

## Schöck Isokorb® T type C



### Schöck Isokorb® T type C

Load-bearing thermal insulation element for freely cantilevered corner balconies. The element transfers negative moments and positive shear forces.

T  
type C

Reinforced concrete – reinforced concrete

## Element arrangement | Installation cross sections

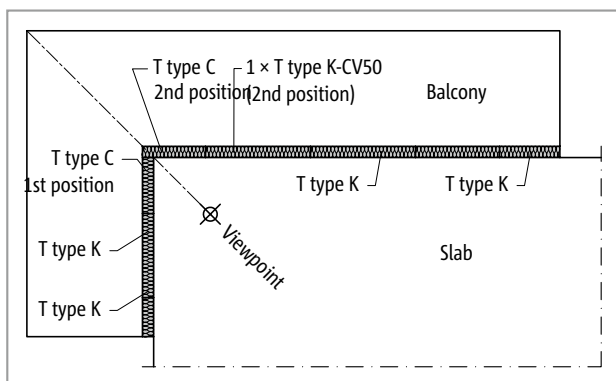


Fig. 193: Schöck Isokorb® T type C: Balcony with outside corner freely cantilevered

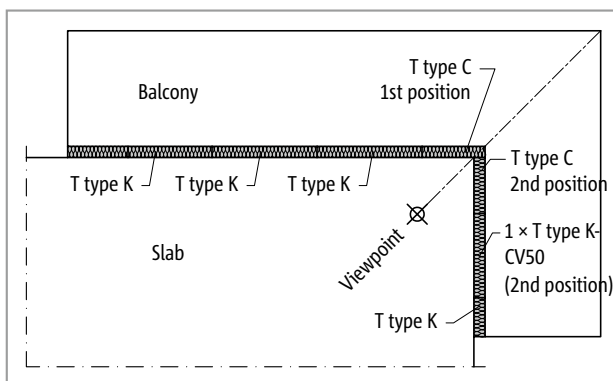


Fig. 194: Schöck Isokorb® T type C: Balcony with outside corner freely cantilevered

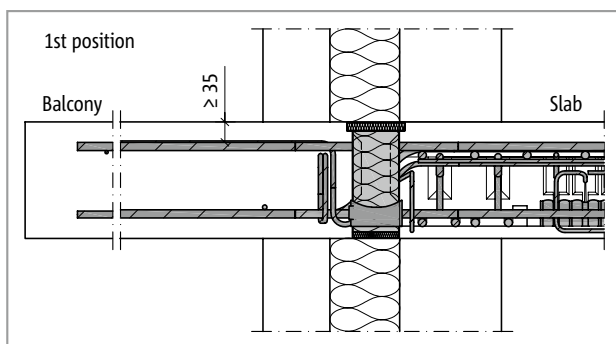


Fig. 195: Schöck Isokorb® T type C: Section 2nd position; connection with non-load-bearing cavity walls

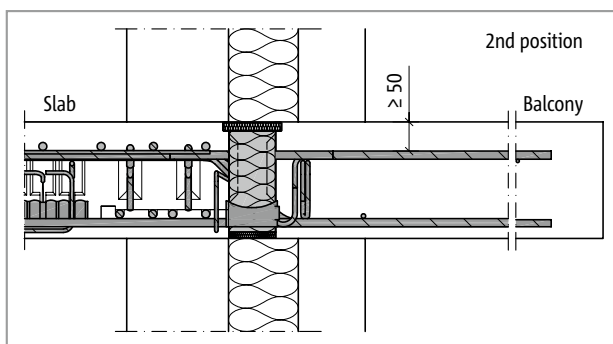


Fig. 196: Schöck Isokorb® T type C: Section 1st position; connection with non-load-bearing cavity walls

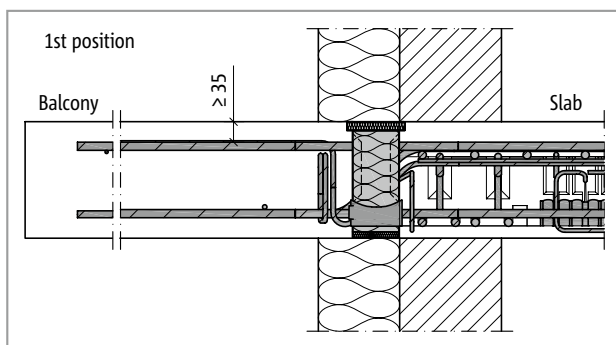


Fig. 197: Schöck Isokorb® T type C: Section 1st position; connection with thermal insulation composite system (TICS)

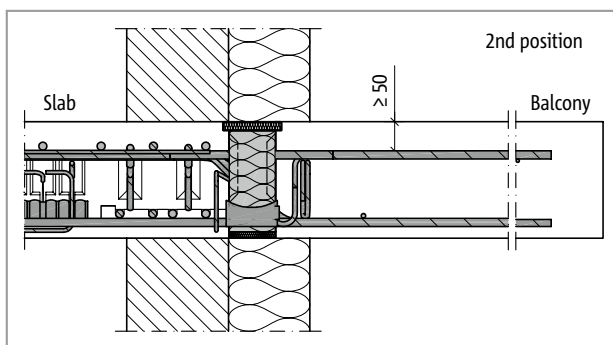


Fig. 198: Schöck Isokorb® T type C: Section 2nd position; connection with thermal insulation composite system (TICS)

### Element arrangement

- Subcomponent 1st position and subcomponent 2nd position of the Schöck Isokorb® T type C cannot be interchanged.
- In connection with a Schöck Isokorb® T type C subcomponent 2nd position a Schöck Isokorb® T type K-CV50 element (2nd position) is always required.

