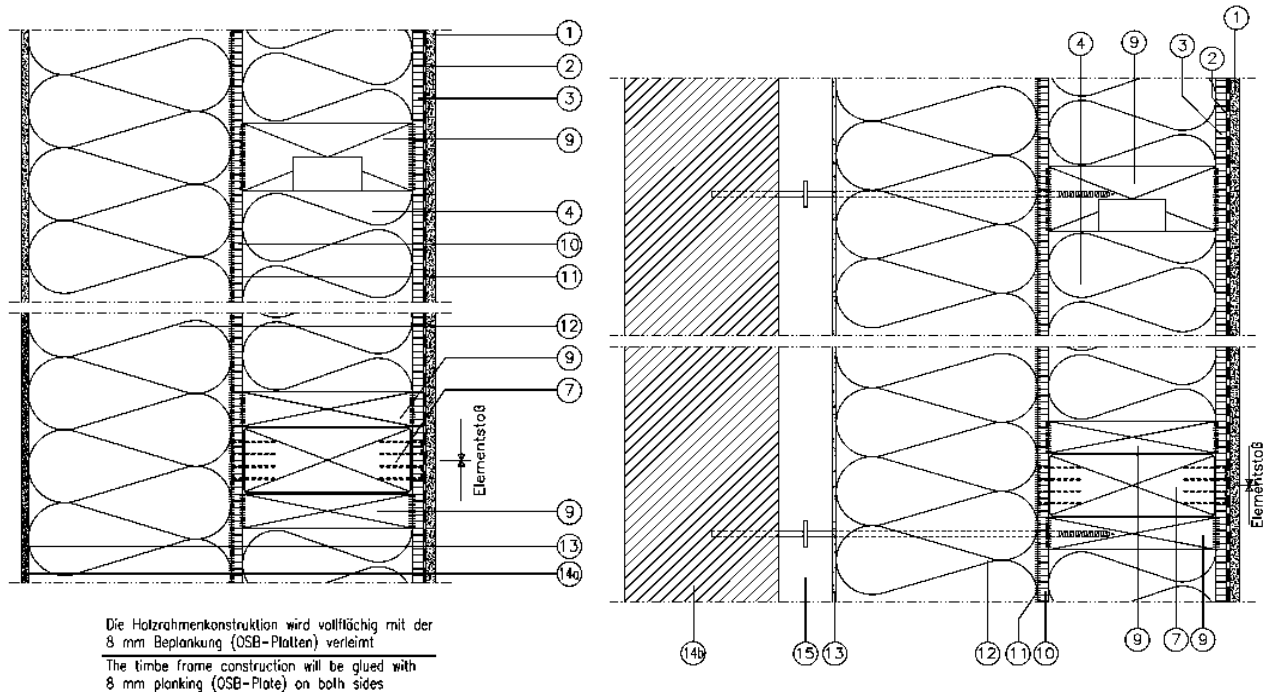
Durability of wood-based products – Testing and classification of the durability to biological agents of wood and wood-based materials

⁸ EN 1995-1-1:2010-12+A2:2014-07

Eurocode 5: Design of timber structures –
Part 1-1: General – Common rules and rules for buildings

A.3 Specification of building elements

A3.1 External wall, Variant A (horizontal section)



Components

No.	Product	Dimensions [mm]	EN-Standard ETA	Reaction to fire
1	Gypsum board Density $\geq 600 \text{ kg/m}^3$	12.5	EN 520	B-s1, d0 (2003/593/EC)
2	Vapour barrier $s_d > 10 \text{ m}$ Alternatively PE-foil $s_d > 100 \text{ m}$	0.2 0,16	EN 13984	E
3	OSB-board alternatively: BFU- board Density $\geq 600 \text{ kg/m}^3$	8 9	EN 300 EN 636	E D-s2, d0 (2003/43/EC)
4	Mineral fibre	124	EN 13162	A1 (96/603/EG, amended by 2000/605/EC)
Annex B	Top chord C 24 Density $\geq 350 \text{ kg/m}^3$	50/125 50/140	EN 338 EN 15497	D-s2, d0 (2003/593/EC)
Annex B	Threshold C 24 Density $\geq 350 \text{ kg/m}^3$	30/140 50/140	EN 338 EN 15497	D-s2, d0 (2003/593/EC)
7	Connection post C 24 Density $\geq 350 \text{ kg/m}^3$	45/122	EN 338 EN 14081	D-s2,d0 (2003/593/EC)
Annex B	Connection post C 24 Density $\geq 350 \text{ kg/m}^3$	23/122	EN 338 EN 14081	D-s2, d0 (2003/593/EC)
9	Framing timber ⁹ C 24 Density $\geq 350 \text{ kg/m}^3$	25/124 50/124	EN 338 EN 14081	D-s2, d0 (2003/593/EC)
10	OSB- board alternatively: BFU- board Density $\geq 600 \text{ kg/m}^3$	8 9	EN 300 EN 636	E D-s2, d0 (2003/43/EC)

⁹ Spacing of the posts: $e = 300 \text{ mm}$ (according to Annex B)

Exterior wall cladding:				
11	Glue: according to ETA-09/0266	full-surface application	ETA-09/0266	The whole system B-s2, d0
12	Insulation boards according to ETA-09/0266	100 - 300	ETA-09/0266	
13	Plaster with reinforcement according to ETA-09/0266	2.0 - 3.5	ETA-09/0266	
14a	External plaster - Stolit K / R / MP / Effect - Stolit QS K / R / MP - StoSilco K / R / MP - StoSilco QS K / R / MP - StoLotusan K / MP - Sto-Superlit - Sto-Nivellit + StoSilco color	≤ 3.0	ETA-09/0266	
	- prefabricated clinker-like plaster part Sto-Flachverblander + Sto- Klebe- und Fugenmörtel	4.0 - 7.0	ETA-09/0266	-
14b ^{*10}	Brick facing	95 - 115	-	-
15	Air layer	40 - 60	-	-

Fasteners

Component	Type	EN-Standard	Spacing [mm]	
			Edge	Middle
Gypsum board	Screws 3.9 x 30	EN 14566	≤ 250	≤ 300 Post spacing
OSB board to connection post	Fasteners according to static calculations; Nails 2.5 x 35 mm alternatively: Staples d=1.52, galvanised length according to static calculations	EN 14592 EN 14592	≤ 80 ≤ 150	-
OSB board to timber frame structure	two component adhesive	EN 301	full surface	

Data of physics relating to construction according to EN ISO 6946 taking account of all components stated above:

Thermal transmittance coefficient

$U = 0,17 \text{ (W/m}^2\text{K)}$ to $U = 0,08 \text{ (W/m}^2\text{K)}$

Thermal resistance:

$R_T = 5,76 \text{ (m}^2\text{K/W)}$ to $R_T = 12,35 \text{ (m}^2\text{K/W)}$

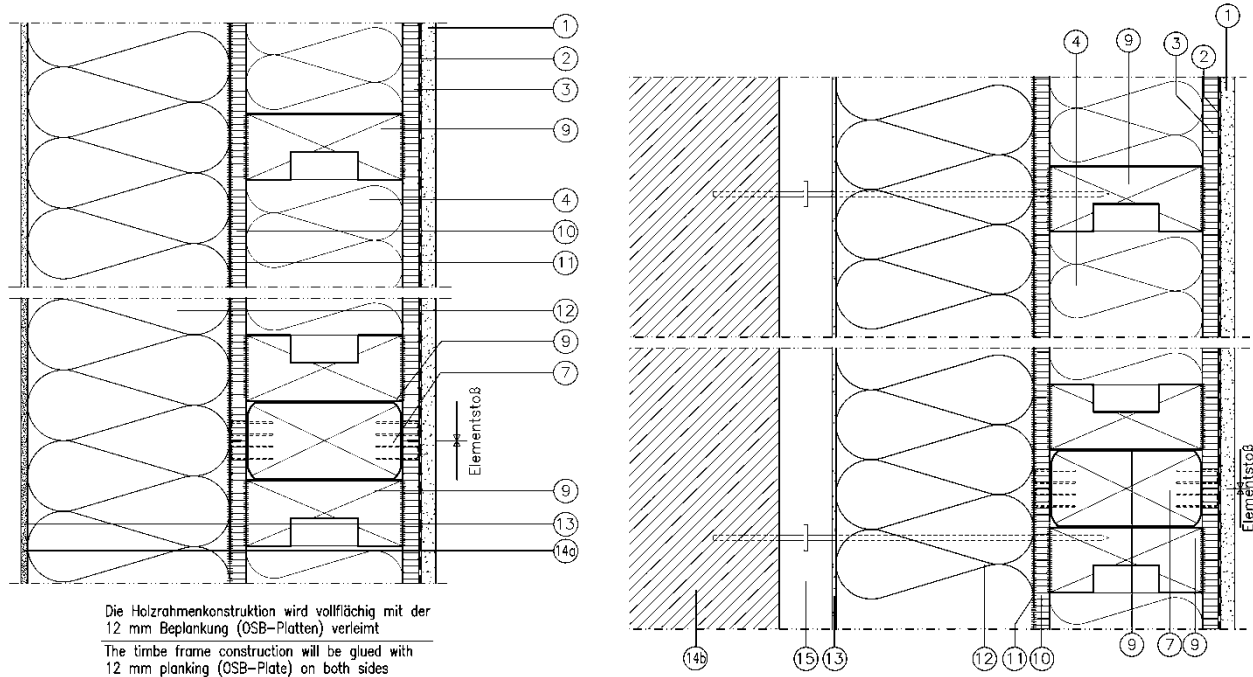
Boundary conditions:

$R_{si} = 0,13 \text{ (m}^2\text{K/W)}$

$R_{se} = 0,04 \text{ (m}^2\text{K/W)}$

¹⁰ All components marked with an asterisk are not part of the kit, they are however necessary for the building components and will be installed on site (place of use).

A3.2. External wall, Variant B (horizontal section):



Components

No.	Product	Dimensions [mm]	EN-Standard ETA	Reaction to fire
1	Gypsum board Density $\geq 600 \text{ kg/m}^3$	12.5	EN 520	B-s1, d0 (2003/593/EC)
2	Vapour barrier $s_d > 10 \text{ m}$ Alternatively PE-foil $s_d > 100 \text{ m}$	0.2 0,16	EN 13984	E
3	Wood-based-panels OSB-board alternatively: BFU- board alternatively: Particle board Density $\geq 600 \text{ kg/m}^3$	12	EN 13986 EN 300 EN 636 EN 312	D-s2, d0 (2003/43/EC)
4	Mineral fibre	116	EN 13162	A1 (96/603/EG, amended by 2000/605/EC)
Annex B	Top chord C 24 Density $\geq 350 \text{ kg/m}^3$	50/125 50/140	EN 338 EN 15497	D-s2, d0 (2003/593/EC)
Annex B	Threshold C 24 Density $\geq 350 \text{ kg/m}^3$	30/140 50/140	EN 338 EN 15497	D-s2, d0 (2003/593/EC)
7	Connection post C 24 Density $\geq 350 \text{ kg/m}^3$	58/114	EN 338 EN 14081	D-s2,d0 (2003/593/EC)
Annex B	Connection post C 24 Density $\geq 350 \text{ kg/m}^3$	29/114	EN 338 EN 14081	D-s2, d0 (2003/593/EC)
9	Framing timber ¹¹ C 24 Density $\geq 350 \text{ kg/m}^3$	50/116	EN 338 EN 14081	D-s2, d0 (2003/593/EC)
10	Wood-based-panels OSB-board alternatively: BFU- board alternatively: Particle board Density $\geq 600 \text{ kg/m}^3$	12	EN 13986 EN 300 EN 636 EN 312	D-s2, d0 (2003/43/EC)

¹¹ Spacing of the posts: $e = 570 \text{ mm}$ (according to Annex B)

Exterior wall cladding:				
11	Glue: according to ETA-09/0266	full-surface application	ETA-09/0266	The whole system B-s2, d0
12	Insulation boards according to ETA-09/0266	100 - 300	ETA-09/0266	
13	Plaster with reinforcement according to ETA-09/0266	2.0 - 3.5	ETA-09/0266	
14a	External plaster - Stolit K / R / MP / Effect - Stolit QS K / R / MP - StoSilco K / R / MP - StoSilco QS K / R / MP - StoLotusan K / MP - Sto-Superlit - Sto-Nivellit + StoSilco color	≤ 3.0	ETA-09/0266	
	- prefabricated clinker-like plaster part: Sto-Flachverblender + Sto- Klebe- und Fugen-mörtel	4.0 - 7.0	ETA-09/0266	-
14b*12	Brick facing	95 - 115	-	-
15	Air layer	40 - 60	-	-

Fasteners

Component	Type	EN-Standard	Spacing [mm]	
			Edge	Middle
Gypsum board	Screws 3.9 x3 0	EN 14566	≤ 250	≤ 625 Post spacing
Wood-based-panels to connection post	Fasteners according to static calculations; Nails 2.5 x 35 mm alternatively: Staples d=1.52, galvanised length according to static calculations	EN 14592 EN 14592	≤ 80 ≤ 150	-
Wood-based-panels to timber frame structure	two component glue	EN 301/ EN 302	full surface	

Data of physics relating to construction according to EN ISO 6946 taking account of all components stated above:

Thermal transmittance coefficient

$U = 0,17 \text{ (W/m}^2\text{K)}$ to $U = 0,08 \text{ (W/m}^2\text{K)}$

Thermal resistance:

$R_T = 5,78 \text{ (m}^2\text{K/W)}$ to $R_T = 12,35 \text{ (m}^2\text{K/W)}$

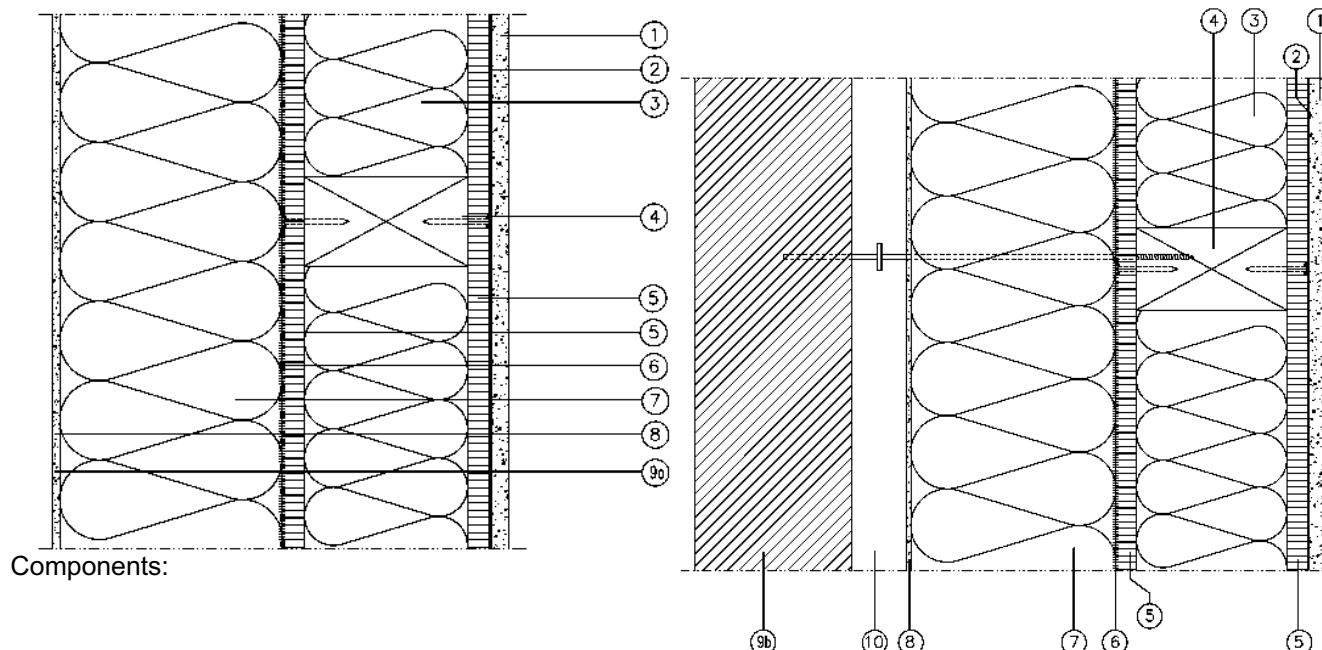
Boundary conditions:

$R_{si} = 0,13 \text{ (m}^2\text{K/W)}$

$R_{se} = 0,04 \text{ (m}^2\text{K/W)}$

¹² All components marked with an asterisk are not part of the kit, they are however necessary for the building components and will be installed on site (place of use).

A3.3 Gable external wall (horizontal section)



No.	Product	Dimensions [mm]	EN-Standard ETA	Reaction to fire
1	Gypsum board Density $\geq 600 \text{ kg/m}^3$	12.5	EN 520	B-s1, d0 (2006/673/EC)
2	Vapour barrier $s_d > 10 \text{ m}$ Alternatively PE-foil $s_d > 100 \text{ m}$	0.2 0.16	EN 13984	E
3	Mineral fibre	110	EN 13162	A1 (96/603/EC, amended by 2000/605/EC)
4	Framing timber ¹³ C 24 Density $\geq 350 \text{ kg/m}^3$	60/110	EN 338 EN 15497	D-s2, d0 (2003/593/EC)
5	Wood-based-panels OSB-board alternatively: BFU- board alternatively: Particle board Density $\geq 600 \text{ kg/m}^3$	15 12 12	EN 13986 EN 300 EN 636 EN 312	D-s2, d0

¹³ Spacing of the posts: $e = 570 \text{ mm}$ (according to Annex B)

Exterior wall cladding:				
6	Glue: according to ETA-09/0266	All-over application	ETA-09/0266	The whole system B-s2, d0
7	Insulation boards according to ETA-09/0266	100 - 300	ETA-09/0266	
8	Plaster with reinforcement according to ETA-09/0266	2.0 - 3.5	ETA-09/0266	
9a	External plaster - Stolit K / R / MP / Effect - Stolit QS K / R / MP - StoSilco K / R / MP - StoSilco QS K / R / MP - StoLotusan K / MP - Sto-Superlit - Sto-Nivellit + StoSilco color	≤ 3.0	ETA-09/0266	
	- prefabricated clinker-like plaster part: Sto-Flachverblander + Sto- Klebe- und Fugenmörtel	4.0 - 7.0	ETA-09/0266	-
9b ^{*14}	Brick facing	95 - 115	-	-
10	Air layer	40 - 60		-

Fasteners

Component	Type	EN-Standard	Spacing [mm]	
			Edge	Middle
Gypsum board	Screws 3.9 x 30	EN 14566	≤ 250	≤ 625 post spacing
Wood-based-panels to timber frame structure	Nails 2.5 x 50	EN 14592	≤ 80	≤ 225

Data of physics relating to construction according to EN ISO 6946 taking account of all components stated above:

Thermal transmittance coefficient:

$U = 0,16 \text{ (W/m}^2\text{K)}$ to $U = 0,08 \text{ (W/m}^2\text{K)}$

Thermal resistance:

$R_T = 5,98 \text{ (m}^2\text{K/W)}$ to $R_T = 12,53 \text{ (m}^2\text{K/W)}$

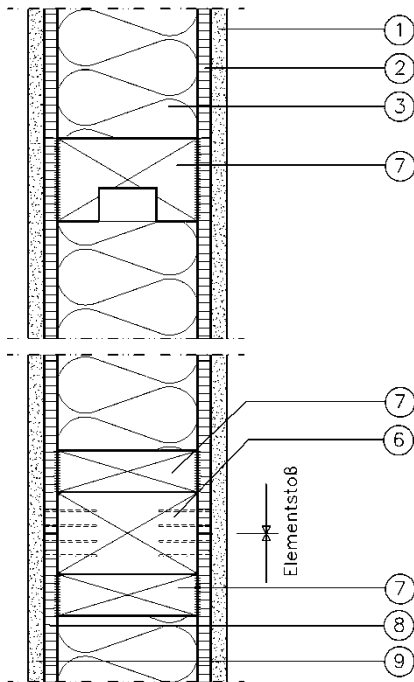
Boundary conditions:

$R_{si} = 0,13 \text{ (m}^2\text{K/W)}$

$R_{se} = 0,04 \text{ (m}^2\text{K/W)}$

¹⁴ All components marked with an asterisk are not part of the kit, they are however necessary for the building components and will be installed on site (place of use).

A3.4 Internal wall Variant A (horizontal section)



Components:

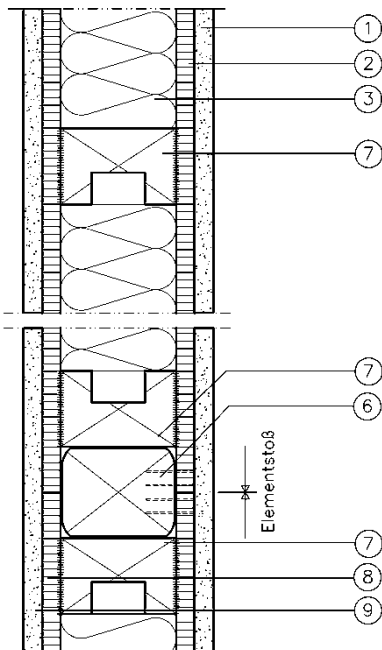
No.	Product	Dimensions [mm]	EN-Standard ETA	Reaction to fire
1	Gypsum board Density $\geq 600 \text{ kg/m}^3$	12.5	EN 520	B-s1, d0 (2003/593/EC)
2	OSB-board alternatively: BFU- board Density $\geq 600 \text{ kg/m}^3$	8 9	EN 300 EN 636	E D-s2,d0
3	Mineral fibre insulation	85	EN 13162	A1 (96/603/ EC, amended by 2000/605/ EC)
Annex B	Top chord C 24 Density $\geq 350 \text{ kg/m}^3$	25/100 50/100	EN 338 EN 15497	D-s2, d0 (2003/593/ EC)
Annex B	Bottom chord C 24 Density $\geq 350 \text{ kg/m}^3$	30/100 50/100	EN 338 EN 15497	D-s2, d0 (2003/593/ EC)
6	Connection post C 24 Density $\geq 350 \text{ kg/m}^3$	45/82	EN 338 EN 14081	D-s2, d0 (2003/593/ EC)
7	Framing timber ¹⁵ C 24 Density $\geq 350 \text{ kg/m}^3$	25/84 50/84	EN 338 EN 14081	D-s2, d0 (2003/593/ EC)
8	OSB-board alternatively: BFU- board Density $\geq 600 \text{ kg/m}^3$	8 9	EN 300 EN 636	E D-s2,d0
9	Gypsum board Density $\geq 600 \text{ kg/m}^3$	12,5	EN 520	B-s1, d0 (2003/593/ EC)

¹⁵ Spacing of the posts: e = 570 mm (according to Annex B)

Fasteners

Component	Type	EN-Standard	Spacing [mm]	
			Edge	Middle
Gypsum board	Screws 3.9 mm x 30 mm	EN 14566	≤ 250	≤ 300 post spacing
OSB board to connection post	Fasteners according to static calculations; Nails 2.5 mm x 35 mm alternatively: Staples d=1.52, galvanised length according to static calculations	EN 14592 EN 14592	≤ 80 ≤ 150	-
OSB board to timber frame structure	two component adhesive	EN 301	full surface	

A3.5 Internal wall Variant B (horizontal section)



Components:

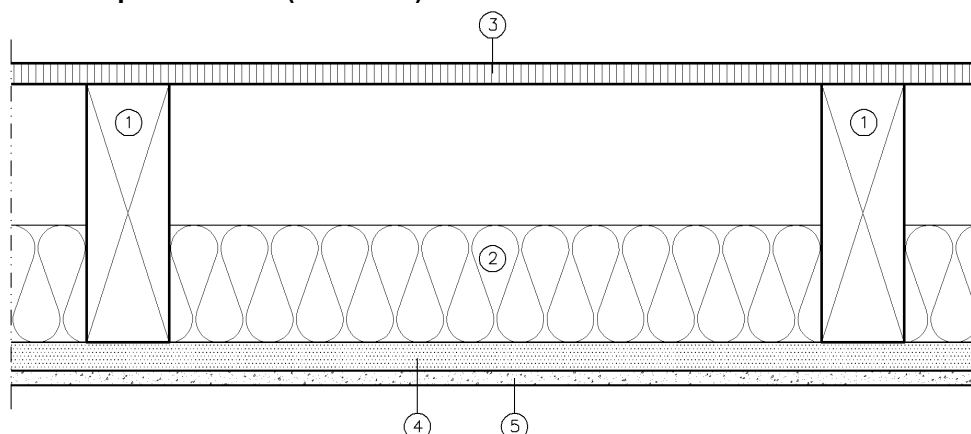
No.	Product	Dimensions [mm]	EN-Standard ETA	Reaction to fire
1	Gypsum board Density $\geq 600 \text{ kg/m}^3$	12.5	EN 520	B-s1, d0 (2003/593/EC)
2	Wood-based-panels OSB-board alternatively: BFU- board alternatively: Particle board Density $\geq 600 \text{ kg/m}^3$	12	EN 13986 EN 300 EN 636 EN 312	D-s2, d0 (2003/43/EC)
3	Mineral fibre insulation	76	EN 13162	A1 (96/603/EG, amended by 2000/605/EC)
Annex B	Top chord C 24 Density $\geq 350 \text{ kg/m}^3$	25/100 50/100	EN 338 EN 15497	D-s2, d0 (2003/593/EC)
Annex B	Bottom chord C24 Density $\geq 350 \text{ kg/m}^3$	30/100 50/100	EN 338 EN 15497	D-s2, d0 (2003/593/EC)
6	Connection post C 24 Density $\geq 350 \text{ kg/m}^3$	58/74	EN 338 EN 14081	D-s2, d0 (2003/593/EC)
Annex B	Connection post C 24 Density $\geq 350 \text{ kg/m}^3$	29/74	EN 338 EN 14081	D-s2, d0 (2003/593/EC)
7	Framing timber ¹⁶ C 24 Density $\geq 350 \text{ kg/m}^3$	50/76	EN 338 EN 14081	D-s2, d0 (2003/593/EC)
8	Wood-based-panels OSB-board alternatively: BFU- board alternatively: Particle board Density $\geq 600 \text{ kg/m}^3$	12	EN 13986 EN 300 EN 636 EN 312	D-s2, d0 (2003/43/EC)
9	Gypsum board Density $\geq 600 \text{ kg/m}^3$	12.5	EN 520	B-s1, d0 (2003/593/EC)

¹⁶ Spacing of the posts: e = 570 mm (according to Annex B)

Fasteners

Component	Type	EN-Standard	Spacing [mm]	
			Edge	Middle
Gypsum board	Screws 3.9 x 30	EN 14566	≤ 250	≤ 625 post spacing
Wood-based-panels to connection post	Fasteners according to static calculations; Nails 2.5 x 35 mm alternatively: Staples d=1.52, galvanised length according to static calculations	EN 14592 EN 14592	≤ 80 ≤ 150	-
Wood-based-panels to timber frame structure	Two component ahesive	EN 301	full surface	

A.3.6 Suspended floor (floor slab)



Components

No.	Product	Dimensions [mm]	EN-Standard ETA	Reaction to fire
1	Beam** Density $\geq 350 \text{ kg/m}^3$	width 70 or 100 and height 220/240/260/280 according to static calculations	EN 338/EN 15497	D-s2, d0 (2003/593/EC)
2	Mineral fibre insulation	100*** to 280	EN 13162	A1 (96/603/EC, amended by 2000/605/EC)
3	Wood-based-panels OSB-board alternatively: Particle board Density $\geq 600 \text{ kg/m}^3$	≥ 18	EN 300 EN 312	D-s2, d0 (2003/43/EC)
4	Battens	24/48 to 80/30	EN 338/EN 14081	D-s2, d0 (2003/593/EC)
5	Gypsum board Density $\geq 600 \text{ kg/m}^3$	12.5	EN 520	B-s1, d0 (2003/593/EC)

**beam width: $2 \times 70 = 140 \text{ mm}$, $70 + 100 = 170 \text{ mm}$, $2 \times 100 = 200 \text{ mm}$, $2 \times 70 + 100 = 240$ according to statics

***The mineral fibre with $d = 100 \text{ mm}$ is used for ceilings adjoining a warm section; it is used for the reasons of sound insulation.

