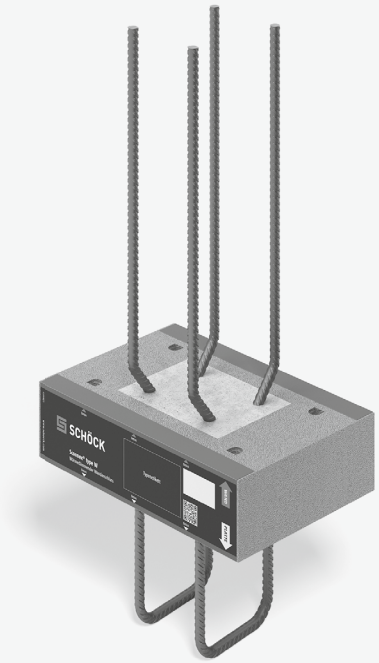
Schöck Sconnex® type W



Schöck Sconnex® type W
Load-bearing thermal insulation element for reinforced concrete walls. The element transfers, depending on load-bearing level, compressive and shear forces in the longitudinal and transverse directions of the wall.

Element arrangement – with linear loading

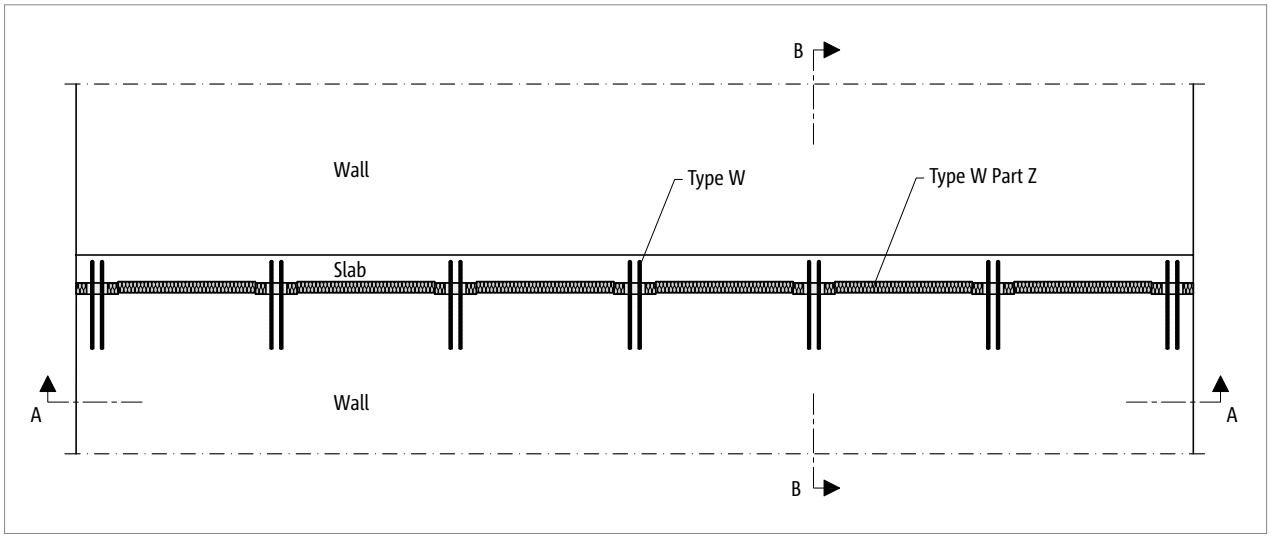


Fig. 56: Schöck Sconnex® type W: Connection between wall and slab above – installation at the top of the wall

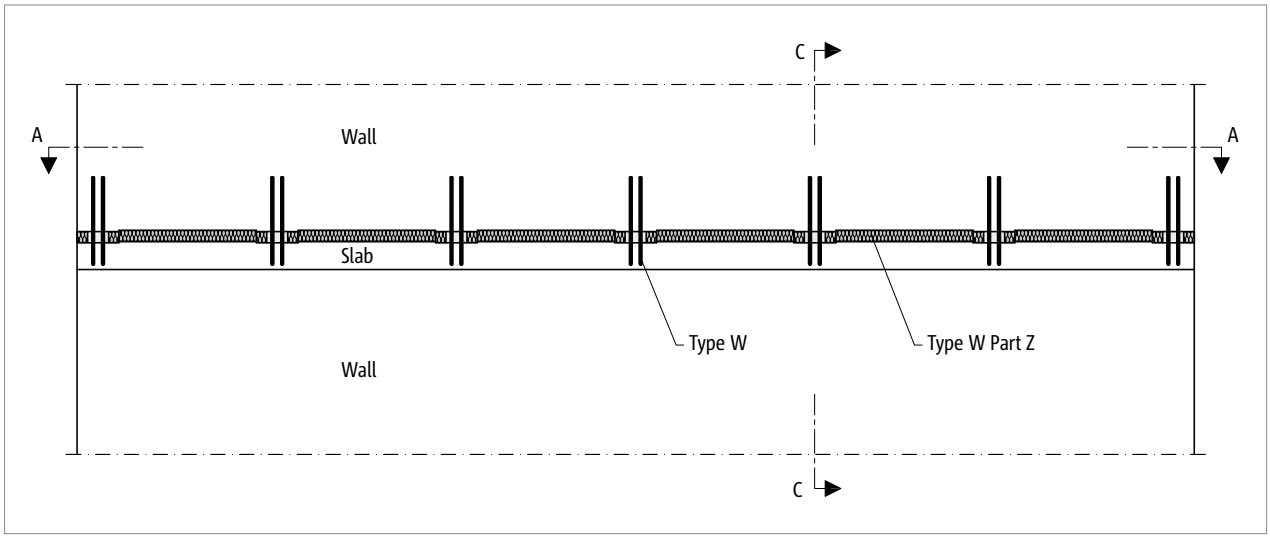


Fig. 57: Schöck Sconnex® type W: Connection between floor and rising wall – installation at the foot of the wall

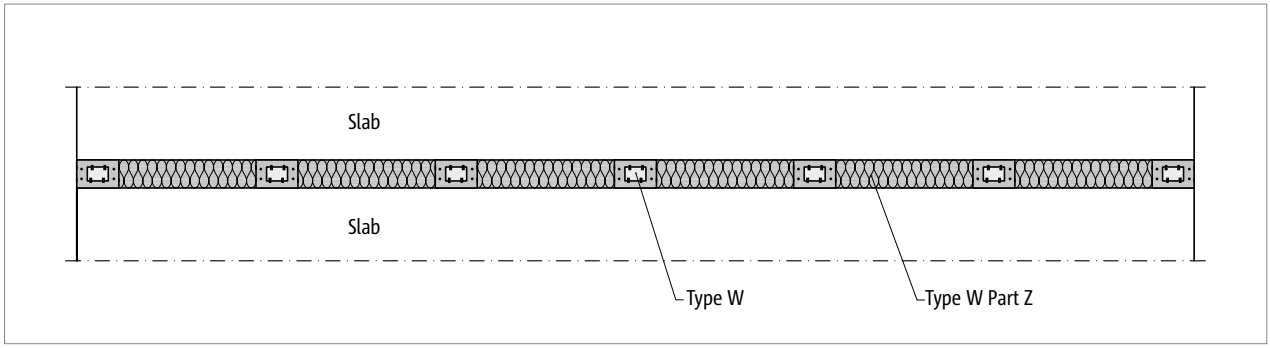


Fig. 58: Schöck Sconnex® type W: Section A-A

Installation cross sections

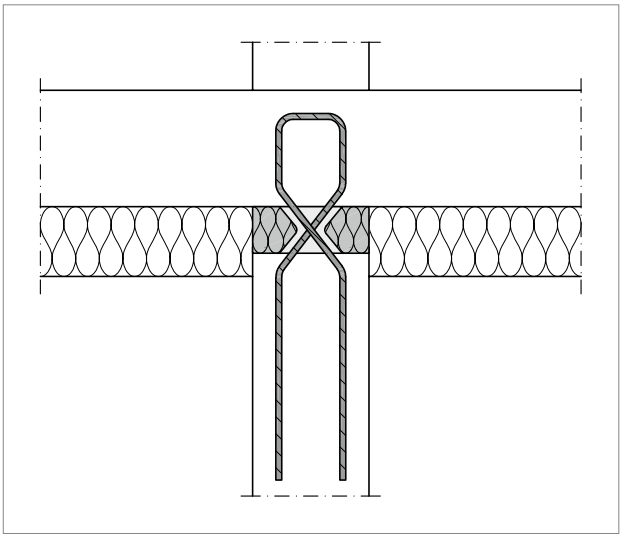


Fig. 59: Schöck Sconnex® type W-N-VH: Section B-B, internal wall; below-slab insulation

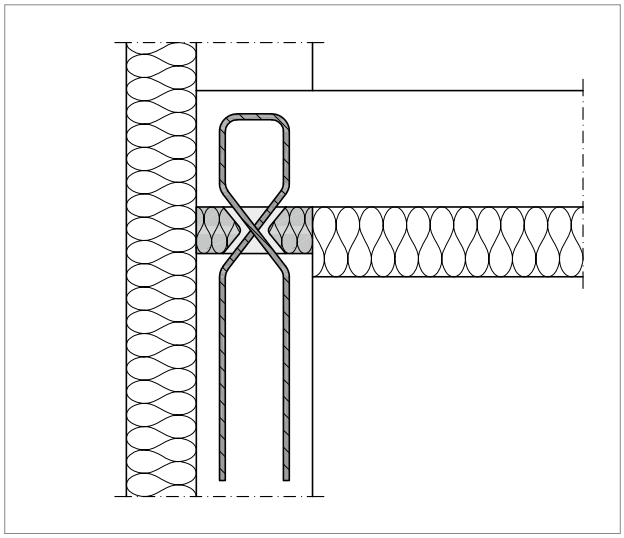


Fig. 60: Schöck Sconnex® type W-N-VH: External wall; below-slab insulation corresponding to Section B-B

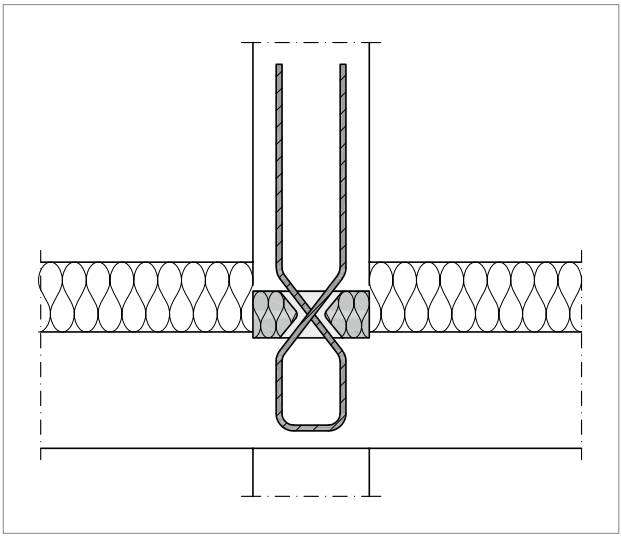


Fig. 61: Schöck Sconnex® type W-N-VH: Section C-C, internal wall; above-slab insulation

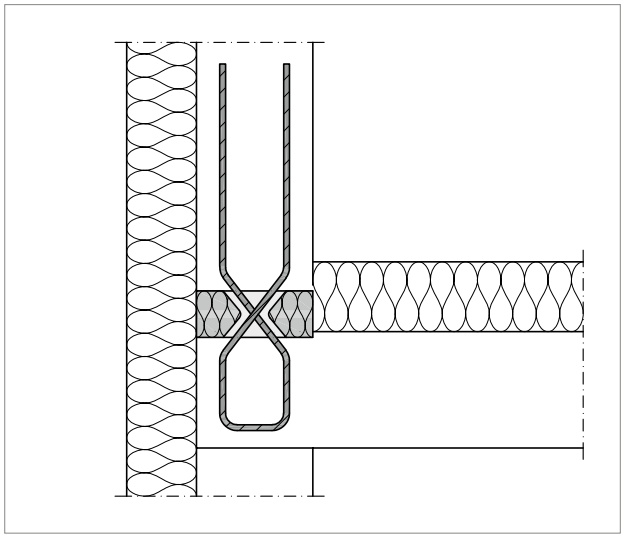


Fig. 62: Schöck Sconnex® type W-N-VH: External wall; above-slab insulation corresponding to Section C-C

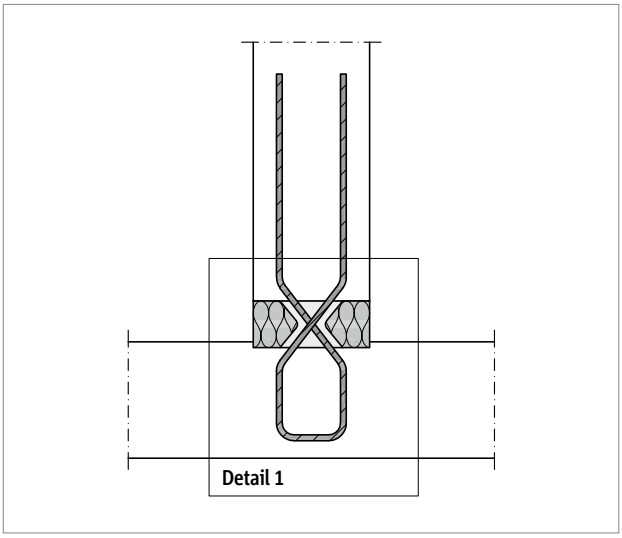


Fig. 63: Schöck Sconnex® type W: Tight fit between the upper edge of the floor and the lower edge of the pressure bearing is ensured

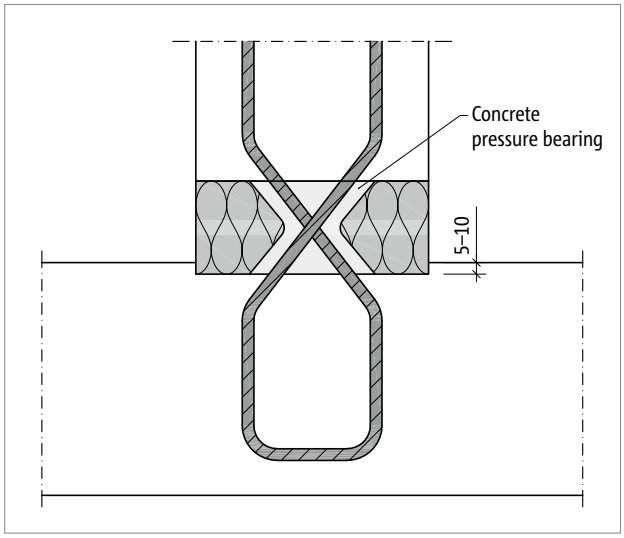


Fig. 64: Schöck Sconnex® type W: Tight fit through 5-10 mm deep counter-sinking of the insulating element in the floor

Element arrangement – for special applications

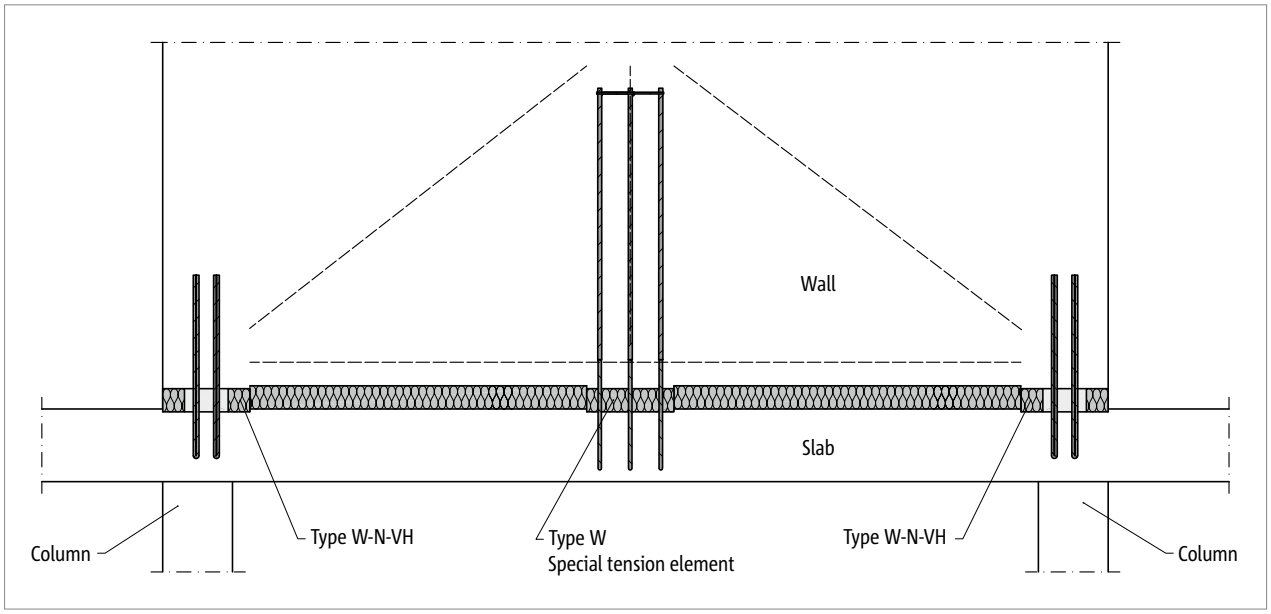


Fig. 65: Schöck Sconnex® type W: Combined product variants for the connection of a wall type beam with ceiling suspension