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## Product selection | Type designations | Special designs

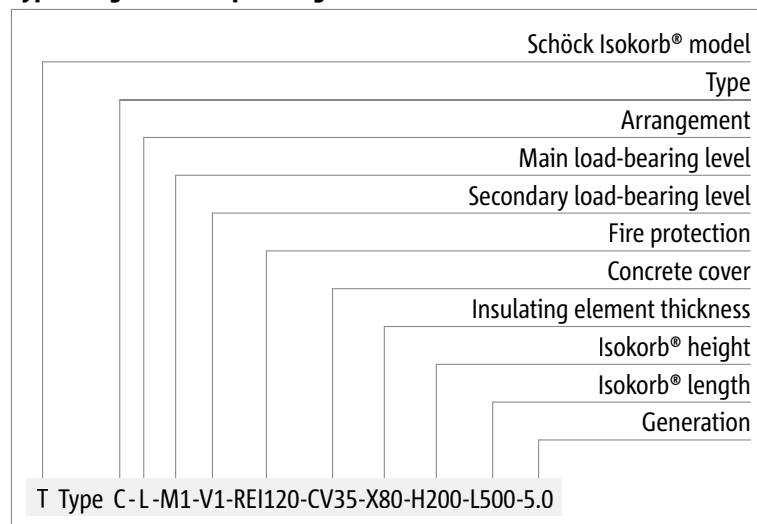
### Schöck Isokorb® T type C variants

The Schöck Isokorb® T type C consists always of a subcomponent C-L 1st position and a subcomponent C-R 2nd position.

The configuration of a Schöck Isokorb® T type C can vary as follows:

- Arrangement:
  - 2 components: Subcomponent C-L 1st position, subcomponent C-R 2nd position
  - L = 1st position: Left from viewpoint on the floor
  - R = 2nd position: Right from viewpoint on the floor
- Main load-bearing level: M1 to M3
- Secondary load-bearing level: V1
- Fire resistance class:
  - REI120 (standard): Top and bottom fire protection projecting by 10mm on both sides
- Concrete cover of the tension bars: CV30 = 30 mm, CV35 = 35 mm
- Insulating element thickness:
  - X80 = 80 mm
- Isokorb® height:
  - H = 180 mm to 250 mm
- Insulating element length:
  - subcomponent C-L 1. Position: static length L = 500 mm, 620 mm; geometric length L = 500 mm, 700 mm
  - subcomponent C-R 2. Position: static length L = 500 mm, 620 mm; geometric length L = 580 mm, 700 mm
  - The static length is to be used for the type designation.
- possible combinations:
  - e.g. T type K-M2-CV35 with T type C-M2-CV35
- Generation:
  - 5.0

### 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).

In accordance with approval heights up to 500 mm are possible.

## C25/30 design

Schöck Isokorb® T type C			M1	M2	M3
Design values with	Concrete cover CV [mm]		Concrete strength class $\geq$ C25/30		
			$M_{Rd,y}$ [kNm] per subcomponent L 1st position and R 2nd position		
	CV30	CV35			
Isokorb® height H [mm]		180	-14.3	-28.7	-32.9
	180		-15.1	-30.4	-34.8
		190	-16.0	-32.0	-36.6
	190		-16.9	-33.6	-38.4
		200	-17.7	-35.2	-40.2
	200		-18.6	-36.8	-42.0
		210	-19.4	-38.4	-43.9
	210		-20.3	-40.0	-45.7
		220	-21.2	-41.6	-47.5
	220		-22.0	-43.2	-49.3
		230	-22.9	-44.8	-51.2
	230		-23.7	-46.4	-53.0
		240	-24.6	-48.0	-54.8
	240		-25.5	-49.6	-56.6
		250	-26.3	-51.2	-58.5
	250		-27.2	-52.8	-60.3
$V_{Rd,z}$ [kN] per subcomponent L 1st position and R 2nd position					
Isokorb® height H [mm]	180–190		37.3	78.6	91.1
	$\geq 200$		37.3	106.7	119.2

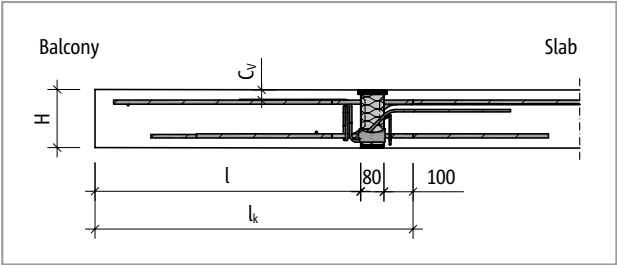


Fig. 199: Schöck Isokorb® T type C: Static system

## C25/30 design | Design

Schöck Isokorb® T type C	M1		M2		M3	
Placement with	Geometric connection variant					
	L	R	L	R	L	R
Isokorb® static length [mm]	500	500	620	620	620	620
Isokorb® geometric length [mm]	500	580	700	700	700	700
Tension bars	8 Ø 8	8 Ø 8	5 Ø 14	5 Ø 14	6 Ø 14	6 Ø 14
Compression bars	-	-	3 Ø 14	3 Ø 14	4 Ø 14	4 Ø 14
Pressure bearing	5	5	6	6	6	6
Shear force bars H = 180–190 mm	3 Ø 8	3 Ø 8	3 Ø 8 + 2 Ø 10	3 Ø 8 + 2 Ø 10	4 Ø 8 + 2 Ø 10	4 Ø 8 + 2 Ø 10
Shear force bars H ≥ 200 mm	3 Ø 8	3 Ø 8	3 Ø 8 + 2 Ø 12	3 Ø 8 + 2 Ø 12	4 Ø 8 + 2 Ø 12	4 Ø 8 + 2 Ø 12
Special stirrups	-	-	2 Ø 6	2 Ø 6	2 Ø 6	2 Ø 6

### **i** Notes on design

- The shear force loading of the slabs in the area of the insulation joint is to be limited to  $V_{Rd, max}$ , whereby  $V_{Rd, max}$ , acc. to BS EN 1992-1-1 (EC2), Exp. (6.9) is determined for  $\Theta = 45^\circ$  and  $\alpha = 90^\circ$  (slab load-bearing capacity).
- The Schöck Isokorb® T type C with small cantilever lengths can also be replaced through the combination Schöck Isokorb® T type K (1st position) and Schöck Isokorb® T type K-CV50 (2nd position).
- The indicative minimum concrete strength class of the external structural component is C32/40.
- With different concrete strength classes (e.g. balcony C32/40, inner slab C25/30) basically the weaker concrete is relevant for the design of the Schöck Isokorb®.
- Note FEM guidelines if a FEM program is to be used for design.
- The deflection and required precamber of the balcony corner is to be determined depending on the overall system and the direction of drainage.

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## Expansion joint spacing

### Maximum expansion joint spacing

If the structural element length exceeds the maximum expansion joint spacing  $e$ , then expansion joints must be incorporated into the external concrete components at right angles to the insulating layer in order to limit the effect as a result of temperature changes. The maximum expansion joint spacing  $e/2$  applies to fixed points such as balcony corners or to the use of the Schöck Isokorb® T types H.