Fasteners

Component	Type	EN-Standard	Spacing [mm]	
			Edge	Middle
Gypsum board to battens	Screws 3.9 x 30	EN 14566	≤ 170	≤ 417 lathing spacing
Battens on beams	Nails 3.1 x 90	EN 14592	≤ 625	≤ 417 lathing spacing
Wood-based-panels to beams	Staples 1.8 x 65, galvanized and resin coated	EN 14592	≤ 130	≤ 625 beam spacing

Data of physics relating to construction according to EN ISO 6946 taking account of all components stated above:

Thermal transmittance coefficient:

$U = 0,18 \text{ (W/m}^2\text{K)}$ (beam height=220 mm)

$U = 0,16 \text{ (W/m}^2\text{K)}$ (beam height=260 mm)

Thermal resistance:

$R_T = 5,46 \text{ (m}^2\text{K/W)}$ (beam height=220 mm)

$R_T = 6,34 \text{ (m}^2\text{K/W)}$ (beam height=260 mm)

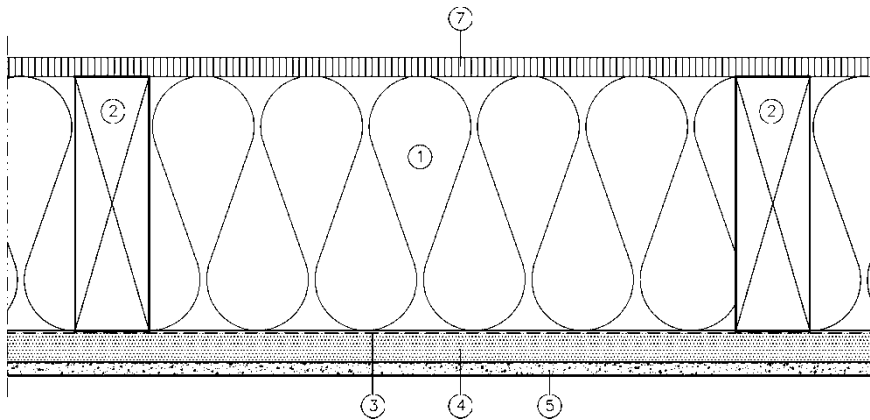
Boundary conditions:

$R_{si} = 0,10 \text{ (m}^2\text{K/W)}$

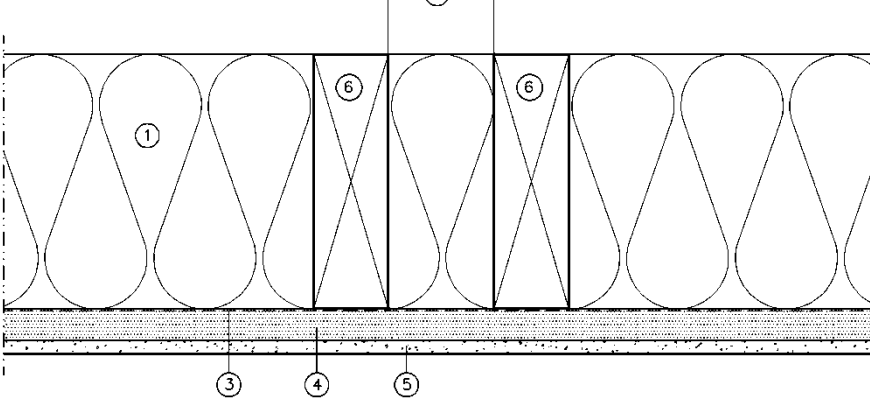
$R_{se} = 0,08 \text{ (m}^2\text{K/W)}$

A.3.7 Collar beam ceiling

Purlin roof



Rafter roof



Components

No.	Product	Dimensions [mm]	EN-Standard ETA	Reaction to fire
1	Mineral fibre	≥ 220	EN 13162	A1 (96/603/EC, amended by 2000/605/EC)
2	Collar beam/rafter**** Density ≥ 350 kg/m ³	width: ≥ 60 height: ≥ 220 according to statics	EN 338 EN 15497	D-s2, d0 (2003/593/EC)
3	Vapour barrier $s_d > 10$ m alternatively PE foil $s_d > 100$ m	0.20 0.16	EN 13984	E
4	Battens	24/48 to 80/30	EN 338	D-s2, d0 (2003/593/EC)
5	Gypsum board*****	12,5	EN 520	B-s1, d0 (2003/593/EC)
6	Collar transverse beam (for rafter roof) Density ≥ 600 kg/m ³	width: ≥ 40 height: ≥ 220 according to statics	EN 338 EN 15497	D-s2, d0 (2003/593/EC)
7	Wood-based-panels OSB-board alternatively: BFU- board alternatively: Particle board Density ≥ 600 kg/m ³	≥ 18	EN 300 EN 636 EN 312	D-s2, d0 (2003/43/EC)

**** beam/rafter width: 2x70=140mm, 70+100=170mm, 2x100=200mm

***** The plasterboard also fulfils the requirements of DIN 18180

Fasteners

Component	Type	EN-Standard	Spacing [mm]	
			Edge	Middle
Gypsum board to battens	Screws 3.9 x 30	EN 14566	≤ 170	≤ 170
Battens on beams	Nails 3.1 x 90	EN 14592	≤ 415 Batten spacing.	≤ 1250

Data of physics relating to construction according to EN ISO 6946 taking account of all components stated above:

Thermal transmittance coefficient:

U = 0,17 (W/m²K) (beam height=220 mm)

U = 0,15 (W/m²K) (beam height=260 mm)

Thermal resistance:

R_T = 5,82 (m²K/W) (beam height=220 mm)

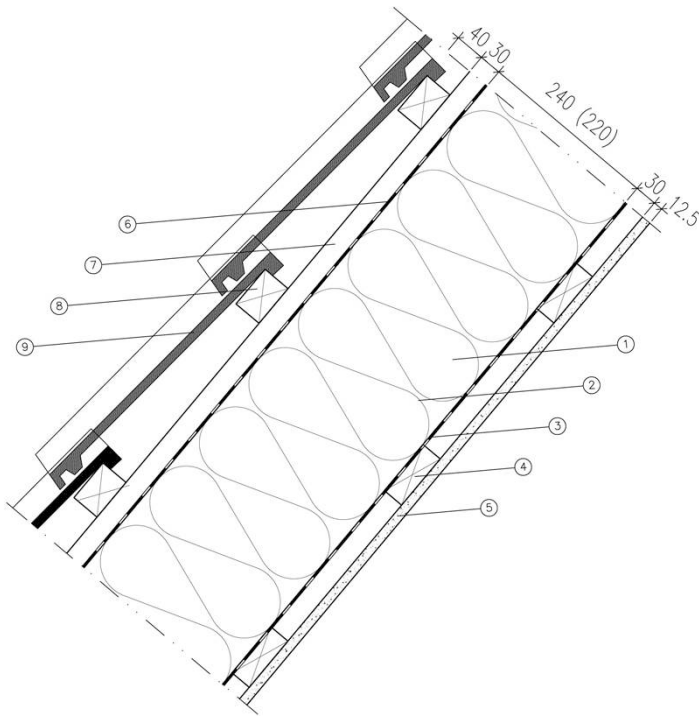
R_T = 6,81 (m²K/W) (beam height=260 mm)

Boundary conditions:

R_{si} = 0,10 (m²K/W)

R_{se} = 0,08 (m²K/W)

A.3.8 Roof



Components

No.	Product	Dimensions [mm]	EN-Standard ETA	Reaction to fire
1	Rafters C 24***** Density $\geq 350 \text{ kg/m}^3$	width: ≥ 70 height: ≥ 220 according to static calculation	EN 338 EN 15497	D-s2, d0 (2003/593/EC)
2	Mineral fibre	≥ 220	EN 13162	A1 (96/603/EC, amended by 2000/605/EC)
3	Vapour barrier sd > 10m alternatively PE foil sd > 100 m	0.2 0.16	EN 13984	E
4	Battens Density $\geq 350 \text{ kg/m}^3$	24/48 to 80/30	EN 338 EN 14081	D-s2, d0 (2003/593/EC)
5	Gypsum board	12.5	EN 520	B-s1, d0 (2003/593/EC)
6	Sealing foil sd $\leq 0.1 \text{ m}$	0.2	-	E
7	Counter-batten Density $\geq 350 \text{ kg/m}^3$	50/30 40/60	EN 338 EN 14081	D-s2, d0 (2003/593/EC)
8	Roofing batten Density $\geq 350 \text{ kg/m}^3$	40/60	EN 338 EN 14081	D-s2, 0 (2003/593/EC)
9*17	Roof covering	-		
10*18	Wind strap tie band	1.5/40		

*****rafter width: $2 \times 70 = 140 \text{ mm}$, $70 + 100 = 170 \text{ mm}$, $2 \times 100 = 200 \text{ mm}$

17 All components marked with an asterisk are not part of the kit, they are however necessary for the building components and will be installed on site (place of use).

Fasteners

Component	Type	EN-Standard	Spacing [mm]	
			Edge	Middle
Gypsum board to lathing	Screws 3.9 x 30	EN 14566	≤ 170	≤ 417
Battens to rafters	Nails 2.8 x 65	EN 14592	≤ 1250	≤ 417 batten spacing
Counter-batten to rafters	Staples 1.8 x 65, galvanized and resin coated	EN 14592	≤ 350	-
Roofing batten to counterbatten	Nails 3.1 x 90	EN 14592	≤ 1250	≤ 345 roofing batten spacing

Data of physics relating to construction according to EN ISO 6946 taking account of all components stated above:

Thermal transmittance coefficient:

$U = 0,17 \text{ (W/m}^2\text{K)}$ (rafter height=220 mm)

$U = 0,15 \text{ (W/m}^2\text{K)}$ (rafter height=260 mm)

Thermal resistance:

$R_T = 5,82 \text{ (m}^2\text{K/W)}$ (rafter height=220 mm)

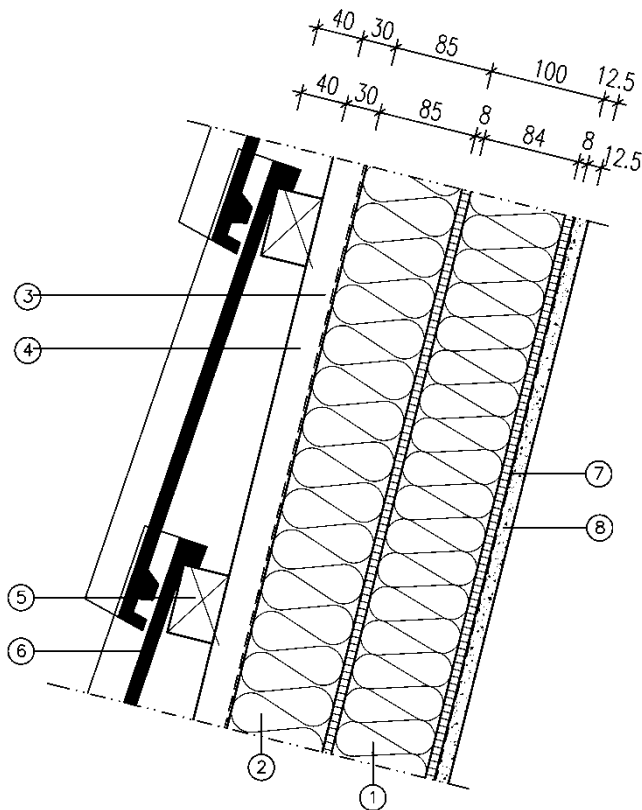
$R_T = 6,81 \text{ (m}^2\text{K/W)}$ (rafter height=260 mm)

Boundary conditions:

$R_{si} = 0,13 \text{ (m}^2\text{K/W)}$

$R_{se} = 0,04 \text{ (m}^2\text{K/W)}$

A.3.9 Mansard roof, Variant A



Components

No.	Product	Dimensions [mm]	EN-Standard ETA	Reaction to fire
1	Internal wall element Variant A	100	See above	See above
2a	Rafters (doubling timber)	125-150	EN 338 EN 15497	D-s2,d0 (2003/593/EC)
2b	Mineral wool	125-150	EN 13162	A1 (96/603/EC, amended by 2000/605/EC)
3	Sealing foil	0.2	-	E
4	Counter-batten Density $\geq 350 \text{ kg/m}^3$	50/30 40/60	EN 338 EN 14081	D-s2, d0 (2003/593/EC)
5	Roofing batten Density $\geq 350 \text{ kg/m}^3$	40/60	EN 338 EN 14081	D-s2, d0 (2003/593/EC)
6* ¹⁸	Roof covering	-		
7	Vapour barrier $s_d > 10\text{m}$ alternatively PE foil $s_d > 100 \text{ m}$	0.2 0.16	EN 13984	E
8	Gypsum board Density $\geq 600 \text{ kg/m}^3$	12.5	EN 520	B-s1,d0 (2003/593/EC)

¹⁸ All components marked with an asterisk are not part of the kit, they are however necessary for the building components and will be installed on site (place of use).

Fasteners

Component	Type	EN-Standard	Spacing [mm]	
			Edge	Middle
Gypsum board	Screws 3.9 x 30	EN 14566	≤ 250	≤ 300 post spacing
Counter-batten to doubling timber	Nails 2.8 x 65	EN 14592	≤ 350	-
Doubling timber to internal wall element	Screws ≥ 5.0 x 100	EN 14592	≤ 350	≤ 625 post spacing
Roofing batten to counterbatten	Nails 3.1 x 90	EN 14592	≤ 625	≤ 345 roofing batten spacing

Data of physics relating to construction according to EN ISO 6946 taking account of all components stated above:

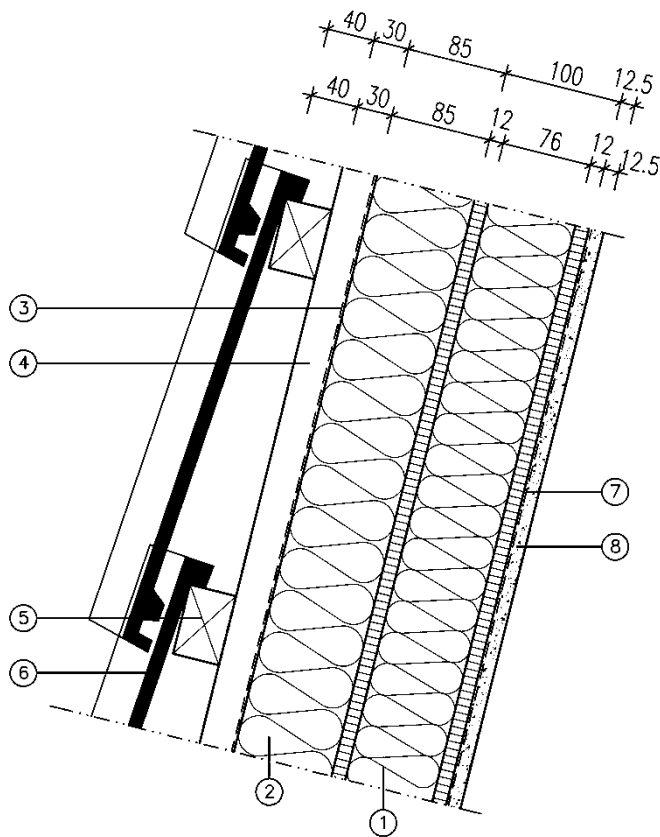
Thermal transmittance coefficient:

$U = 0,24 \text{ (W/m}^2\text{K)}$ to $U = 0,217 \text{ (W/m}^2\text{K)}$

Thermal resistance:

$R_T = 4,18 \text{ (m}^2\text{K/W)}$ to $R_T = 4,61 \text{ (m}^2\text{K/W)}$

A.3.10 Mansard roof, Variant B



Components

No.	Product	Dimensions [mm]	EN-Standard ETA	Reaction to fire
1	Internal wall element Variant B	100	See above	See above
2a	Rafters (doubling timber)	125-150	EN 338 EN 15497	D-s2,d0 (2003/593/EC)
2b	Mineral wool	125-150	EN 13162	A1 (96/603/EG, amended by 2000/605/EC)
3	Sealing foil	0.2	-	E
4	Counter-batten Density $\geq 350 \text{ kg/m}^3$	50/30 40/60	EN 338 EN 14081	D-s2, d0 (2003/593/EC)
5	Roofing batten Density $\geq 350 \text{ kg/m}^3$	40/60	EN 338 EN 14081	D-s2, d0 (2003/593/EC)
6* ¹⁹	Roof covering	-		
7	Vapour barrier $s_d > 10\text{m}$ alternatively PE foil $s_d > 100 \text{ m}$	0.2 0.16	EN 13984	E
8	Gypsum board Density $\geq 600 \text{ kg/m}^3$	12.5	EN 520	B-s1,d0 (2003/593/EC)

¹⁹ All components marked with an asterisk are not part of the kit, they are however necessary for the building components and will be installed on site (place of use).

Fasteners

Component	Type	EN-Standard	Spacing [mm]	
			Edge	Middle
Gypsum board	Screws 3.9 x 30	EN 14566	≤ 250	≤ 625 post spacing
Counter-batten to doubling timber	Nails 2.8 x 65	EN 14592	≤ 350	-
Doubling timber to internal wall element	screws ≥ 5.0 x 100	EN 14592	≤ 350	≤ 625 post spacing
Roofing batten to counterbatten	Nails 3.1 x 90	EN 14592	≤ 625	≤ 345 roofing batten spacing

Data of physics relating to construction according to EN ISO 6946 taking account of all components stated above:

Thermal transmittance coefficient:

$U = 0,24 \text{ (W/m}^2\text{K)}$ to $U = 0,211 \text{ (W/m}^2\text{K)}$

Thermal resistance:

$R_T = 4,29 \text{ (m}^2\text{K/W)}$ to $R_T = 4,75 \text{ (m}^2\text{K/W)}$

A.3.11 Example of the characteristics of a plastic-window

Air transmission according to EN 12207:

class 4

Driving rain resistance according to EN 12208:

class 5A

Wind resistance according to EN 12210:

class C2

Thermal transmittance coefficient of the frame according to EN 12412-2:

$U_f = 1,0 \text{ (W/(m}^2\text{K)}$

Thermal transmittance coefficient of the glass according to EN 673:

$U_g = 0,5 \text{ (W/(m}^2\text{K)}$

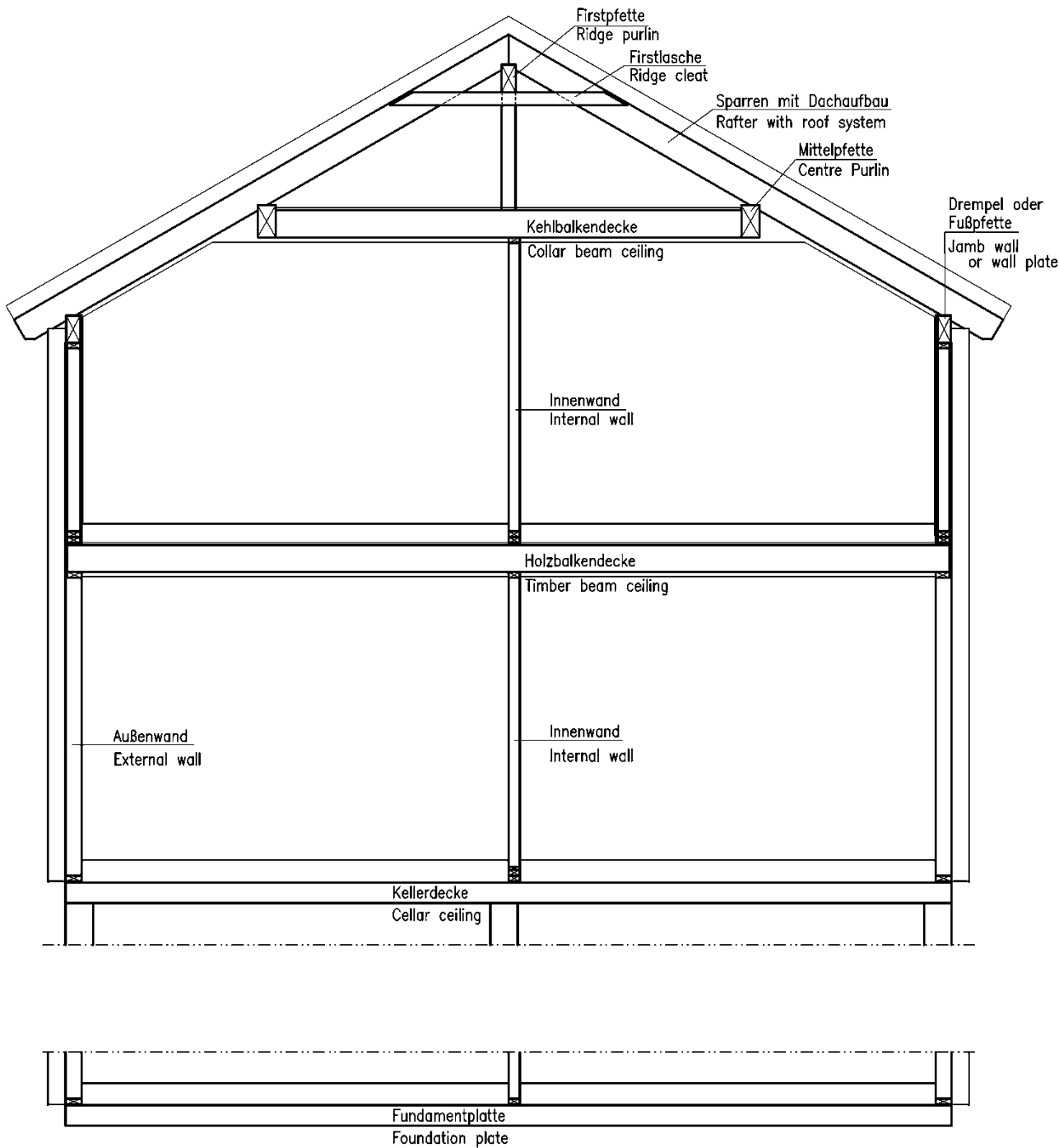
Degree of energy transmittance according to EN 410:

$g = 37 \%$

Annex B Construction details

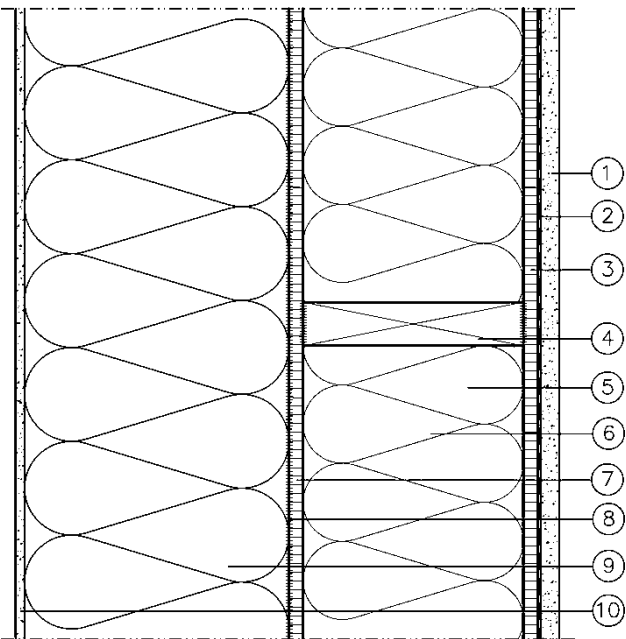
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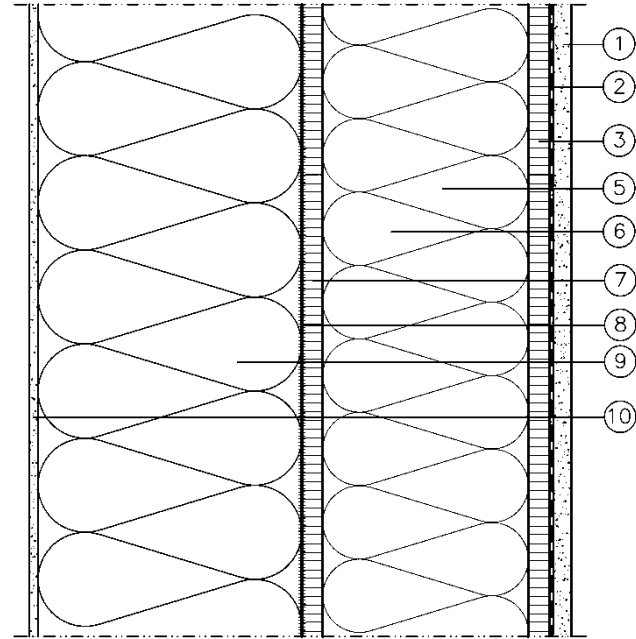


