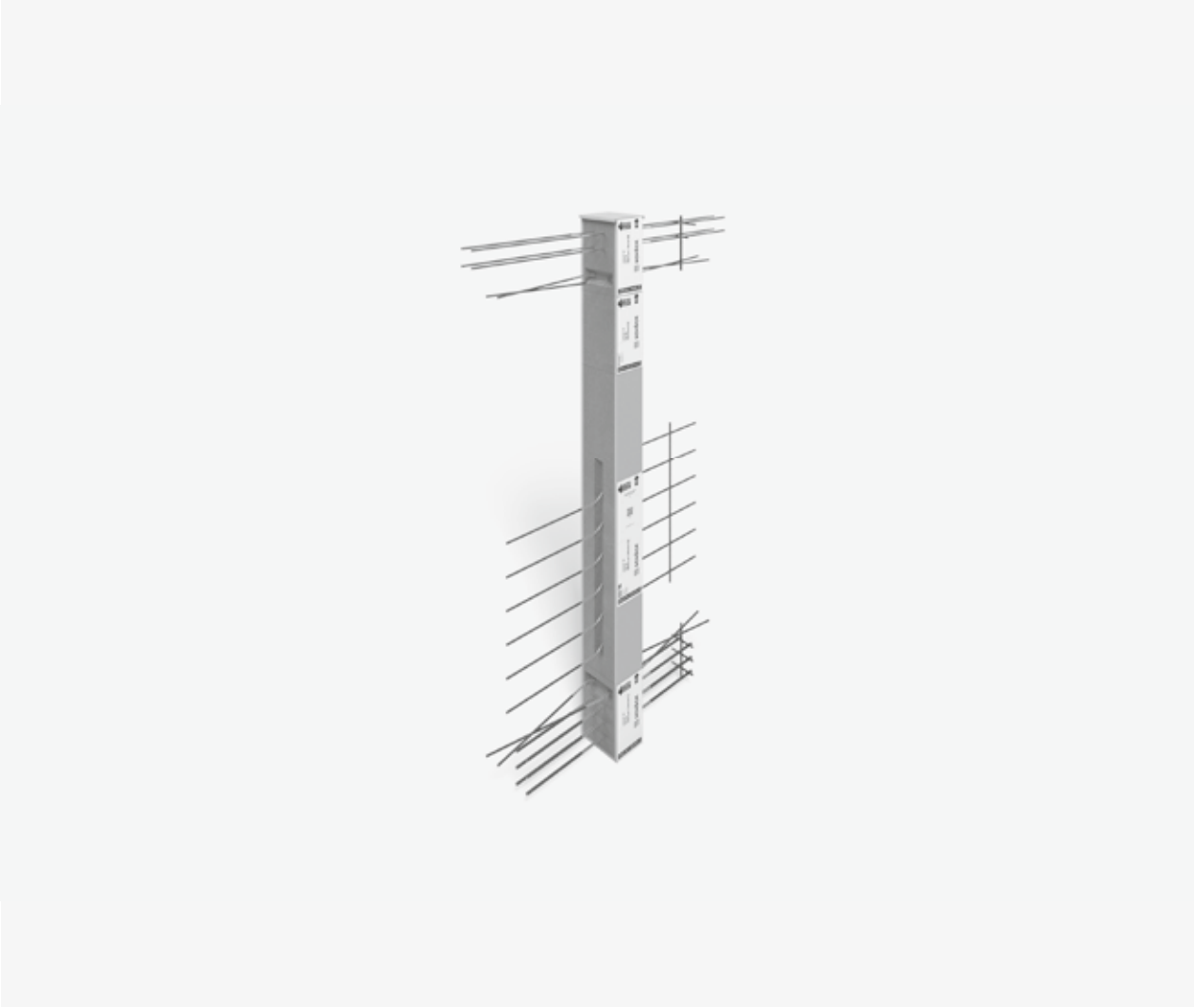
Schöck Isokorb® XT type W



Schöck Isokorb® XT type W
Load-bearing thermal insulation element for cross walls. The element transfers negative moments and shear forces.