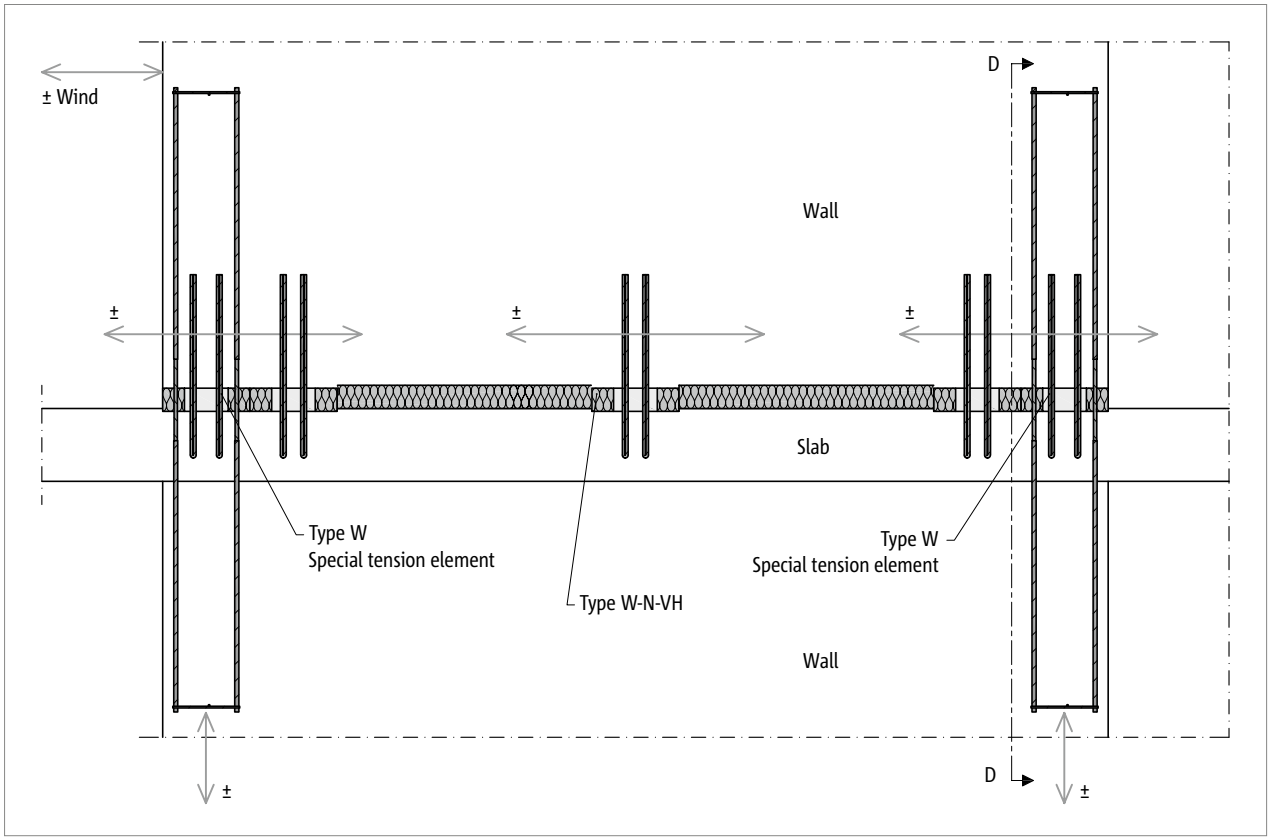


Fig. 66: Schöck Sconnex® type W: Combined product variants for the connection of a horizontal, loaded, stabilized wall

Element arrangement – for special applications

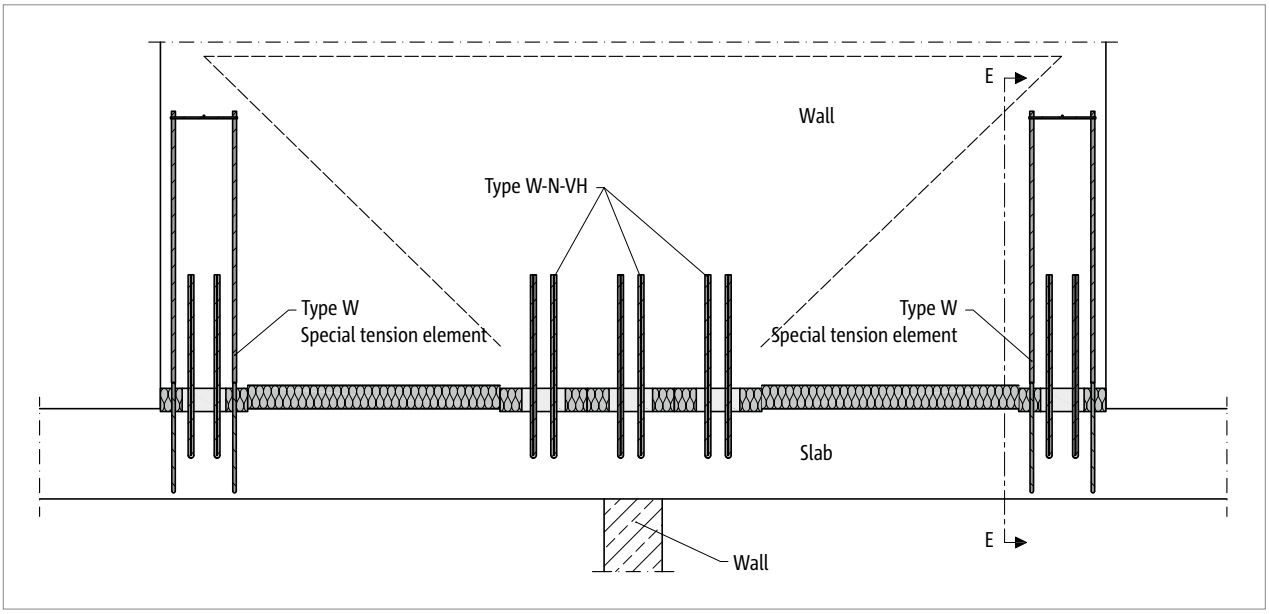


Fig. 67: Schöck Sconnex® type W: Combined product variants in the application case of intersecting walls

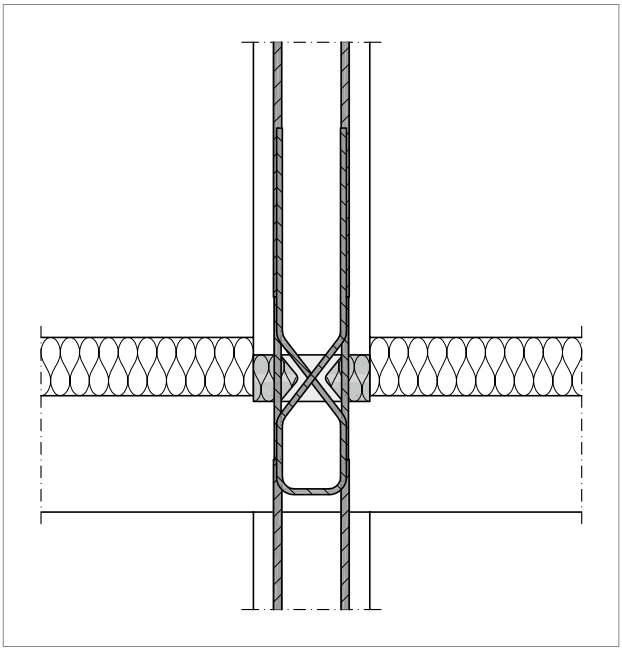


Fig. 68: Schöck Sconnex® type W special tension element: Section D-D; Tensile force connection of the walls straight through the floor

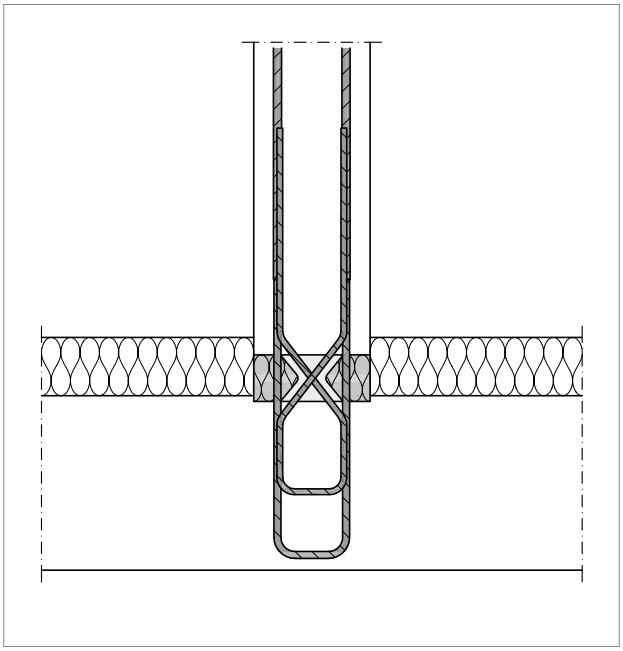


Fig. 69: Schöck Sconnex® type W special tension element: Section E-E; suspension of a floor on a wall

Product selection | Type designations

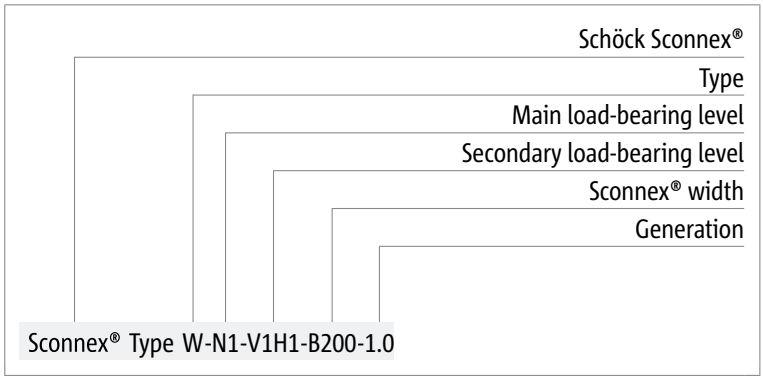
Fig. 70: Schöck Sconnex® type W

Schöck Sconnex® type W variants

The configuration of the Schöck Sconnex® type W can be varied as follows:

- Main bearing level with the N:
  N1 feature: Compressive force bearing capacity
- Secondary load level with the V and H:
  V1H1 features: Shear force bearing capacity in x- and y-directions
- Schöck Sconnex® width:
  B = 150, 180, 200, 250, 300 mm = wall thickness
  (other widths on request from the application engineering department; contact see page 3)
- Generation:
  1.0
- Fire resistance class:
  R 30 to REI 120
  Achievement of the various fire resistance classes is ensured through the appropriate formation of the adjoining construction (e.g. incombustible screed, mineral wool etc.) (see page 69).

Type designation in planning documents



Product selection | Type designations

Fig. 71: Schöck Sconnex® type W Part Z

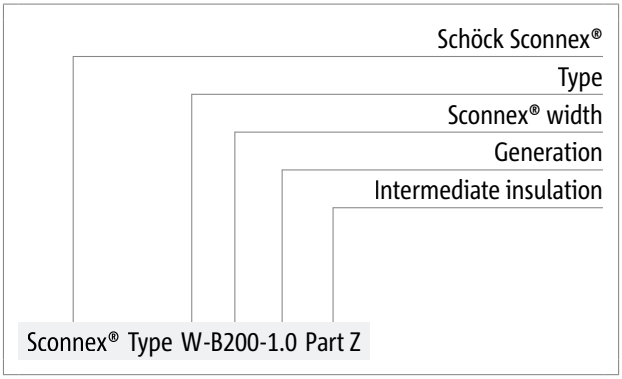
Schöck Sconnex® type W Part Z variants

Schöck Sconnex® type W Part Z is a non-load-bearing insulating element for arrangement between Schöck Sconnex® type W. Part Z has the insulation thickness X = 80 mm and the element length L = 1000 mm.

The configuration of the Schöck Sconnex® type W Part Z can vary as follows:

- Part Z: Non-load-bearing intermediate insulation made of Neopor® for wall connection
- Schöck Sconnex® width:
  B = 150, 180, 200, 250, 300 mm = wall thickness
  (other widths on request with the application engineering department; contact see page 3)
- Generation:
  1.0
- Fire resistance class:
  EI 0 to EI 120
  Achievement of the various fire resistance classes is ensured through the corresponding formation of the adjoining construction (e.g. incombustible screed, mineral wool etc.) (see page 69).

Type designation in planning documents



Product selection | Type designations

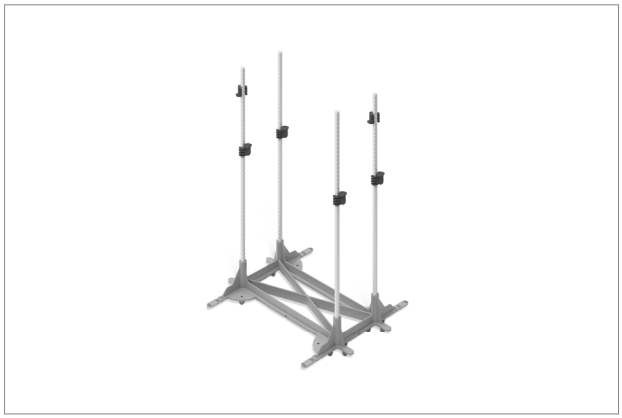


Fig. 72: Schöck Sconnex® type W Part M

Schöck Sconnex® type W Part M variants

With an application of Schöck Sconnex® type W at the foot of the wall the use of an installation aid is recommended (type W Part M, see Installation instruction page 83). With an application at the top of the wall no installation aid (type W Part M) is required (see page 81).

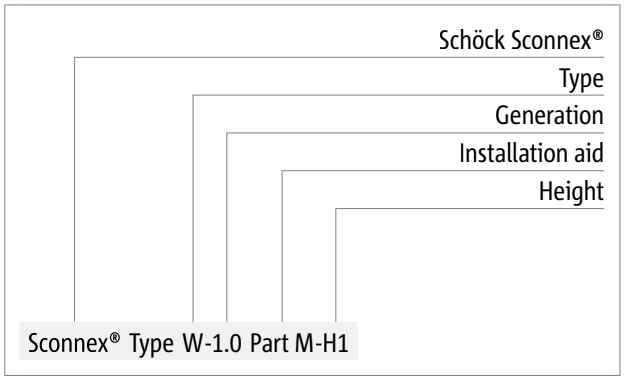
The configuration of the Schöck Sconnex® Part M installation aid can be varied as follows:

- Part M: Installation aid
- Variant:

  H1: for H ≤ 400 mm; Height H see product description page 68

  H2: for 405 mm ≥ H ≤ 900 mm

Type designation in planning documents



Application Schöck Sconnex® type W

High load concentration wall end / building floor with Schöck Sconnex® type W

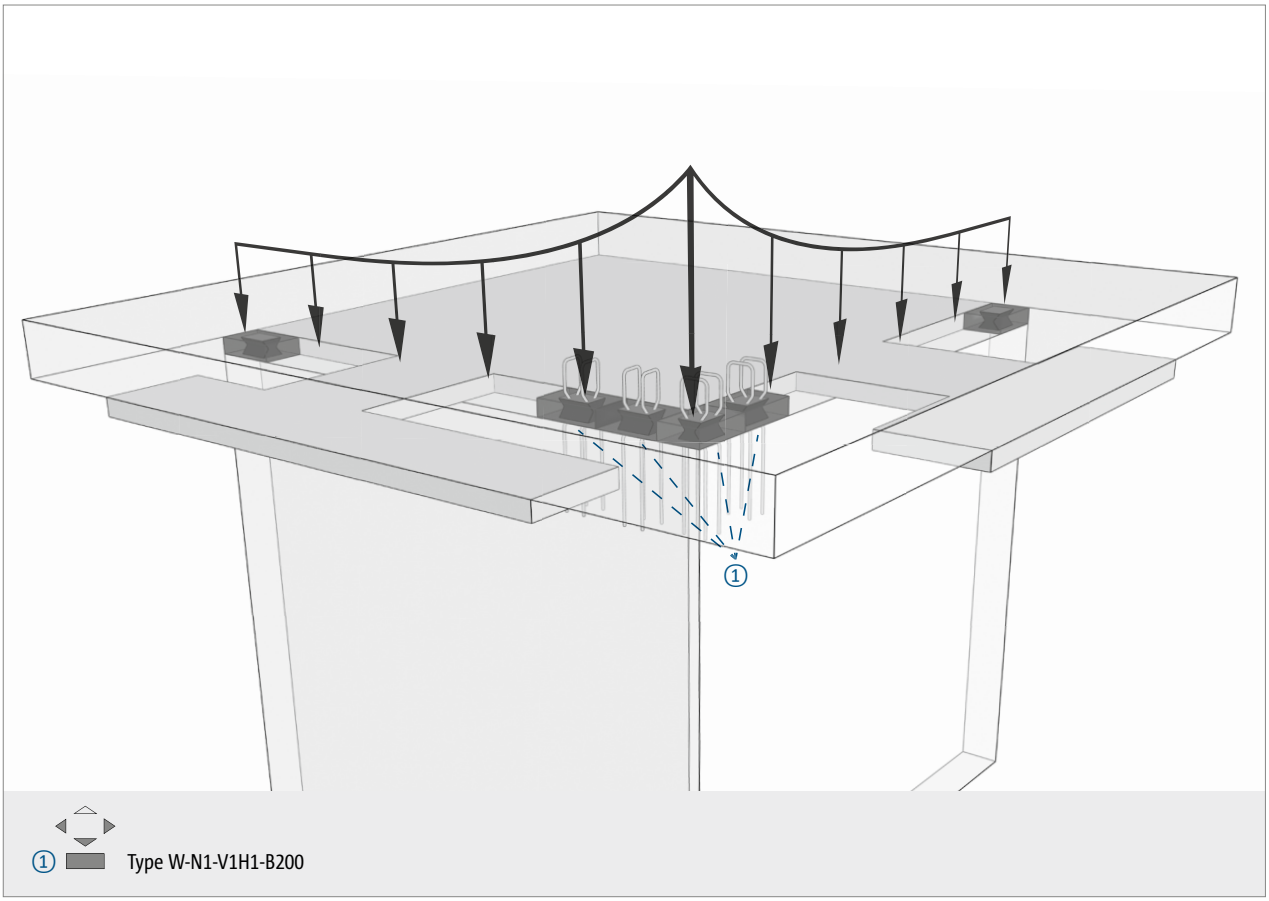


Fig. 73: Wall corner separated under floor

In the example presented a wall corner is separated under the floor. Typically, very high loads concentrate in such construction points (corners attract load). In order to separate such wall corners sensibly the relevant Schöck Sconnex® types are to be laid in a more concentrated manner. In the figure, this takes place through the dense arrangement of shear force transmitting Schöck Sconnex® type W-N-VH.
Along with this area with high load concentration, there is typically an area with reduced loading to be found. Here the element spacings of the required Schöck Sconnex® types can be planned larger.
Due to the changed pressure area of the Schöck Sconnex® type W, the punching through of the floor with the pressure area of the Schöck Sconnex® of 150 × 100 mm must be verified.