"HANSE-HAUS"	Annex B.1
Cross section - building	

Variante A (Variant A)



Variante B (Variant B)



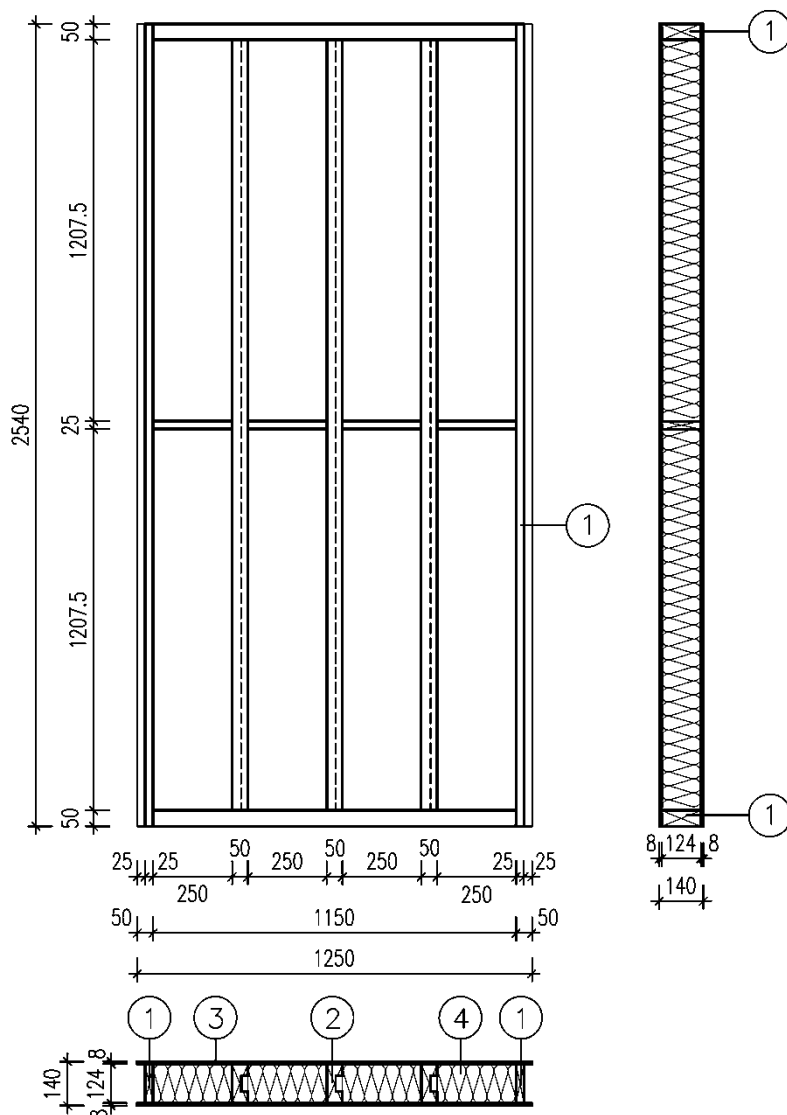
- 1 = Gipskartonplatte
- 2 = Dampfsperre
- 3 = Holzwerkstoffplatte
- 4 = waagerechtes Konstruktionsholz,
nur bei Variante A
- 5 = Mineralfaserdämmung
- 6 = senkrechtes Rahmenholz
mit Kabelkanal
- 7 = Holzwerkstoffplatte
- 8 = Kleber vollflächig
- 9 = Wärmedämmung
- 10 = Unter- und Oberputz

- Gypsum board
- Vapour barrier
- Wood-based-panel
- Horizontal framing timber,
only for variant A
- Mineral wool insulation
- Vertical framing timber with
cable duct
- Wood-based-panel
- Glue full surface
- Thermal insulation
- Floating and finishing coat

Die Holzrahmenkonstruktion wird vollflächig mit der Holzwerkstoffplatte verklebt.
The timber frame construction will be glued to the Wood-based-panel.

"HANSE-HAUS"	Annex B.2
Vertical section – external wall	

Variante A (Variant A)



- | | |
|---------------------------------|--------------------------------|
| 1 = Rahmenholz | Framing timber |
| 2 = Rahmenhölzer mit Kabelkanal | Framing timber with cable duct |
| 3 = OSB beidseitig | OSB on both sides |
| 4 = Wärme- und Schalldämmung | Thermal and sound insulation |

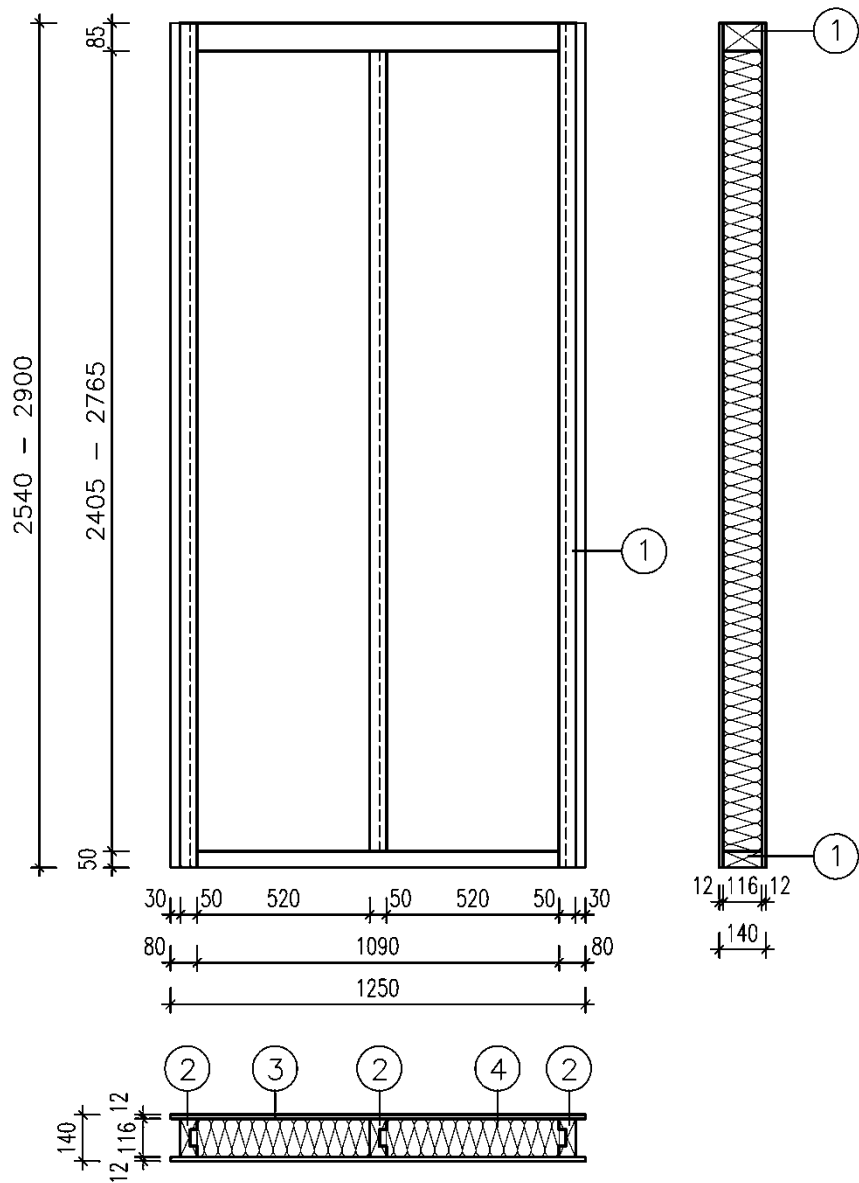
Die Holzrahmenkonstruktion wird vollflächig mit den OSB verklebt.
The timber frame construction will be glued to the OSB.

"HANSE-HAUS"

Standard external wall element, Variant A

Annex B.3

Variante B (Variant B)



1 = Rahmenhölzer

2 = Rahmenhölzer mit Kabelkanal

3 = Holzwerkstoffplatte beidseitig

4 = Wärme- und Schalldämmung

Framing timber

Framing timber with cable duct

Wood-based-panel on both sides

Thermal and sound insulation

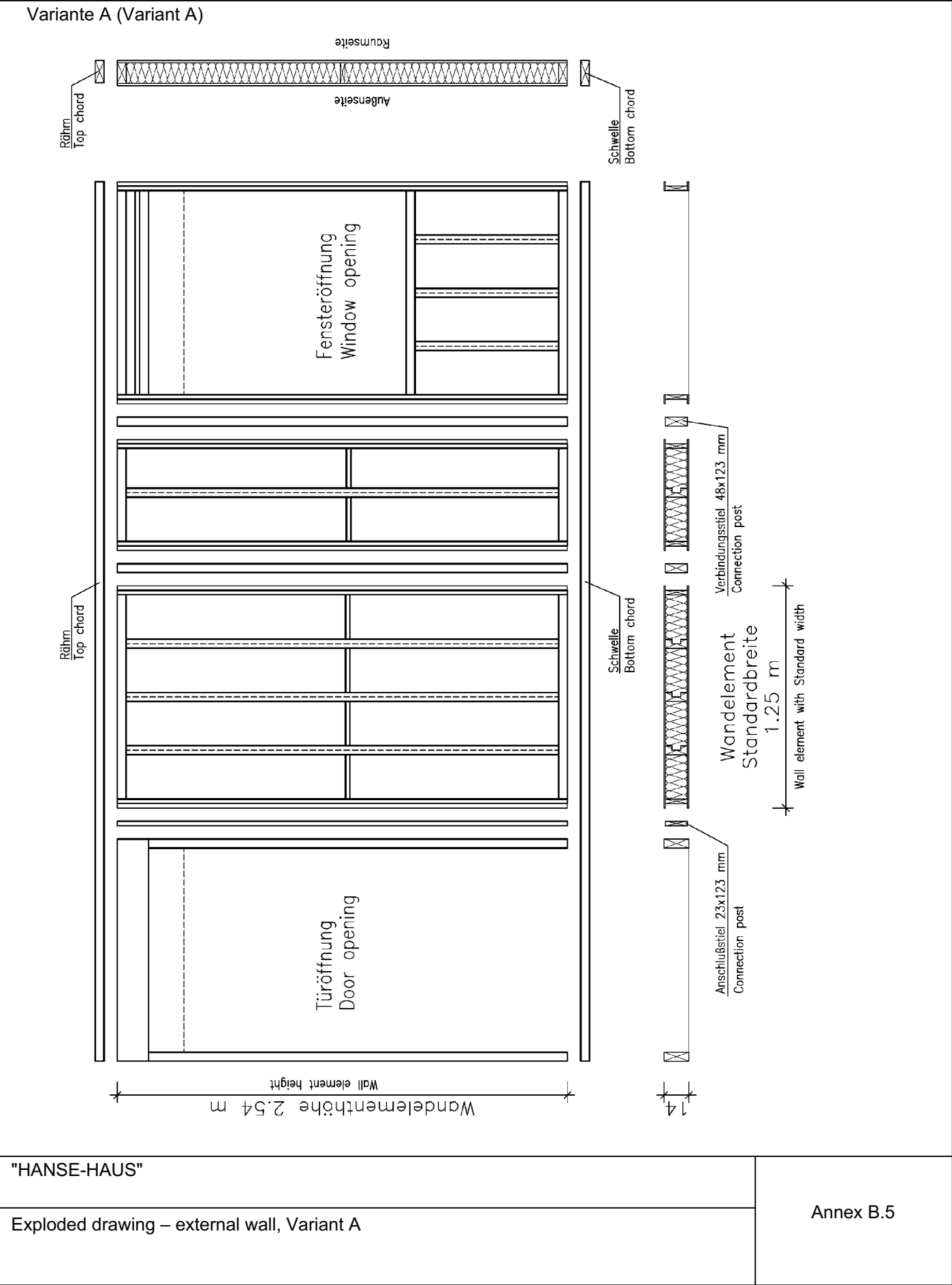
Die Holzrahmenkonstruktion wird vollflächig mit der Holzwerkstoffplatte verklebt.

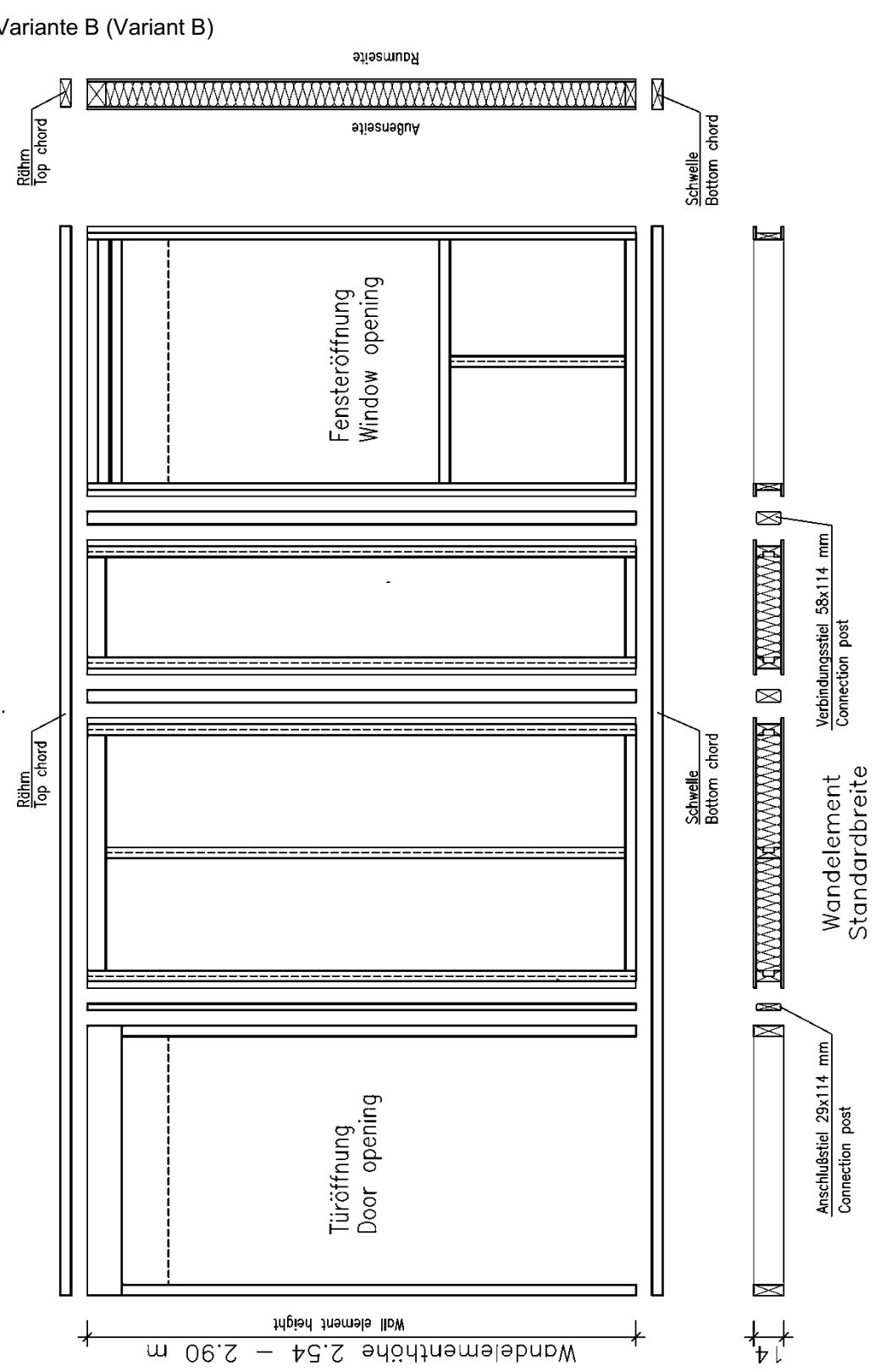
The timber frame construction will be glued to the Wood-based-panel.

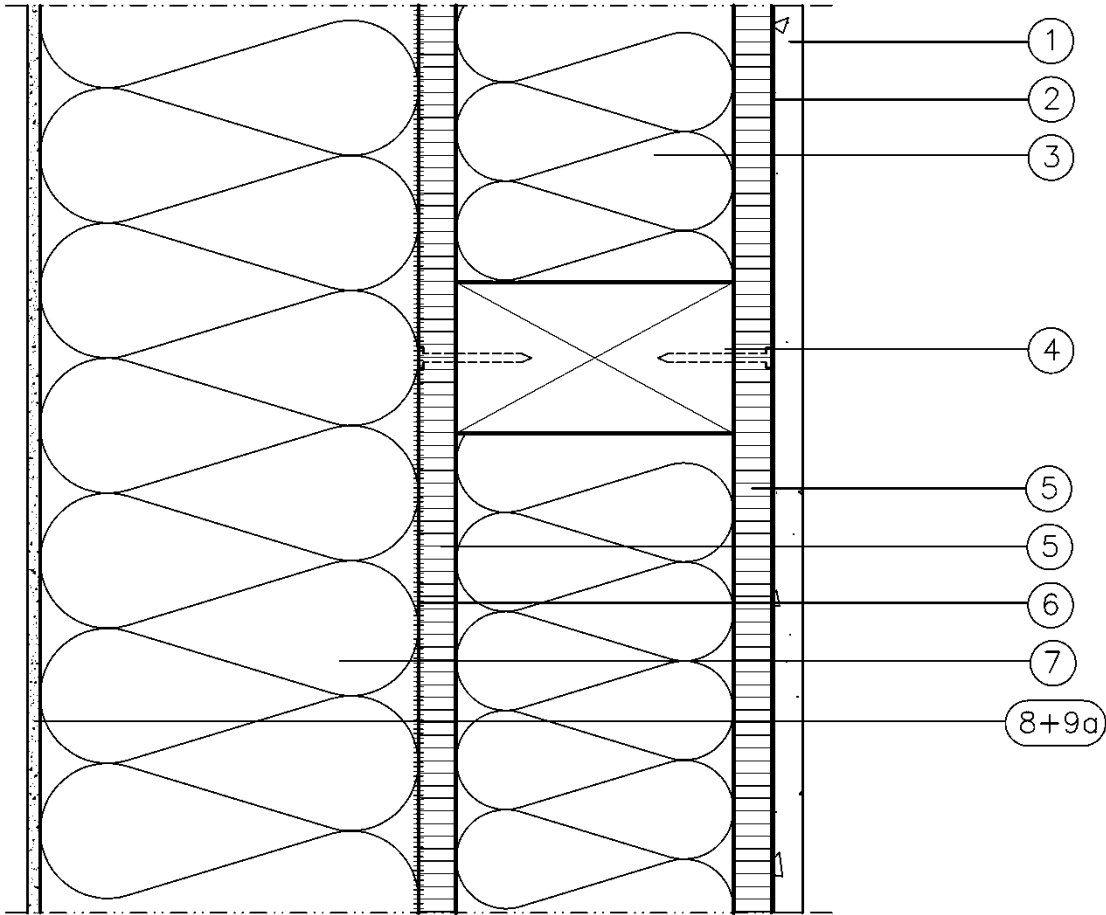
"HANSE-HAUS"

Annex B.4

Standard external wall element, Variant B



Variante B (Variant B)  Wandelementhöhe 2.54 - 2.90 m Wandelement Standardbreite 1.25 m Wandelement with Standard width Verbindungsstiel 58x114 mm Connection post Anschlußstiel 29x114 mm Connection post Rähm Top chord Schwelle Bottom chord Fensteröffnung Window opening Türöffnung Door opening Außenwand Innenwand	
"HANSE-HAUS"	Annex B.6
Exploded drawing – external wall, Variant B	



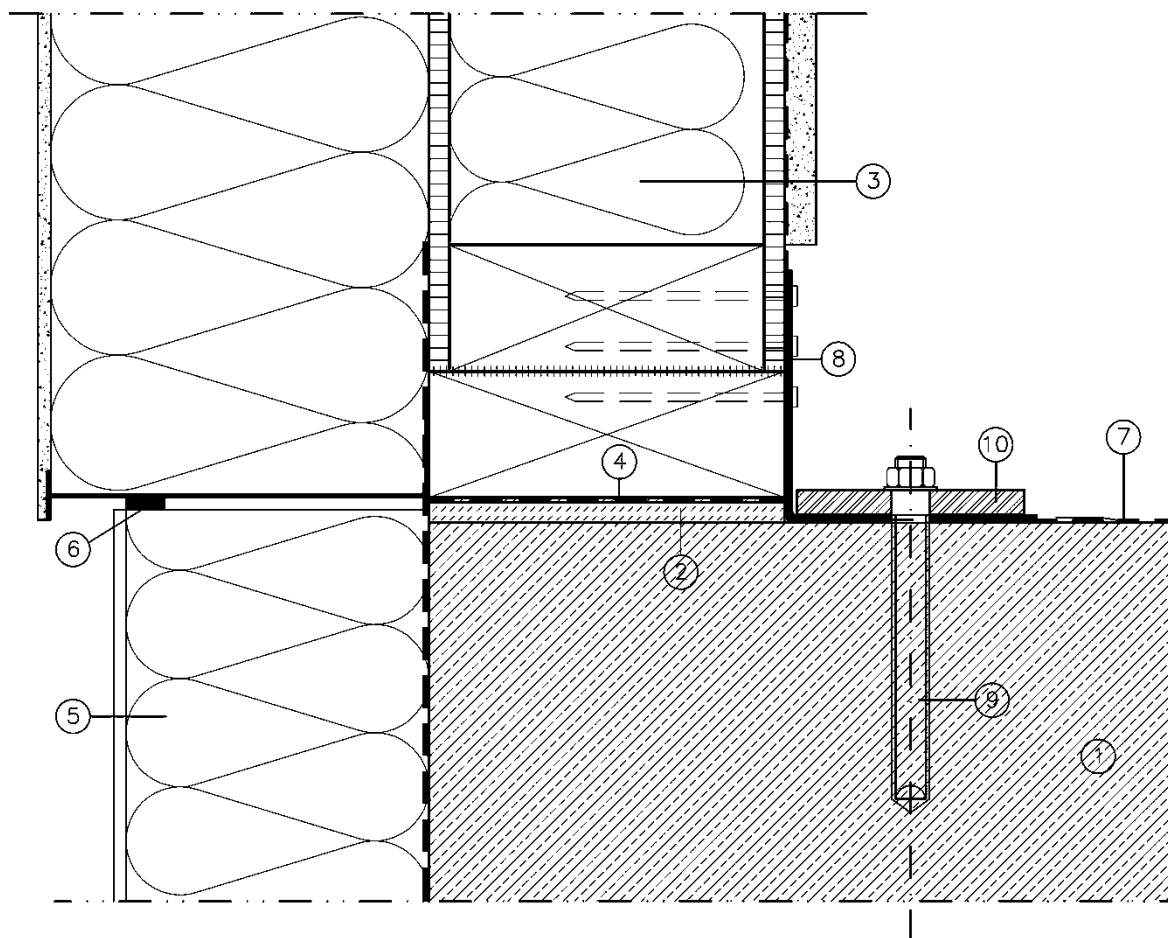
- 1 = Gipskartonplatte
2 = Dampfsperre
3 = Mineralfaserdämmung
4 = Konstruktionsholz
5 = Holzwerkstoffplatte
6 = Kleber vollflächig
7 = Wärmedämmung
8+9a = Unter- und Oberputz

- Gypsum board
Vapour barrier
Mineral wool insulation
Timber frame
Wood-based-panel
Glue full surface
Thermal insulation
Floating and finishing coat

Das Giebelelement wird komplett im Werk genagelt.
The whole gable element will be nailed in the factory.