The shear force transmission in the expansion joint can be ensured using a longitudinally displaceable shear force dowel, e.g. Schöck Dorn.

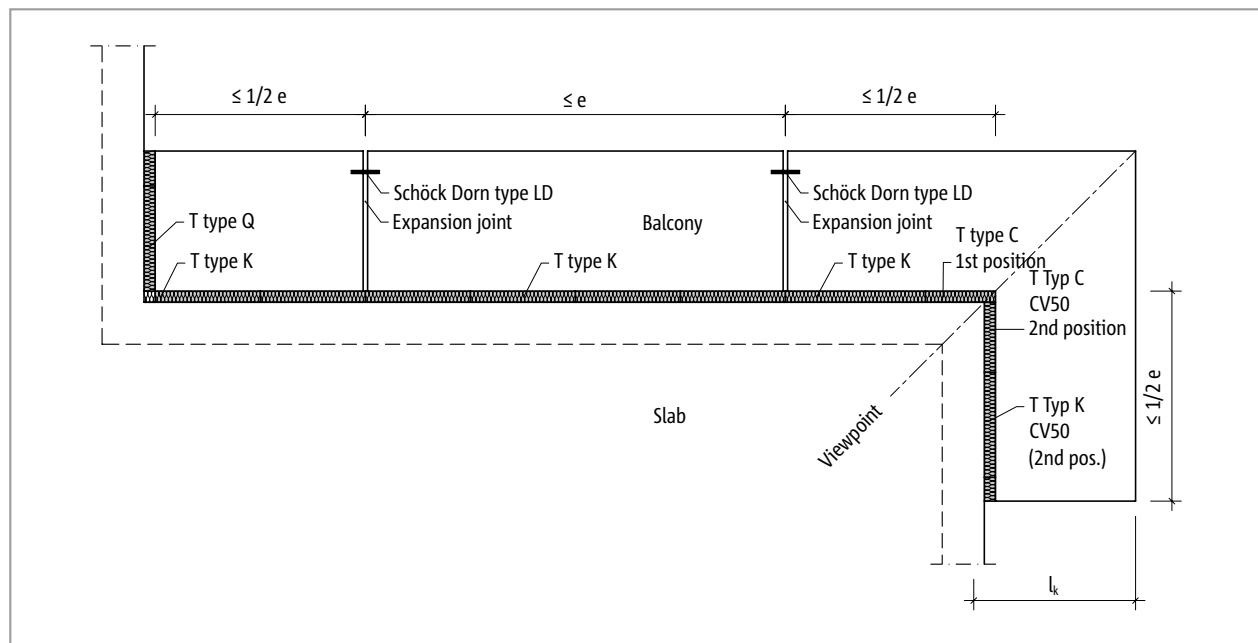


Fig. 200: Schöck Isokorb® T type C: Expansion joint spacing

Schöck Isokorb® T type C		M1	M2, M3
Maximum expansion joint spacing		$e$ [m]	
Insulating element thickness [mm]	80	13.5	10.1

Schöck Isokorb® type C combined with	T type K	T type Q, T type Q-VV	T type Q-P, T type Q-P-VV, T type Q-PZ	T type D
maximum expansion joint spacing from fixed point $e/2$ [m]	$\leq e/2$ see page 38	$\leq e/2$ see page 93	$\leq e/2$ see page 112	$\leq e/2$ see page 159

### Edge distances

The Schöck Isokorb® must be so arranged at the expansion joint that the following conditions are met:

- For the centre distance of the tension bars from the free edge or from the expansion joint:  $e_R \geq 50$  mm and  $e_R \leq 150$  mm applies.
- For the centre distance of the compression elements from the free edge or expansion joint the following applies:  $e_R \geq 50$  mm and  $e_R \leq 150$  mm.
- For the centre distance of the shear force bars from the free edge or from the expansion joints the following applies:  $e_R \geq 100$  mm and  $e_R \leq 150$  mm.