Application Schöck Sconnex® type W

Earth pressure loaded wall with Schöck Sconnex® type W

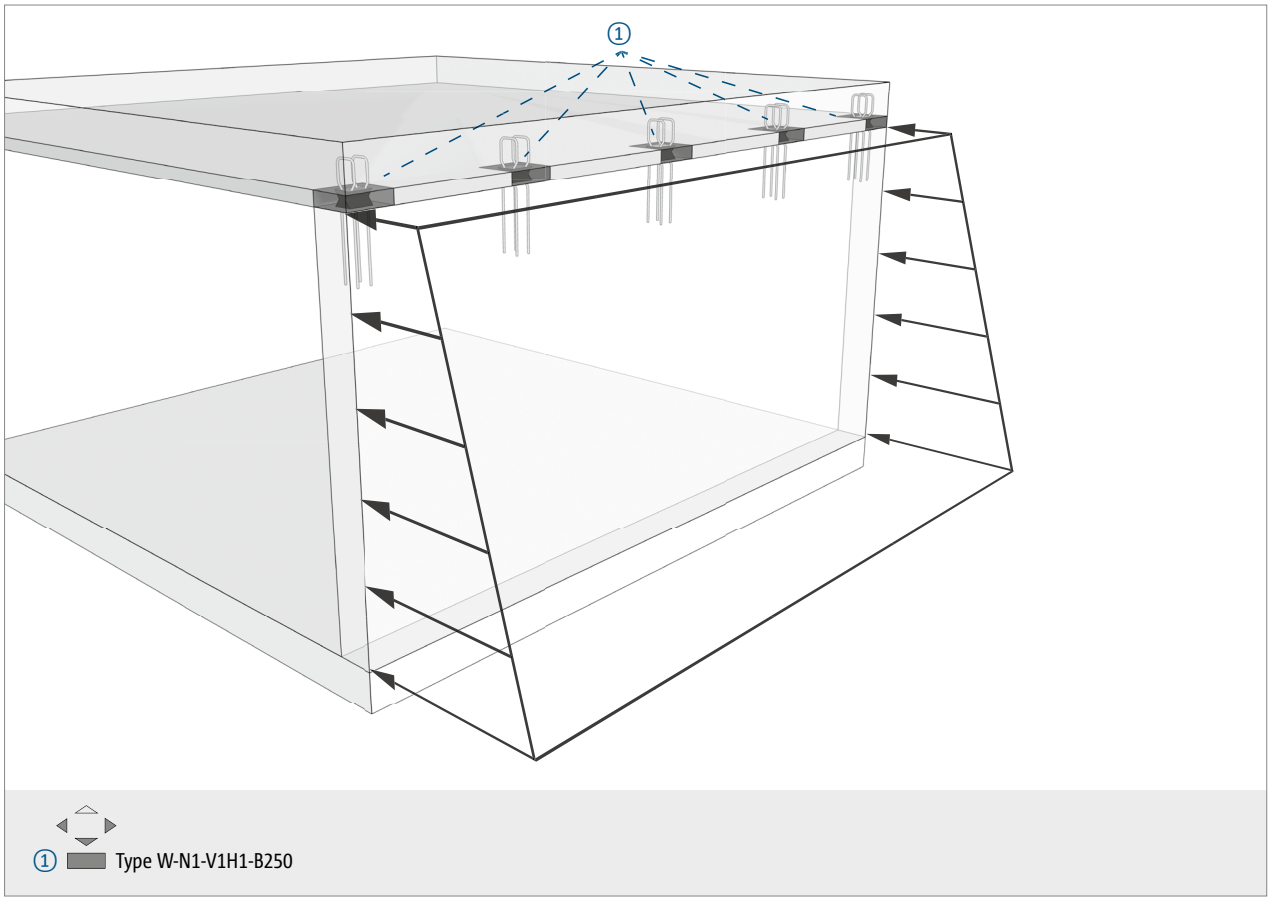


Fig. 74: Earth pressure loaded wall separated below floor

If Schöck Sconnex® type W is used on an exterior wall standing in the ground, the shear from earth pressure must be taken into account in addition to the normal force. This loading can often be relevant. Schöck Sconnex® type W-N-VH is suitable for this application. For the floor it should be noted that the support changes from a linear support to a point support. The design of the slab must be analogous to a column-supported system with a load application area of 150 × 100 mm.

Application Schöck Sconnex® type W

Wind loaded facade wall with Schöck Sconnex® type W

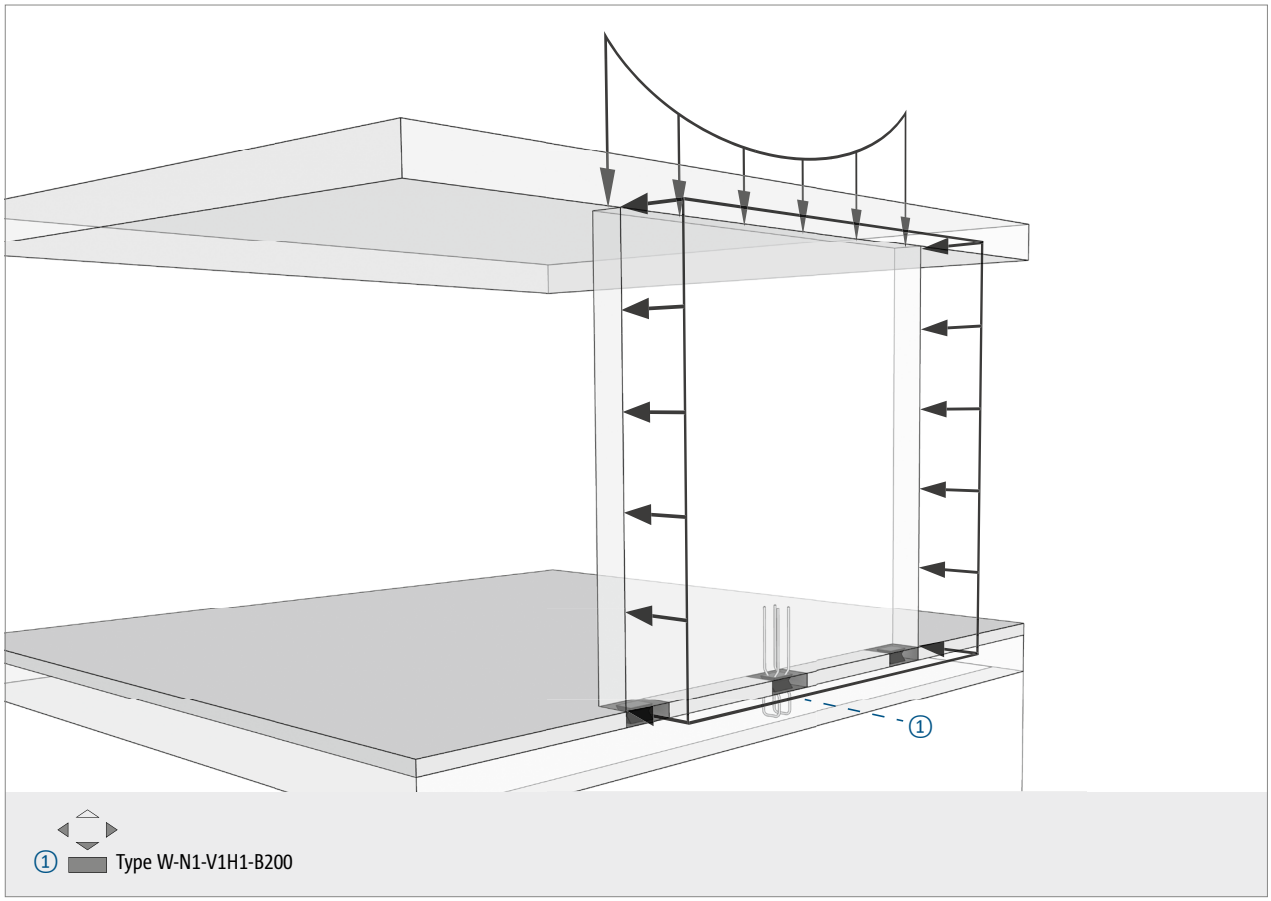


Fig. 75: Wind loaded facade wall separated on the floor

Wind-loaded facade walls are essentially loaded by compressive and horizontal forces. Typically, the wind forces on the facade are small. The separation of the joint can thus take place optimally using Schöck Sconnex® type W-N-VH.

Application Schöck Sconnex® type W

Cross wall, mounted one-sided, with Schöck Sconnex® type W

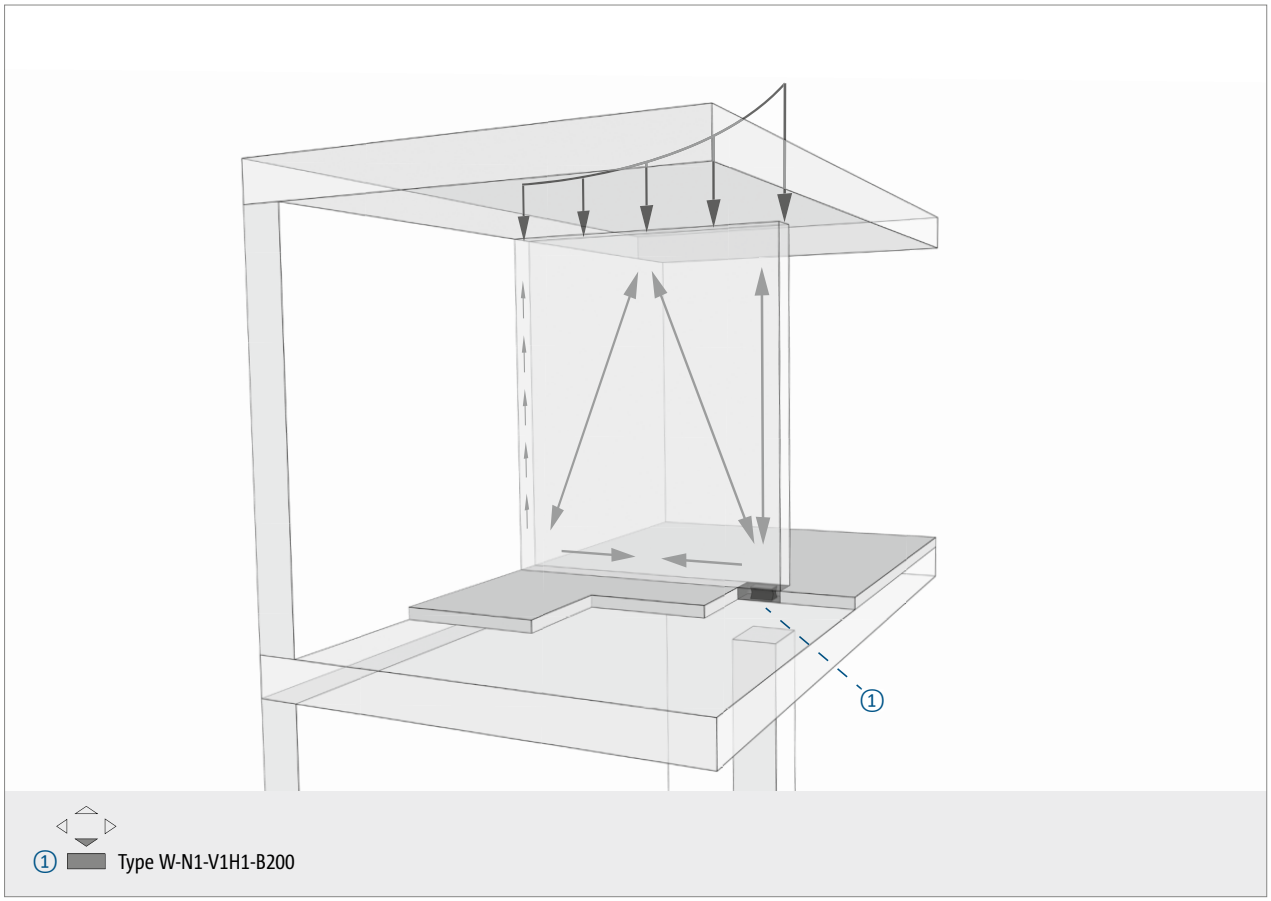


Fig. 76: Wall at stairwell, separated at the floor, point support

In contrast to the projecting shear wall, this shear wall is mounted directly on the underlying column and indirectly to the connected rear wall. With this, at the wall end over the column, an input compressive force arises, which is transmitted by a Schöck Sconnex® type W-N-VH. With very high loads several Schöck Sconnex® type W-N-VH can be laid directly on each other in order to guarantee a sufficient transfer.

Application Schöck Sconnex® type W

Floor suspension via wall-type support with Schöck Sconnex® type W

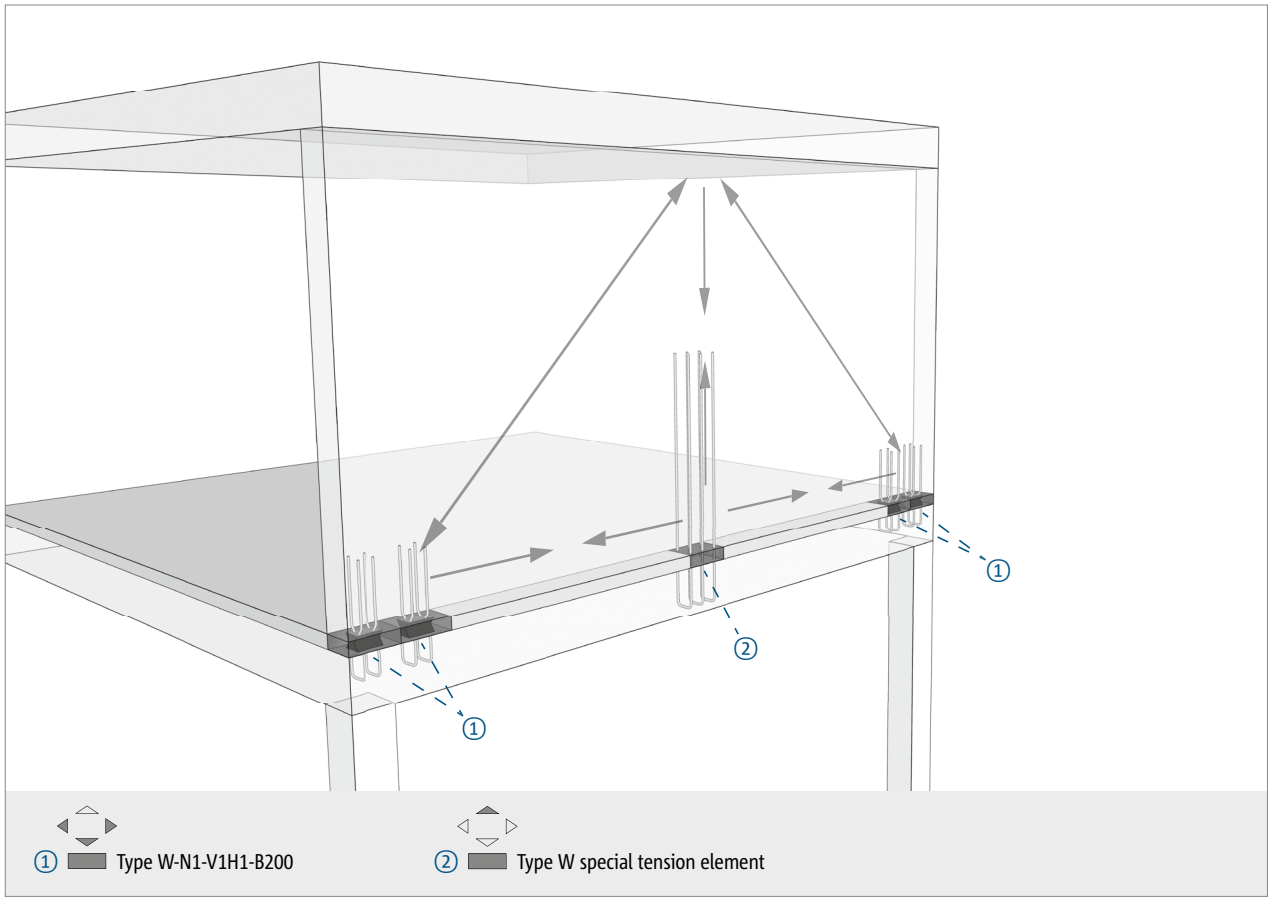


Fig. 77: Wall-type beam separated at the floor

The example presented involves a wall-like beam. The support of the beam element takes place on the columns in the basement. The Schöck Sconnex® types W-N-VH are suitable for the removal of the high support forces. An increased punching shear load only occurs if the required Schöck Sconnex® type W is not located in the punching cone of the support below. In the room, typically the lower floor must be hung on the shear wall. With the verification of the shear wall, attention is to be paid that the tie member lies against the concreted solution in the wall.