"HANSE-HAUS"	Annex B.7
Horizontal section - gable wall	

Variante A (Variant A)



- 1 = Kellerdecke bzw. Fundamentplatte
- 2 = Unterlegung und Untermörtelung
- 3 = Außenwandkonstruktion Variante A
- 4 = Absperrbahn gem. DIN 18533, sofern erforderlich
- 5 = Sockeldämmung mit Putz, gem. Leistungsumfang
- 6 = Dichtungsband, gem. Leistungsumfang
- 7 = Feuchtesperre gem. DIN 18533, sofern erforderlich
- 8 = Winkel mit Rillennägeln am Wandelement befestigt
- 9 = Schwerlastanker
- 10 = Stahlplatte

- Cellar ceiling resp foundation plate
- Mortarbed
- External wall construction Variant A
- Barrier membrane according DIN 18533, if necessary
- Plinth insulation with plaster made on site, according to scope of services
- Sealing tape made on site, according to scope of services
- Moisture barrier according DIN 18533, if necessary
- Angle fastened to the wall element with threaded nails
- Heavy duty anchor
- Steel plate

Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

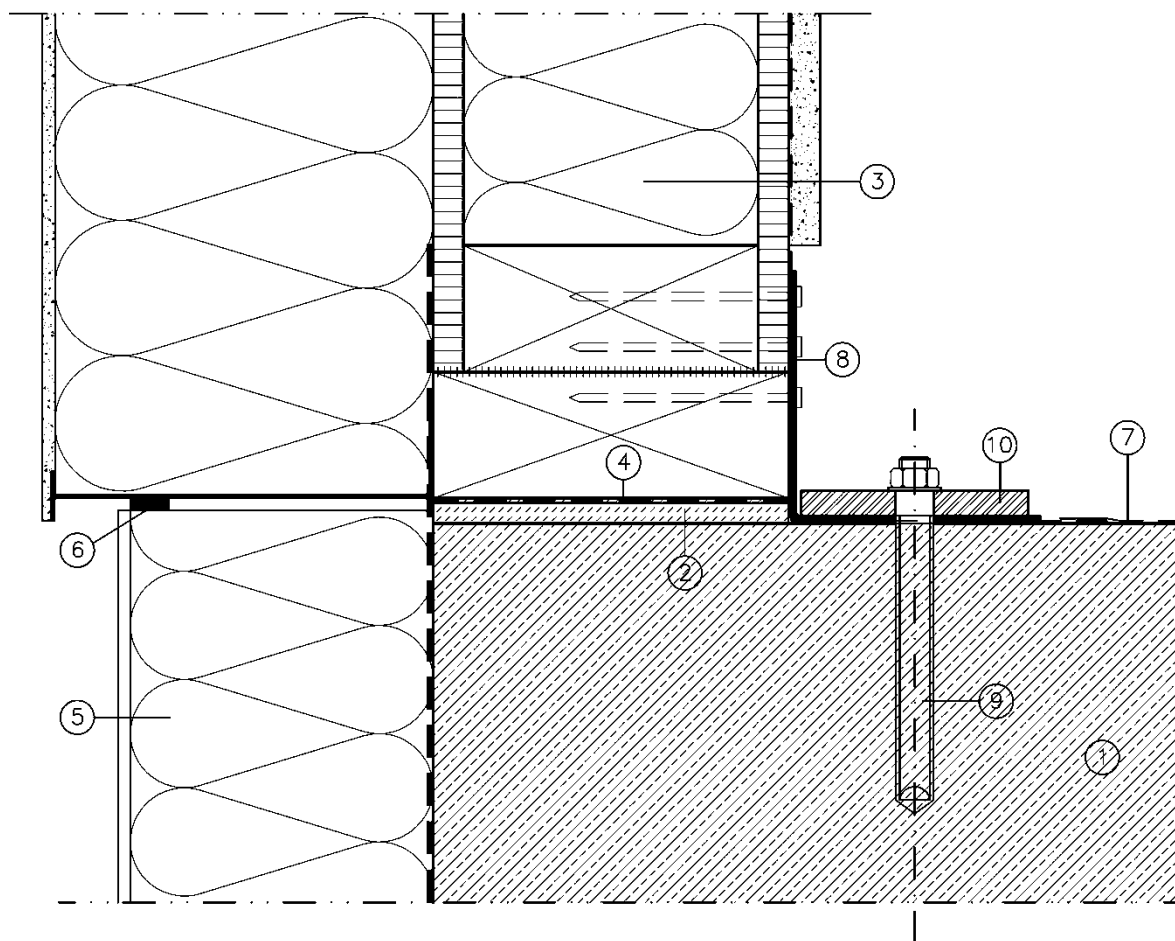
The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Pedestal detail – external wall with anchorage of the Wall, Variant A

Annex B.8

Variante B (Variant B)



- 1 = Kellerdecke bzw. Fundamentplatte
- 2 = Unterlegung und Untermörtelung
- 3 = Außenwandkonstruktion Variante B
- 4 = Absperrbahn gem. DIN 18533, sofern erforderlich
- 5 = Sockeldämmung mit Putz, gem. Leistungsumfang
- 6 = Dichtungsband, gem. Leistungsumfang
- 7 = Feuchtesperre nach DIN 18533, sofern erforderlich
- 8 = Winkel mit Rillennägeln am Wandelement befestigt
- 9 = Schwerlastanker
- 10 = Stahlplatte

- Cellar ceiling resp foundation plate
- Mortarbed
- External wall construction Variant B
- Barrier membrane according DIN 18533, if necessary
- Plinth insulation with plaster made on site, according to scope of services
- Sealing tape made on site, according to scope of services
- Moisture barrier according DIN 18533, if necessary
- Angle fastened to the wall element with threaded nails
- Heavy duty anchor
- Steel plate

Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

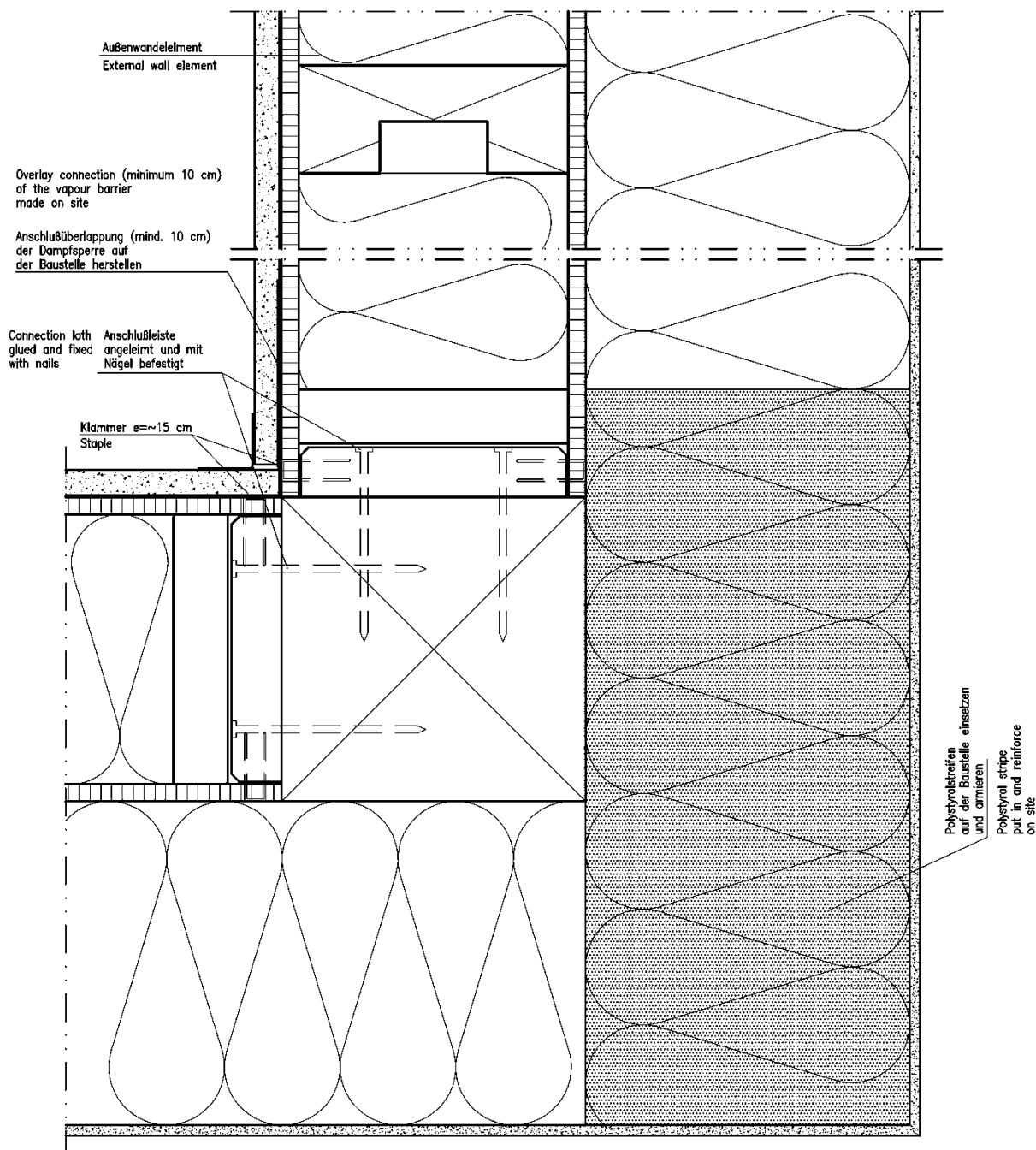
The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Pedestal detail – external wall with anchorage of the Wall, Variant B

Annex B.9

Variante A (Variant A)



Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

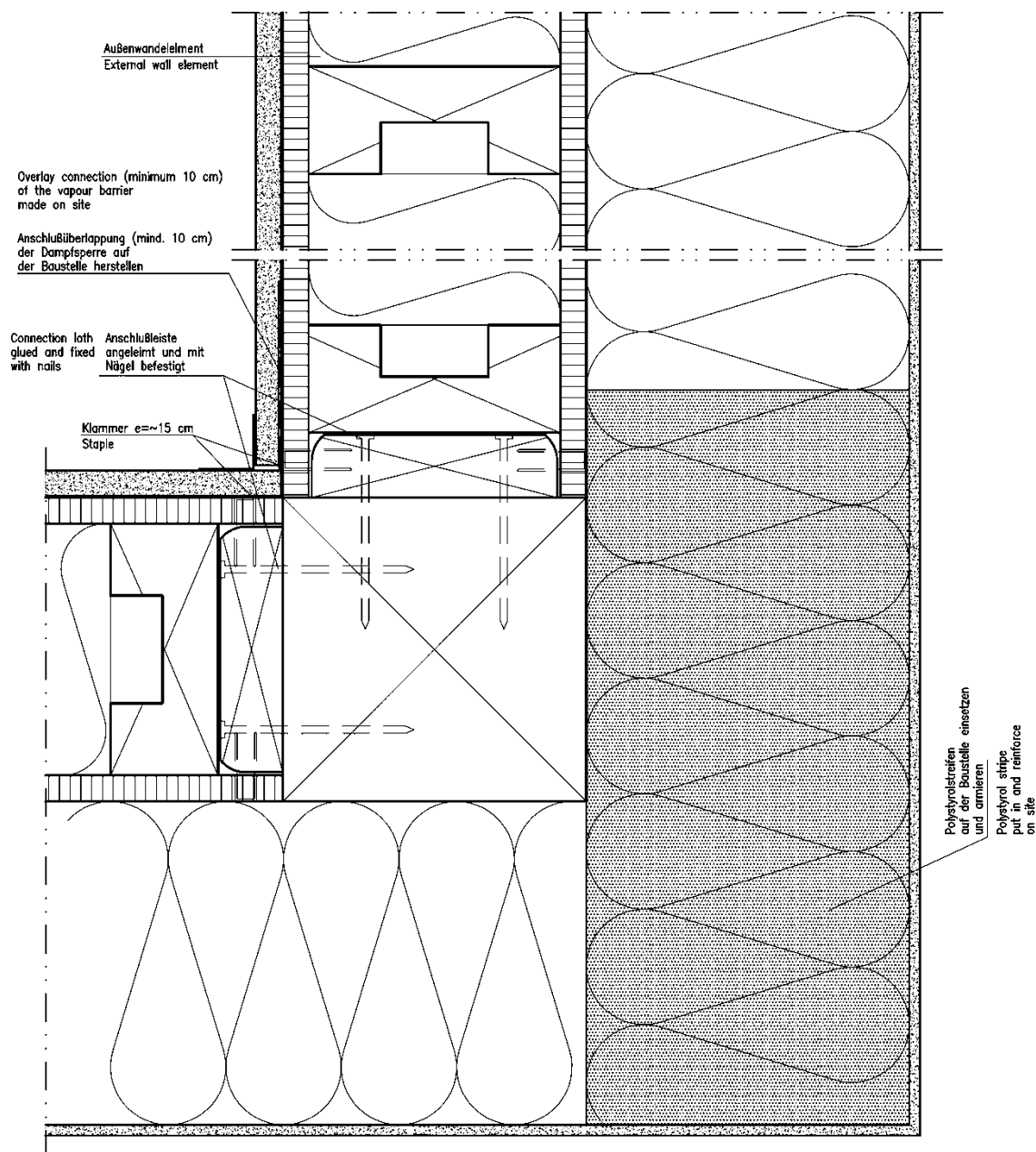
The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Horizontal section – corner detail, Variant A

Annex B.10

Variante B (Variant B)



Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

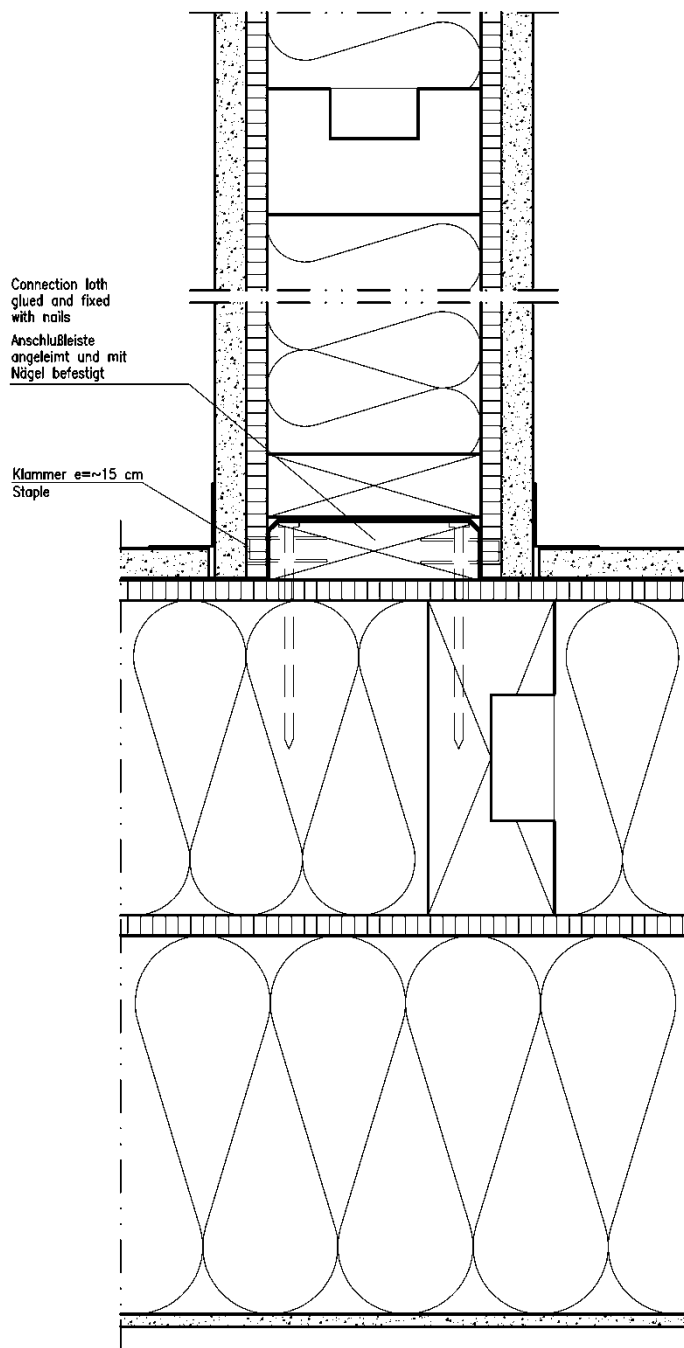
The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Horizontal section – corner detail, Variant B

Annex B.11

Variante A (Variant A)



Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

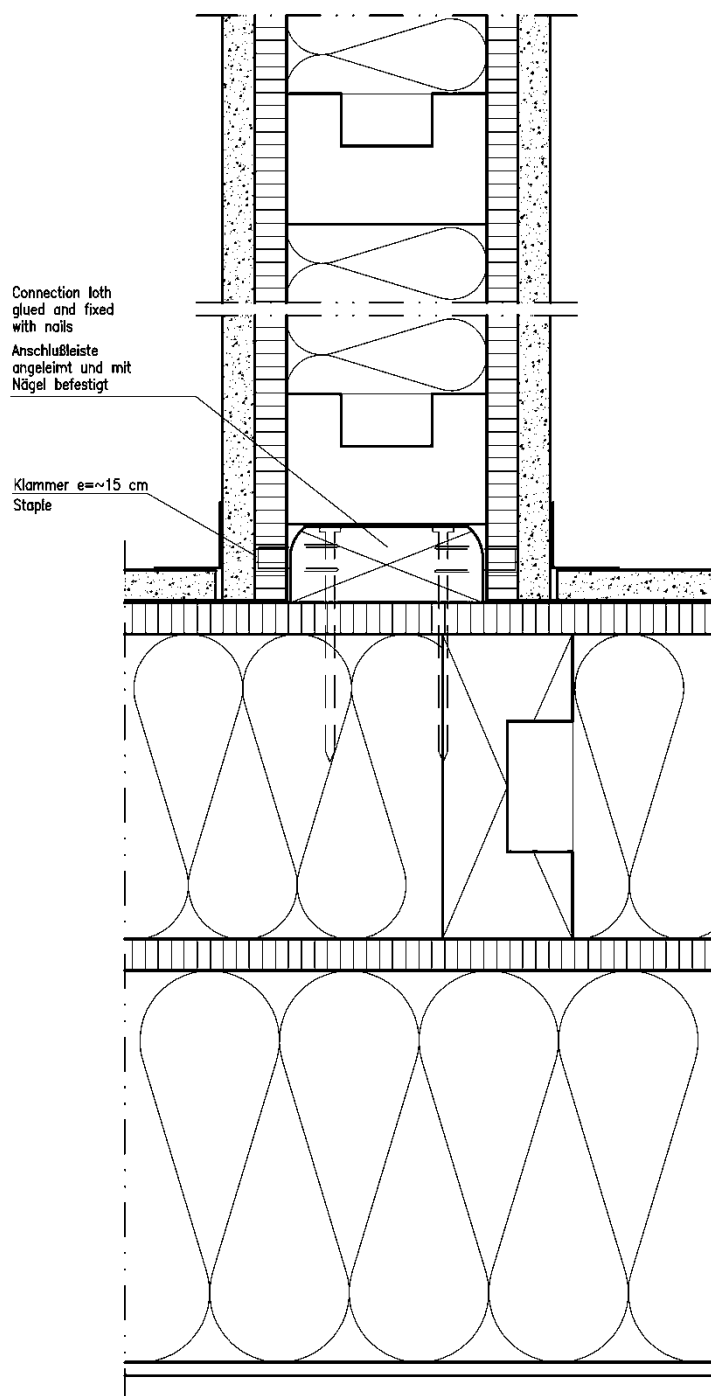
The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Horizontal section – connection internal to external wall, Variant A

Annex B.12

Variante B (Variant B)



Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

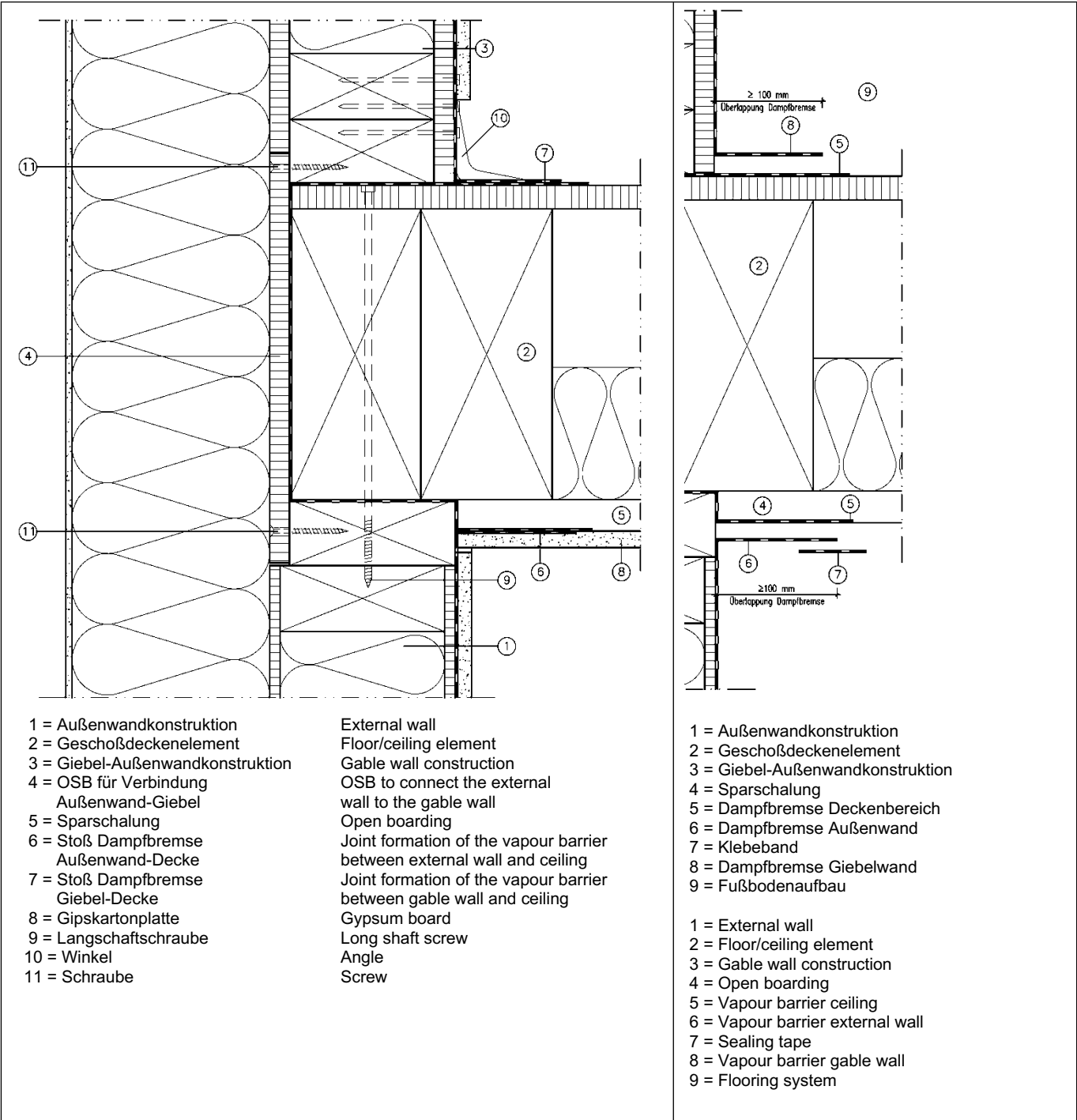
The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Horizontal section – connection internal to external wall, Variant B

Annex B.13

Variante A (Variant A)

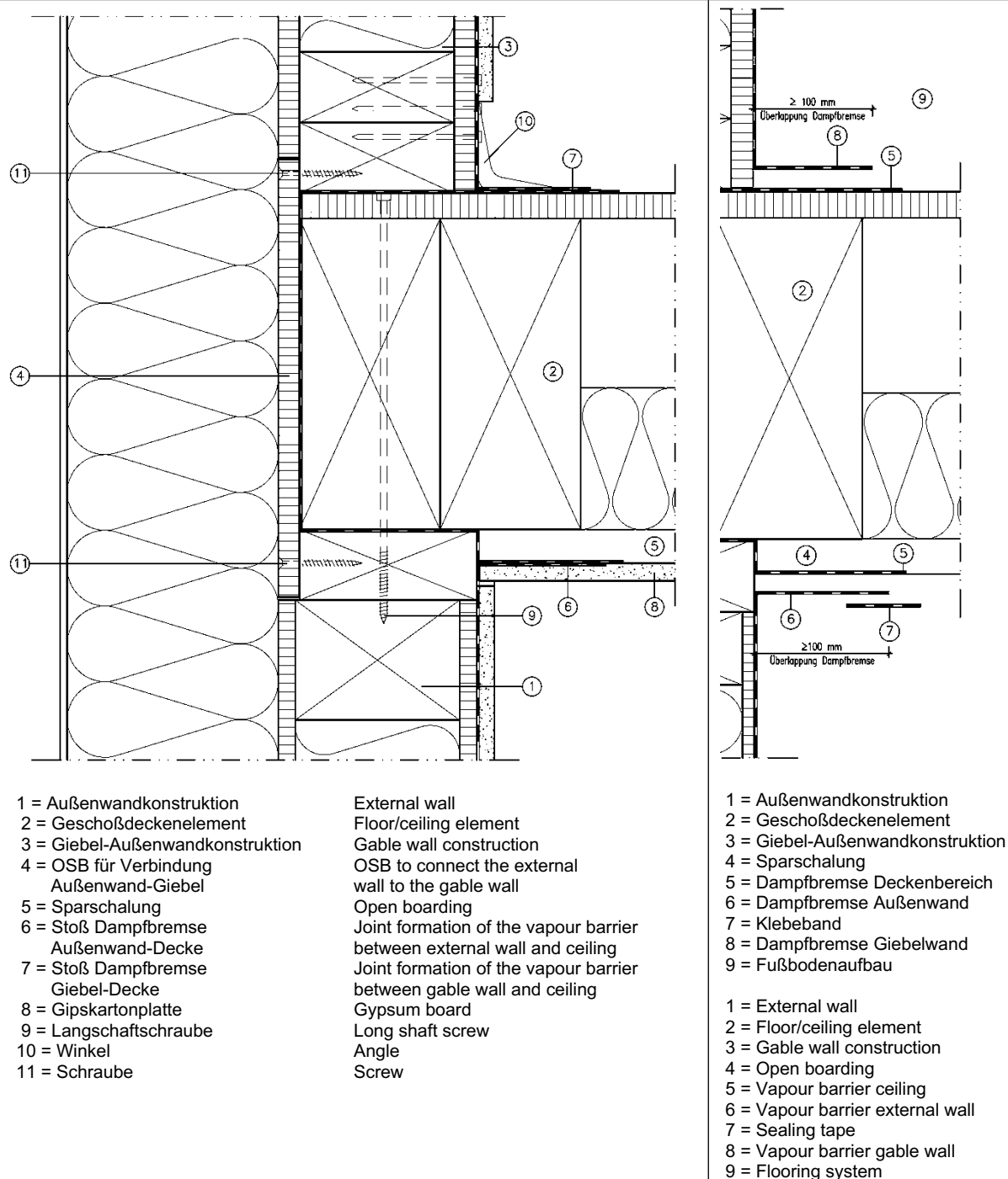


Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"	Annex B.14
Horizontal section – connection internal to external wall, Variant A	

Variante B (Variant B)



Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

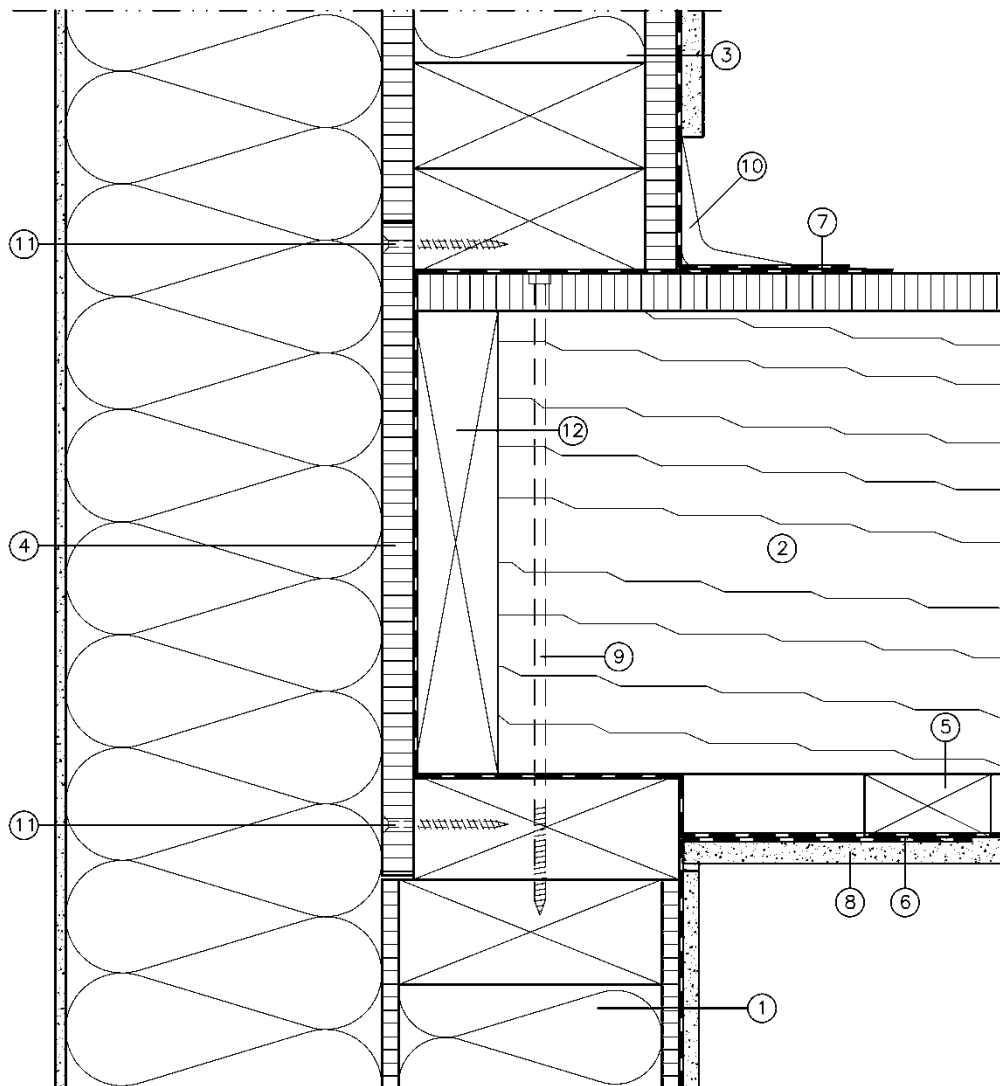
The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Horizontal section – connection internal to external wall, Variant B

Annex B.15

Variante A (Variant A)



- 1 = Außenwandkonstruktion
- 2 = Deckenbalken gem. Statik
- 3 = Giebel-Außenwandkonstruktion
- 4 = OSB-Platte für Verbindung Außenwand-Giebel
- 5 = Sparschalung
- 6 = Stoß Dampfbremse Außenwand-Decke

- 7 = Stoß Dampfbremse Giebel-Decke
- 8 = Gipskartonplatte
- 9 = Längsschraube
- 10 = Winkel
- 11 = Schraube
- 12 = Randbohle

1 = External wall

2 = Ceiling joist according structural analysis

3 = Gable external wall construction

4 = OSB to connect external wall with gable wall

5 = Open boarding

6 = Joint formation of the vapour barrier between external wall and ceiling

7 = Joint formation of the vapour barrier between gable wall and ceiling

8 = Gypsum board

9 = Long shaft screw

10 = Angle

11 = Screw

12 = Edge board

Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

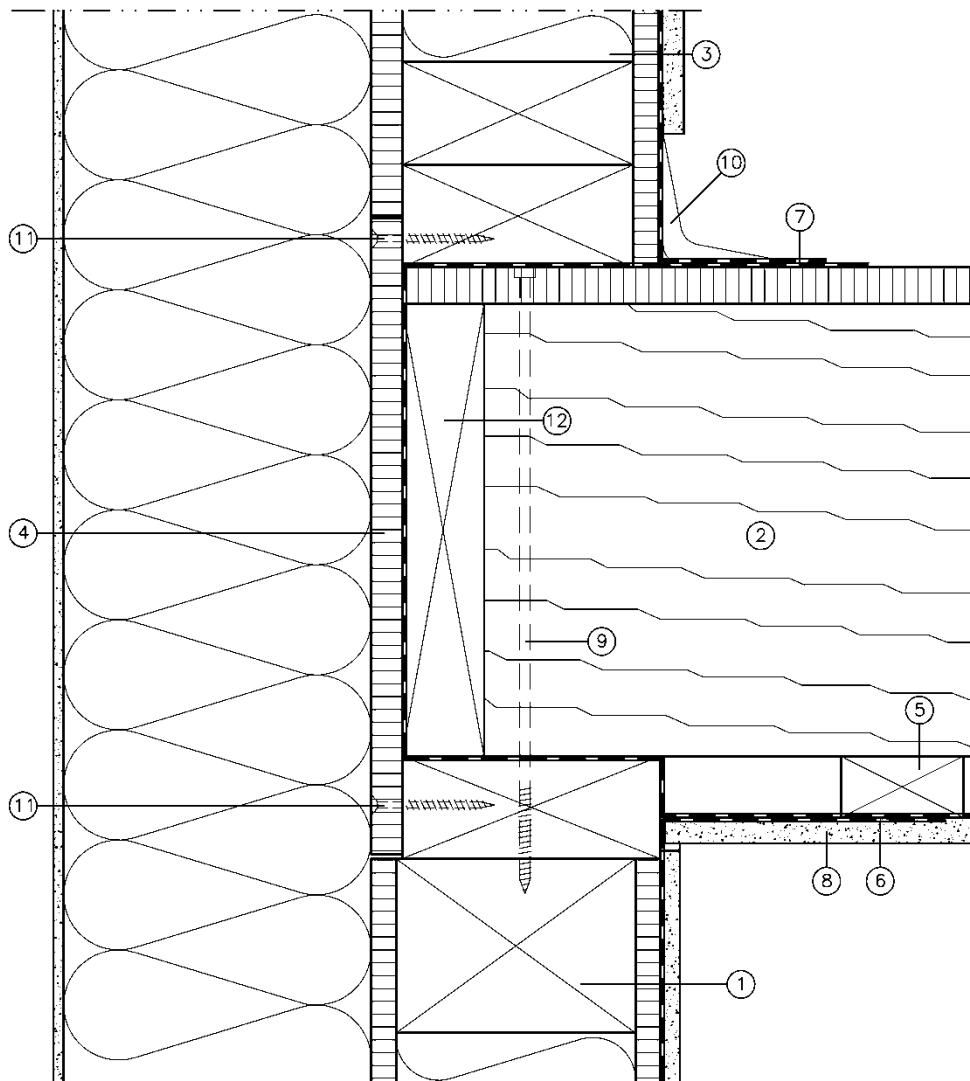
The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Vertical section – support ceiling joist to external wall, Variant A

Annex B.16

Variante B (Variant B)



- 1 = Außenwandkonstruktion
- 2 = Deckenbalken gem. Statik
- 3 = Giebel-Außenwandkonstruktion
- 4 = Holzwerkstoff-Platte für Verbindung Außenwand-Giebel
- 5 = Sparschalung
- 6 = Stoß Dampfbremse Außenwand-Decke

- 7 = Stoß Dampfbremse Giebel-Decke
- 8 = Gipskartonplatte
- 9 = Längsschraube
- 10 = Winkel
- 11 = Schraube
- 12 = Randbohle

1 = External wall

2 = Ceiling joist according structural analysis

3 = Gable external wall construction

4 = Wood-based-panel to connect external wall with gable wall

5 = Open boarding

6 = Joint formation of the vapour barrier between external wall and ceiling

7 = Joint formation of the vapour barrier between gable wall and ceiling

8 = Gypsum board

9 = Long shaft screw

10 = Angle

11 = Screw

12 = Edge board

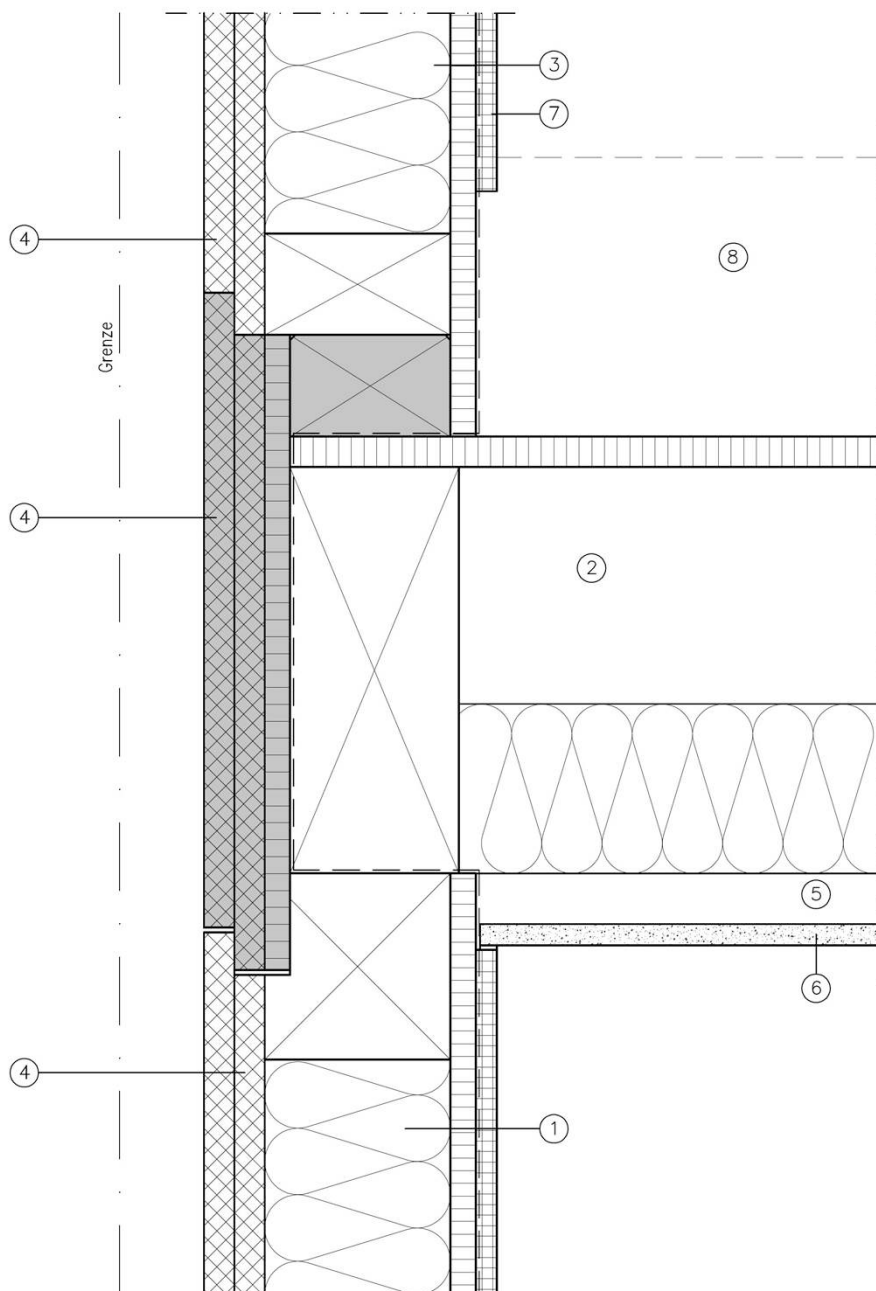
Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Vertical section – support ceiling joist to external wall, Variant B

Annex B.17



- 1 = genagelte Gebäudeabschlusswand
- 2 = Geschoßdeckenelement
- 3 = genagelte Gebäudeabschlusswand
- 4 = Gipskartonfeuerschutzplatten 2-lagig
- 5 = Sparschalung
- 6 = Gipskartonplatte (GKF)
- 7 = Gipskartonplatte (GKF)
- 8 = Fußbodenaufbau

- External wall (nailed)
- Floor-ceiling element
- Jamb wall (nailed)
- Gypsum fire boards
- Open boarding
- Gypsum board
- Gypsum board
- Floor construction

Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

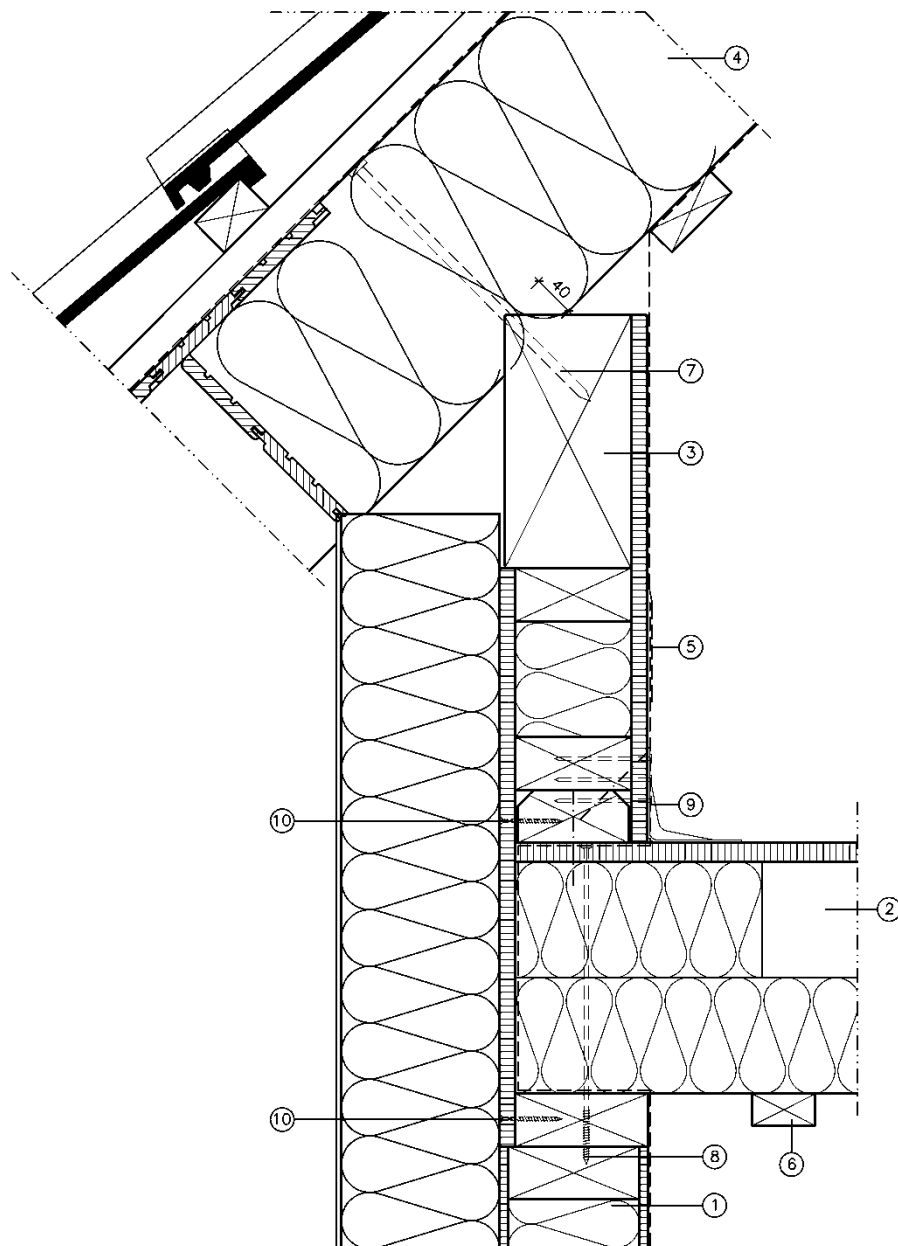
The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Vertical section – external wall to ceiling

Annex B.18

Variante A (Variant A)



- 1 = Außenwandkonstruktion Variante A
- 2 = Geschoßdeckenelement
- 3 = Kniestockelement
- 4 = Dachkonstruktion
- 5 = Stoß Dampfbremse Decke-Dach
- 6 = Sparschalung
- 7 = Langschaftschraube
- 8 = Langschaftschraube
- 9 = Winkel
- 10 = Schraube

- External wall Variant A
- Floor-ceiling element
- Jamb wall element
- Roof structure
- Joint of the vapour barrier between roof and ceiling
- open boarding
- Long shaft screw
- Long shaft screw
- Angle
- Screw

Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

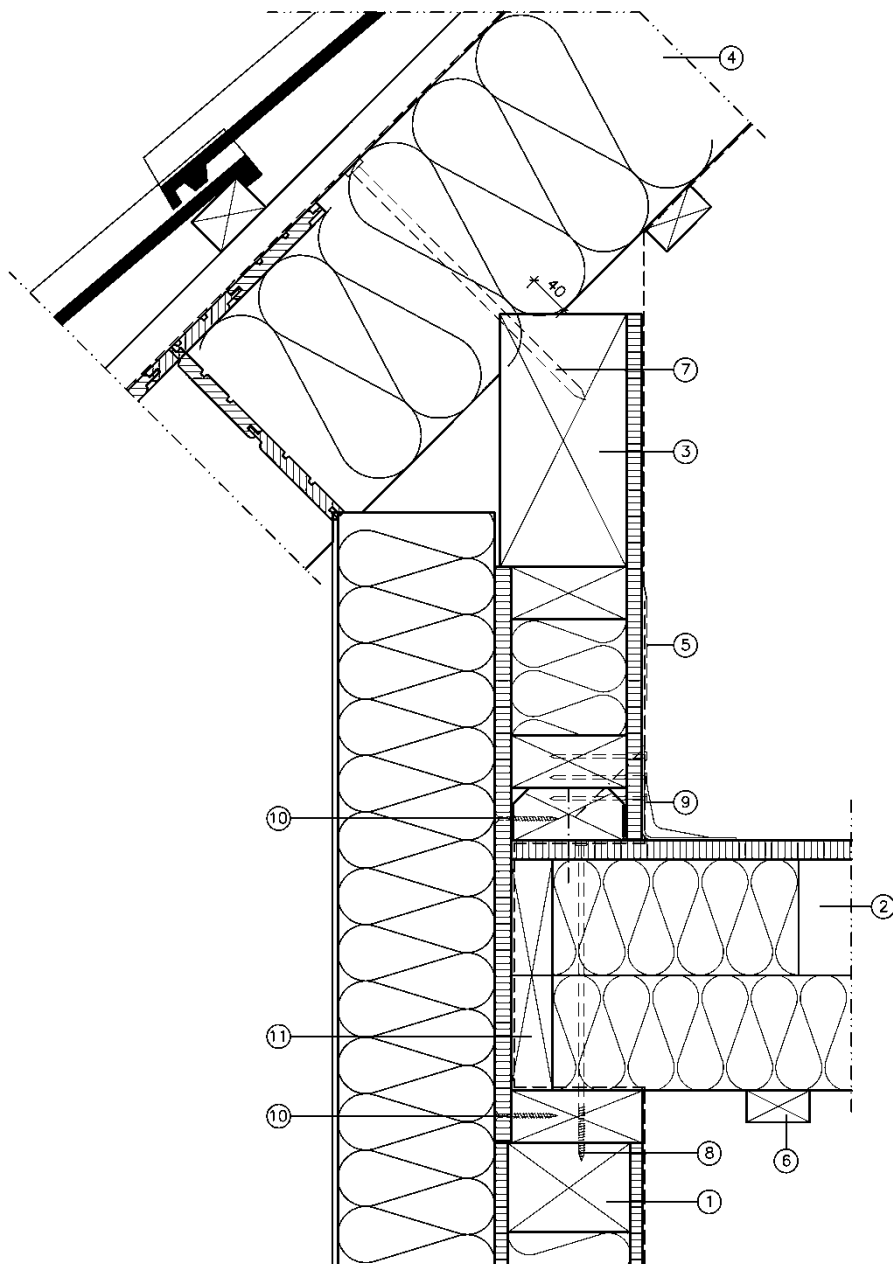
The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Vertical section – connection jamb wall to external wall, Variant A

Annex B.19

Variante B (Variant B)



- 1 = Außenwandkonstruktion Variante B
- 2 = Geschoßdeckenelement
- 3 = Kniestockelement
- 4 = Dachkonstruktion
- 5 = Stoß Dampfbremse Decke-Dach
- 6 = Sparschalung
- 7 = Langschaftschraube
- 8 = Langschaftschraube
- 9 = Winkel
- 10 = Schraube

- External wall Variant B
- Floor-ceiling element
- Jamb wall element
- Roof structure
- Joint of the vapour barrier between roof and ceiling
- open boarding
- Long shaft screw
- Long shaft screw
- Angle
- Screw

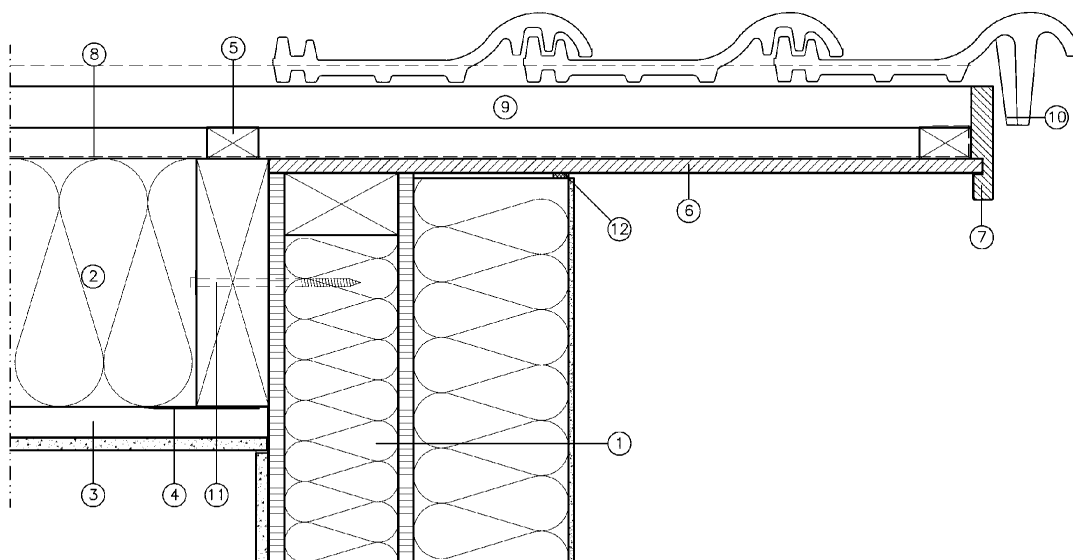
Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Vertical section – connection jamb wall to external wall, Variant B

Annex B.20



- 1 = Giebel-Außenwandkonstruktion
- 2 = Dachkonstruktion
- 3 = Sparschalung
- 4 = Stoß Dampfbremse Giebel-Dach
- 5 = Konterlatte
- 6 = Profilbretter
- 7 = Windfeder
- 8 = dampfdiffusionsoffene Unterspannbahn
- 9 = Dachlatte
- 10 = Ortgangziegel
- 11 = Verschraubung Sparren mit Giebelrahmenkonstruktion
- 12 = Dichtungsband

- Gable external wall construction
- Roof structure
- Open boarding
- Joint formation of the vapour barrier between roof and gable wall
- Counter-batten
- Profile board
- Barge board
- Sarking membrane, diffusion open
- Roofing lath
- Verge tile
- Rafter screwed to gable wall construction
- Sealing tape

Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

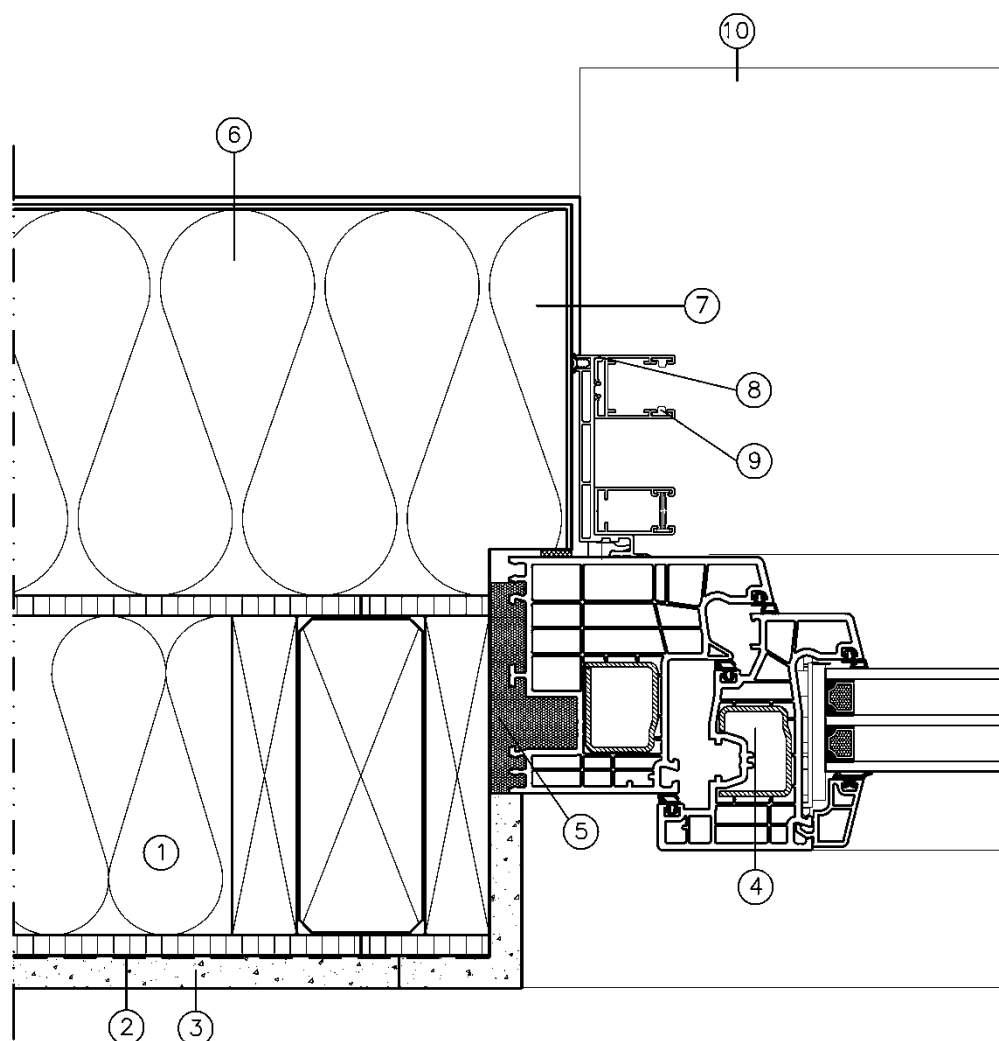
The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Vertical section - gable and verge