## Product description

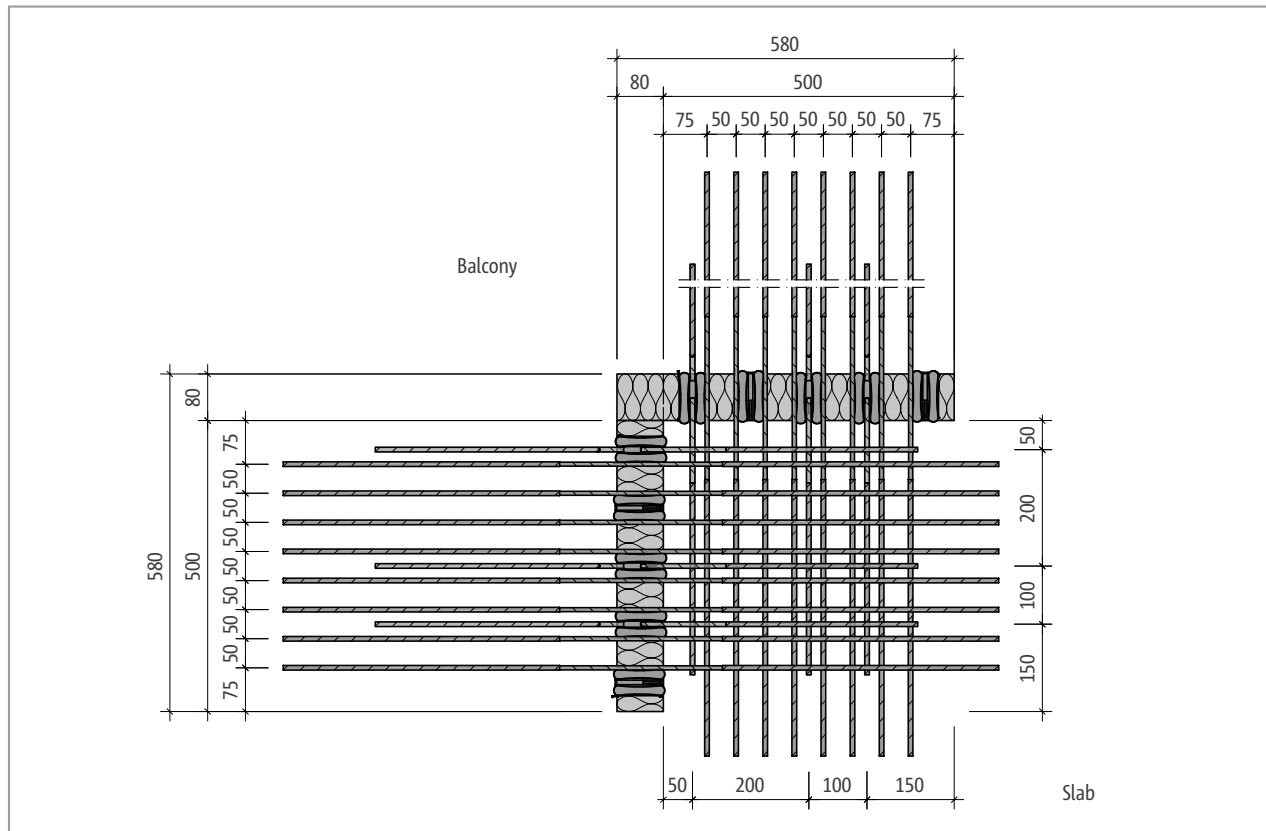


Fig. 201: Schöck Isokorb® T type C-M1: Product layout

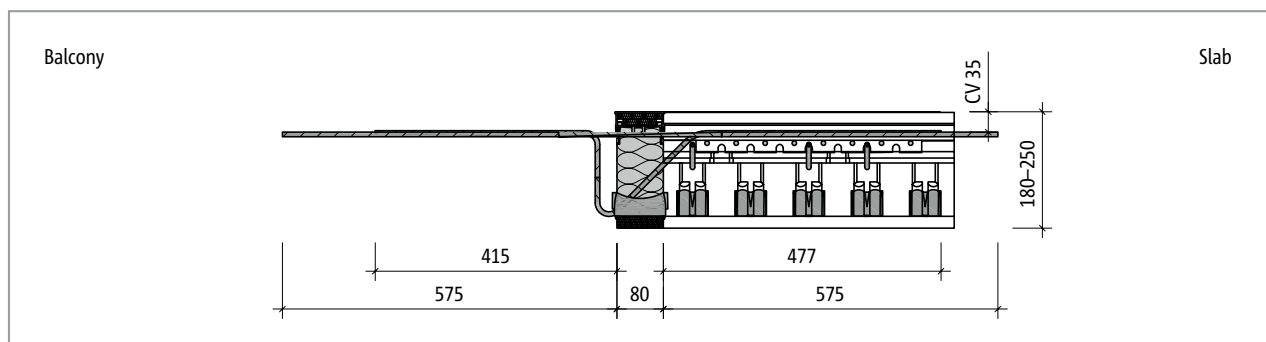


Fig. 202: Schöck Isokorb® T type C-M1: Product section

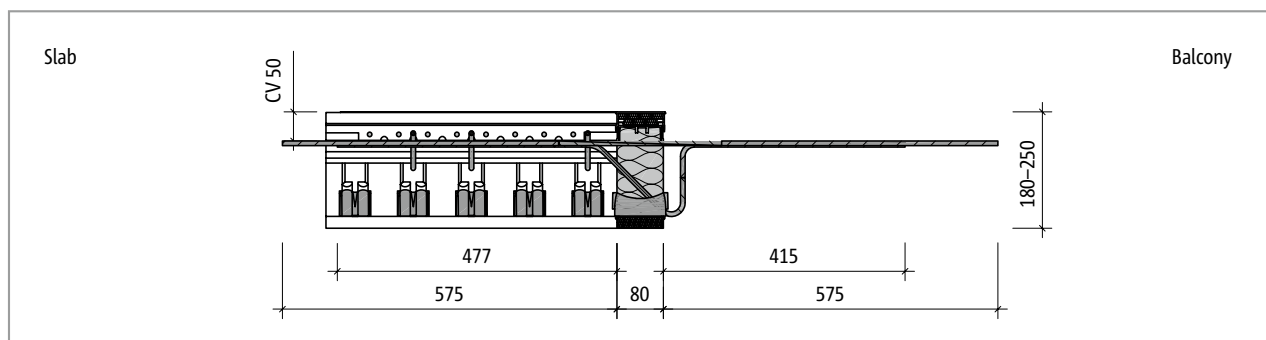


Fig. 203: Schöck Isokorb® T type C-M1: Product section

### Product information

- Download further product plan views and cross-sections at [www.schoeck.com/en-gb/download](http://www.schoeck.com/en-gb/download)