Design normal force

Feature of performance N – acceptable normal force $N_{Rd,z}$ (compression)

Schöck Sconnex® type W		N1	
Design values with		Concrete strength class ≥ C25/30	Concrete strength class ≥ C30/37
		Floor thickness ≥ 200 mm	
		$N_{Rd,z,wall}$ [kN/element]	
Wall thickness [mm]	150	250.0	300.0
	180	450.0	540.0
	≥ 200	500.0	600.0

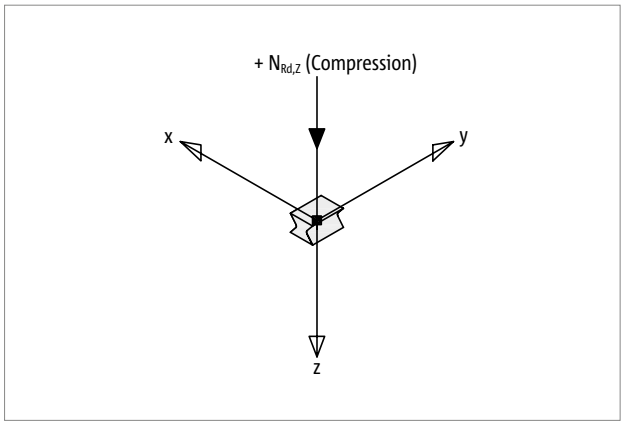


Fig. 78: Schöck Sconnex® type W-N: The design force $+N_{Rd,z}$ (compression) in the coordinate system

Notes on design

- The design values have been determined according to BS EN 1992-1-1, Section 6.7.
- Wall thickness 150 mm: Reduced table value N_{Rd} due to a design without splitting tension reinforcement (Pos. 3). Part TB with a stirrup width ≥ 130 mm, independent of the concrete cover c_{nom}, in general requires wall thicknesses ≥ 180 mm.
- The lowering depth of the Schöck Sconnex®, with the performance feature N1, in the floor is with 10 mm taken into account with the presented design values $N_{Rd,z}$ (compression). See solid pairing page 51.

Shear force dimensioning

- The shear force resistances of all adjacent structural elements are to be verified as per BS EN 1992-1-1 (EC2) by the structural engineer. Thus, for example, the punching-through of the floor with a bearing surface of the Sconnex® type W of 150 × 100 mm is to taken into account by the structural engineer.

Design shear force

Secondary load-bearing level V1H1 – acceptable shear forces $V_{Rd,x}$ and $V_{Rd,y}$

Schöck Sconnex® type W	Feature N
Design values with	Secondary load-bearing level V1H1
	Concrete strength class ≥ C25/30
Shear force in x-direction	$V_{Rd,x}$ [kN/Element]
Variant A – on-site reinforcement on the outside	±88.0
Variant B – on-sitel reinforcement on the inside	±46.3
Shear force in y-direction	$V_{Rd,y}$ [kN/element]
	±59.0
Interaction	$V_{Ed,y}/V_{Rd,y} + V_{Ed,x}/V_{Rd,x} \leq 1$

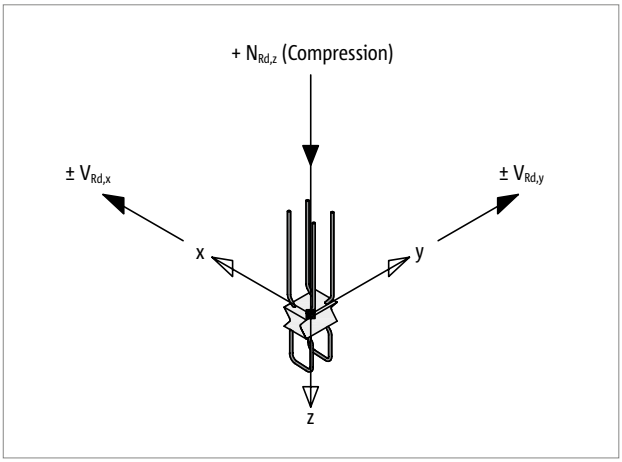


Fig. 79: Schöck Sconnex® type W-N-VH: The design forces $+N_{Rd,z}$ (compression), $+V_{Rd,x}$ and $-V_{Rd,y}$ in the coordinate system

Variants A

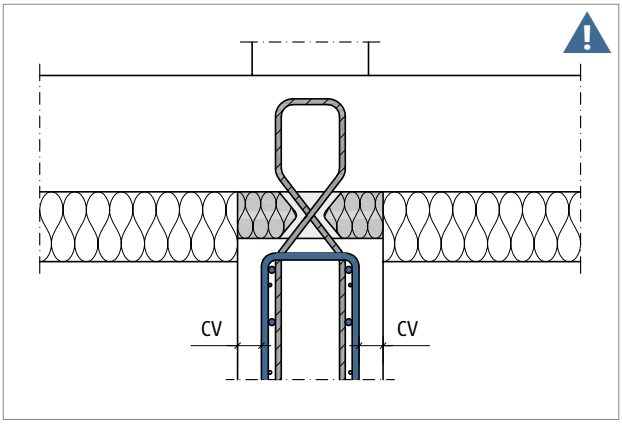


Fig. 80: Schöck Sconnex® type W-N-VH: Variant A – on-site reinforcement; the outer longitudinal reinforcement supports the shear force bars of the Schöck Sconnex® against the structural element surface

Variants B

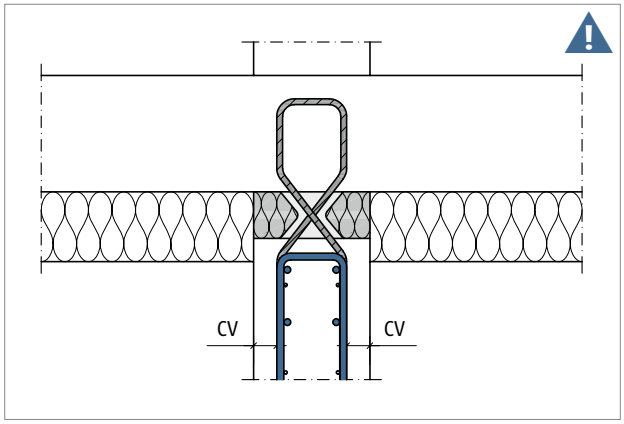


Fig. 81: Schöck Sconnex® type W-N-VH: Variant B (for small wall thicknesses) – on-site reinforcement; the longitudinal reinforcement supports the shear force bars of the Schöck Sconnex® against the inside of the reinforced concrete structural element

Design

Schöck Sconnex® type	W
Placement with	Main load-bearing level
	N1
Pressure bearing	1
Additional placement for	Secondary load-bearing level
	V1H1
Shear force bars	2 × 2 ⌀ 10

Notes on design

- With a connection using Schöck Sconnex® type W a freely rotating bearing (torque hinge) is assumed as static system. The extension spring rigidity in accordance with page 66 is to be noted.
- For a combined loading in the X- and Y- direction a linear interaction must be carried out.
- The design values $V_{Rd,x}$ depend on the support of the shear force bars in the force introduction area. See the differentiation of the on-site variants A and B page 77.
- Information on the centre-to-centre distances e_A are to be noted, see page 65.

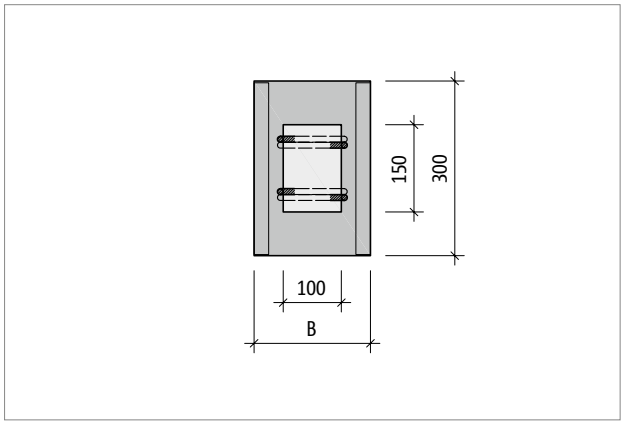


Fig. 82: Schöck Sconnex® type W-N-VH: Product plan view; pressure bearing area 150 mm × 100 mm

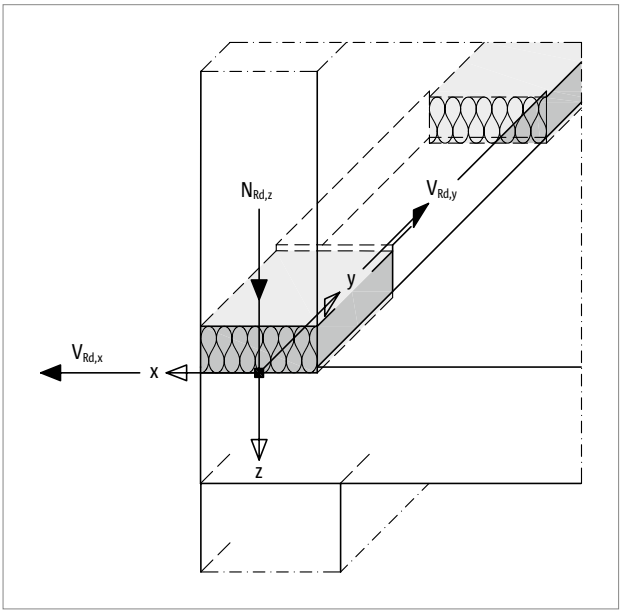


Fig. 83: Schöck Sconnex® type W: Sign convention for the design

Information on earthquakes

- In earthquake zones we recommend ensuring the stiffening of the buildings with walls, which have not been separated using Schöck Sconnex®.

Centre-to-centre distances

Centre-to-centre distances
Schöck Sconnex® type W must be so positioned that minimum and maximum values for the centre-to centre distances are maintained:

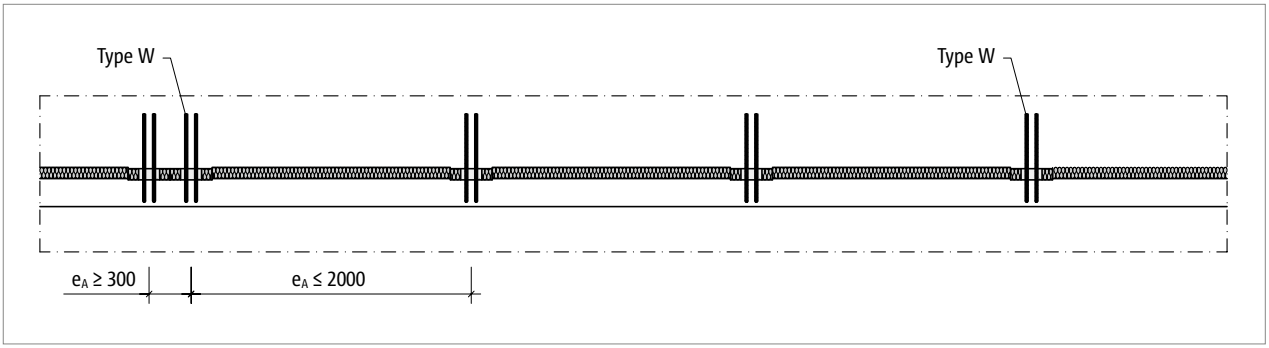


Fig. 84: Schöck Sconnex® type W: Minimum and maximum centre distance e_A

Temperature effect | Fatigue | Extension spring stiffness

Deformation from temperature effect

Temperature differences in buildings are to be taken into account with the design of the structural element according to BS EN 1991-1-5, Section 5. The deformations of the Schöck Sconnex® type W due to the effects of temperature must be limited to +/- 1.0 mm. Accordingly, the limitation applies for horizontal displacements due to the effects of temperature between floor and wall. The reduction of the cross-section areas and wall lengths due to door openings, window openings, balustrades and other recesses/inlays and the crack formation associated with this is to be taken into account with the displacement verification. Should the temperature deformation with long shear walls be problematic, expansion joints or through-concreted fixed points must be arranged. The connection between the floor and wall with Schöck Sconnex® type W is to be made permanently fatigue-proof in compliance with the maximum expansion joint spacings which are to be dimensioned.

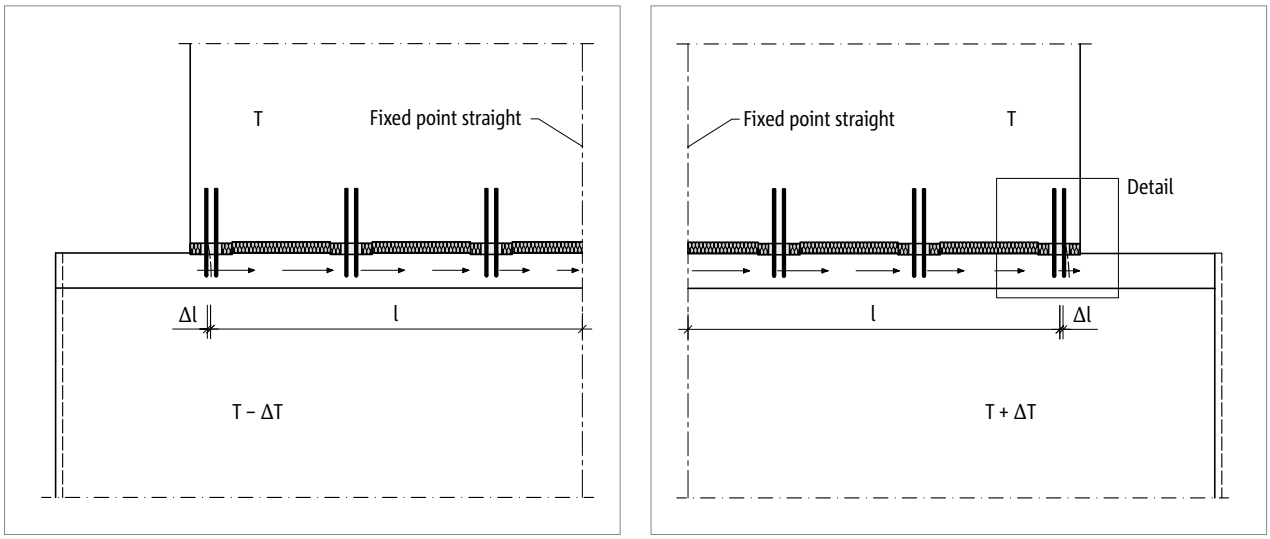


Fig. 85: Schöck Sconnex® type W: Displacement of the outer bars of a wall by Δl as a result of temperature deformation

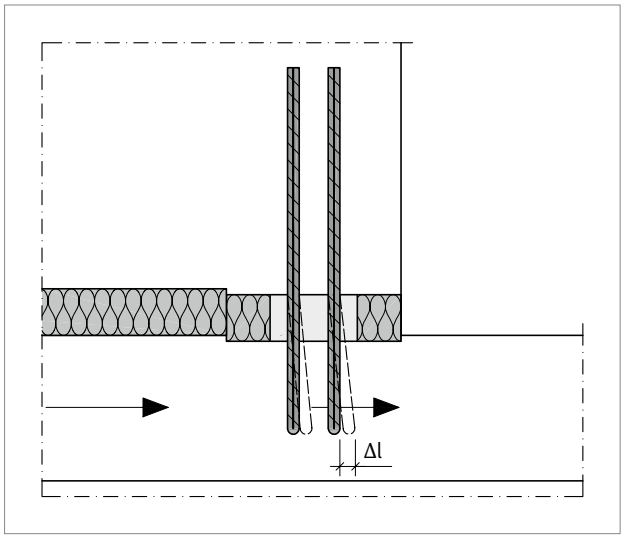


Fig. 86: Schöck Sconnex® type W: Δl as a result of temperature deformation in detail

Schöck Sconnex® type W	Feature N
Extension spring stiffness in	$K_{w,z}$ [kN/m/element]
z-direction	700000

Schöck Sconnex® type W	Secondary load-bearing level V1H1	
Extension spring stiffness in	$K_{w,x}$ [kN/m/element]	$K_{w,y}$ [kN/m/element]
x-, y-direction	87500	125000

Product description

Schöck Sconnex® type W-N-VH

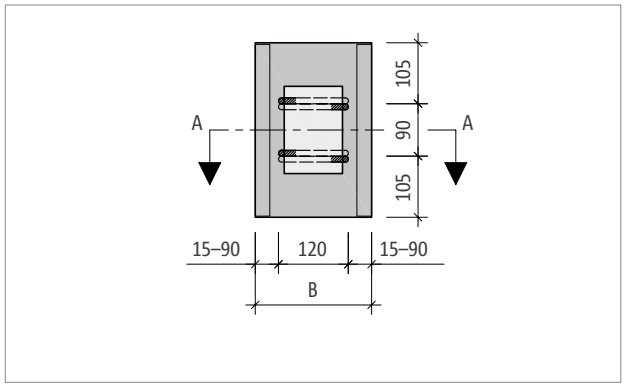


Fig. 87: Schöck Sconnex® type W-N-VH: Product plan view; positioning of shear force bars