Annex B.21

Variante A (Variant A)



- 1 = Außenwandkonstruktion Variante A
- 2 = Dampfbremse
- 3 = Gipskartonplatte
- 4 = Fenster bzw. Terrassentür
- 5 = Montageschaum
- 6 = Wärmedämmverbundsystem
- 7 = Wärmedämmung in der Leibung
- 8 = Putzanschlussprofil
- 9 = Rollladenschiene
- 10 = Fensterbank

- External wall construction Variant A
- Vapour barrier
- Gypsum board
- Window resp terrace door
- Mounting foam
- Thermal insulation system
- Thermal insulation of reveal
- Plaster connection profile
- Shutter slat
- Window sill

Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

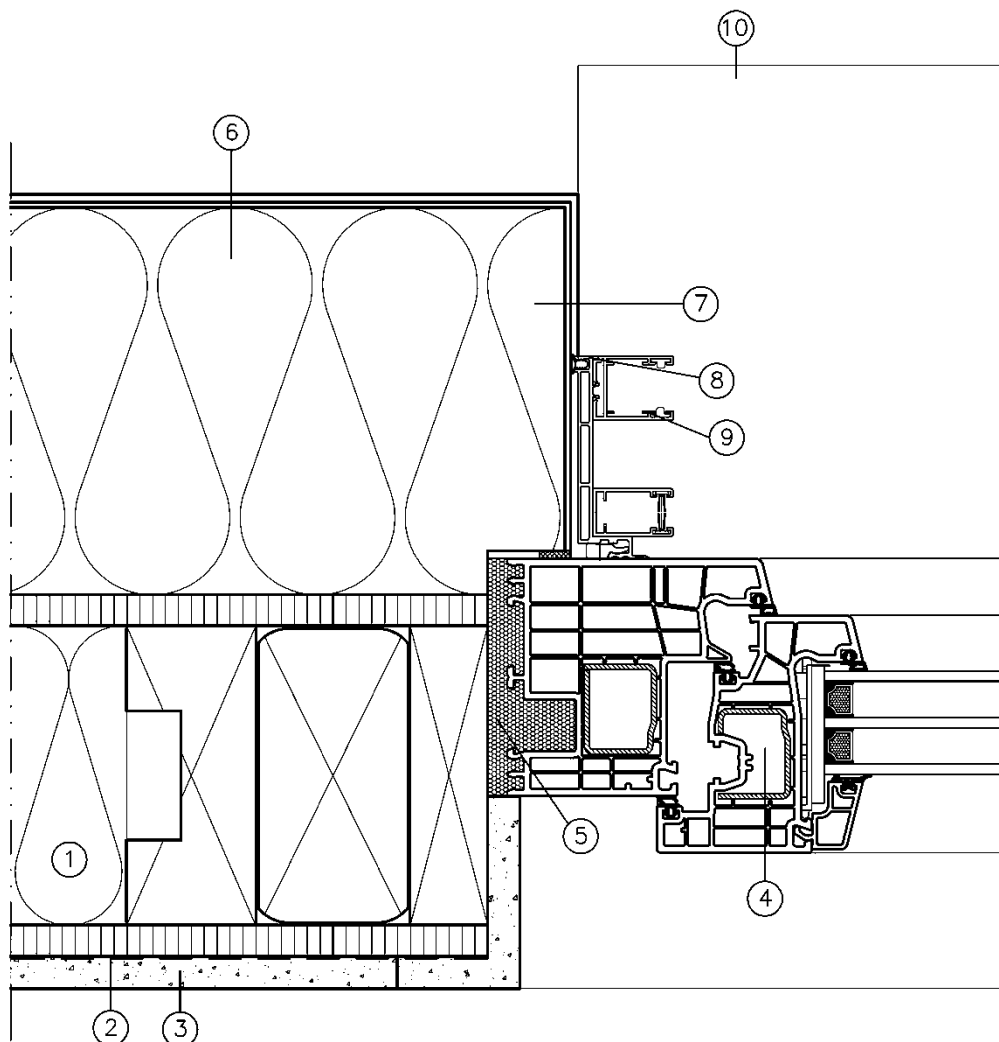
The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Horizontal section – external wall with window, terrace door, Variant A

Annex B.22

Variante B (Variant B)



- 1 = Außenwandkonstruktion Variante B
- 2 = Dampfbremse
- 3 = Gipskartonplatte
- 4 = Fenster bzw. Terrassentür
- 5 = Montageschaum
- 6 = Wärmedämmverbundsystem
- 7 = Wärmedämmung in der Leibung
- 8 = Putzanschlussprofil
- 9 = Rollladenschiene
- 10 = Fensterbank

- External wall construction Variant B
- Vapour barrier
- Gypsum board
- Window resp terrace door
- Mounting foam
- Thermal insulation system
- Thermal insulation of reveal
- Plaster connection profile
- Shutter slat
- Window sill

Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

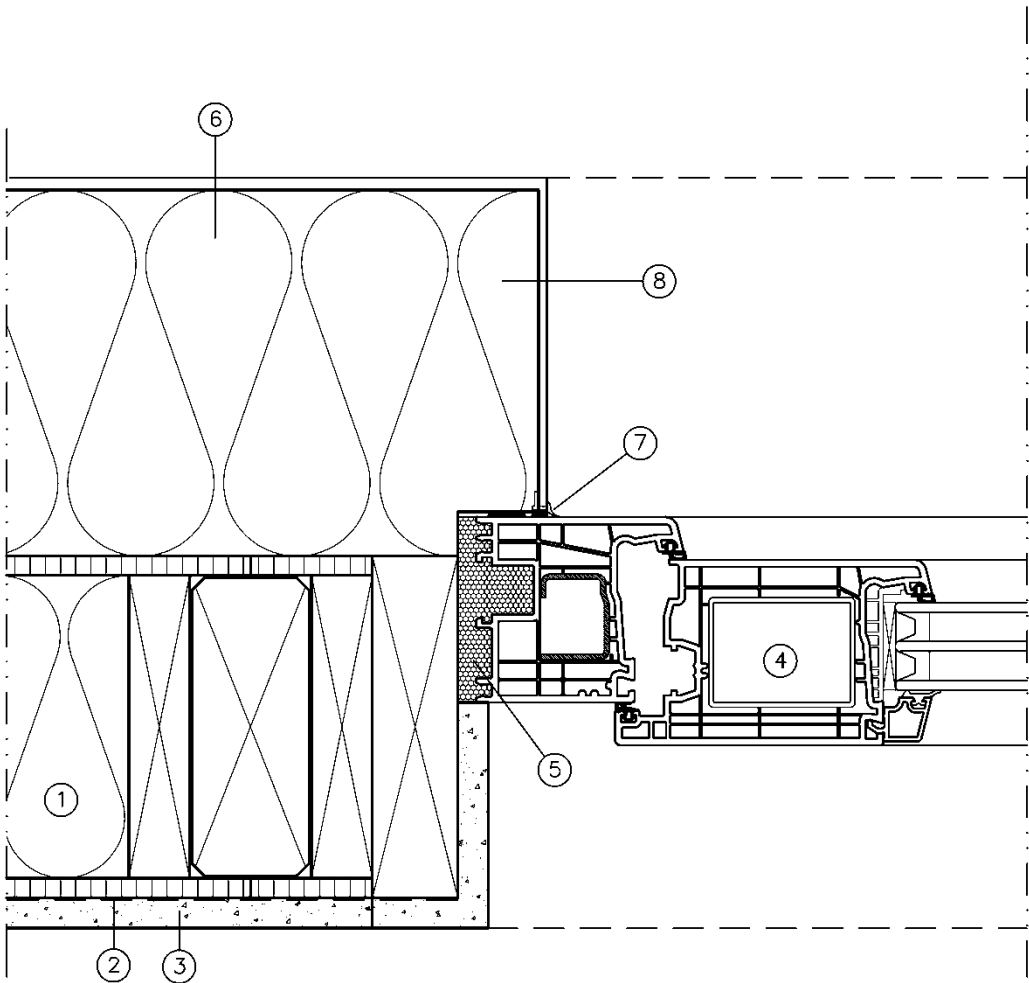
The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Horizontal section – external wall with window, terrace door, Variant B

Annex B.23

Variante A (Variant A)



- 1 = Außenwandkonstruktion Variante A
- 2 = Dampfbremse
- 3 = Gipskartonplatte
- 4 = Haustür
- 5 = Montageschaum
- 6 = Wärmedämmverbundsystem
- 7 = Putzanschlussprofil
- 8 = Wärmedämmung in der Leibung

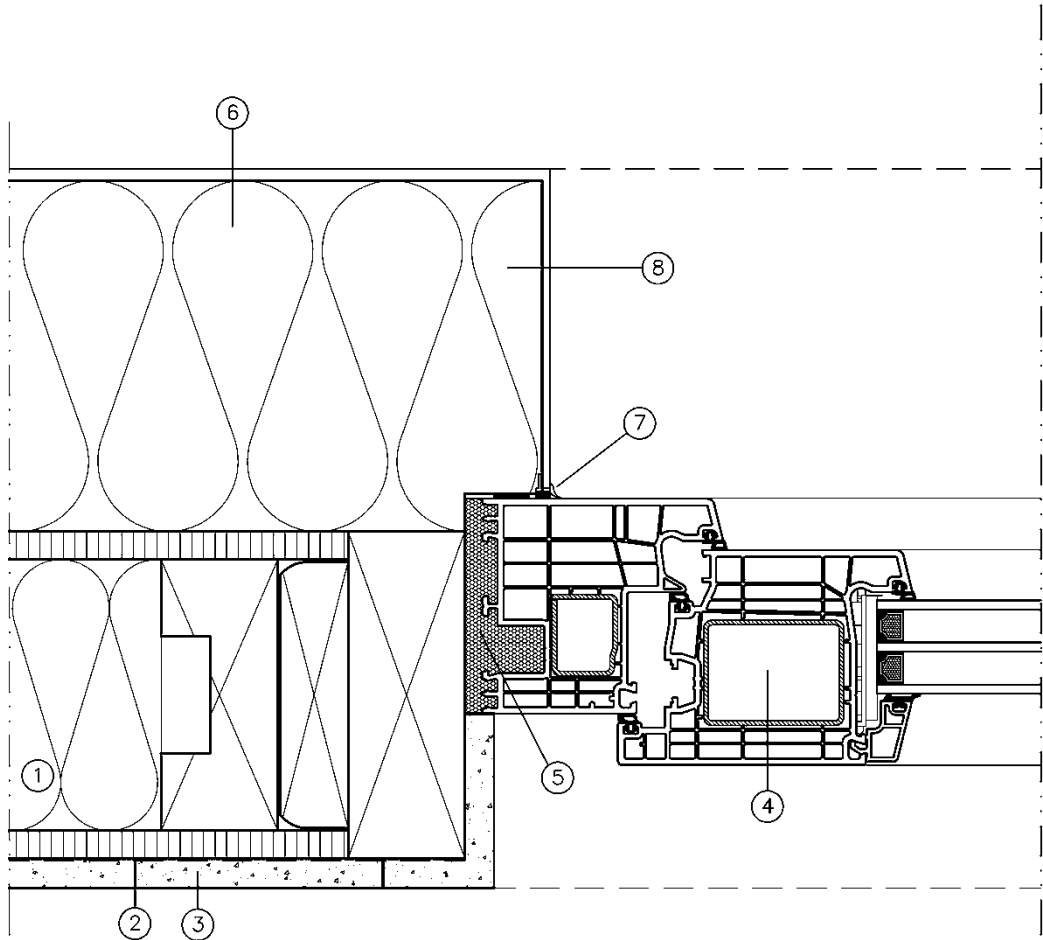
- External wall construction Variant A
- Vapour barrier
- Gypsum board
- Front door
- Mounting foam
- Thermal insulation system
- Plaster connection profile
- Thermal insulation of reveal

Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"	Annex B.24
Horizontal section – external wall with front door, Variant A	

Variante B (Variant B)



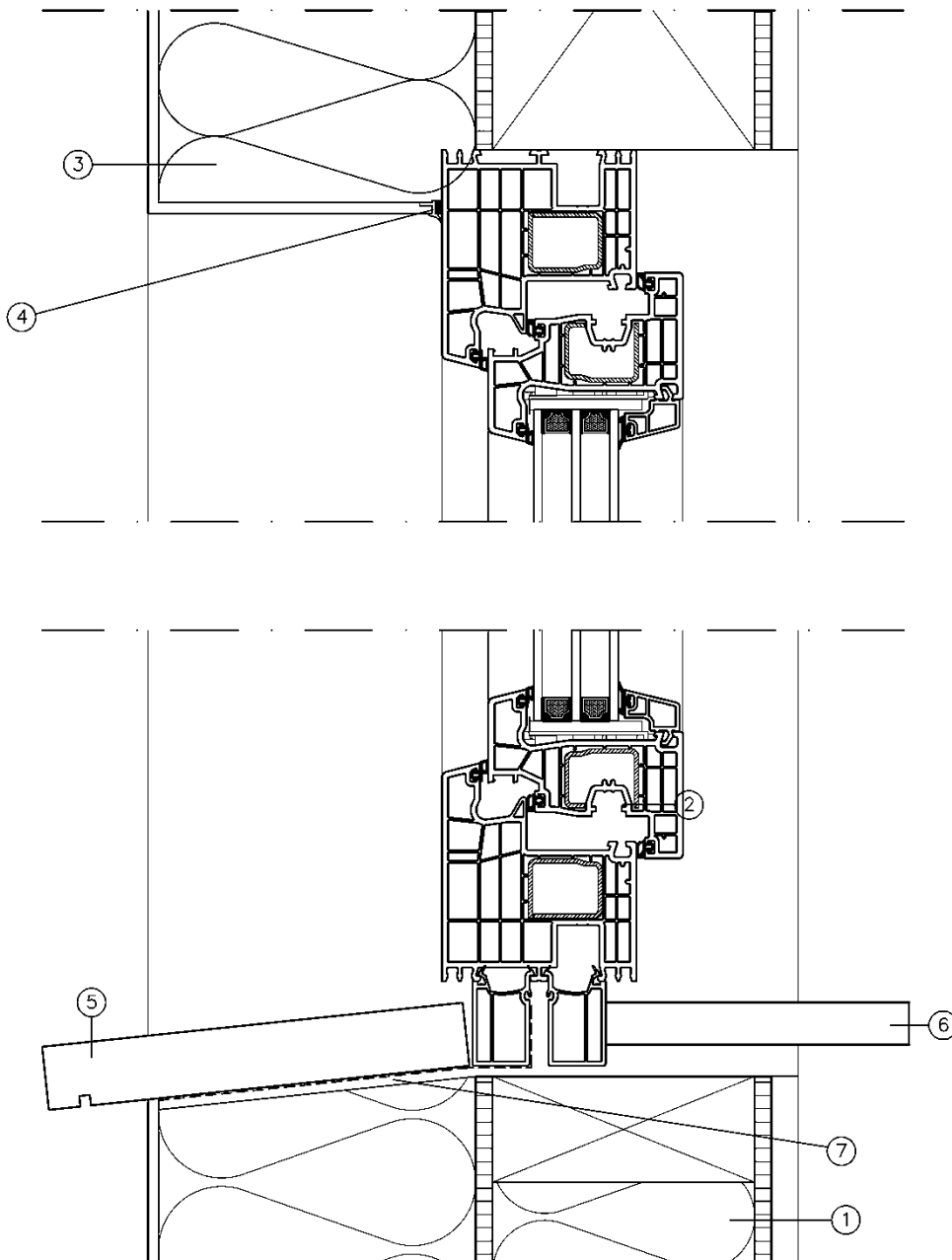
- 1 = Außenwandkonstruktion Variante B
- 2 = Dampfbremse
- 3 = Gipskartonplatte
- 4 = Haustür
- 5 = Montageschaum
- 6 = Wärmedämmverbundsystem
- 7 = Putzanschlussprofil
- 8 = Wärmedämmung in der Leibung

- External wall construction Variant B
- Vapour barrier
- Gypsum board
- Front door
- Mounting foam
- Thermal insulation system
- Plaster connection profile
- Thermal insulation of reveal

Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.
The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"	Annex B.25
Horizontal section – external wall with front door, Variant B	

Variante A (Variant A)



1 = Außenwandkonstruktion Variante A

2 = Fenster

3 = Wärmedämmung in der Leibung

4 = Putzanschlussprofil

5 = Außenfensterbank

6 = Innenfensterbank

7 = Wasserdichtes Foliensystem, diffusionsoffen

External wall construction Variant A

Window

Thermal insulation of reveal

Plaster connection profile

Window sill outside

Window sill inside

Waterproof foil system, diffusion open

Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

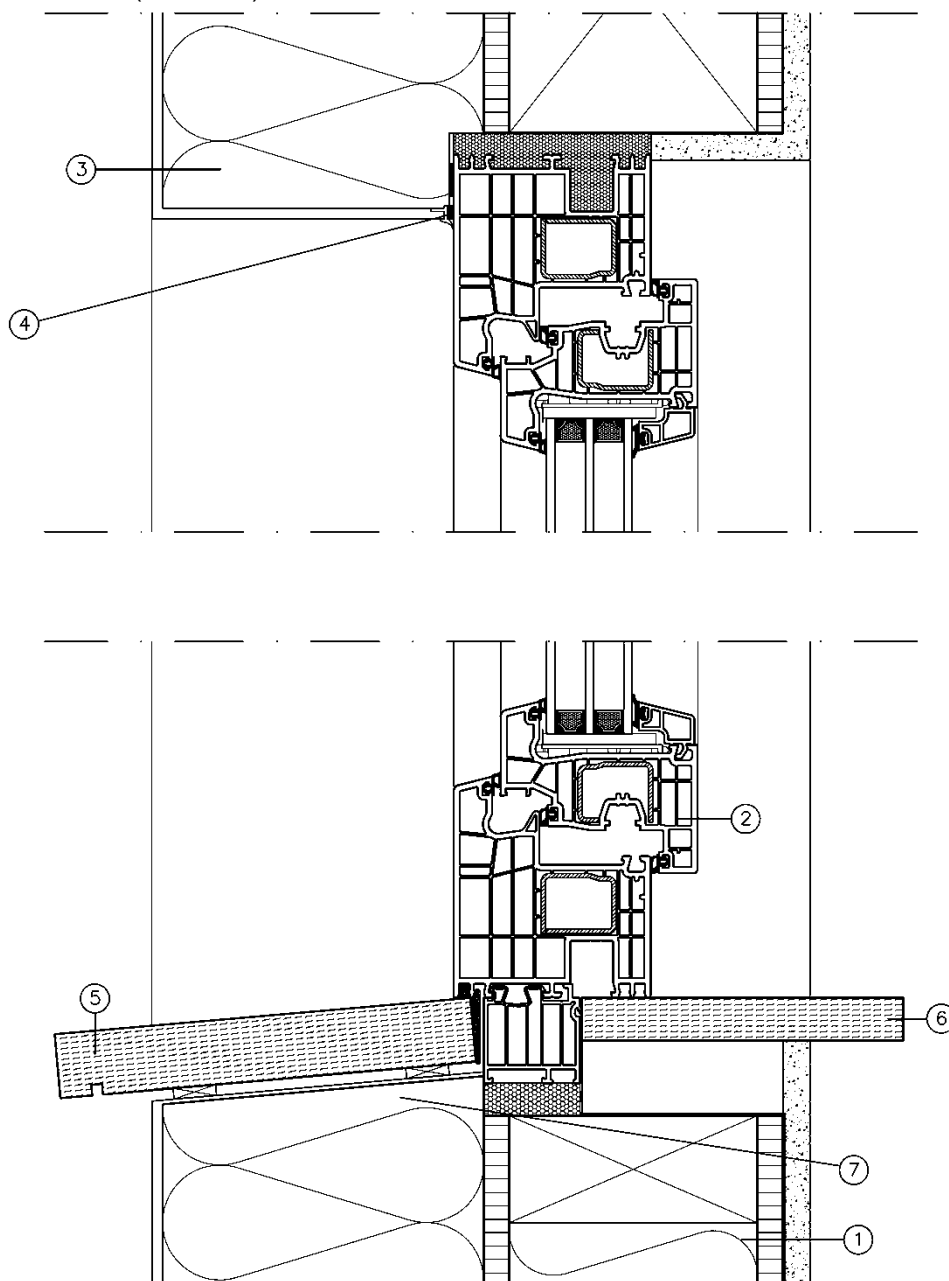
The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Vertical section – external wall with window, Variant A

Annex B.26

Variante B (Variant B)



- 1 = Außenwandkonstruktion Variante B
- 2 = Fenster
- 3 = Wärmedämmung in der Leibung
- 4 = Putzanschlussprofil
- 5 = Außenfensterbank
- 6 = Innenfensterbank
- 7 = Wasserdichtes Foliensystem, diffusionsoffen

- External wall construction Variant B
- Window
- Thermal insulation of reveal
- Plaster connection profile
- Window sill outside
- Window sill inside
- Waterproof foil system, diffusion open

Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

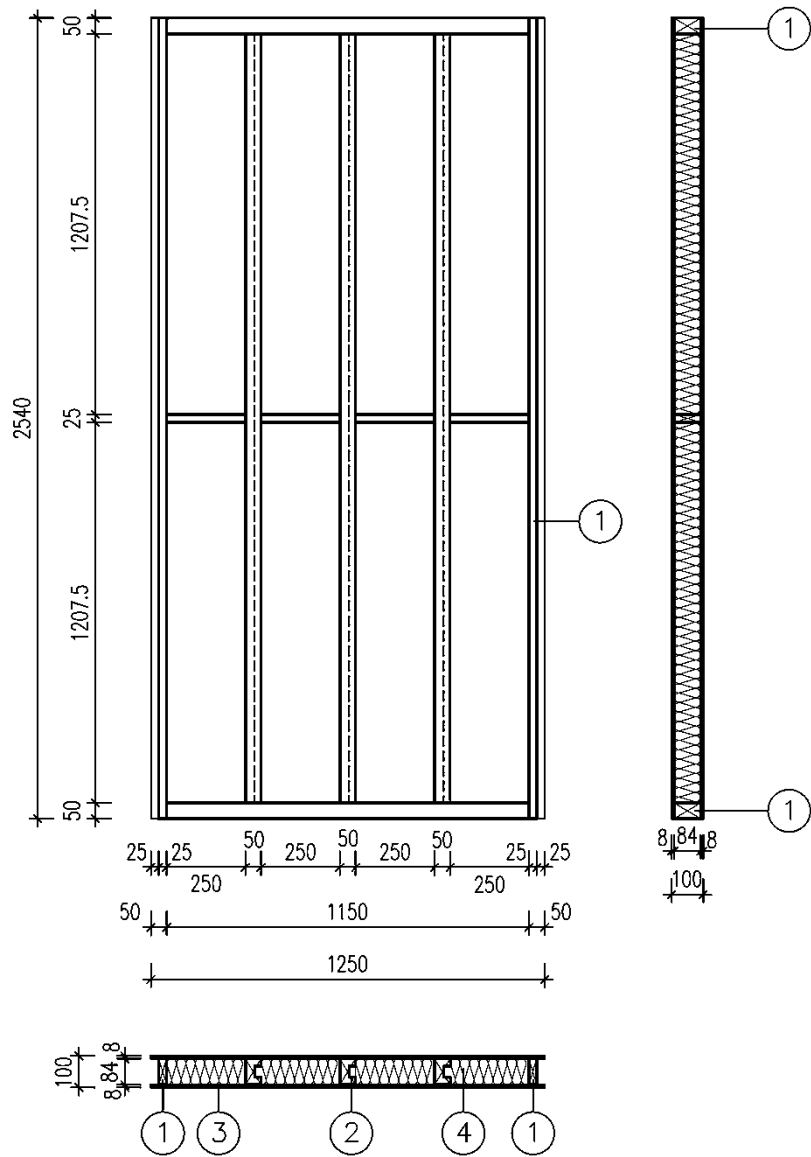
The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Vertical section – external wall with window, Variant B

Annex B.27

Variante A (Variant A)

