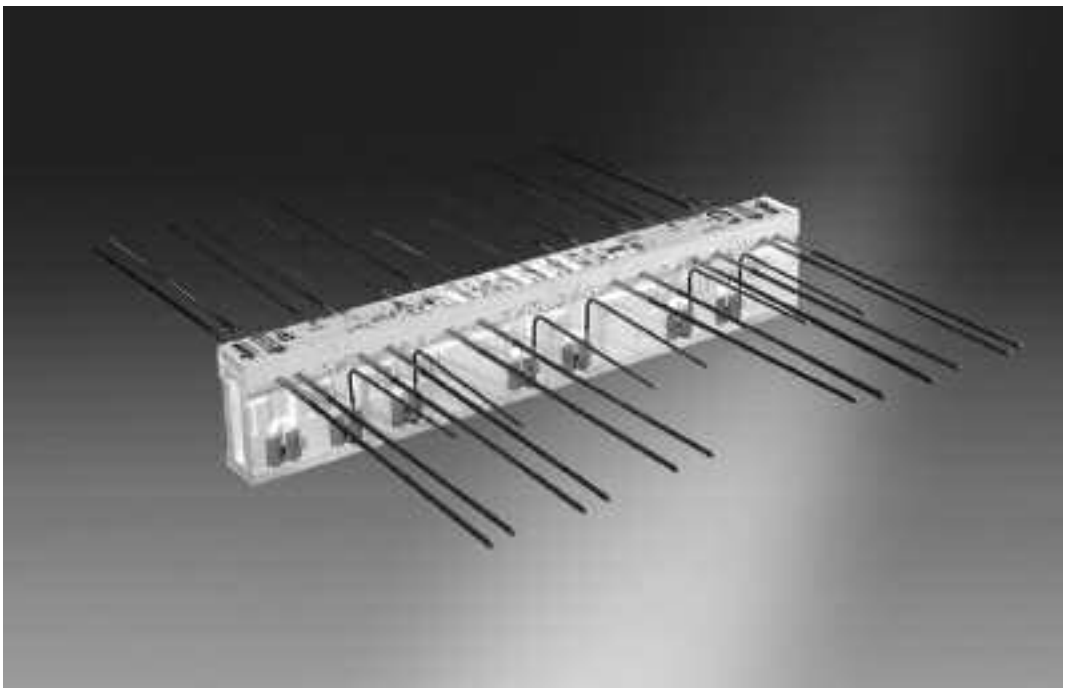

Schöck Isokorb® type K30-CV35

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SCHÖCK ISOKORB® TYPE K

Examples of element arrangements/Cross-sections

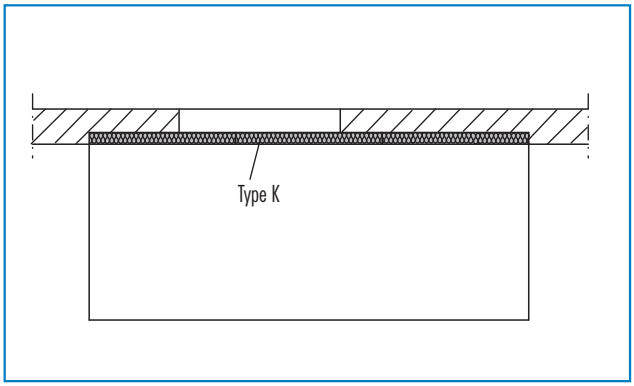


Figure 1: Free cantilever balcony

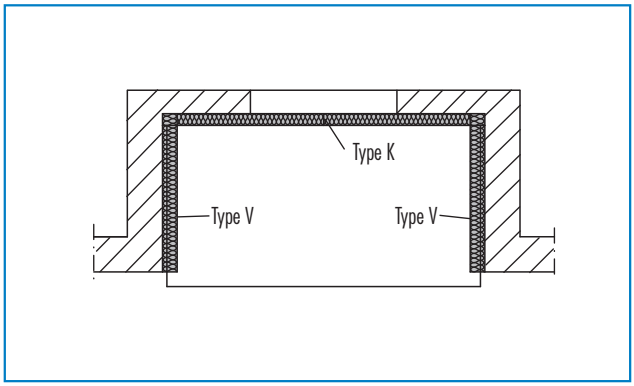


Figure 2: Balcony supported on three sides

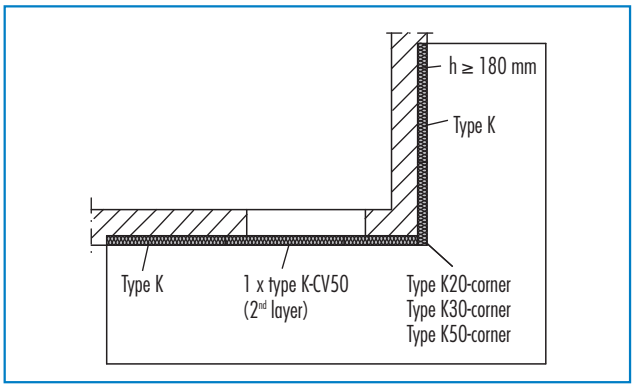


Figure 3: Balcony on an outside corner