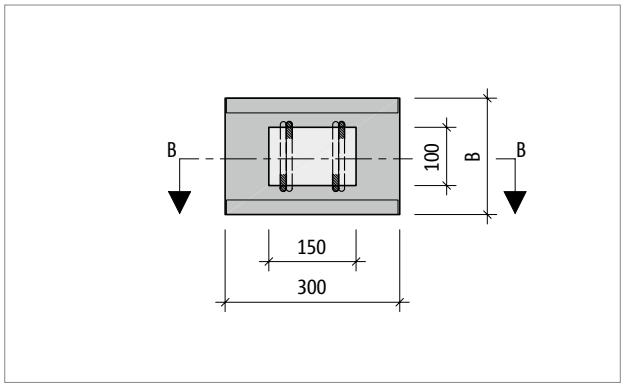


Fig. 88: Schöck Sconnex® type W-N-VH: Product plan view, pressure bearing area 150 × 100 mm

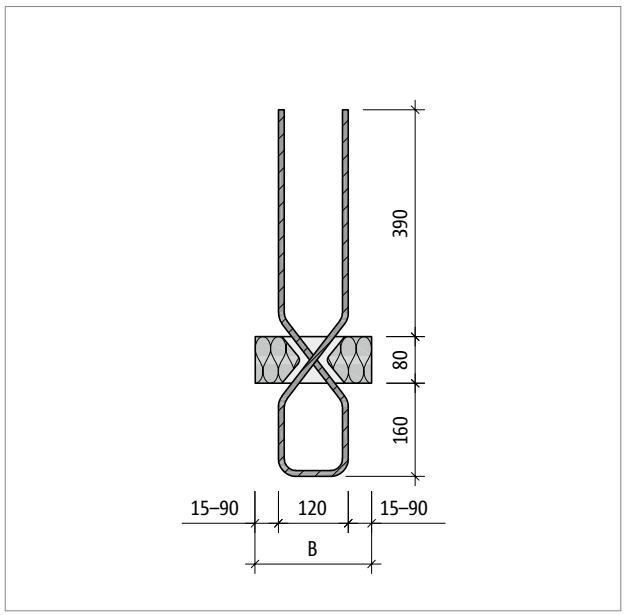


Fig. 89: Schöck Sconnex® type W-N-VH: Product section A-A

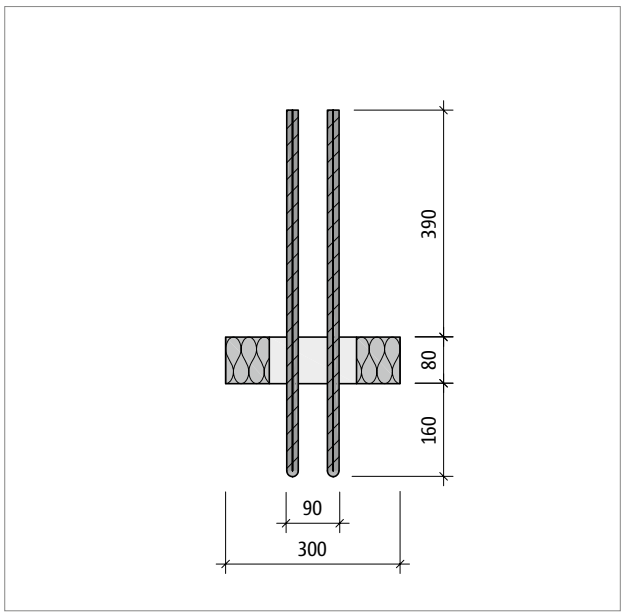


Fig. 90: Schöck Sconnex® type W-N-VH: Product section B-B

Product information

- Download further product plan views and cross-sections at cad.schoeck.co.uk

Product description

Installation aid Part M

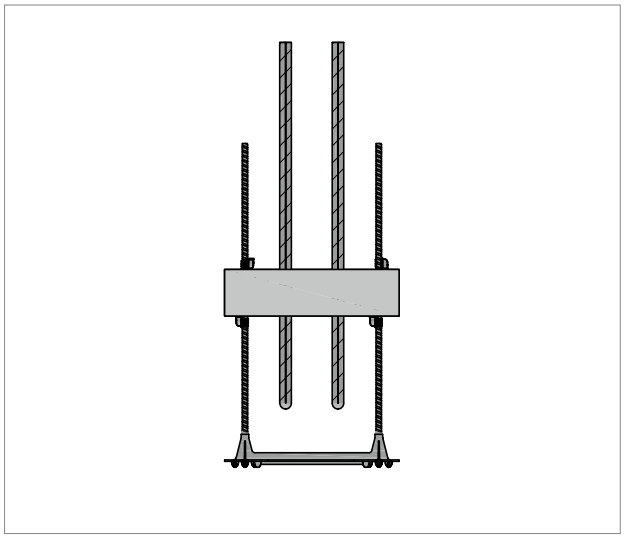


Fig. 91: Schöck Sconnex® type W: Product view with installation aid

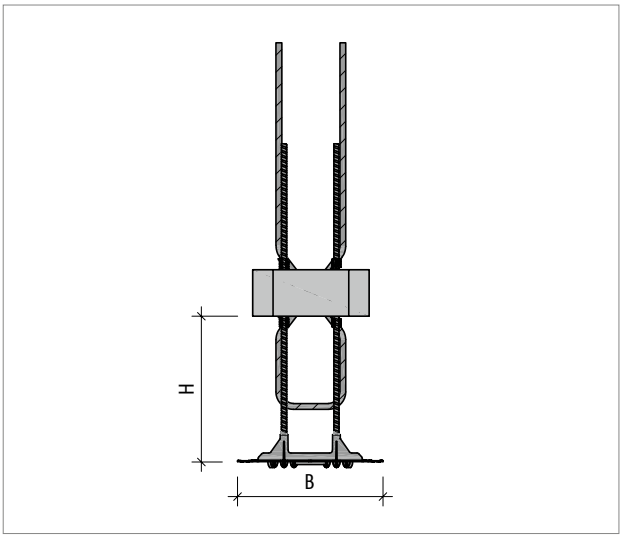


Fig. 92: Schöck Sconnex® type W: Product section with installation aid

Product information

- With the application of Schöck Sconnex® type W at the foot of the wall it is recommended that an installation aid is used (type W Part M, see Installation instructions page 83). With application at the top of the wall no installation aid (type W Part M) is required (see Installation instructions page 81).

Fire protection

As a rule, the fire protection is ensured by the surrounding construction and, if necessary, through the arrangement of mineral wool.
For the exact determination of the fire protection measures, there are expert opinions for the Schöck Sconnex® type W.
The fire protection expert opinions can be found under:
www.schoeck.com/download/uk

Notes

- The details listed are excerpts from the fire protection expert opinions. The complete fire protection reports must be observed with the planning.
- The additional fire protection measures shown in the details must be carried out along the entire length of the wall.
- The mineral wool used must be non-combustible and dimensionally stable up to 1000 °C.
- Edge strips or fire protection strips made of mineral wool must be fixed in a fire-safe manner and in accordance with the manufacturer's specifications.
- The installation of the thermal insulation composite system and, if applicable, the fire bar must be carried out professionally according to the specifications of the usability certificate of the ETICS.

Connection interior wall to floor

R 120 / REI 30

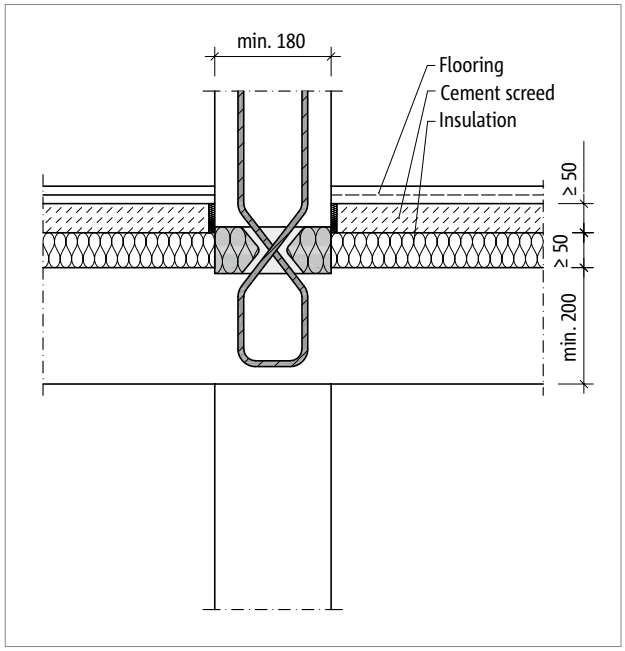


Fig. 93: Schöck Sconnex® type W: With EPS impact sound insulation

R 120 / REI 120

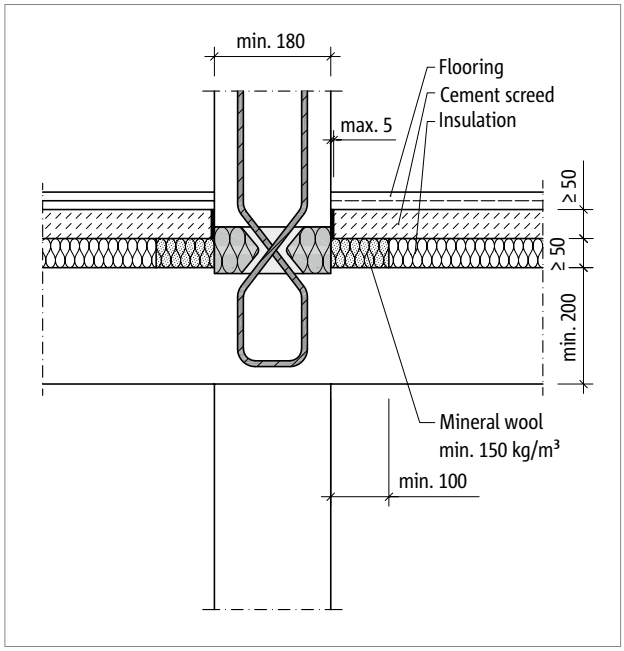


Fig. 94: Schöck Sconnex® type W: With mineral wool edge strips in the area of impact sound insulation

Fire protection

R 120 / REI 60

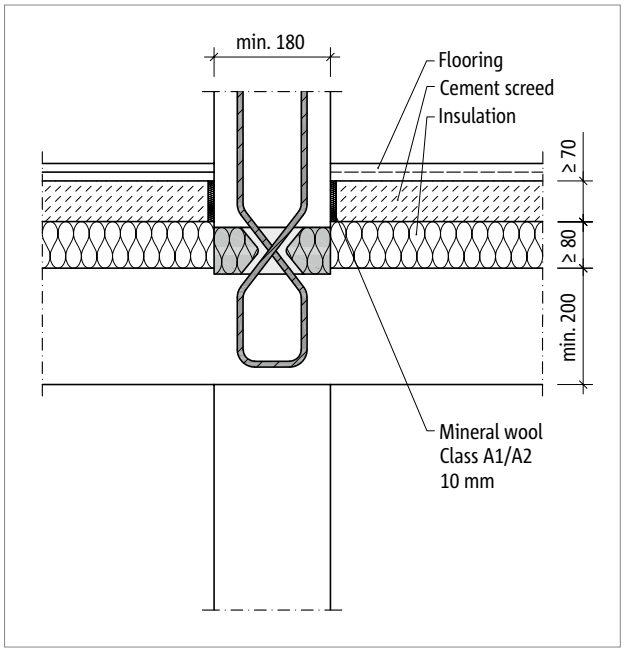


Fig. 95: Schöck Sconnex® type W: With mineral wool fire protection strips in the screed edge area

Connection exterior wall to floor

R 30 / REI 0

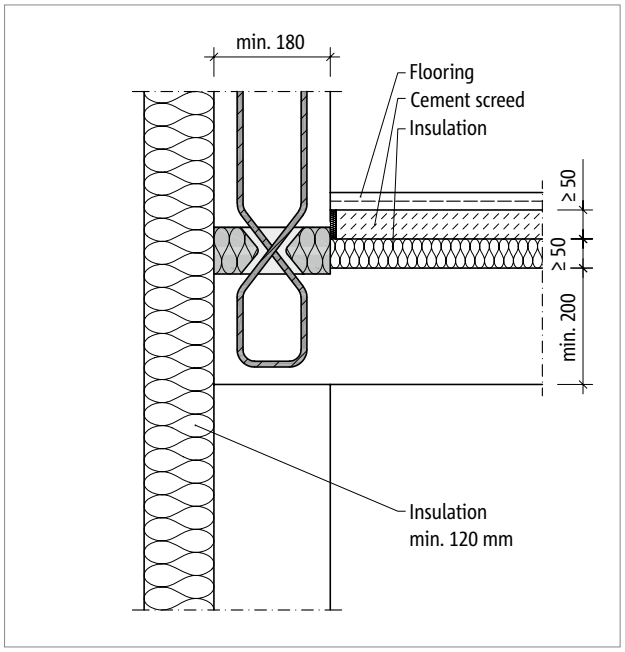


Fig. 96: Schöck Sconnex® type W: For combustible ETICS (exterior) without fire protection measures

R 120 / REI 120

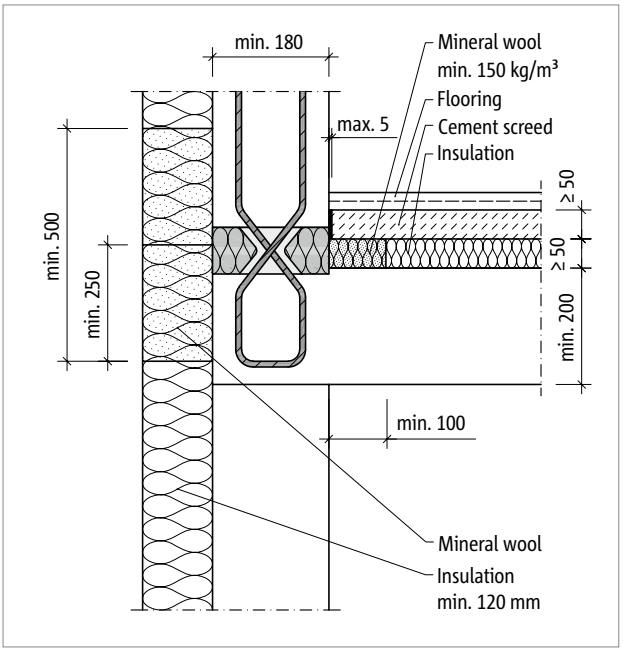


Fig. 97: Schöck Sconnex® type W: For combustible ETICS (exterior) with fire bar and edge strips made of mineral wool in the area of impact sound insulation

Fire protection

R 120 / REI 60

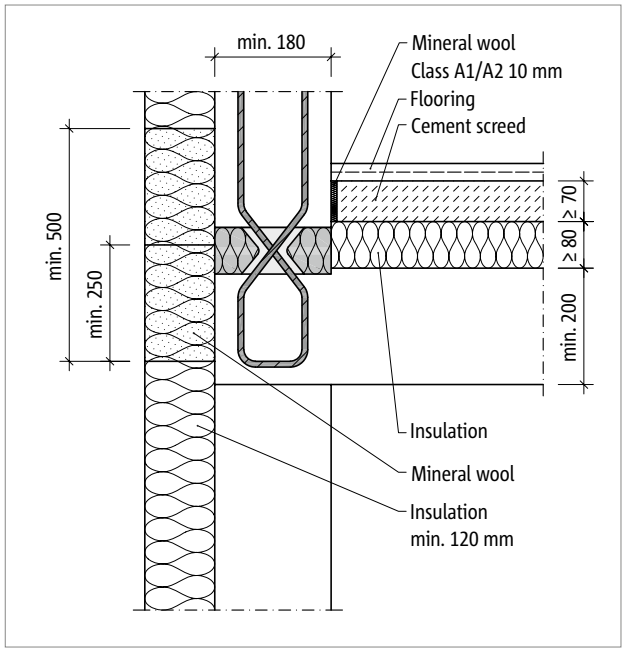


Fig. 98: Schöck Sconnex® type W: For combustible ETICS with mineral wool fire bar

Connection interior wall below floor

R 30 / REI 0

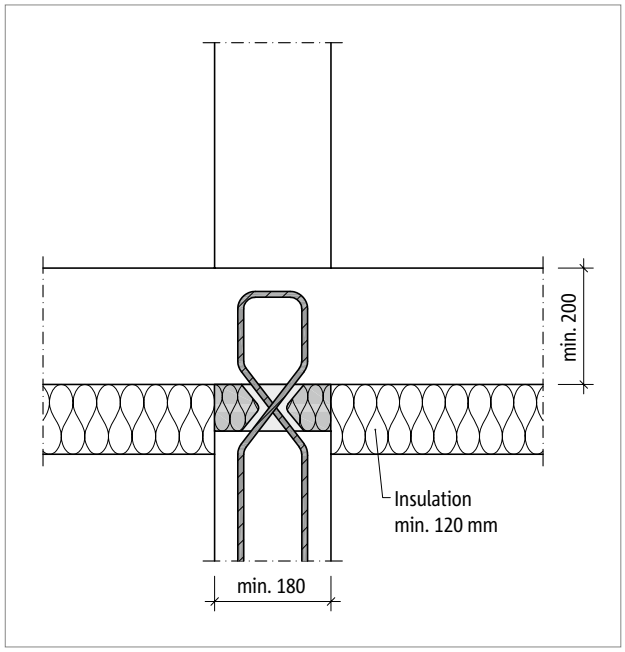


Fig. 99: Schöck Sconnex® type W: For suspended ceiling insulation without fire protection measures