Element arrangement | Installation cross section

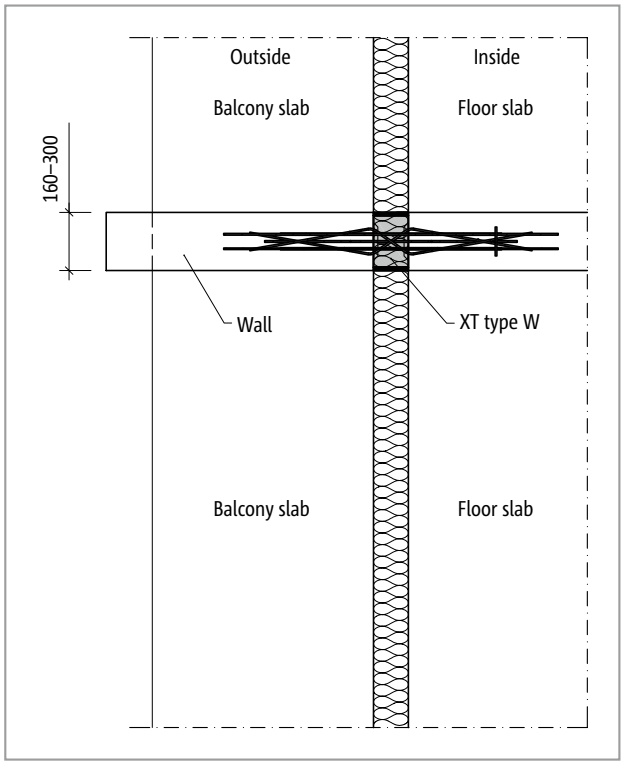


Fig. 308: Schöck Isokorb® XT type W: Plan view; balcony construction with thermally insulated load-bearing shear walls

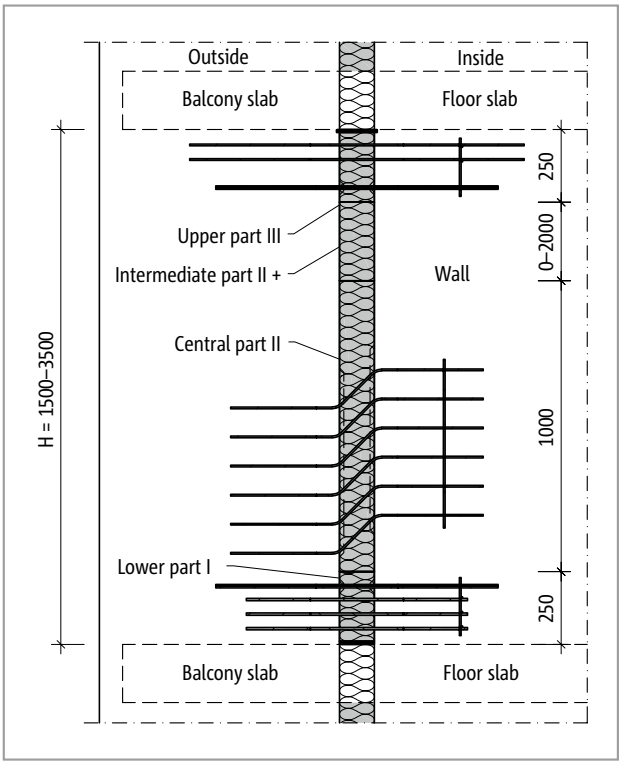


Fig. 309: Schöck Isokorb® XT type W: Balcony construction with thermally insulated load-bearing shear walls

Element arrangement

- The Schöck Isokorb® XT type W consists of at least 3 parts: Lower part I, Middle part II, Upper part III. Depending on the height an insulating Intermediate part II+ is required.

Product selection | Special designs

Schöck Isokorb® XT type W variants

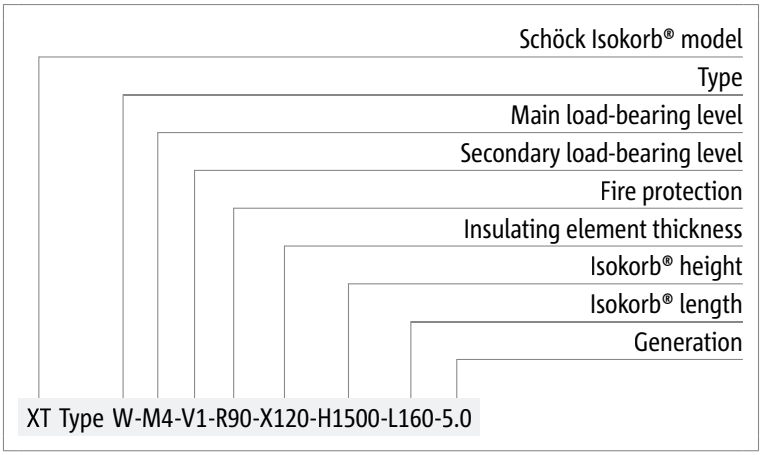
The configuration of the Schöck Isokorb® XT type W can be varied as follows:

- Main load-bearing level: M1 to M4
- Secondary load-bearing level: V1
- Fire resistance class:
  R90 (standard): Top fire protection board, projecting on both sides by both 10 mm
- Insulating element thickness:
  X120 = 120 mm
- Isokorb® height:
  H = 1500 to 3500 mm
- Isokorb® length:
  L = 150 to 300 mm for R0
  L = 160 to 300 mm for R90
- Part designation (optional): Upper part, central part, lower part
- Generation:
  5.0

Variants

- Please specify the required dimensions when ordering.

Type designations in planning documents



Special designs

Please contact the design support department if you have connections that are not possible with the standard product variants shown in this information (contact details on page 3).

C25/30 design

Schöck Isokorb® XT type W		M1	M2	M3	M4
Design values with		Concrete strength class ≥ C25/30			
		$M_{Rd,y}$ [kNm/element]			
Isokorb® height H [mm]	1500-1990	-58.6	-101.4	-154.9	-113.6
	2000-2490	-80.8	-140.0	-213.9	-156.9
	2500-3500	-103.0	-178.5	-272.8	-200.2
	$V_{Rd,z}$ [kN/element]				
	1500–3500	52.2	92.7	144.9	208.6
	$V_{Rd,y}$ [kN/element]				
	1500–3500	±13.4	±13.4	±13.4	±13.4