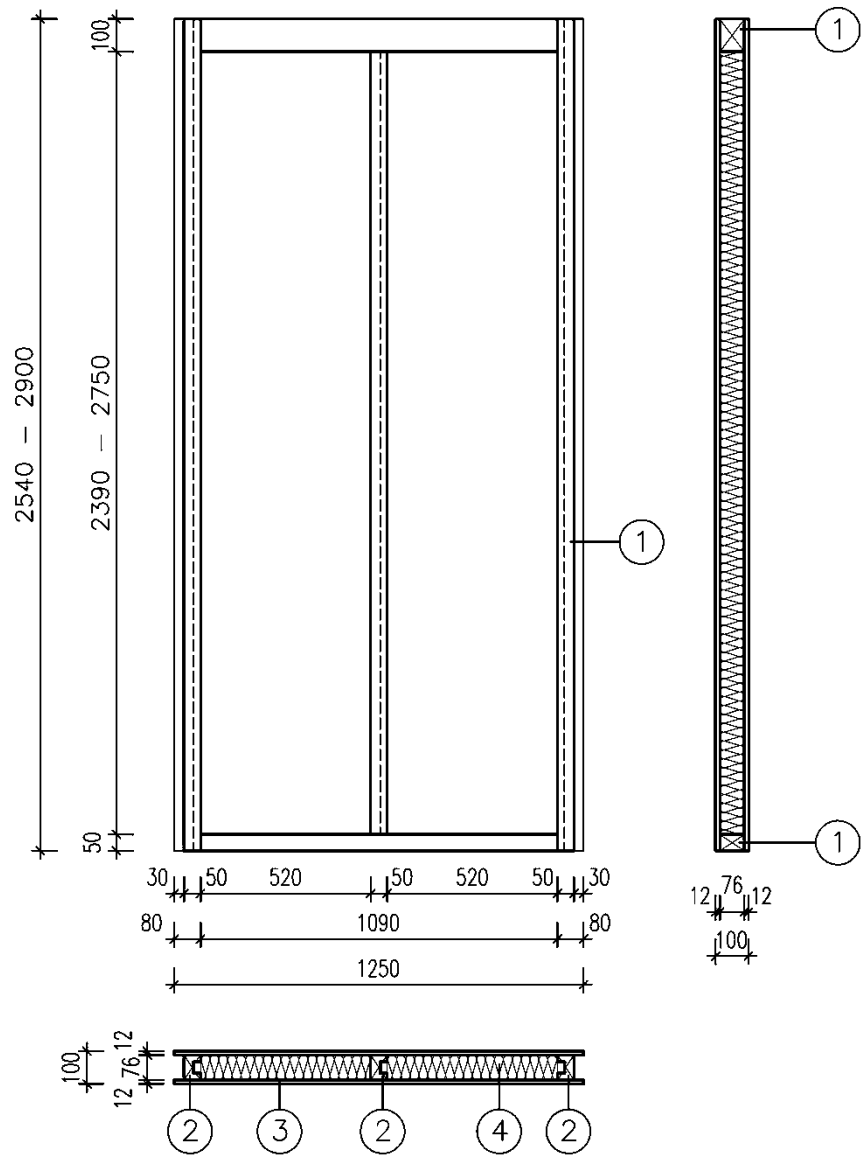


- 1 = Rahmenhölzer
 2 = Rahmenhölzer mit Kabelkanal
 3 = OSB beidseitig
 4 = Wärme- und Schalldämmung

- Framing timber
 Framing timber with cable duct
 OSB on both sides
 Thermal and sound insulation

"HANSE-HAUS"	Annex B.28
Standard internal wall element, Variant A	

Variante B (Variant B)

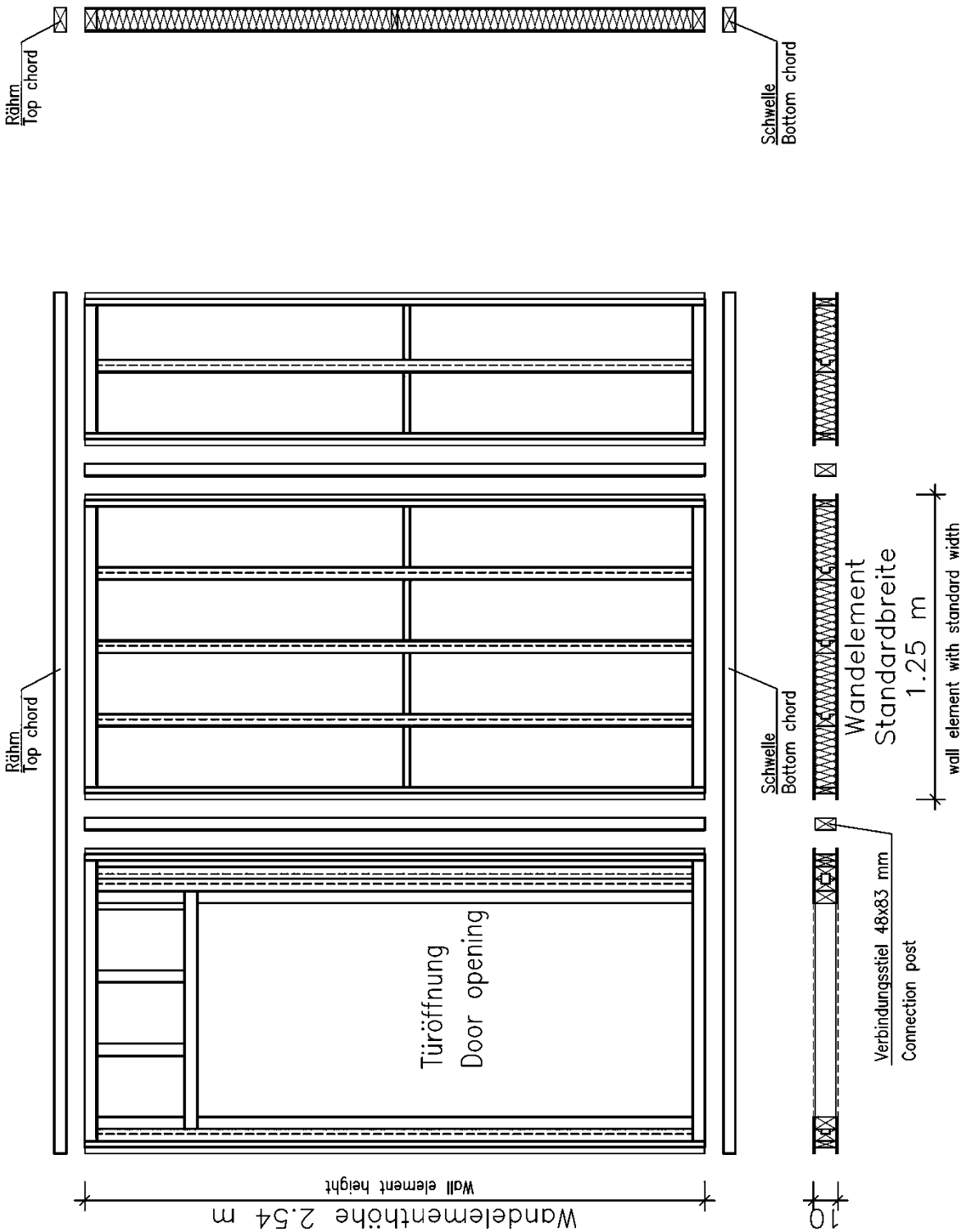


- 1 = Rahmenhölzer
2 = Rahmenhölzer mit Kabelkanal
3 = Holzwerkstoffplatte beidseitig
4 = Wärme- und Schalldämmung

- Framing timber
Framing timber with cable duct
Wood-based-panel on both sides
Thermal and sound insulation

"HANSE-HAUS"	Annex B.29
Standard internal wall element, Variant B	

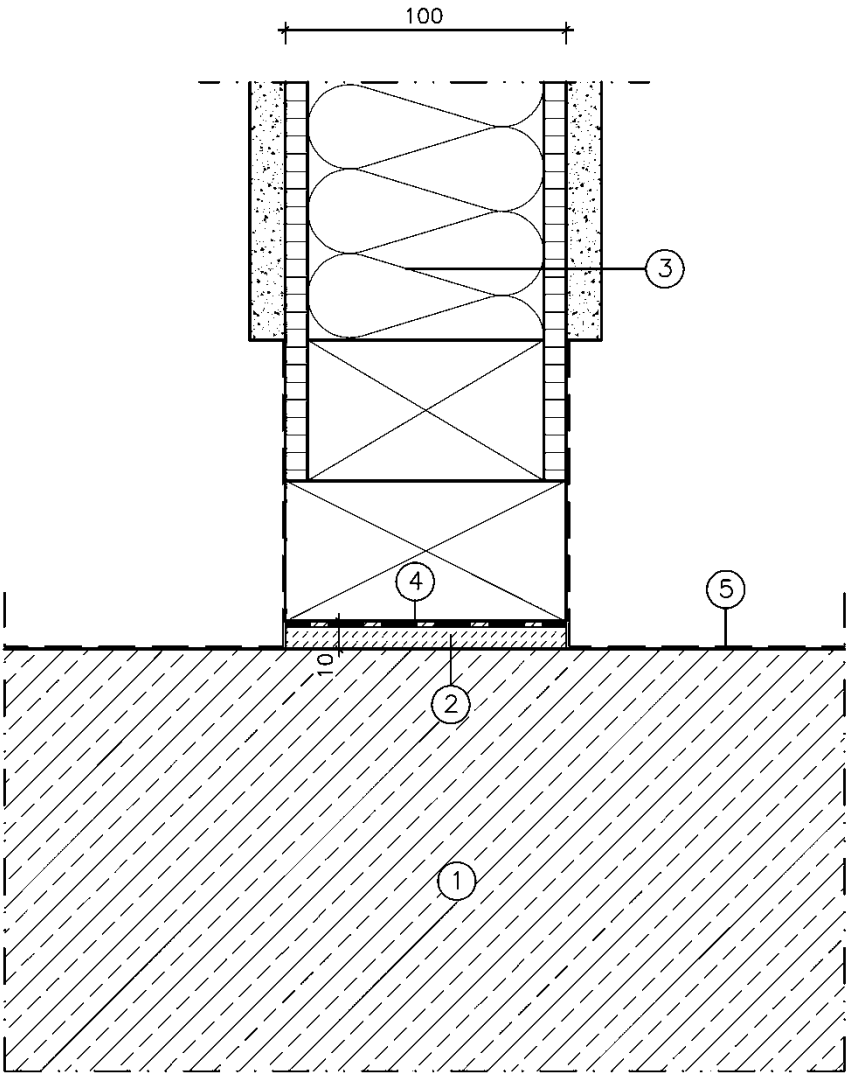
Variante A (Variant A)



"HANSE-HAUS"	Annex B.30
Exploded drawing – internal wall, Variant A	

Variante B (Variant B)	
"HANSE-HAUS"	Annex B.31
Exploded drawing – internal wall, Variant B	

Variante A (Variant A)



1 = Kellerdecke bzw. Fundamentplatte
2 = Unterlegung und Untermörtelung
3 = Innenwandkonstruktion Variante A
4 = Absperrbahn, sofern erforderlich
5 = Feuchtesperre, sofern erforderlich

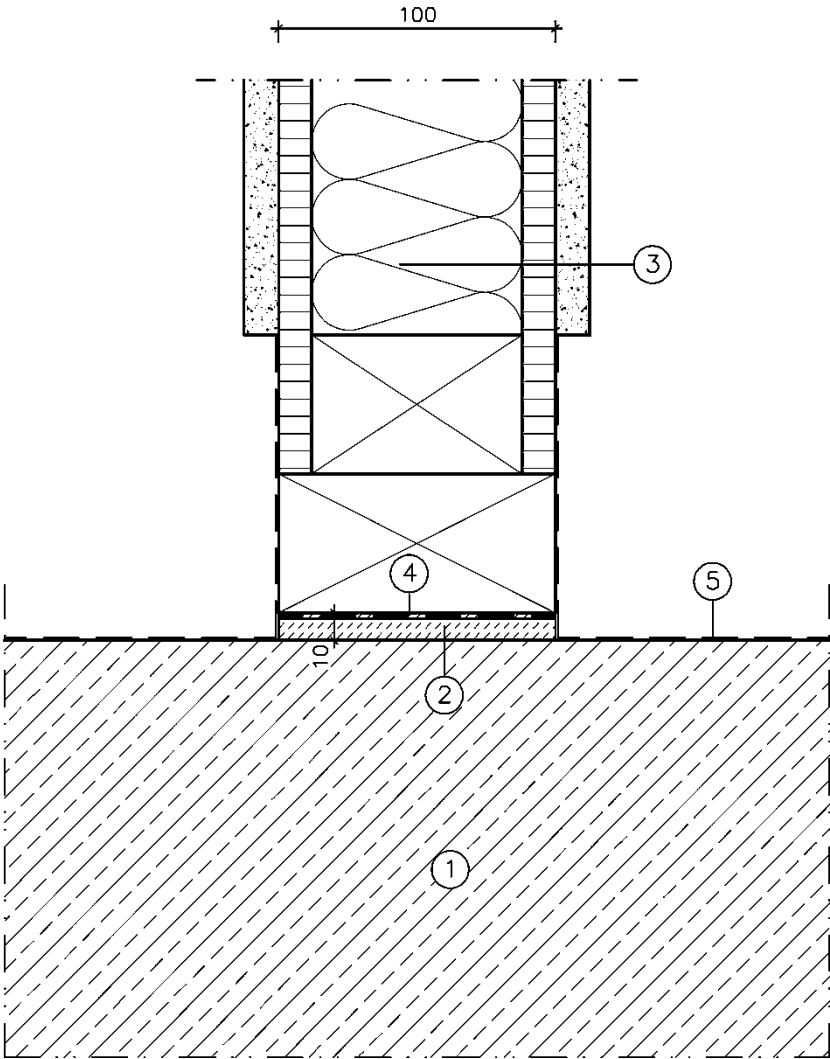
Cellar ceiling resp. foundation plate
Mortarbed
Internal wall construction Variant A
Barrier membrane, if necessary
Moisture barrier, if necessary

Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

The load-bearing connections are only shown generally. They shall be designed according technical regulations and executed according structural design.

"HANSE-HAUS"	Annex B.32
Vertical section – internal wall to foundation resp. basement ceiling, Variant A	

Variante B (Variant B)



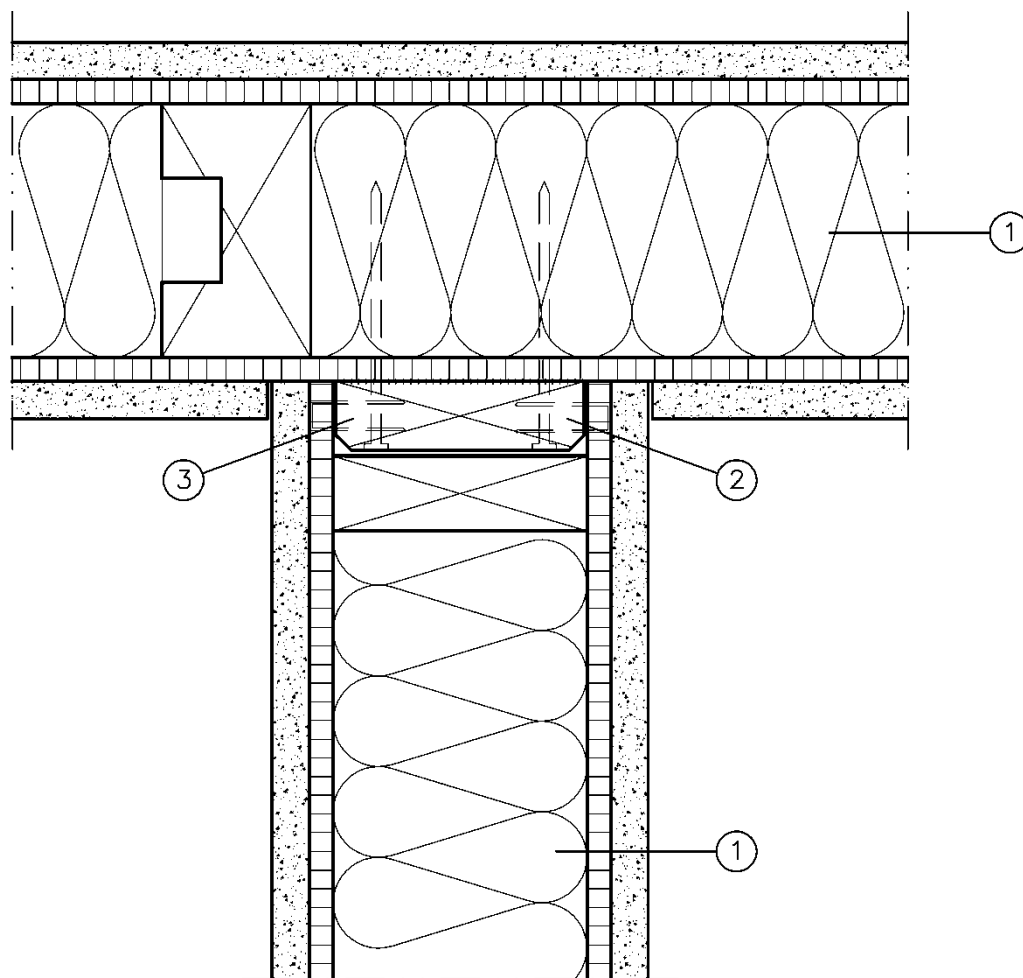
1 = Kellerdecke bzw. Fundamentplatte
2 = Unterlegung und Untermörtelung
3 = Innenwandkonstruktion Variante B
4 = Absperrbahn, sofern erforderlich
5 = Feuchtesperre, sofern erforderlich

Cellar ceiling resp. foundation plate
Mortarbed
Internal wall construction Variant B
Barrier membrane, if necessary
Moisture barrier, if necessary

Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.
The load-bearing connections are only shown generally. They shall be designed according technical regulations and executed according structural design.

"HANSE-HAUS"	Annex B.33
Vertical section – internal wall to foundation resp. basement ceiling, Variant B	

Variante A (Variant A)



- 1 = Innenwandkonstruktion Variante A
- 2 = Anschlussleiste angeklebt und mit Nägeln befestigt
- 3 = Befestigung mit Klammern auf der Baustelle, $e \approx 15$ cm

- Internal wall construction Variant A
- Connection lath glued and fixed with nails
- Fastening with staples on site, $e \approx 15$ cm

Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

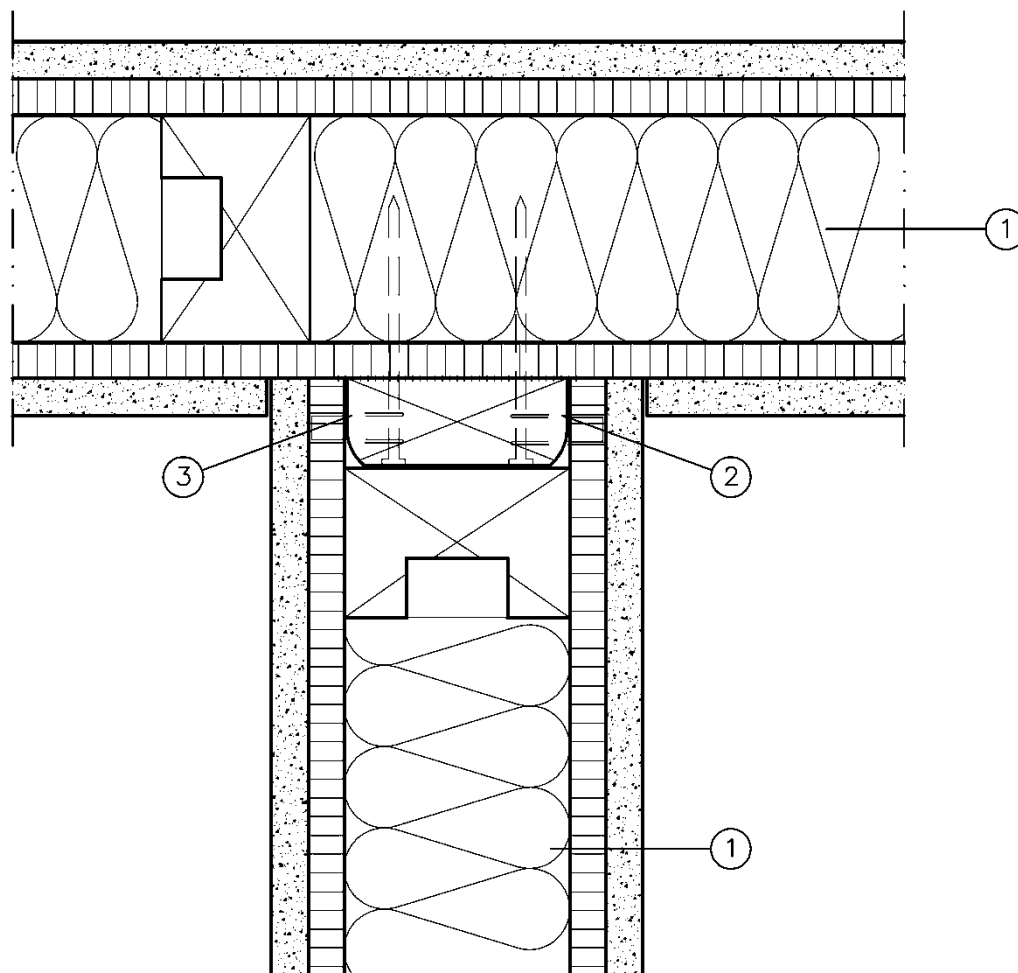
The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Horizontal section – internal wall to internal wall, Variant A

Annex B.34

Variante B (Variant B)



- 1 = Innenwandkonstruktion Variante B
2 = Anschlussleiste angeklebt und
mit Nägeln befestigt
3 = Befestigung mit Klammern auf
der Baustelle, $e \approx 15$ cm

- Internal wall construction Variant B
Connection lath glued and
fixed with nails
Fastening with staples on site,
 $e \approx 15$ cm

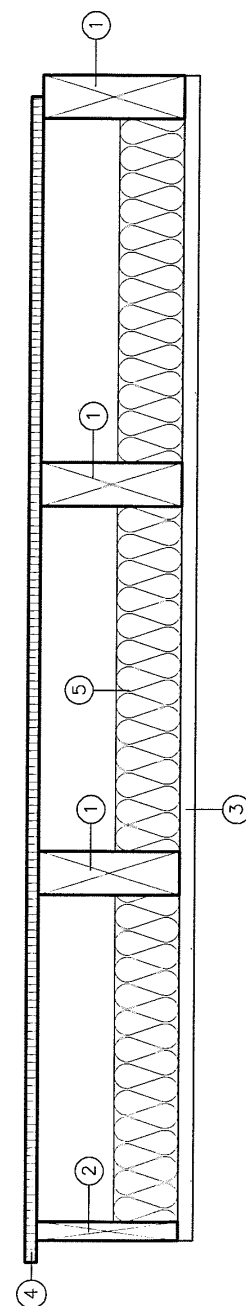
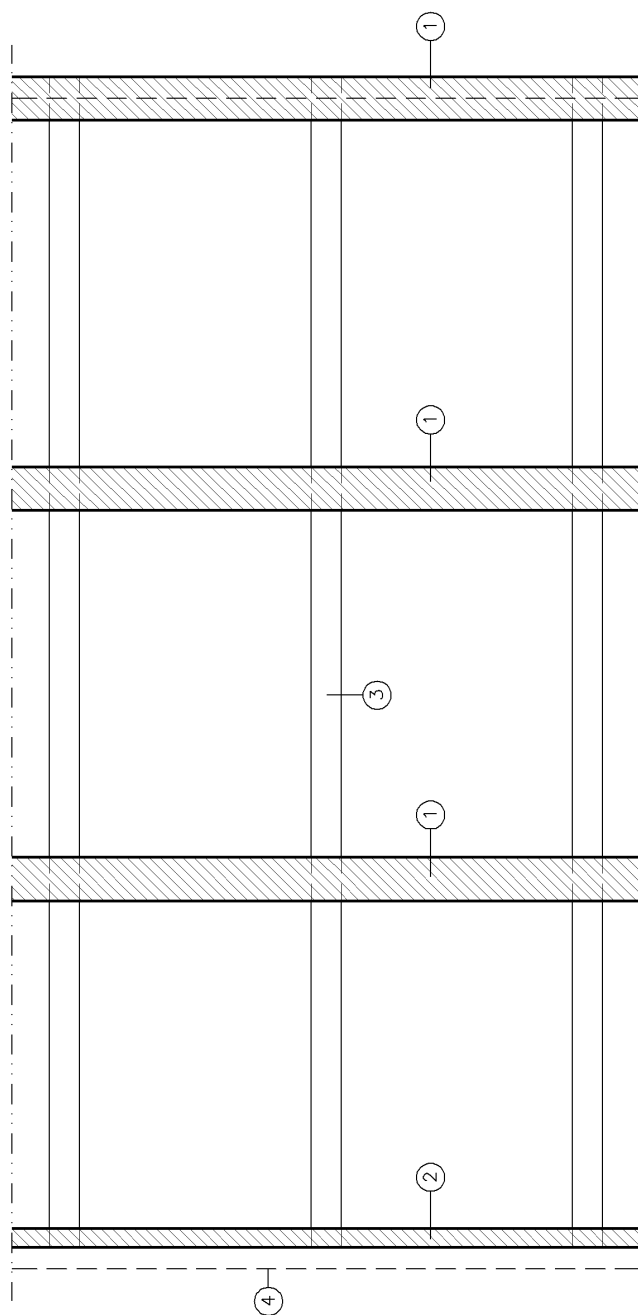
Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Horizontal section – internal wall to internal wall, Variant B

Annex B.35



- 1 = Deckenbalken gem. Statik
- 2 = Bohle
- 3 = Sparschalung, $e \approx 41$ cm
- 4 = Deckenbeplankung mit Holzwerkstoffplatte
- 5 = Schalldämmung

- Ceiling joist according to structural analysis
- Batten
- Open boarding, $e \approx 41$ cm
- Ceiling planking with Wood-based-panel
- Sound insulation

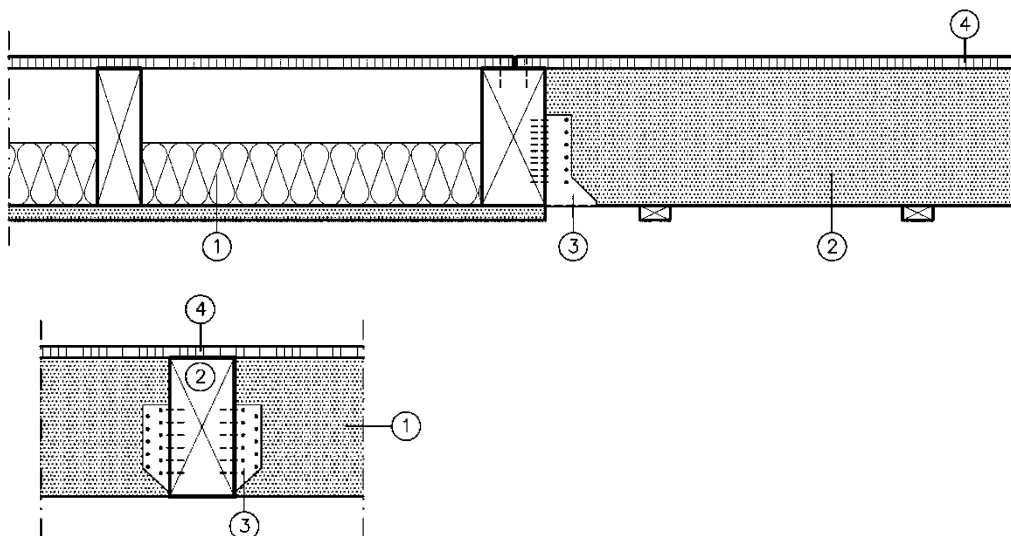
Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