R 120 / REI 120

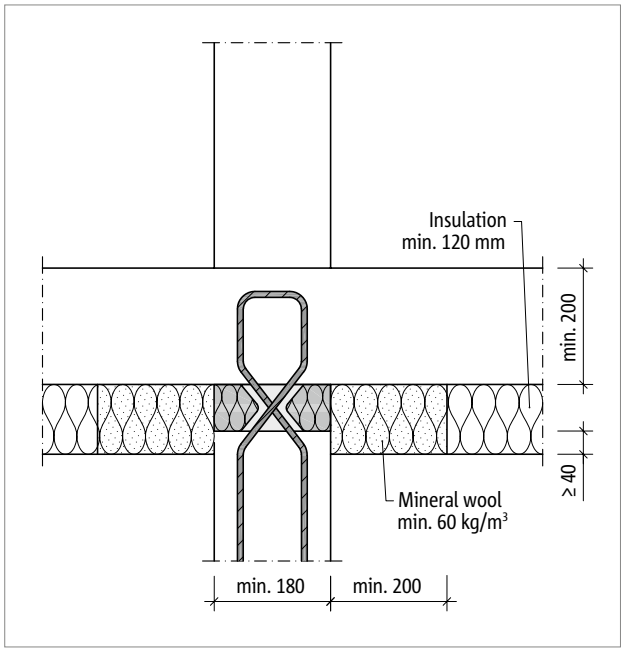


Fig. 100: Schöck Sconnex® type W: With mineral wool edge strips in the area of suspended ceiling insulation

Fire protection

R 120 / REI 120

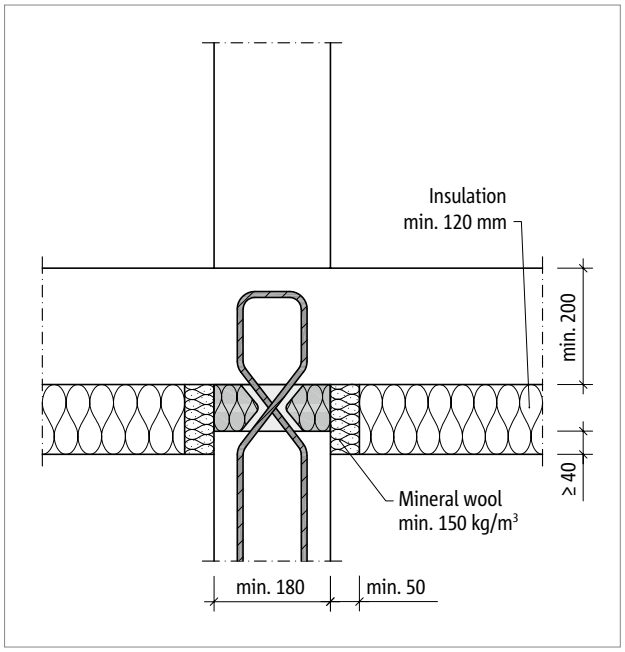


Fig. 101: Schöck Sconnex® type W: With mineral wool fire protection strips in the area of suspended ceiling insulation

Connection exterior wall below floor (analogue for parapet)

R 30 / REI 0

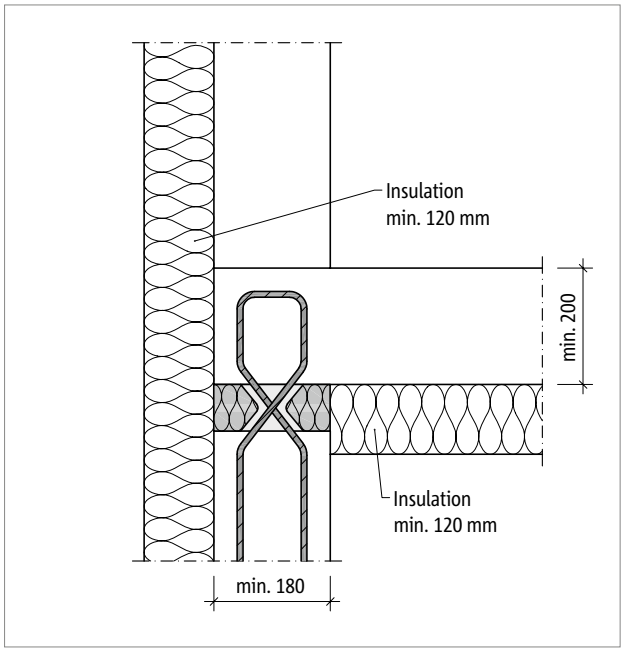


Fig. 102: Schöck Sconnex® type W: For combustible ETICS (exterior) without fire protection measures

Fire protection

R 120 / REI 120

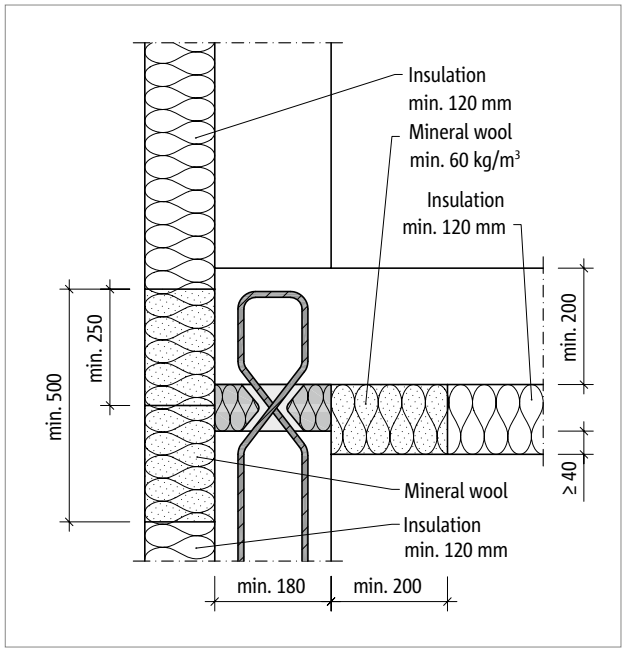


Fig. 103: Schöck Sconnex® type W: For combustible ETICS with fire bar (exterior) and edge strips made of mineral wool (interior)

R 120 / REI 120

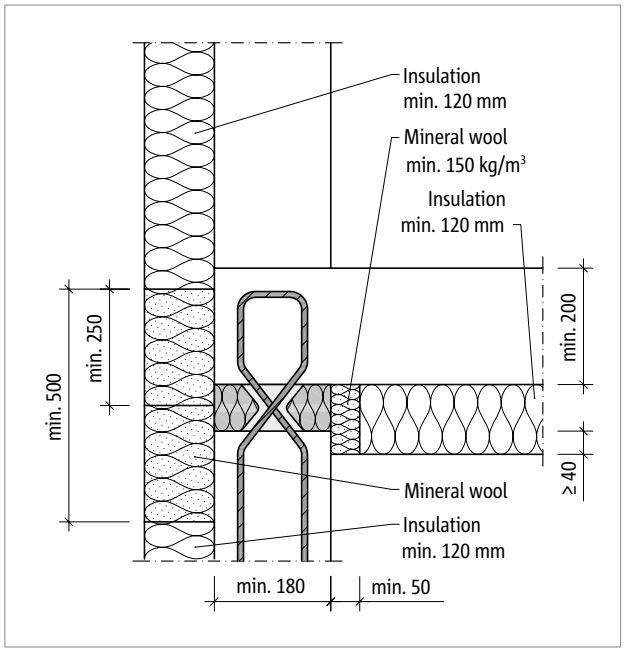


Fig. 104: Schöck Sconnex® type W: For combustible ETICS with fire bar (exterior) and fire protection strips made of mineral wool (interior)

On-site reinforcement

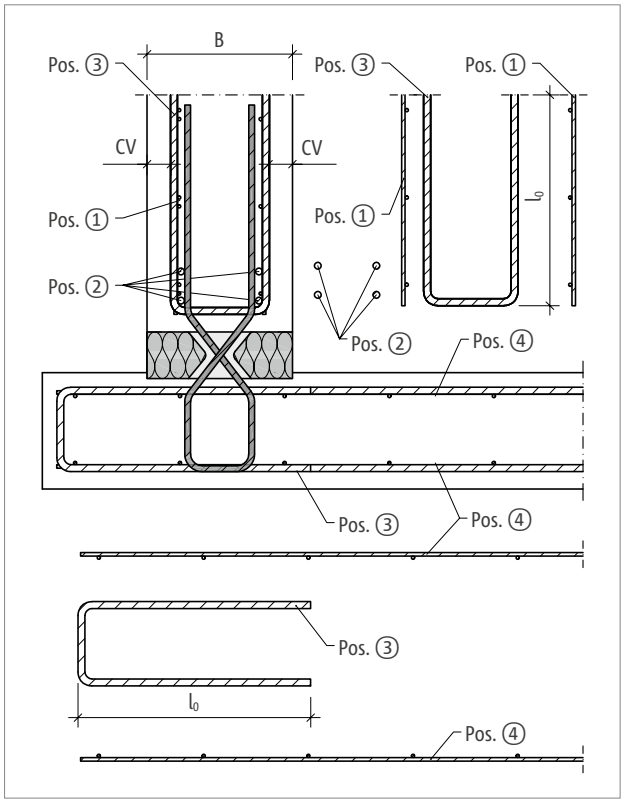


Fig. 105: Schöck Sconnex® type W-N-VH: Variant A – on-site reinforcement for connection at base of wall

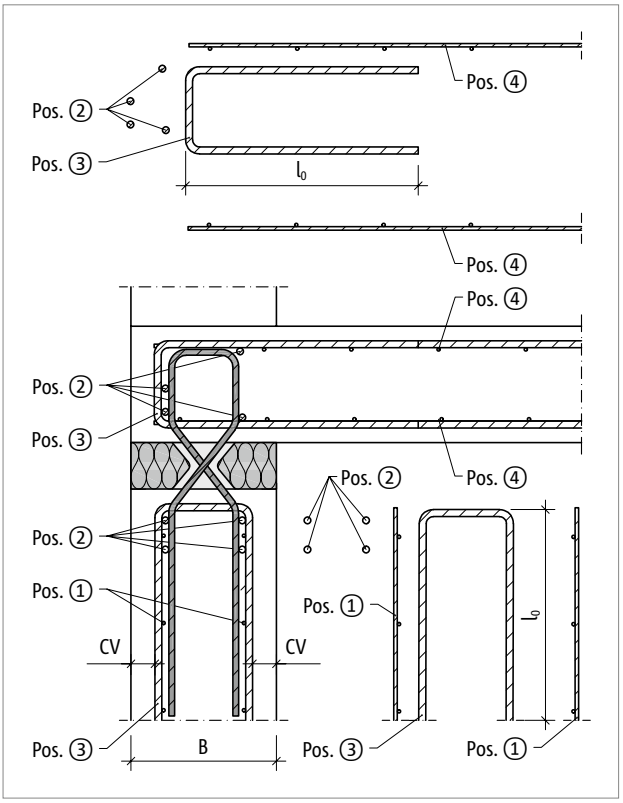


Fig. 106: Schöck Sconnex® type W-N-VH: Variant A – on-site reinforcement for connection at top of wall

On-site reinforcement

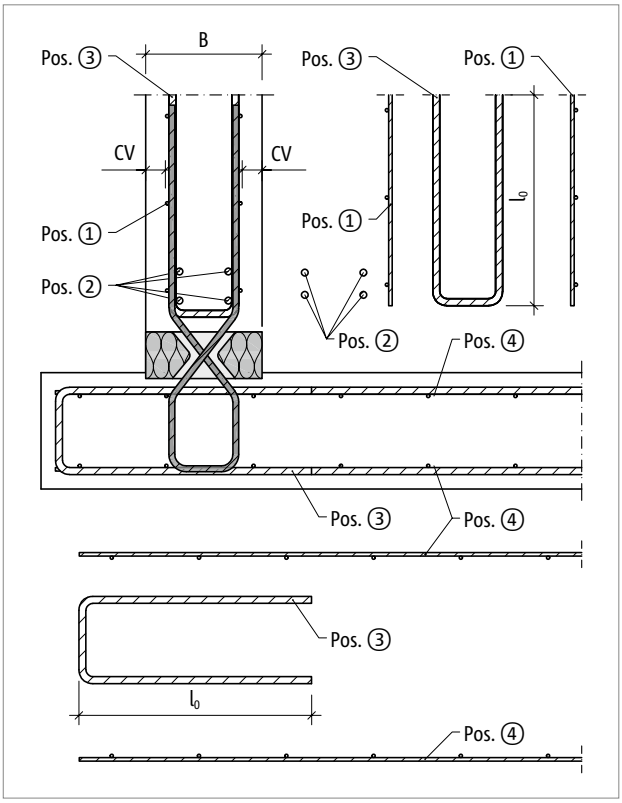


Fig. 107: Schöck Sconnex® type W-N-VH: Variant B – on-site reinforcement for connection to the foot of wall

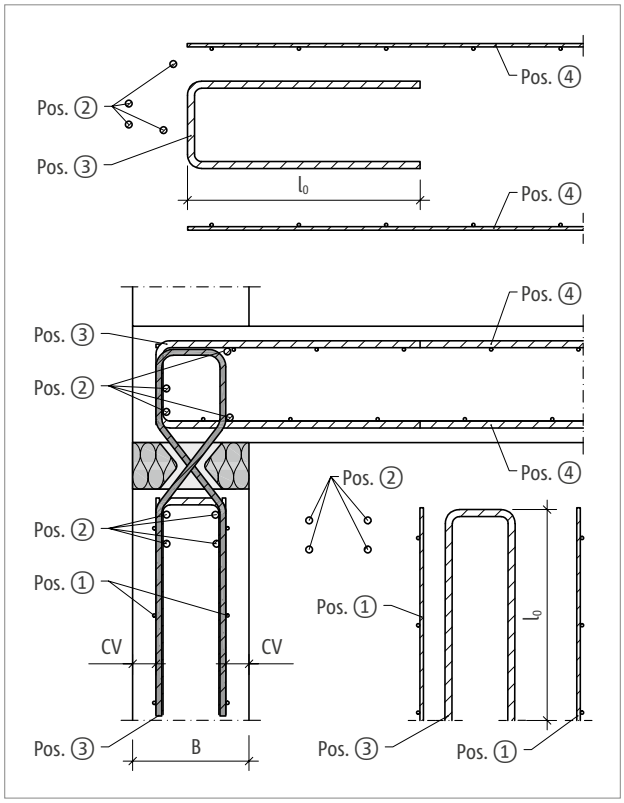


Fig. 108: Schöck Sconnex® type W-N-VH: Variant B – on-site reinforcement for connection to top of wall

Information about on-site reinforcement

- The requirements on the on-site reinforcement apply both for the connection at the foot of the wall and also for the connection at the top of the wall.
- The rules as per BS EN 1992-1-1 apply for the determination of the lap length.
- The requirements on the on-site reinforcement apply both for the connection at the foot of the wall and also for the connection at the top of the wall.
- Pos. 3: Stirrup width ≥ 130 mm for Schöck Sconnex® type W width B ≥ 180 mm. Take note of concrete cover c_{nom} in the wall.

On-site reinforcement

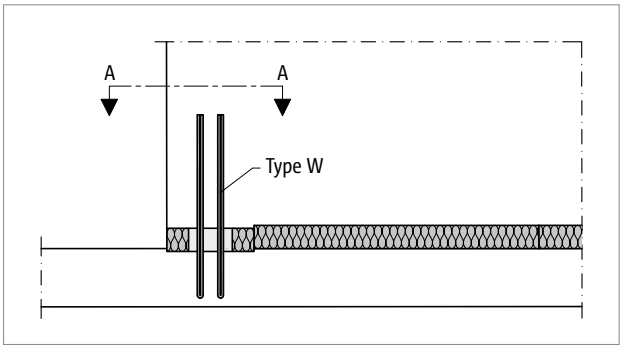


Fig. 109: Schöck Sconnex® type W-N-VH: On-site reinforcement for connection to end of wall

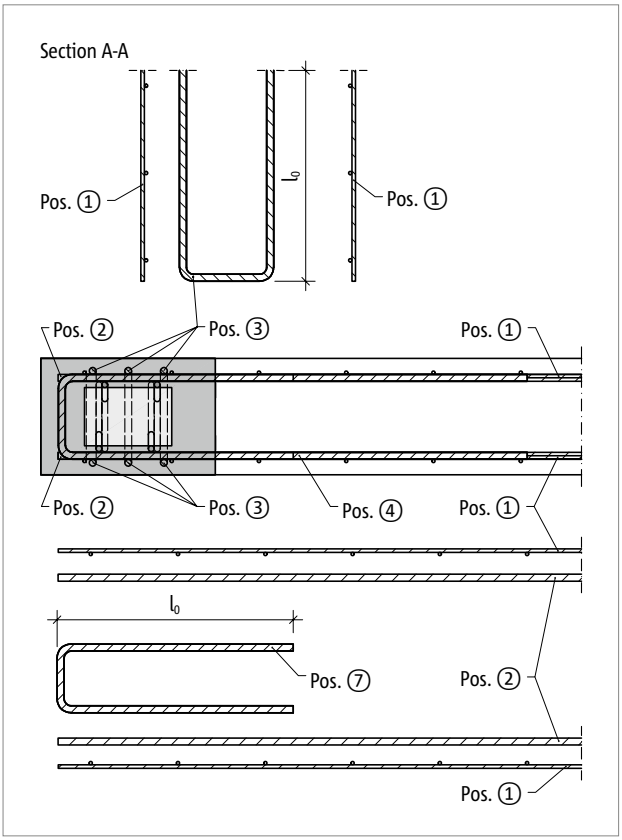


Fig. 110: Schöck Sconnex® type W-N-VH: Variant A – on-site reinforcement with Pos. 4 for connection to end of wall