Product description

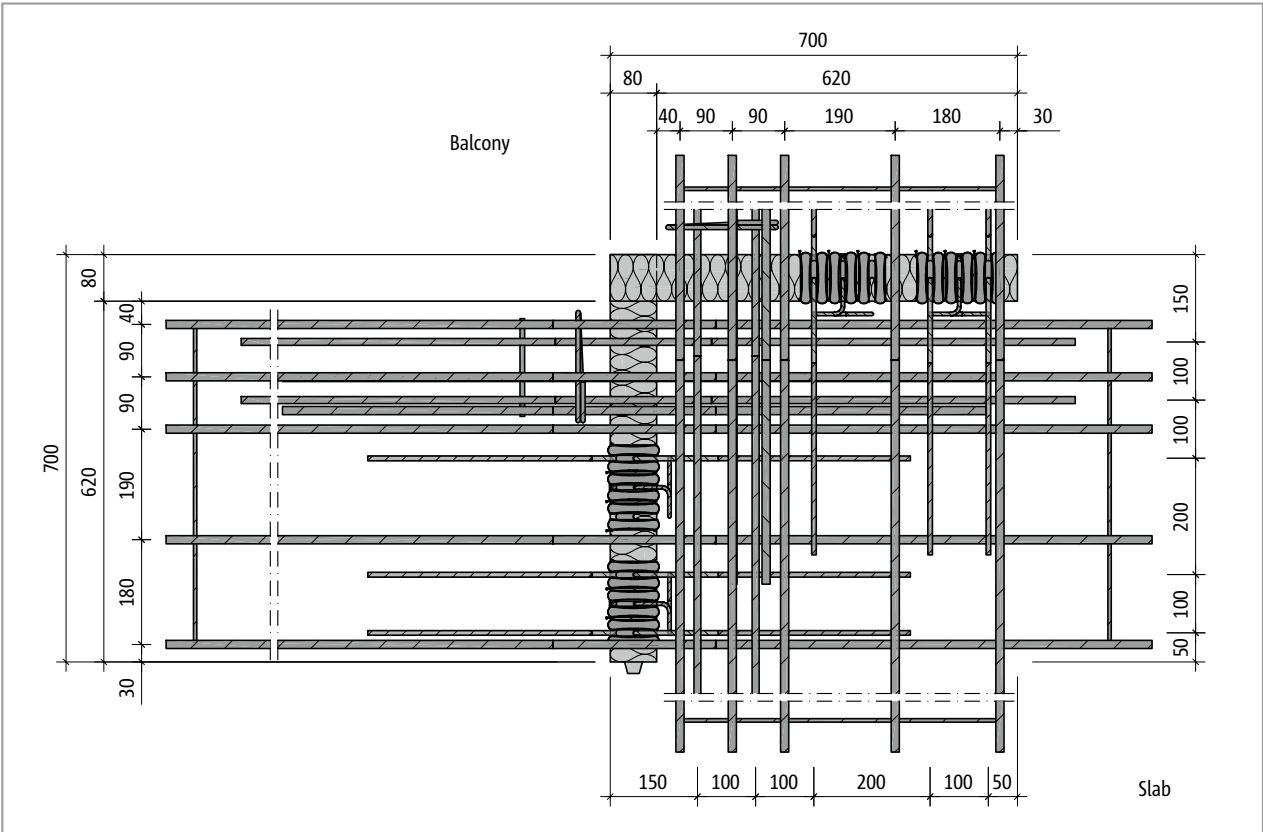


Fig. 204: Schöck Isokorb® T type C-M2: Product layout

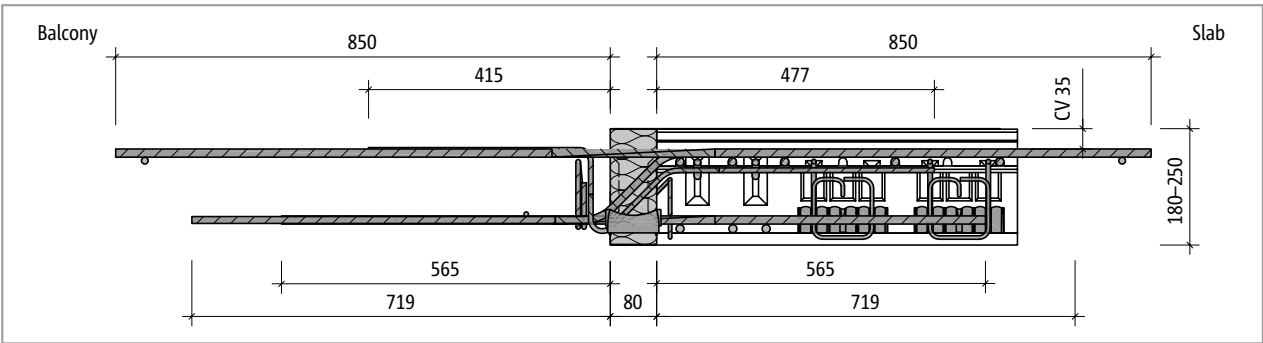


Fig. 205: Schöck Isokorb® T type C-M2: Product section

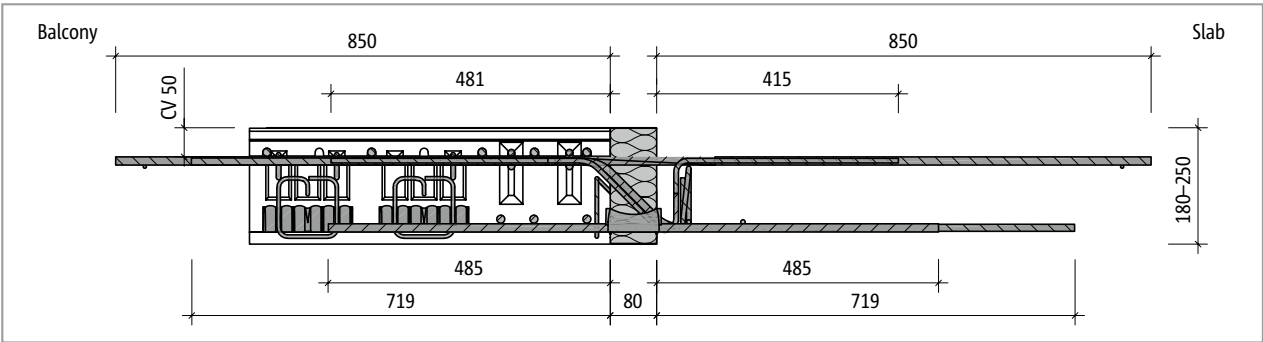


Fig. 206: Schöck Isokorb® T type C-M2: Product section

Product information

- Download further product plan views and cross-sections at [www.schoeck.com/en-gb/download](http://www.schoeck.com/en-gb/download)