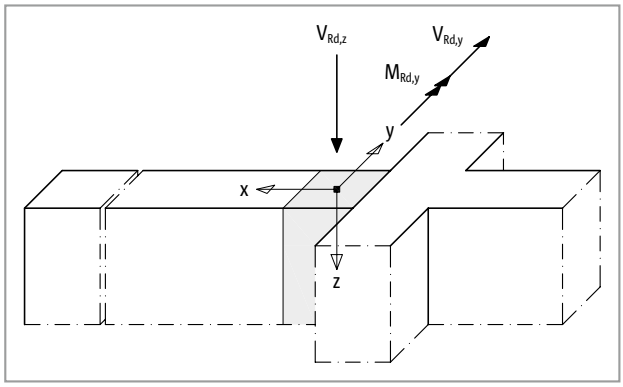


Fig. 310: Schöck Isokorb® XT type W: Sign rule for the design

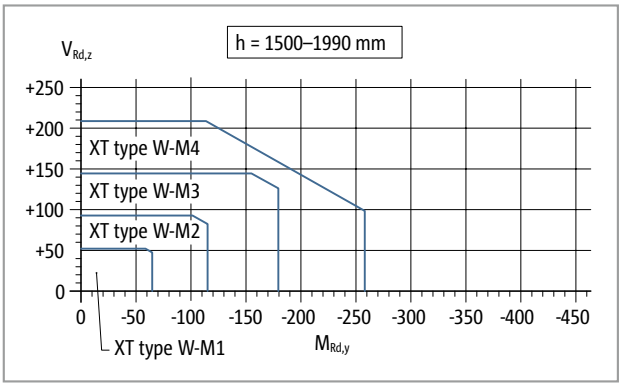


Fig. 311: Schöck Isokorb® XT type W: Interaction diagram

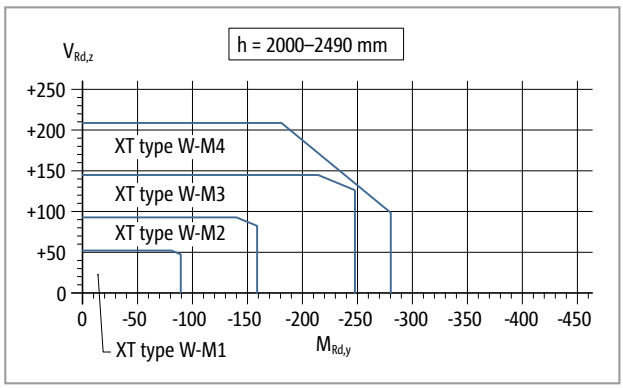


Fig. 312: Schöck Isokorb® XT type W: Interaction diagram

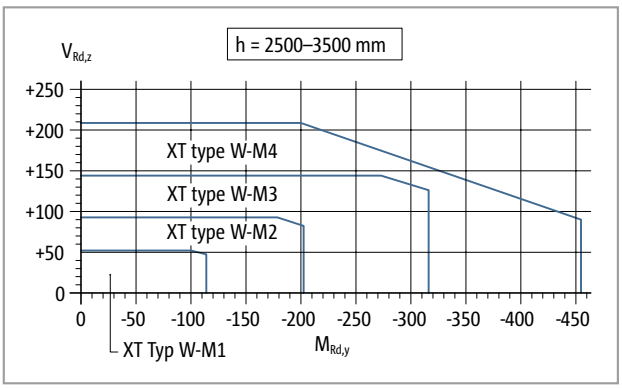


Fig. 313: Schöck Isokorb® XT type W: Interaction diagram

Design | Expansion joint spacing

Schöck Isokorb® XT type W	M1	M2	M3	M4
Placement with	Isokorb® length [mm]			
	150-300	150-300	150-300	150-300
Tension bars	4 ⌀ 6	4 ⌀ 8	4 ⌀ 10	4 ⌀ 12
Compression bars	6 ⌀ 8	6 ⌀ 10	6 ⌀ 12	6 ⌀ 14
Shear force bars vertical	6 ⌀ 6	6 ⌀ 8	6 ⌀ 10	6 ⌀ 12
Shear force bars horizontal	2 × 2 ⌀ 6	2 × 2 ⌀ 6	2 × 2 ⌀ 6	2 × 2 ⌀ 6
L_{min} for R0 [mm]	150	150	150	150
L_{min} for R90 [mm]	160	160	160	160

Notes on design

- Moments from wind loading are to be accepted by the stiffening effect of the balcony slab. If this is not possible then M_{Edz} can be transmitted by the additional arrangement of a Schöck Isokorb® XT type D. The XT type D in this case is installed in a vertical position in place of the insulating intermediate part.
- Poor bonding conditions (bonding range II) are the basis for the determination of the tension bar anchoring lengths.
- The indicative minimum concrete strength class of the external structural component is C32/40.

Maximum expansion joint spacing

If the structural component length exceeds the maximum expansion joint spacing e, expansion joints must be installed in the exterior concrete structural components at right angles to the insulation plane, in order to limit the effect as a result of temperature changes.

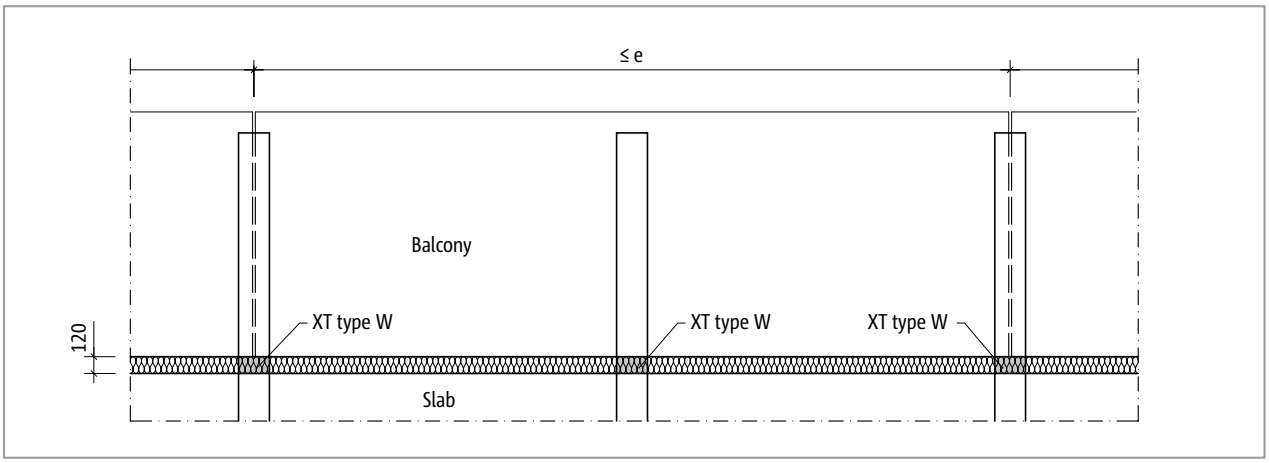


Fig. 314: Schöck Isokorb® XT type W: Expansion joint arrangement

Schöck Isokorb® XT type W		M1	M2	M3	M4
Maximum expansion joint spacing when		e [m]			
Insulating element thickness [mm]	120	23.0	21.7	19.8	17.0

Expansion joints

- The expansion joint spacings can be enlarged, if there is no fixed connection between balcony slabs and shear walls, e. g. through laying of a sliding foil.