Schöck Sconnex® type W		N1-V1H1
On-site reinforcement	Location	Concrete strength class ≥ C25/30
Overlapping reinforcement		
Pos. 1	Wall	–
Steel bars along the insulation joint		
Pos. 2	Wall	2 • 2 • H12/50
Pos. 2	Floor	2 • H12/50 + 2 • H12
Splitting tensile reinforcement		
Pos. 3	Wall	3 • H12/65
Pos. 3	Floor	3 • H12/60
Bending tensile reinforcement		
Pos. 4	Floor	According to structural engineer's data
Additional reinforcement transverse to the wall		
Pos. 5	Floor	–
Steel bars along the insulation joint		
Pos. 6	Floor	–
Lateral reinforcement		
Pos.7	Floor	According to structural engineer's data
Edging		
Pos. 8	Wall	2 • H12/50

Support of the shear force bars in the force application area | Failure-free force application

Variant A on-site reinforcement

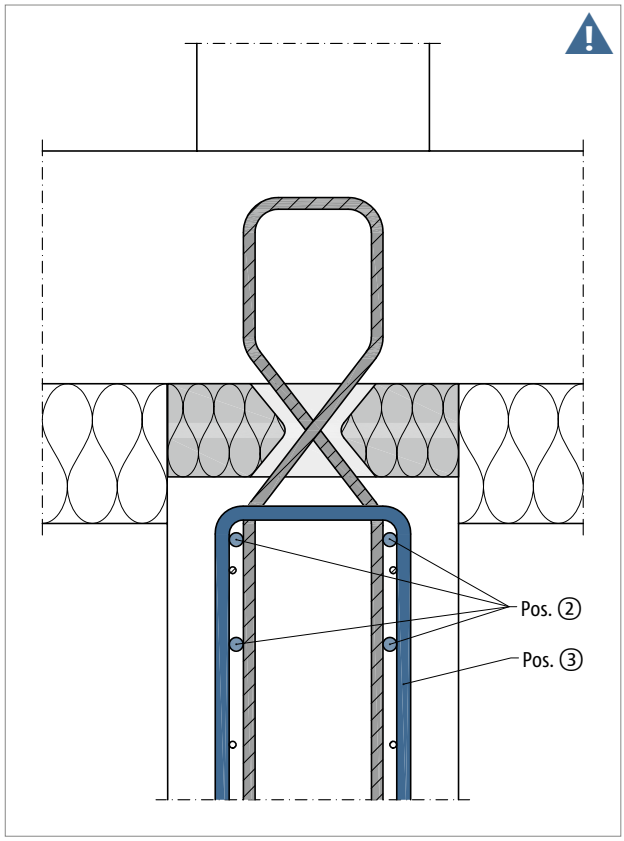


Fig. 111: Schöck Sconnex® type W-N-VH: On-site reinforcement variant A; the external steel bar Pos. 2 supports the shear force bars of the Schöck Sconnex® against the component surface

Variant B on-site reinforcement

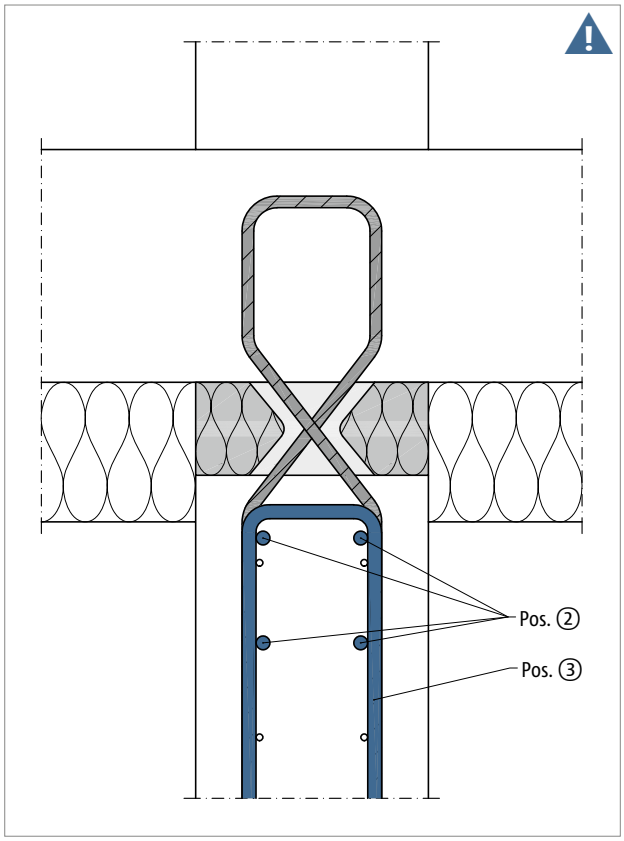


Fig. 112: Schöck Sconnex® type W-N-VH: On-site reinforcement variant B; steel bar Pos. 2 supports the shear force bars of the Schöck Sconnex® against the inside of the reinforced concrete component

Bar steel Pos. 2

- The position of the on-site bar steel along the insulation joint, Pos. 2 influences the design values $V_{Rd,x}$ of the Schöck Sconnex® type W significantly. Maximum design values $V_{Rd,x}$ are possible due to the optimum support of the shear force bars of the Schöck Sconnex® type W.
- An optimum effect is achieved if the bar steel Pos. 2 and the stirrup Pos. 3 support the shear force bars of the Schöck Sconnex® type W against the surface of the reinforced concrete component.

Hazard notice – bracing of the shear force bars of the Schöck Sconnex® type W through on-site reinforcement

- The bracing of the product's own shear force bars by the on-site reinforcement variant A is necessary for the maximum shear force load-bearing capacity of the Schöck Sconnex® type W.
- With interior bar steel Pos. 2 in accordance with variant B, the reduction of the shear force load-bearing capacity of the Schöck Sconnex® type W is to be taken into account according to the design table.

Hazard notice – fault-free force application with Schöck Sconnex® type W

- Openings and built-in units in the force application area of the Schöck Sconnex® type W pressure bearing pose a danger to the load-bearing safety.
- For a failure-free force application in the Schöck Sconnex® type W pressure bearing, the pressure zone in the wall and the floor is to be kept free of openings and built-in units such as, for example lines/cable, pipes and spacers.

Tight fit

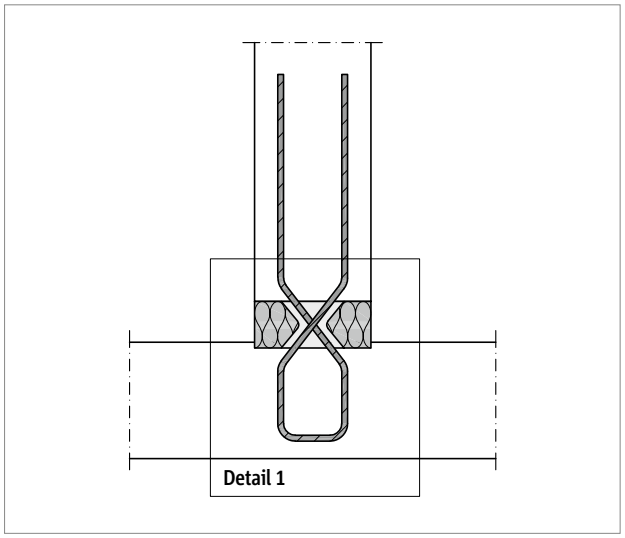


Fig. 113: Schöck Sconnex® type W: Tight fit between the upper edge of the floor and the lower edge of the pressure bearing is ensured

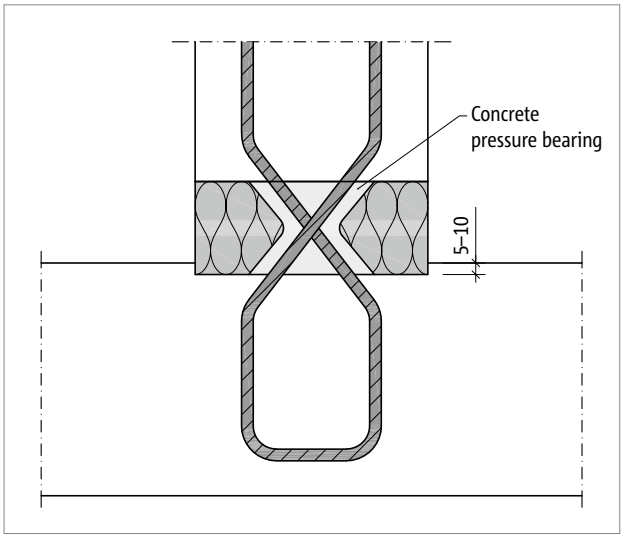


Fig. 114: Schöck Sconnex® type W: Tight fit through 5-10 mm deep countersinking of the insulating element in the floor

⚠ Tight fit

- A tight fit is absolutely necessary between the fresh concrete and the product's own concrete pressure bearing of the Schöck Sconnex® type W!
- The concrete pressure bearing of the Schöck Sconnex® type W must be countersunk 5–10 mm into the floor. The minimum insert depth is to be indicated on the insulation element.
- Compact the concrete carefully. Cavities are to be avoided at all costs.

Design example

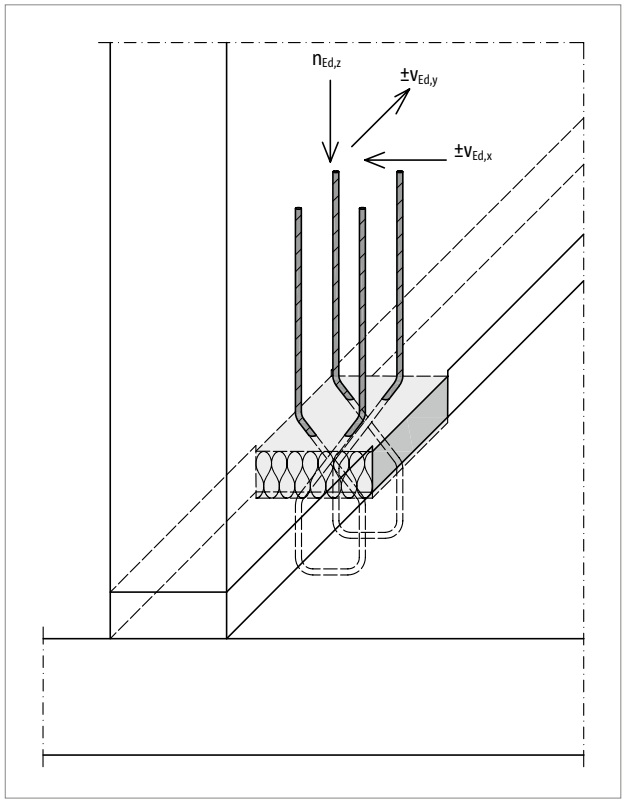


Fig. 115: Schöck Sconnex® type W-N-VH: Static system

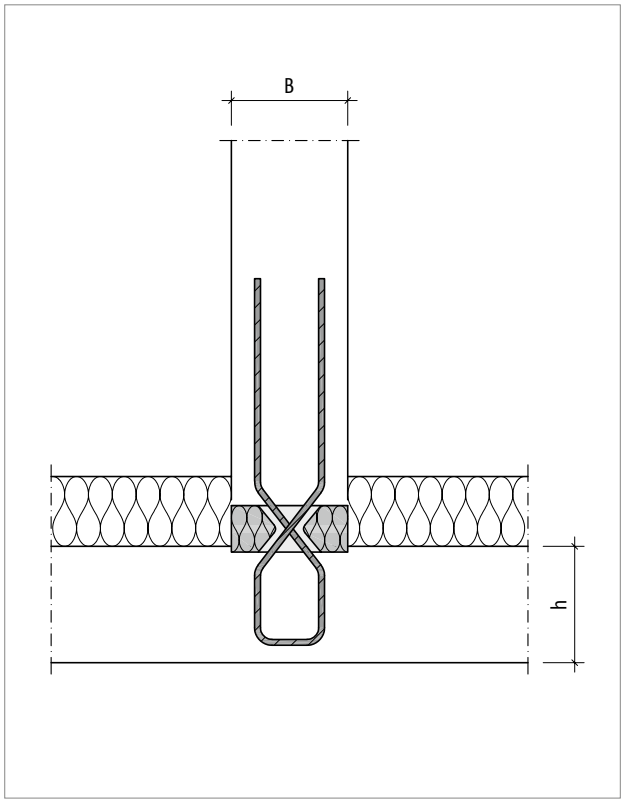


Fig. 116: Schöck Sconnex® type W-N-VH: Geometry

Geometries:

Wall thickness:	B = 180 mm
Floor height:	h = 250 mm
Separation:	e_A = 1000 mm
Pressure bearing surface:	d_1 = 150 mm, b_1 = 100 mm (Schöck Sconnex® type W see page 67)

Internal forces from static calculation:

Compressive force:	$n_{Ed,z}$ = 370 kN/m
Shear force perpendicular to the wall from earth pressure:	$v_{Ed,x}$ = ±5 kN/m
Shear force along wall from building stabilization:	$v_{Ed,y}$ = ±50 kN/m

Exposure classes:

Wall/floor:	inside XC 1, outside XC 4
selected:	Concrete strength class C25/30 for wall and floor
	Concrete cover c_{nom} = CV = 35 mm for the splitting tension reinforcement Pos. 3
On-site reinforcement:	Variants B

Design example

Verification in the ultimate limit state for normal force

Selected: **Schöck Sconnex® type W-N1-V1H1-B180-1.0**

Schöck Sconnex® type W		N1	
Design values with		Concrete strength class ≥ C25/30	Concrete strength class ≥ C30/37
		Floor thickness ≥ 200 mm	
		Normal force (compression) $N_{Rd,z,wall}$ [kN/element]	
Wall thickness [mm] →	150	250.0	300.0
	180	450.0	540.0
	≥ 200	500.0	600.0

Normal force (compression): $N_{Rd,z,wall}$ = 450.0 kN/element
$n_{Rd,z}$ = 450.0 kN / 1 m = 450.0 kN/m
$n_{Ed,z} / n_{Rd,z}$ = 370 / 450.0 = 0.82 < 1.0

Verification in the ultimate limit state for shear force

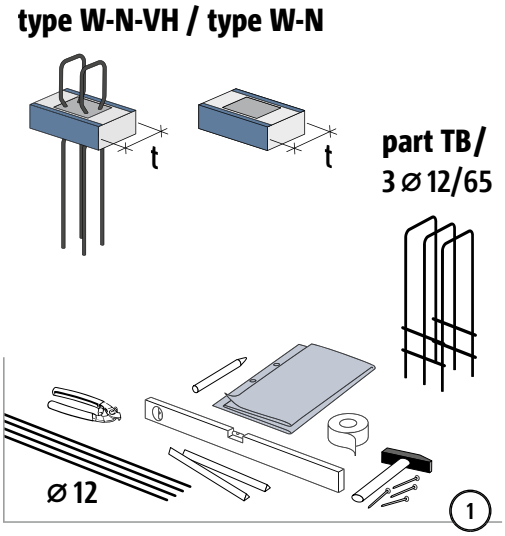
Schöck Sconnex® type W	Feature N
Design values with	Secondary load-bearing level V1H1
	Concrete strength class ≥ C25/30
Shear force	$V_{Rd,x}$ [kN/Element]
Variant A – on-site reinforcement on the outside	±88.0
Variant B – on-sitel reinforcement on the inside →	±46.3
Shear force	$V_{Rd,y}$ [kN/element]
	±59.0
Interaction	$V_{Ed,y}/V_{Rd,y} + V_{Ed,x}/V_{Rd,x} \leq 1$

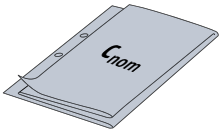
Shear force: $V_{Rd,x}$ = 46.3 kN/element
$v_{Rd,x}$ = 46.3 kN / 1 m = 46.3 kN/m
$V_{Rd,y}$ = 59 kN/element
$v_{Rd,y}$ = 59 kN / 1 m = 59 kN/m
Shear force - interaction: $v_{Ed,x} / v_{Rd,x} + v_{Ed,y} / v_{Rd,y}$ = 5 / 46.3 + 50 / 59 = 0.96 < 1.0

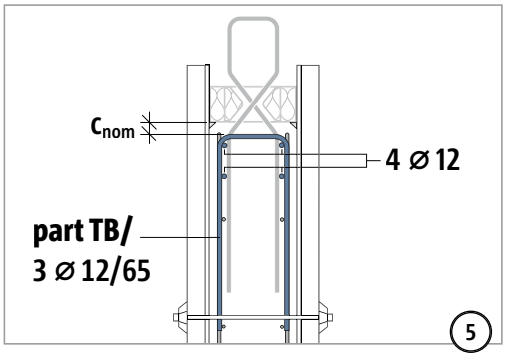
Design

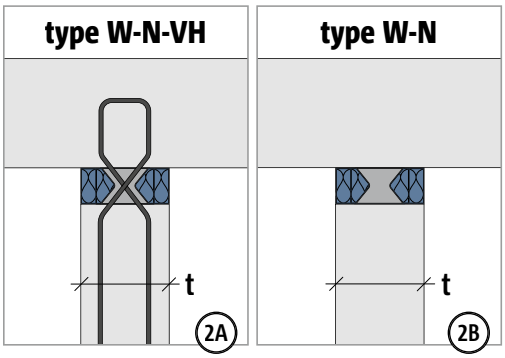
- Any required punching shear or shear force verification of the slab can be carried out using the software for Schöck Bole®. A ground pressure area of 150 × 100 mm is to be assumed.
  For further information see Schöck Bole® Technical Information under:
  www.schoeck.com/download/de