## Product description

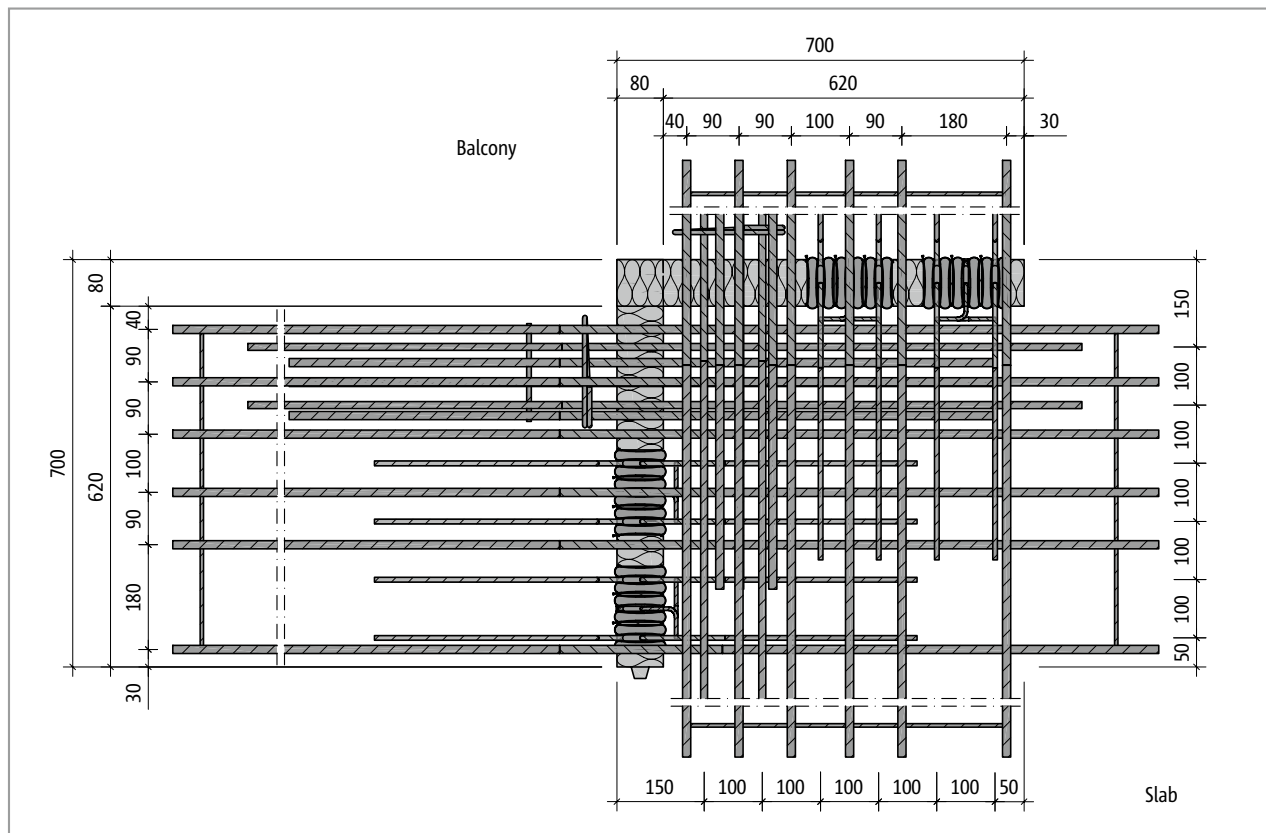


Fig. 207: Schöck Isokorb® T type C-M3: Product layout

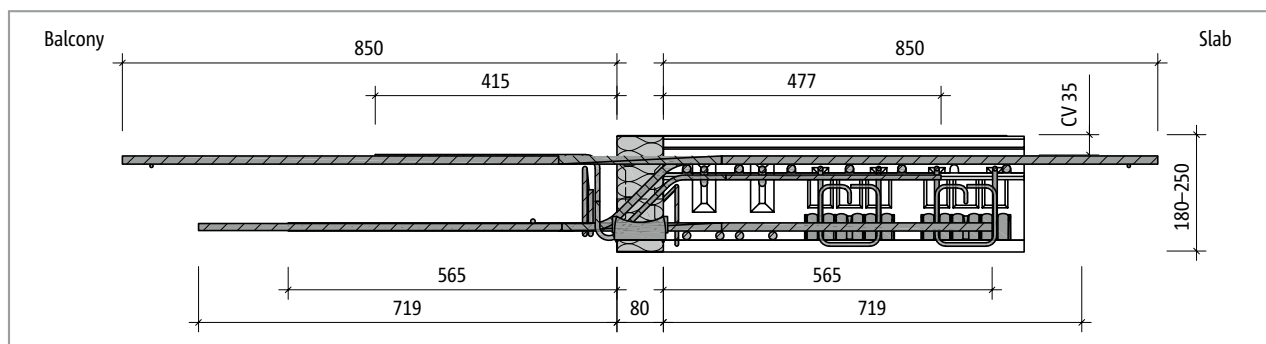


Fig. 208: Schöck Isokorb® T type C-M3: Product section

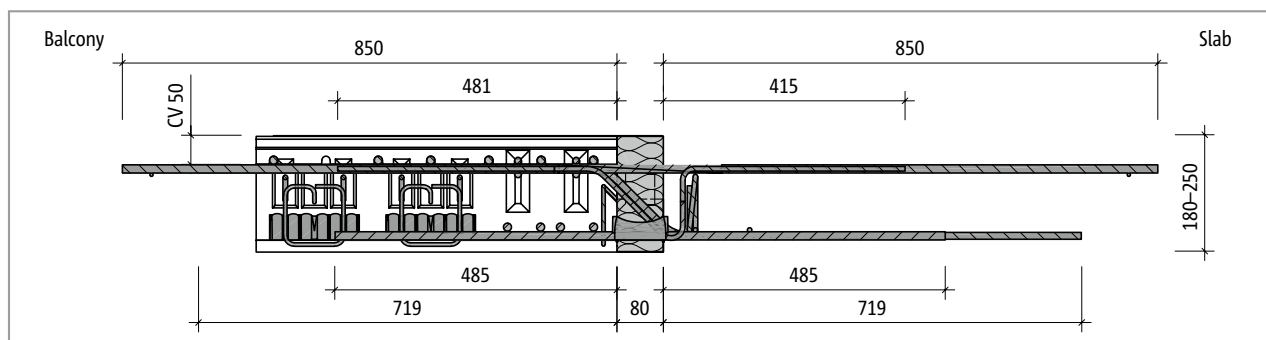


Fig. 209: Schöck Isokorb® T type C-M3: Product section

### Product information

- Download further product plan views and cross-sections at [www.schoeck.com/en-gb/download](http://www.schoeck.com/en-gb/download)