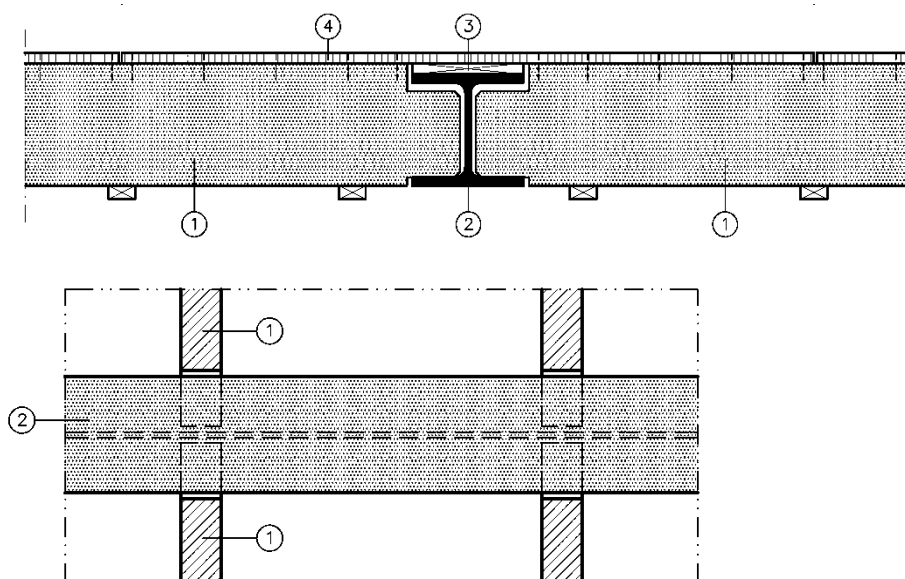
Horizontal section through ceiling element

Anhang B.36



- 1 = Deckenelement
2 = Deckenbalken
3 = Balkenschuh gem. Statik
4 = Deckenbeplankung mit Holzwerkstoffplatte

- Ceiling element
Ceiling joist
Joist hanger according to structural analysis
Ceiling planking with Wood-based-panel



- 1 = Deckenelement
2 = Stahlträger gem. Statik
3 = Füllholz
4 = Deckenbeplankung mit Holzwerkstoffplatte

- Ceiling element
Steel beam according to structural analysis
Wooden filling elements
Ceiling planking with Wood-based-panel

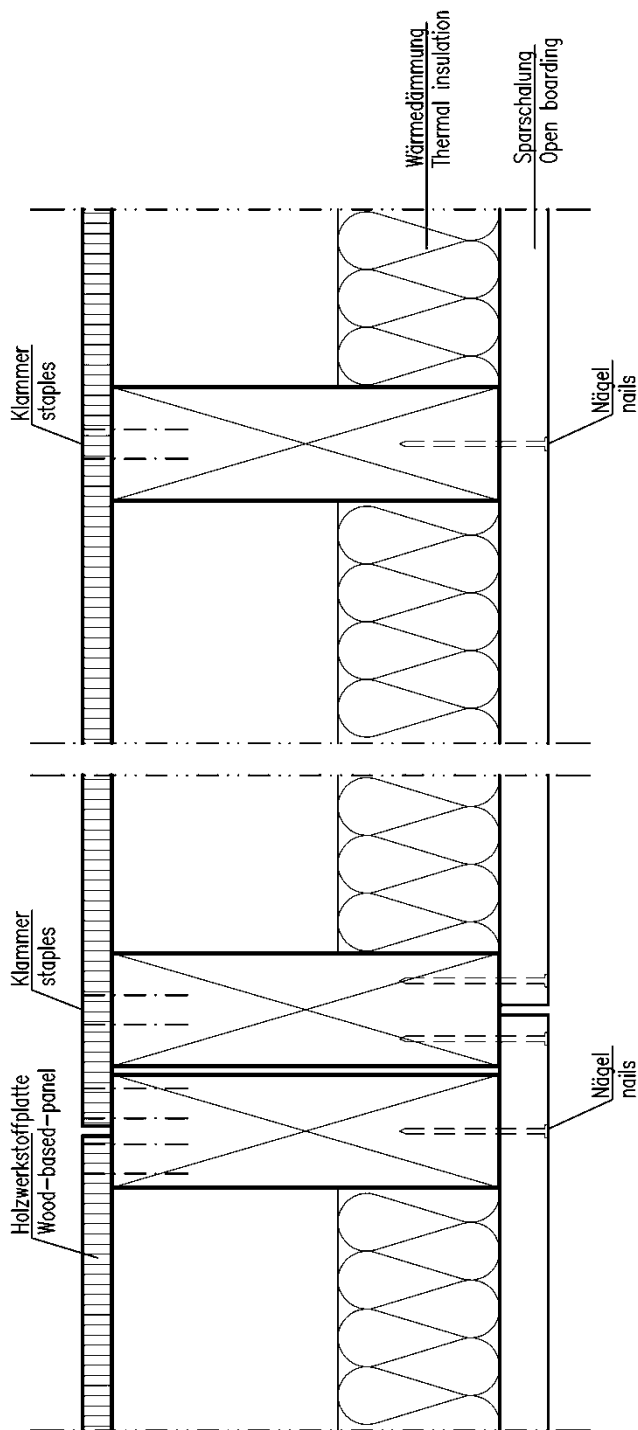
Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"

Connection of ceiling joints

Annex B.37

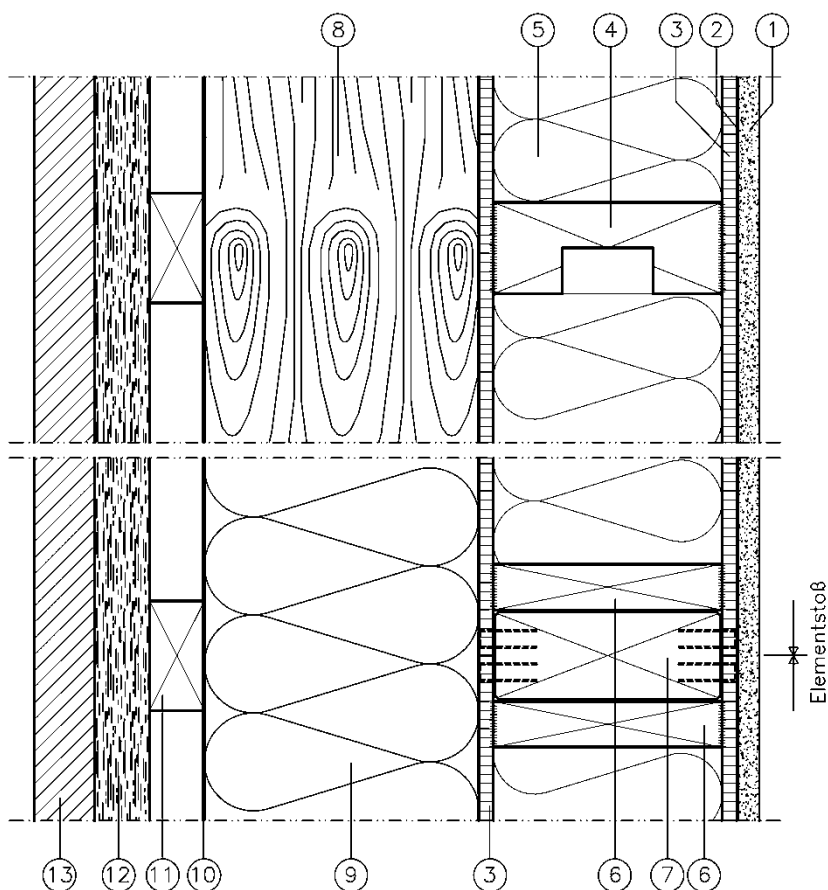


Die tragenden Anschlüsse sind nur prinzipiell dargestellt. Sie sind gemäß den technischen Regeln zu bemessen und gemäß der statischen Berechnung auszuführen.

The load-bearing connections are only shown generally. They shall be designed according to technical regulations and executed according to structural design.

"HANSE-HAUS"	Annex B.38
Vertical section – ceiling element joint	

Variante A (Variant A)



- 1 = Gipskartonplatte
- 2 = Dampfbremse
- 3 = OSB
- 4 = Rahmenhölzer mit Kabelkanal
- 5 = Mineralfaserdämmung
- 6 = Rahmenholz
- 7 = senkrechtes Konstruktionsholz
- 8 = Grundkonstruktionsholz
- 9 = Wärmedämmung
- 10 = Dampfdiffusionsoffene Bahn
- 11 = Grundlattung
- 12 = Traglattung
- 13 = Holzbekleidung

- Gypsum board
- Vapour barrier
- OSB
- Framing timber with cable duct
- Mineral wool insulation
- Framing timber
- Vertical framing timber
- Constructional timber
- Thermal insulation
- Open vapour diffusion sealing foil
- Basic lathing
- Load bearing lathing
- Timber cladding

Die Holzrahmenkonstruktion wird vollflächig mit den OSB verklebt.

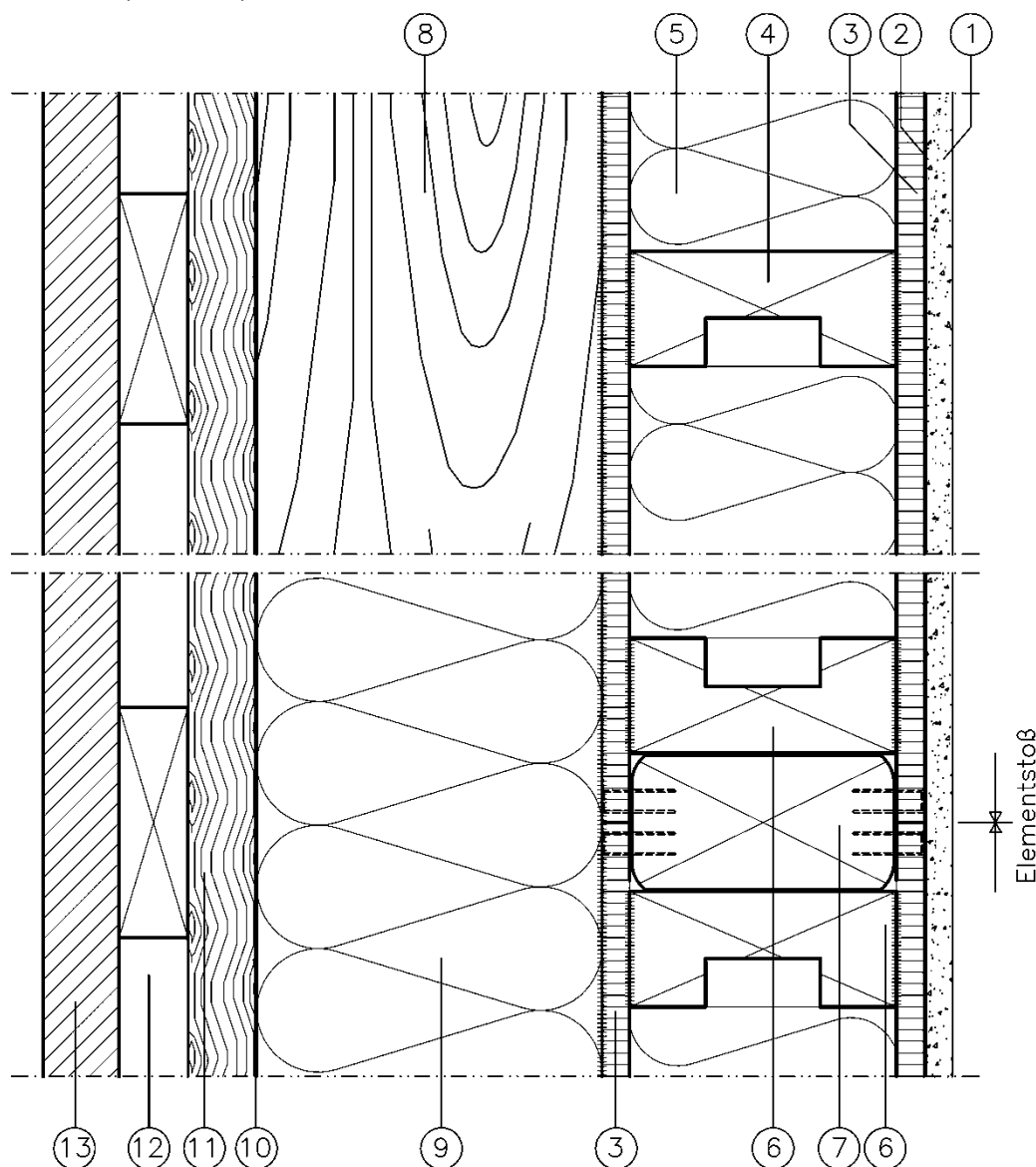
The timber frame construction will be glued to the OSB.

"HANSE-HAUS"

Vertical section – external wall with timber cladding and wooden substructure, Variant A

Annex B.39

Variante B (Variant B)



- 1 = Gipskartonplatte
- 2 = Dampfbremse
- 3 = Holzwerkstoffplatte
- 4 = Rahmenhölzer mit Kabelkanal
- 5 = Mineralfaserdämmung
- 6 = Rahmenholz
- 7 = senkrechtes Konstruktionsholz
- 8 = Grundkonstruktionsholz
- 9 = Wärmedämmung
- 10 = Dampfdiffusionsoffene Bahn
- 11 = Grundlattung
- 12 = Traglattung
- 13 = Holzbekleidung

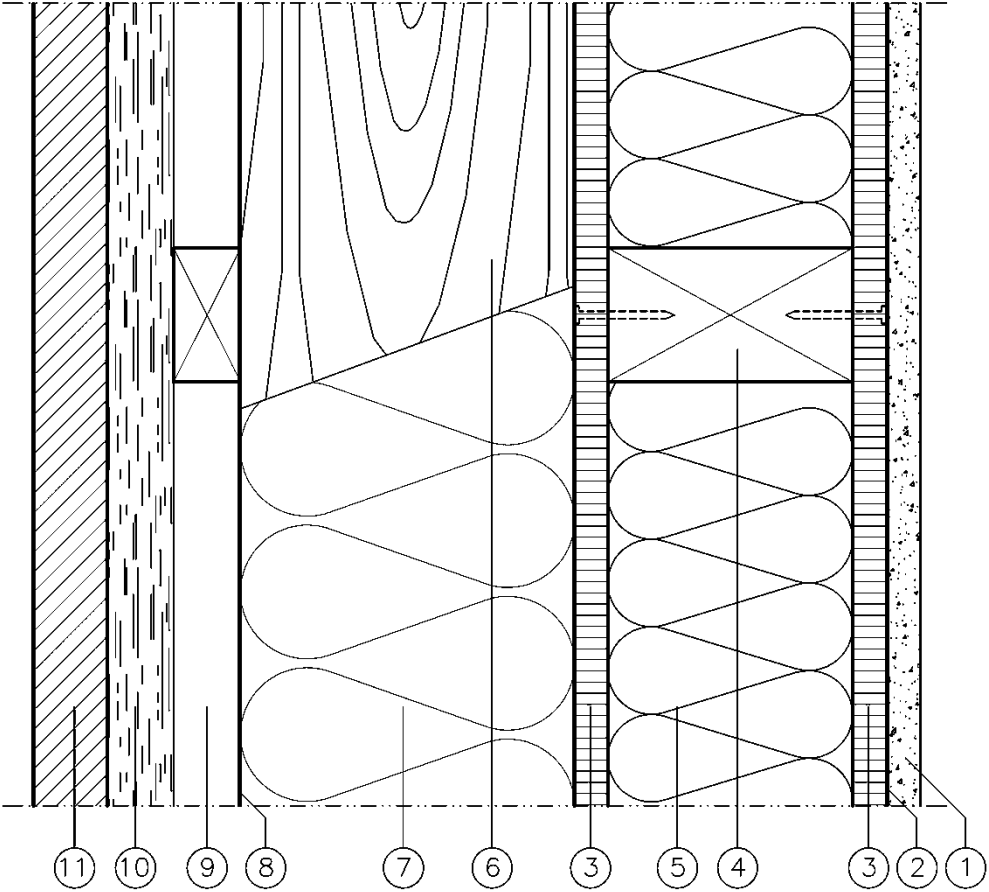
- Gypsum board
- Vapour barrier
- Wood-based-panel
- Framing timber with cable duct
- Mineral wool insulation
- Framing timber
- Vertical framing timber
- Constructional timber
- Thermal insulation
- Open vapour diffusion sealing foil
- Basic lathing
- Load bearing lathing
- Timber cladding

Die Holzrahmenkonstruktion wird vollflächig mit den Holzwerkstoffplatten verklebt.
The timber frame construction will be glued to the Wood-based-panel.

"HANSE-HAUS"

Vertical section – external wall with timber cladding and wooden substructure, Variant B

Annex B.40



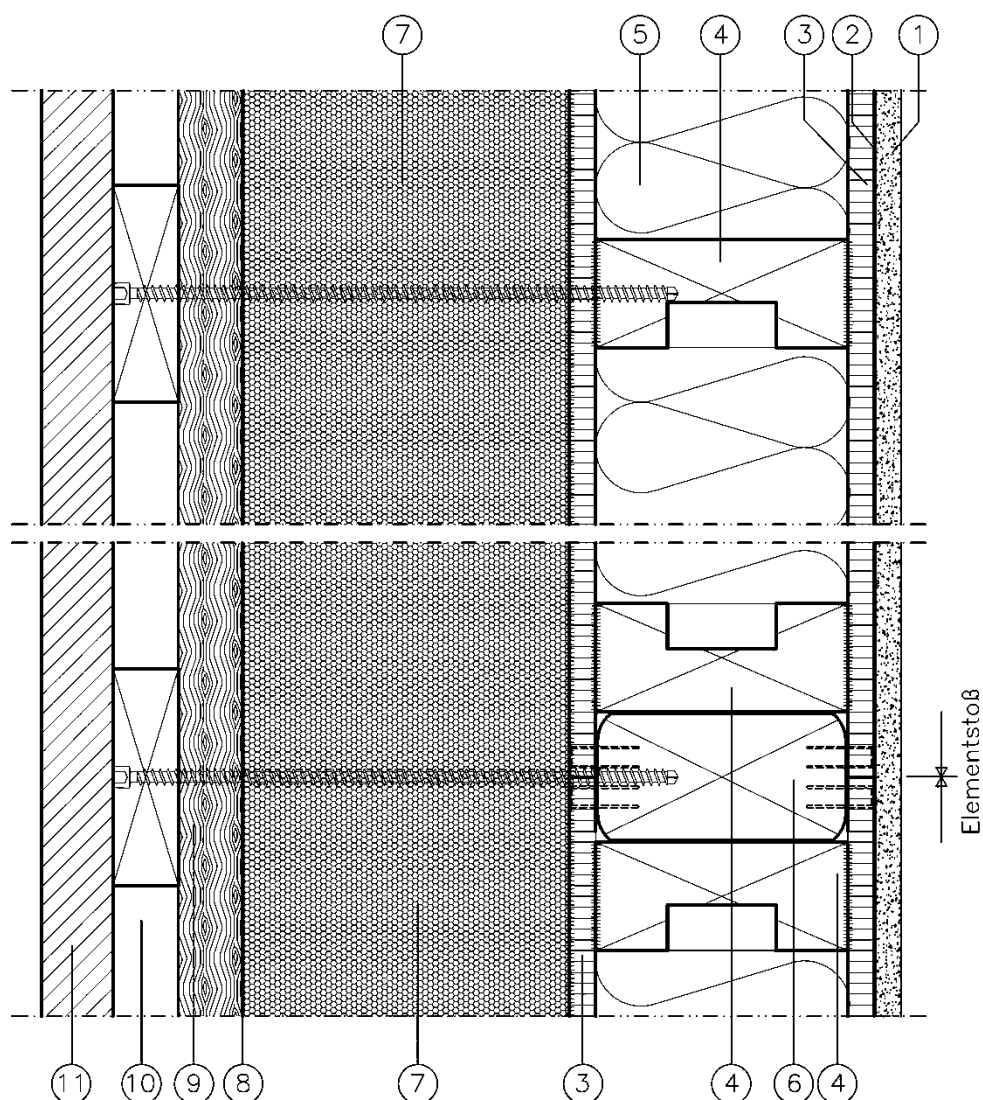
- 1 = Gipskartonplatte
- 2 = Dampfbremse
- 3 = Holzwerkstoffplatte
- 4 = Konstruktionsholz
- 5 = Mineralfaserdämmung
- 6 = Grundkonstruktionsholz
- 7 = Wärmedämmung
- 8 = Dampfdiffusionsoffene Bahn
- 9 = Grundlattung
- 10 = Traglattung
- 11 = Holzbekleidung

- Gypsum board
- Vapour barrier
- Wood-based-panel
- Timber frame
- Mineral wool insulation
- Constructional timber
- Thermal insulation
- Open vapour diffusion sealing foil
- Basic lathing
- Load bearing lathing
- Timber cladding

Das Giebelelement wird komplett im Werk genagelt.
The whole gable element will be nailed in the factory.

"HANSE-HAUS"	Annex B.41
Vertical section – gable wall with timber cladding and wooden substructure	

Variante B (Variant B)



- 1 = Gipskartonplatte
- 2 = Dampfbremse
- 3 = Holzwerkstoffplatte
- 4 = Rahmenhölzer mit Kabelkanal
- 5 = Mineralfaserdämmung
- 6 = senkrechtes Konstruktionsholz
- 7 = Wärmedämmung (Polystyrol)
- 8 = Dampfdiffusionsoffene Bahn
- 9 = Grundlattung
- 10 = Traglattung
- 11 = Holzbekleidung

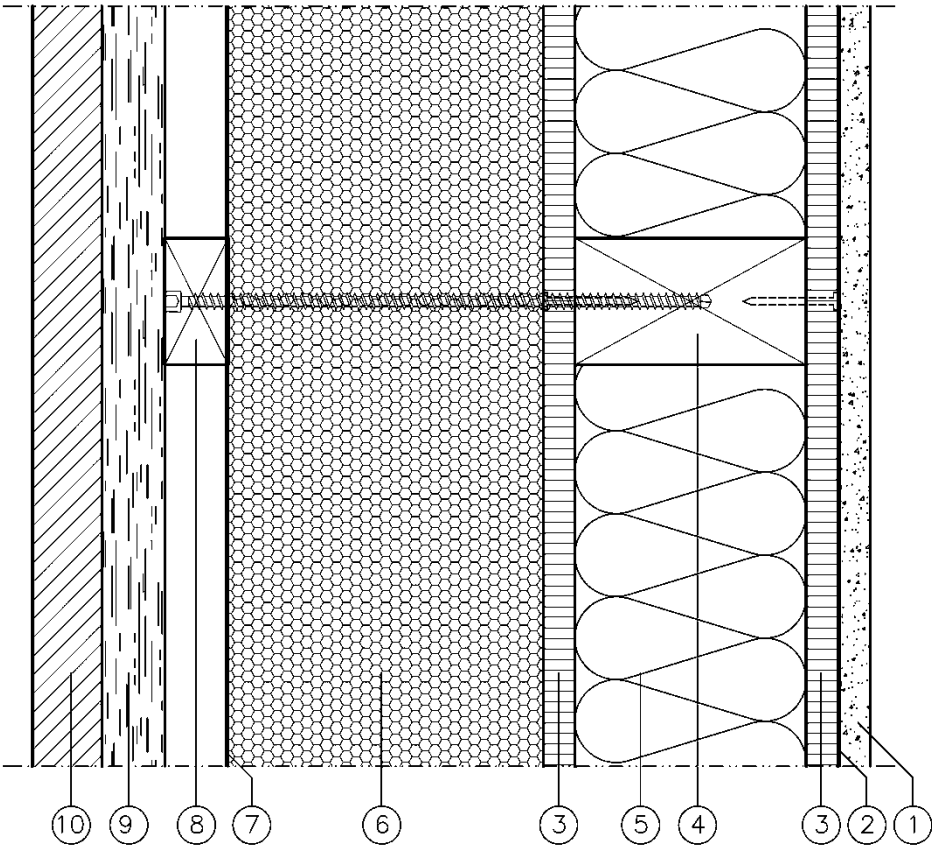
- Gypsum board
- Vapour barrier
- Wood-based-panel
- Framing timber with cable duct
- Mineral wool insulation
- Vertical framing timber
- Thermal insulation (Polystyrene)
- Open vapour diffusion sealing foil
- Basic lathing
- Load bearing lathing
- Timber cladding

Die Holzrahmenkonstruktion wird vollflächig mit den Holzwerkstoffplatten verklebt.
The timber frame construction will be glued to the Wood-based-panel.

"HANSE-HAUS"

Vertical section – external wall with timber cladding and polystyrene substructure,
Variant B

Annex B.42



- 1 = Gipskartonplatte
- 2 = Dampfbremse
- 3 = Holzwerkstoffplatte
- 4 = Konstruktionsholz
- 5 = Mineralfaserdämmung
- 6 = Wärmedämmung (Polystyrol)
- 7 = Dampfdiffusionsoffene Bahn
- 8 = Grundlattung
- 9 = Traglattung
- 10 = Holzbekleidung

- Gypsum board
- Vapour barrier
- Wood-based-panel
- Timber frame
- Mineral wool insulation
- Thermal insulation (Polystyrene)
- Open vapour diffusion sealing foil
- Basic lathing
- Load bearing lathing
- Timber cladding

Das Giebelelement wird komplett im Werk genagelt.
The whole gable element will be nailed in the factory.

"HANSE-HAUS"	Annex B.43
Vertical section – gable wall with timber cladding and polystyrene substructure	