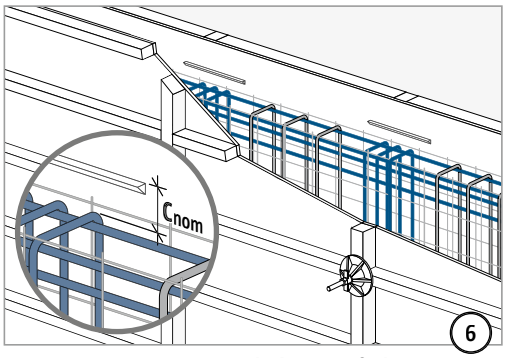
Installation instruction top of wall

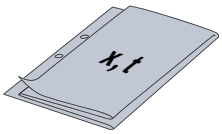




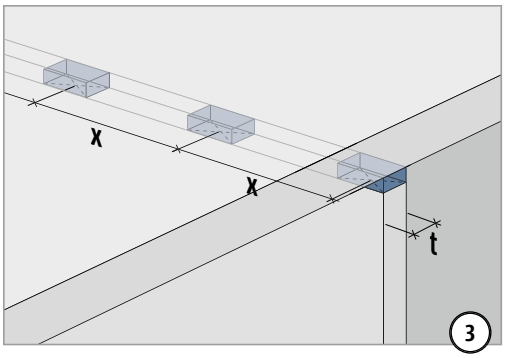


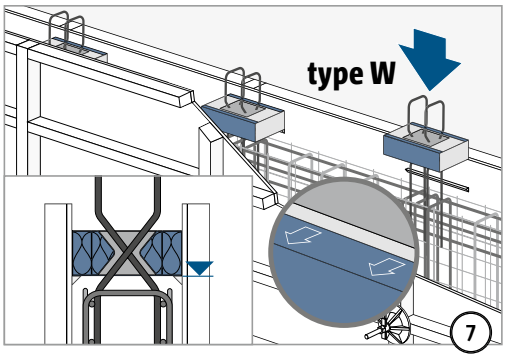


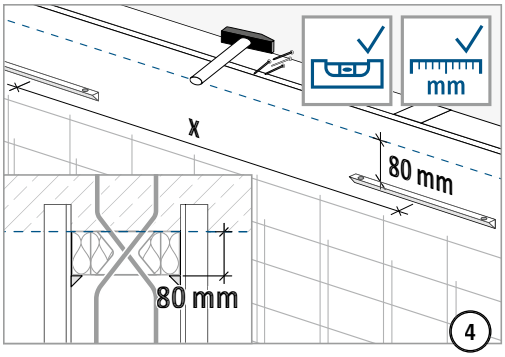


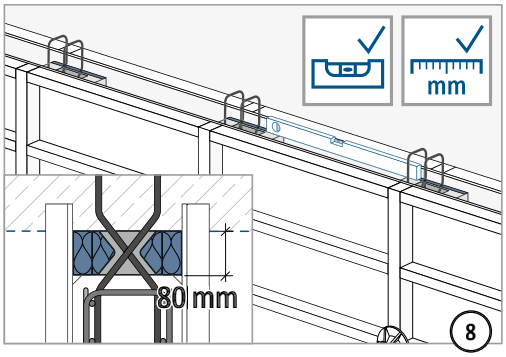


Structural element failure through impaired pressure zone!
Lay absolutely no objects such as spacers, cables, pipes etc. over the pressure bearing. Compact the concrete well.

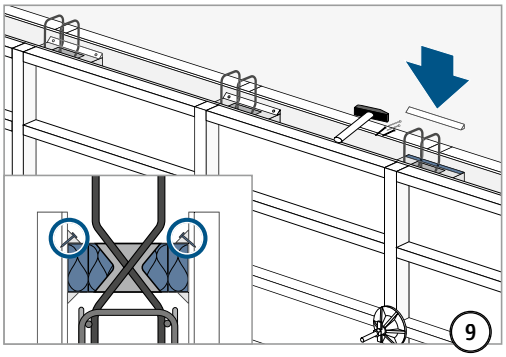


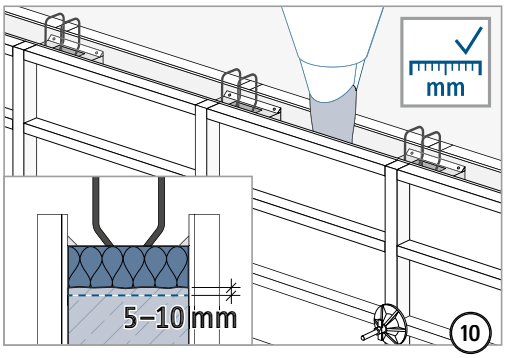


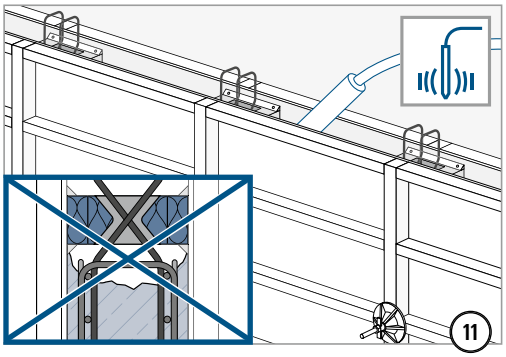


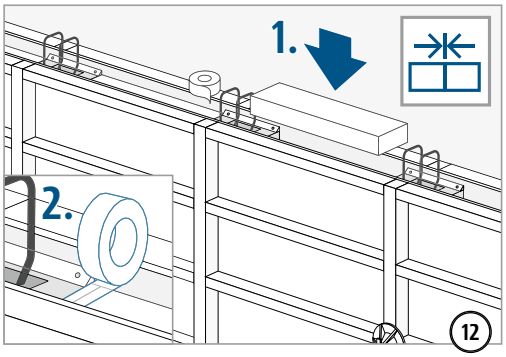


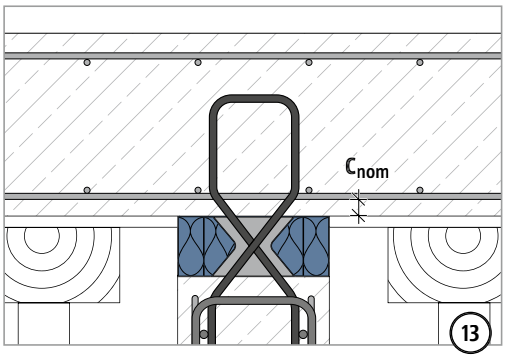
Installation instruction top of wall



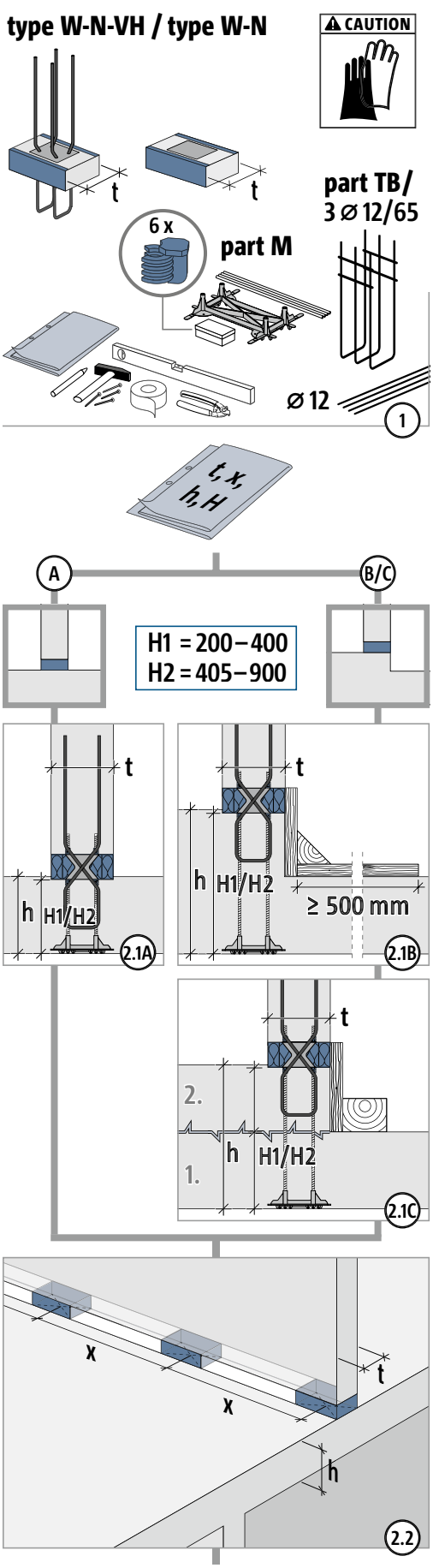


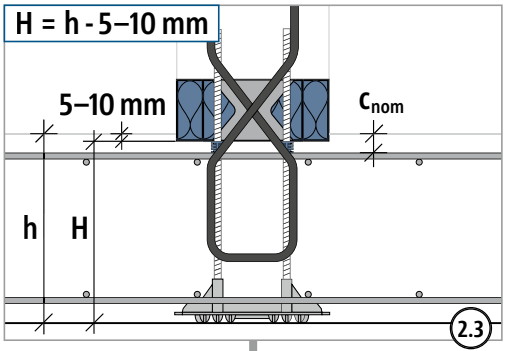


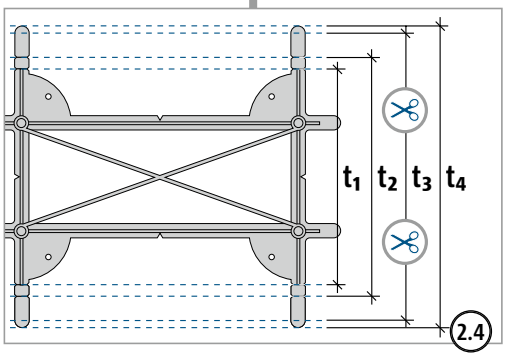




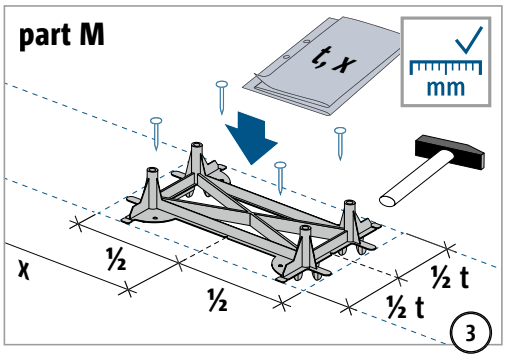
Installation instruction foot of wall

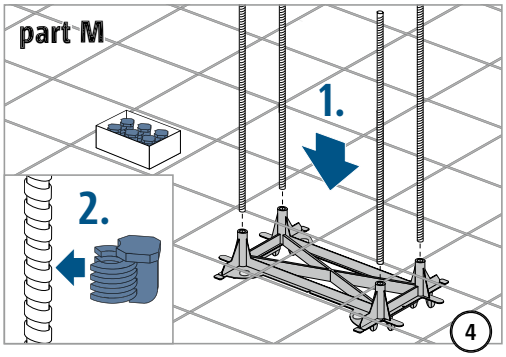


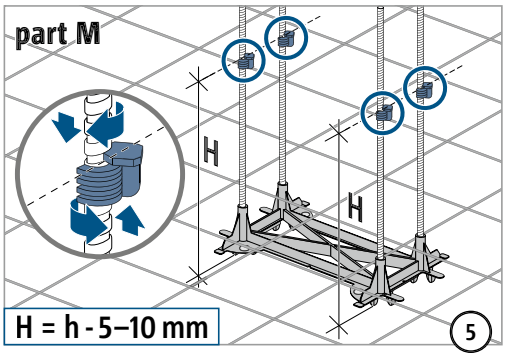




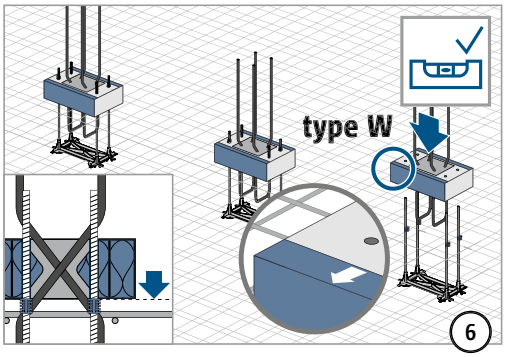
t_1 = 180 mm, t_2 = 200 mm, t_3 = 240 mm, t_4 = 250 mm

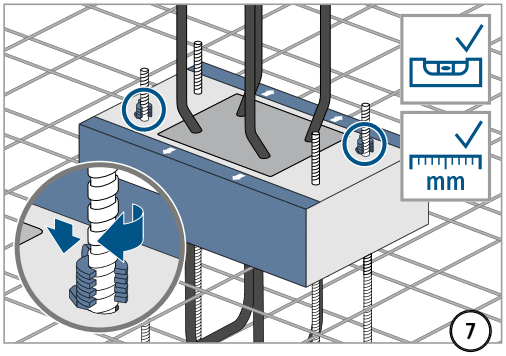


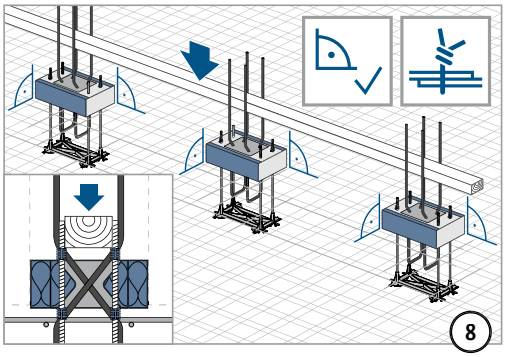


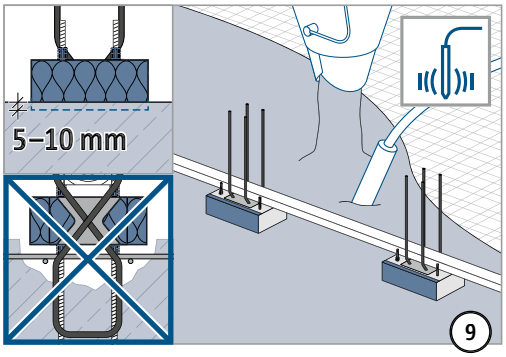


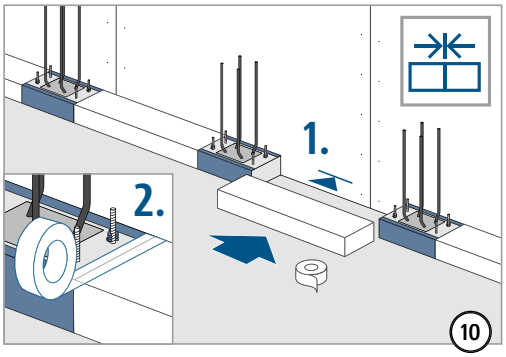
Installation instruction foot of wall

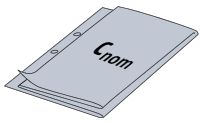




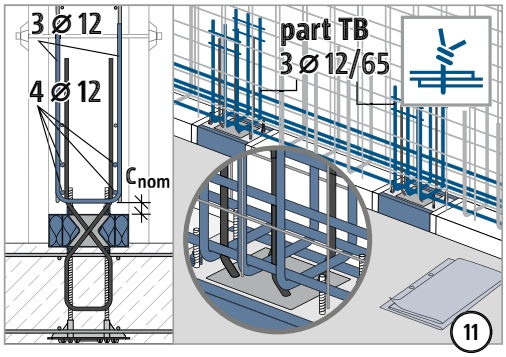


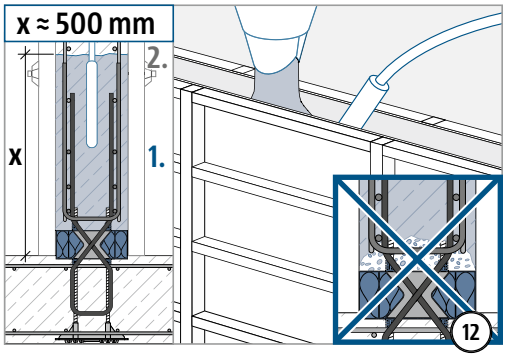




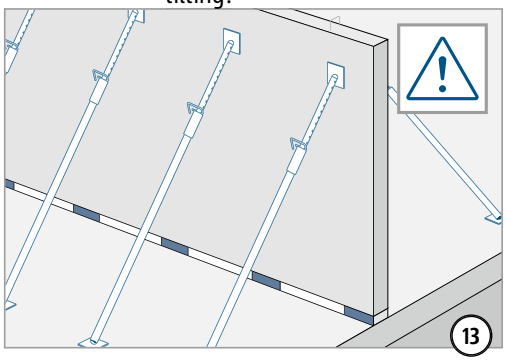


Structural element failure through impaired pressure zone! Lay absolutely no objects such as spacers, cables, pipes etc. over the pressure bearing. Compact the concrete well.





Danger of tilting due to articulated connection at the bottom of the wall! In all construction conditions secure walls on Sconnex® type W against tilting!



☑ Check list

- ☐ Are the influences on the Schöck Sconnex® connection determined at the dimensioning stage?
- ☐ When connecting with Schöck Sconnex® type W, was a freely rotatable bearing assumed as the static system, taking into account the spring stiffnesses?
- ☐ Is the relevant concrete strength class taken into account when selecting the design and calculation table?
- ☐ Is the relevant on-site reinforcement variant A or B taken into account when selecting the design table?
- ☐ Have the requirements for on-site reinforcement of connections been defined in each case?
- ☐ Are the maximum permitted centre distances taken into account and plotted in the formwork plan?
- ☐ Have the fire protection requirements been clarified and planned for?
- ☐ Is there a situation in which, during the construction phase, the construction had to be dimensioned for an emergency or a special load?
- ☐ Is the deformation as result of temperature < 1 mm?
- ☐ Is a shear force verification of the adjoining structural elements required? If yes, was this carried out?
- ☐ Was the load application zone unimpeded and without inserts (e.g. cables or pipes)?
- ☐ Was securing the walls against tilting during construction pointed out to the building site?