On-site reinforcement

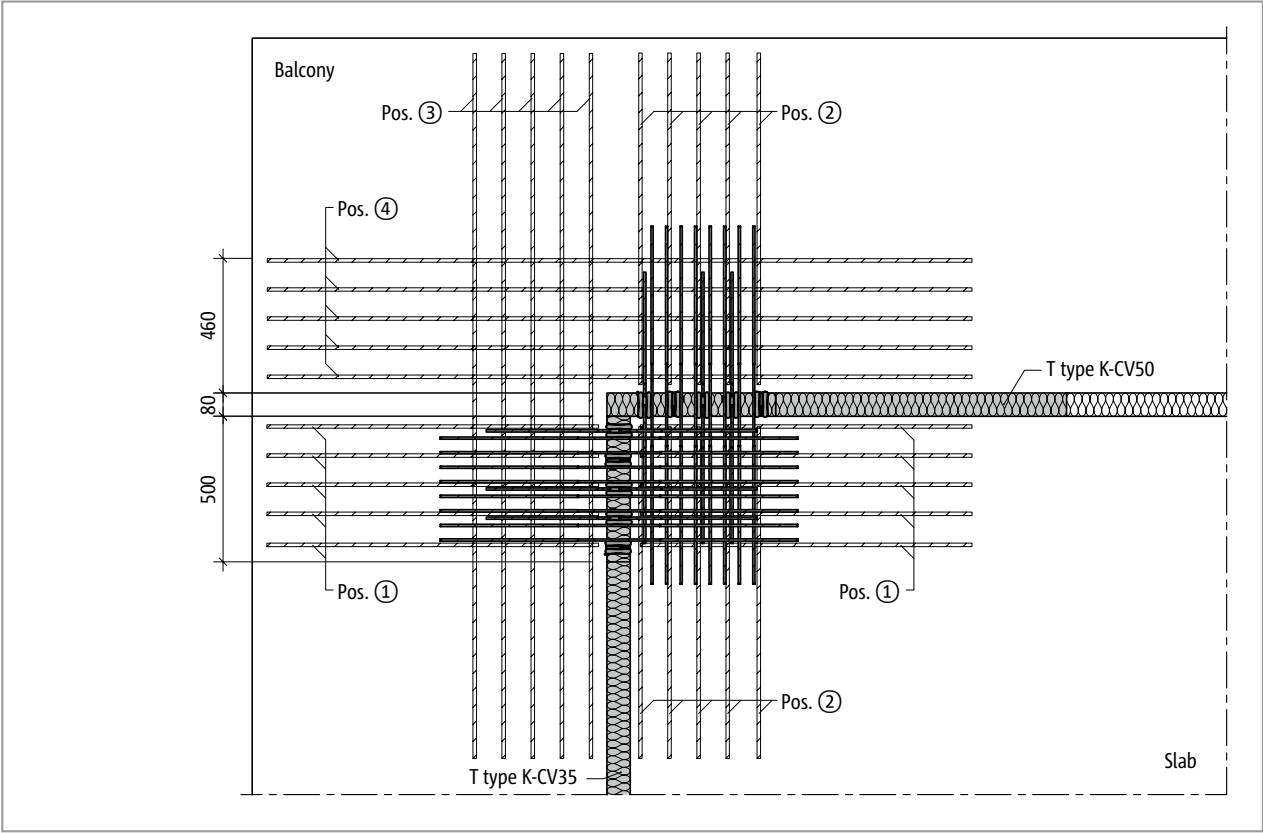


Fig. 210: Schöck Isokorb® T type C-M1: On-site reinforcement (top position)

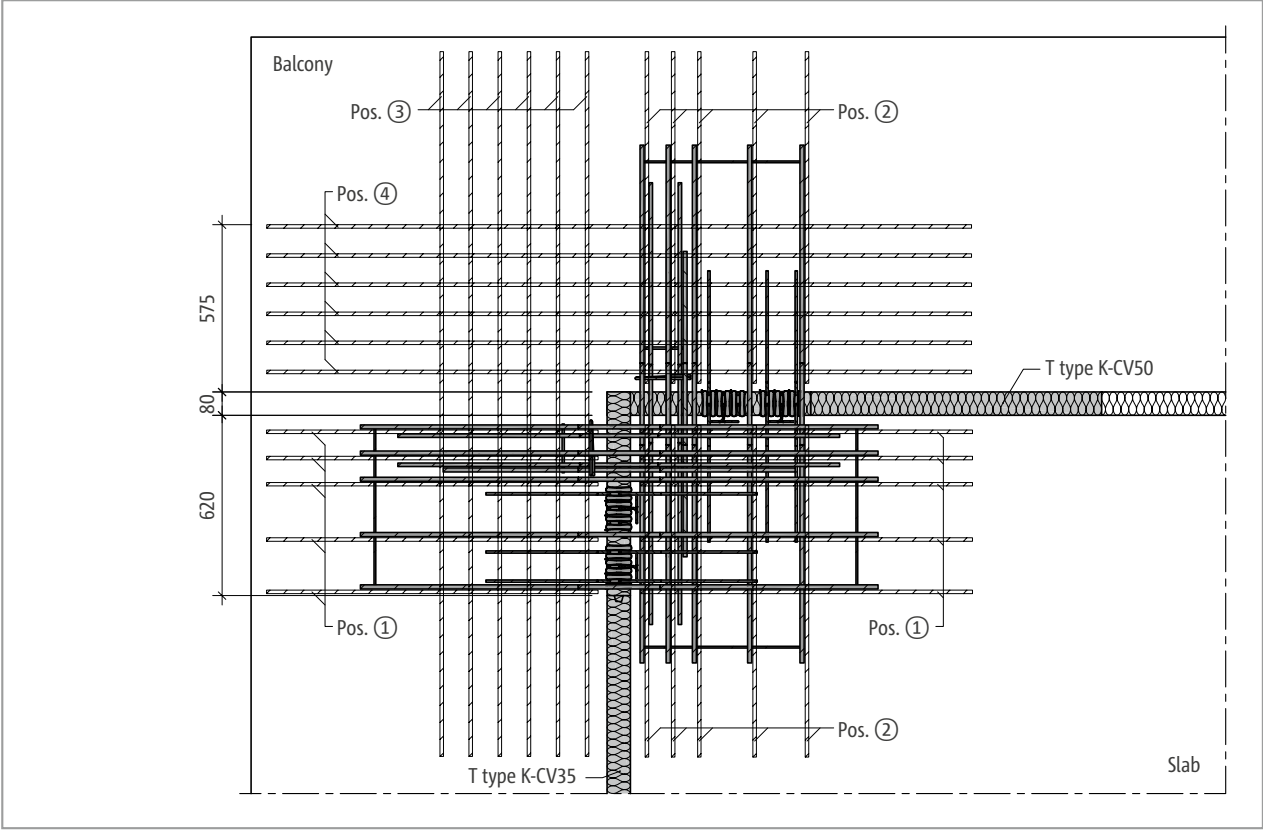


Fig. 211: Schöck Isokorb® T type C-M2: On-site reinforcement (top position)

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## On-site reinforcement | Installation instructions