Product description

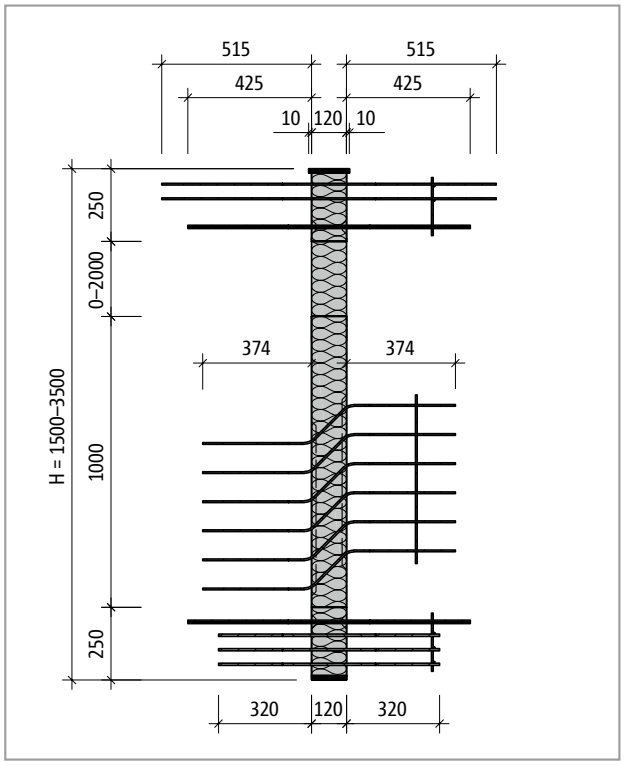


Fig. 315: Schöck Isokorb® XT type W-M1: Product section

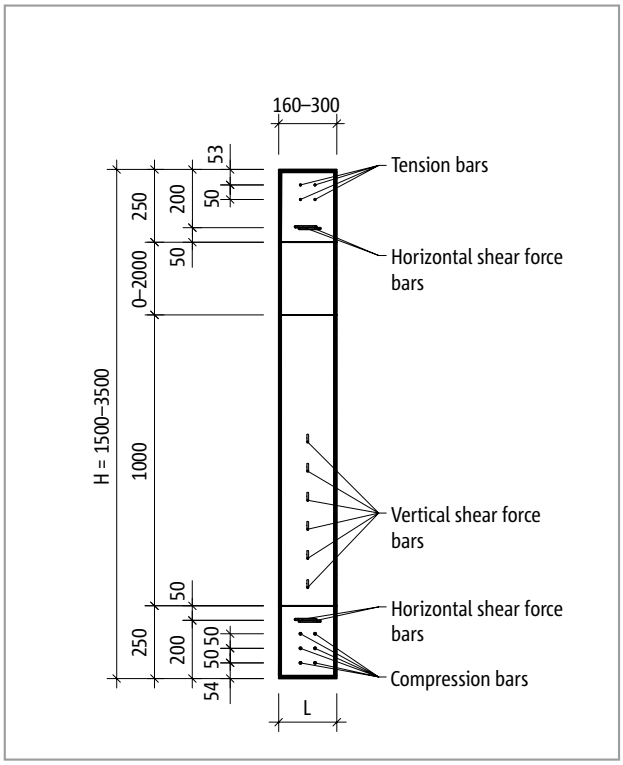


Fig. 316: Schöck Isokorb® XT type W-M1-R90: Product layout; perimeter fire protection boards