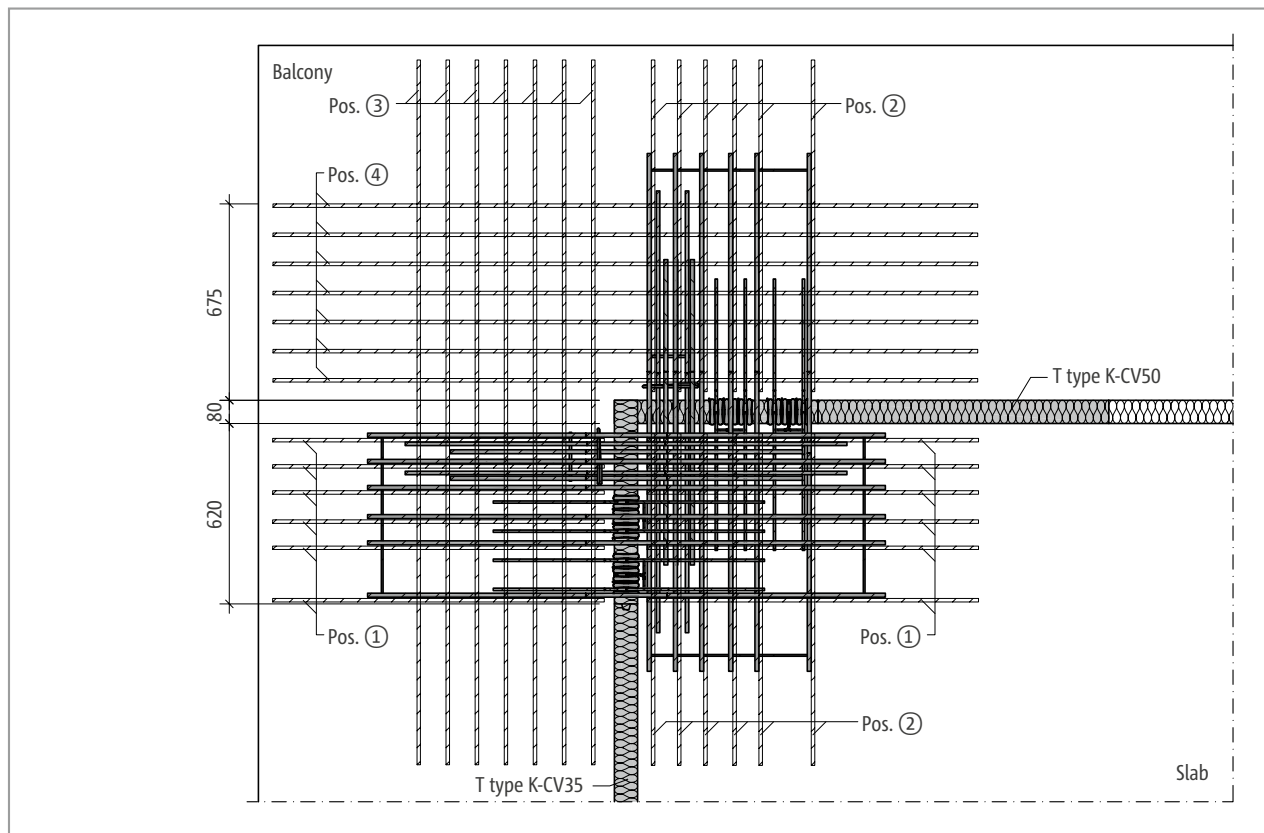


Fig. 212: Schöck Isokorb® T type C-M3: On-site reinforcement (top position)

Schöck Isokorb® T type C		M1	M2	M3
On-site reinforcement	Location	Concrete strength class ≥ C25/30		
Overlapping reinforcement				
Pos. 1	Balcony/floor side	2 • 5 • H12@100	2 • 5 • H16	2 • 6 • H16
Pos. 1 Bar length	Balcony/floor side	l - 70 mm	l - 70 mm	l - 70 mm
Pos. 2	Balcony/floor side	2 • 5 • H12@100	2 • 5 • H16	2 • 6 • H16
Pos. 2 Bar length	Balcony/floor side	l - 70 mm	l - 70 mm	l - 70 mm
Steel bars along the insulation joint				
Pos. 3	Balcony side	5 • H12@100	6 • H16@100	7 • H16@100
Pos. 3 Bar length	Balcony side	2 × l	2 × l	2 × l
Pos. 4	Balcony side	5 • H12@100	6 • H16@100	7 • H16@100
Pos. 4 Bar length	Balcony side	2 × l	2 × l	2 × l

### Information about on-site reinforcement

- The suspension reinforcement and edging along the insulation joint is factory-integrated.
- Design of the overlap joints, precamber of the balcony slab and concrete cover according to the details from the structural engineer.
- With concreting, uniform filling and compacting on both sides is required for the positional security of the Schöck Isokorb®.
- The indicative minimum concrete strength class of the external structural component is C32/40.

### Installation instructions

The current installation instruction can be found online under:  
[www.schoeck.com/view/6420](http://www.schoeck.com/view/6420)

## ✓ Check list

- ☐ With the corner balcony has the required 2nd position (-CV50) been taken into account?  
In the connection to the Schöck Isokorb® T type C (2nd position) is a Schöck Isokorb® T type K-CV50 planned?
- ☐ Is the minimum slab thickness ( $H_{\min} = 180 \text{ mm}$ ) of the Schöck Isokorb® T type C taken into account?
- ☐ Are the recommendations for the limitation of the slenderness observed?
- ☐ Are the maximum allowable expansion joint spacings taken into account?
- ☐ Are the requirements with regard to fire protection explained and is the appropriate addendum entered in the Isokorb® type description in the implementation plans?
- ☐ Have the in-situ concrete strips (width  $\geq 100 \text{ mm}$  from insulation body of the Schöck Isokorb® T type C-M1, width  $\geq 200 \text{ mm}$  from insulation body of the Schöck Isokorb® T type C-M2 and T type C-M3) been charted in the implementation plans?
- ☐ Has the cantilevered system length or the system support width been taken as a basis?
- ☐ Are the Schöck FEM guidelines taken into account with the calculation using FEM?
- ☐ Have the loads on the Schöck Isokorb® connection been specified at design level?
- ☐ With the selection of the design table is the relevant concrete cover taken into account?
- ☐ Has the additional deformation due to the Schöck Isokorb® been taken into account?
- ☐ Is the drainage direction taken into account with the resulting camber information? Is the degree of camber entered in the working drawings?
- ☐ Have the requirements for on-site reinforcement of connections been defined in each case?
- ☐ With precast balconies are possibly necessary gaps for the front side transportation anchors and downpipes with internal drainage taken into account? Is the maximum centre distance of 300 mm for the Isokorb® bars observed?
- ☐ Is the T type K-U, K-O or a special construction required instead of Isokorb® T type K for connection with height offset or to a wall?

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