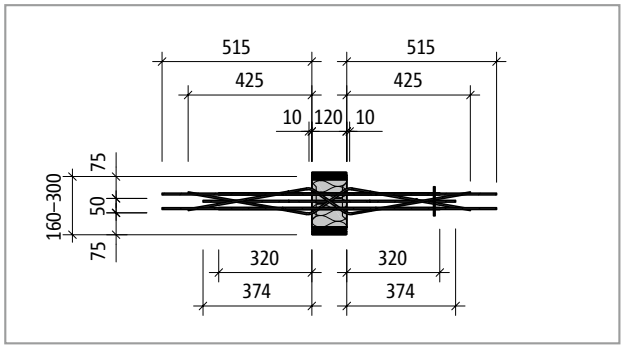


Fig. 317: Schöck Isokorb® XT type W-M1: Product plan view

Product information

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

Product description

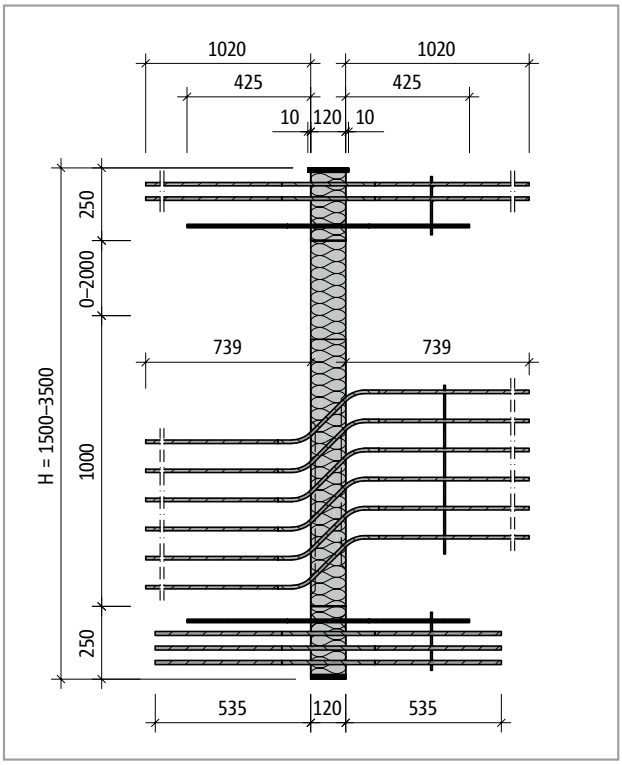


Fig. 318: Schöck Isokorb® XT type W-M4: Product section

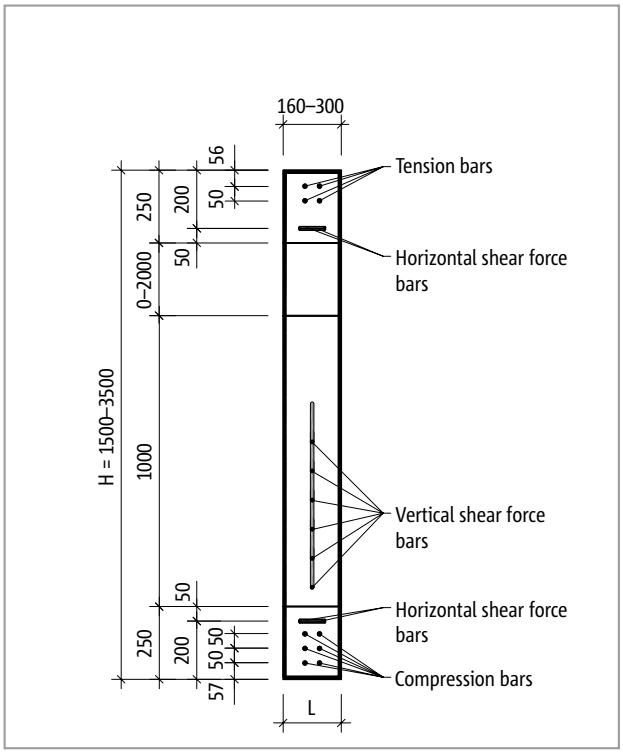


Fig. 319: Schöck Isokorb® XT type W-M4-R90: Product layout; perimeter fire protection boards

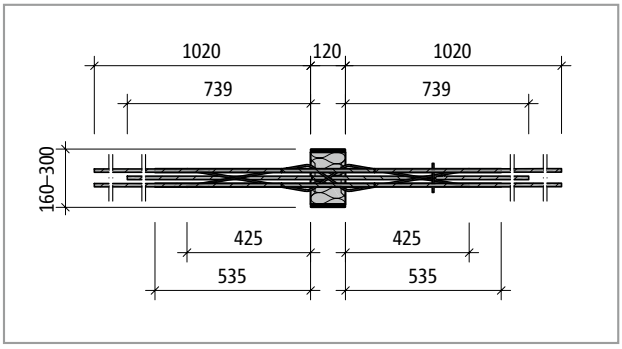


Fig. 320: Schöck Isokorb® XT type W-M4: Product plan view

Product information

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

On-site reinforcement

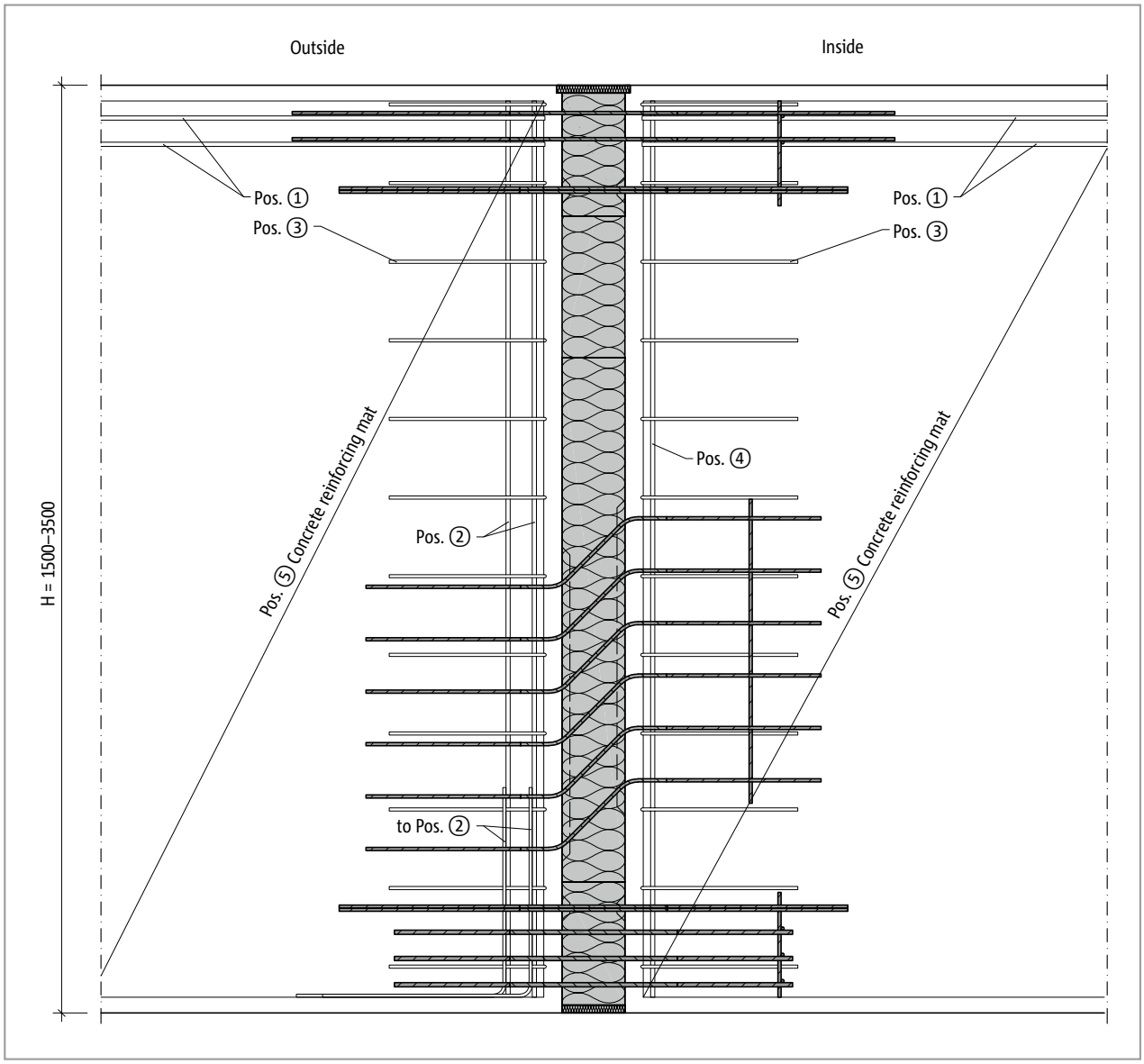


Fig. 321: Schöck Isokorb® XT type W: On-site reinforcement; section

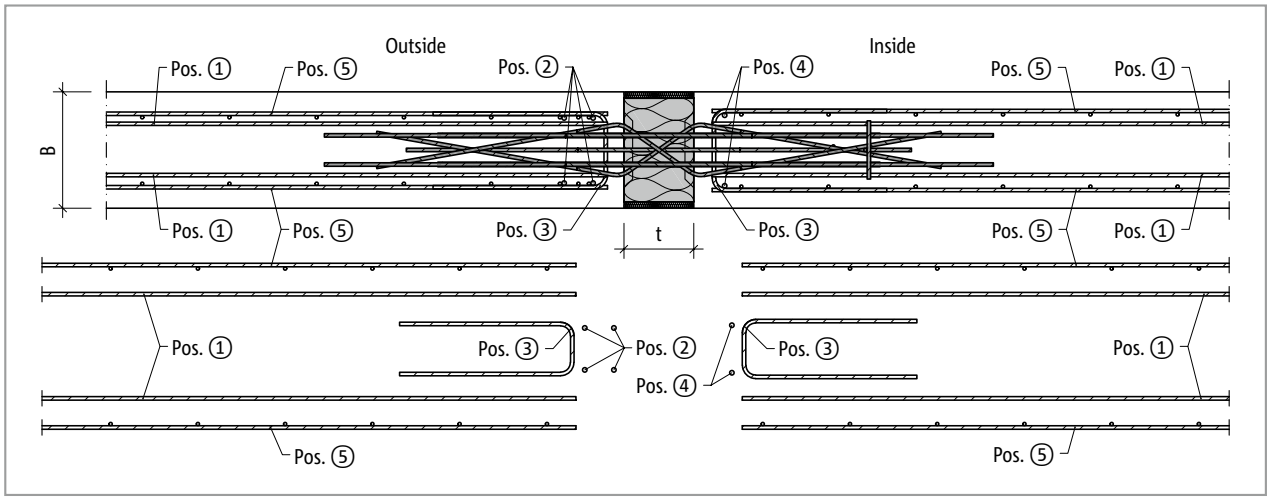


Fig. 322: Schöck Isokorb® XT type W: On-site reinforcement; plan views

Installation | Installation instructions

Recommendation for the on-site connection reinforcement

Details on the lapping reinforcement for Schöck Isokorb® with a loading of 100% of the maximum design moment with C25/30; structurally selected: a_s lapping reinforcement ≥ a_sIsokorb® compression/tension bars.

Schöck Isokorb® XT type W	M1	M2	M3	M4
On-site reinforcement	Concrete strength class ≥ C25/30			
Overlapping reinforcement				
Pos. 1	4 • H8	4 • H8	4 • H10	4 • H12
Lap length l0 [mm]	483	644	805	966
Suspension reinforcement (anchorage using stirrup or L)				
Pos. 2	4 • H8	4 • H10	4 • H12	4 • H14
Supplementary edge reinforcement				
Pos. 3 and 4	acc. to the specifications of the structural engineer			
Wall reinforcement and overlap reinforcement shear force bar				
Pos. 5	acc. to the specifications of the structural engineer			

Information about on-site reinforcement

- Alternative connection reinforcements are possible. The rules as per BS EN 1992-1-1 (EC2) and BS EN 1992-1-1/NA apply for the determination of the lap length. A reduction of the required lap length with m_{Ed}/m_{Rd} is permitted.
- The indicative minimum concrete strength class of the external structural component is C32/40.

Installation

The Schöck Isokorb® XT type W is supplied in various components (lower part, middle part, intermediate part, top part).

- Depending on the quantity ordered, same components on one pallet, with a view to transport safety.

Installation instructions

The current installation instruction can be found online under:
www.schoeck.com/view/6431

☑ Check list

- ☐ Have the loads on the Schöck Isokorb® connection been specified at design level?
- ☐ Has the cantilevered system length or the system support width been taken as a basis?
- ☐ With the selection of the design table is the relevant concrete strength class taken into account?
- ☐ Are the maximum allowable expansion joint spacings taken into account?
- ☐ Are the requirements with regard to fire protection clarified and is the appropriate supplement entered in the Isokorb® type designation and in the implementation plans?
- ☐ Have the requirements for on-site reinforcement of connections been defined in each case?