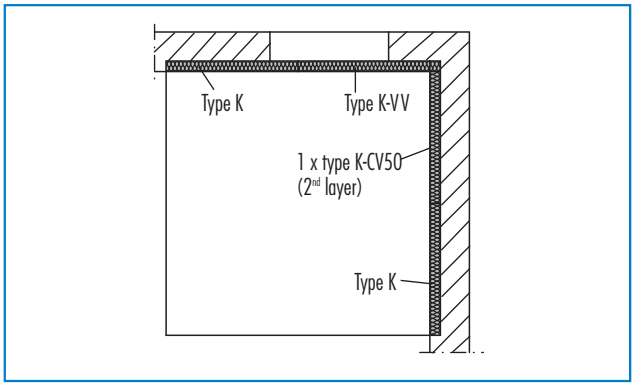


Figure 4: Balcony supported on two sides

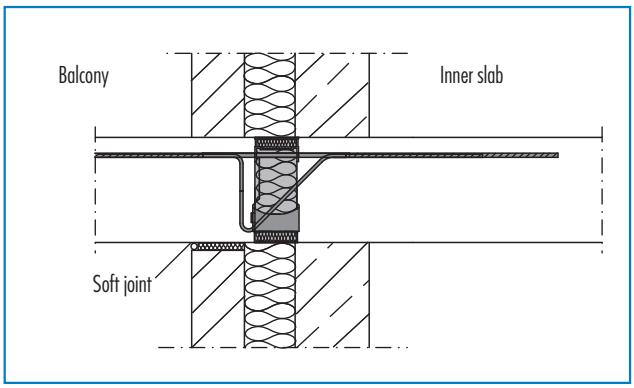


Figure 5: Cavity wall with a balcony at inner slab level

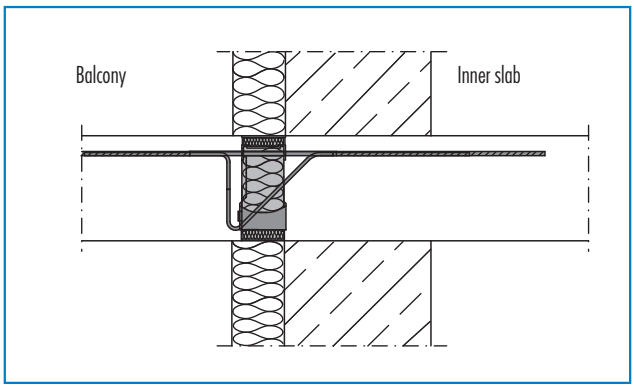


Figure 6: Brickwork with external insulation and a balcony at inner slab level

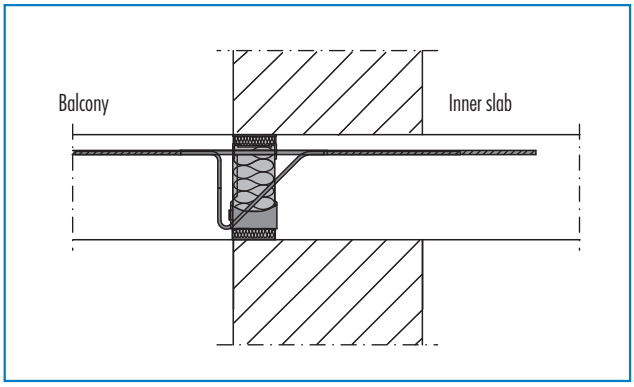


Figure 7: Single-leaf brickwork with a balcony at inner slab level

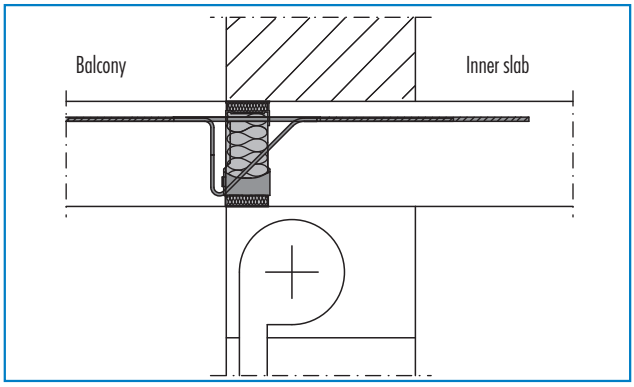
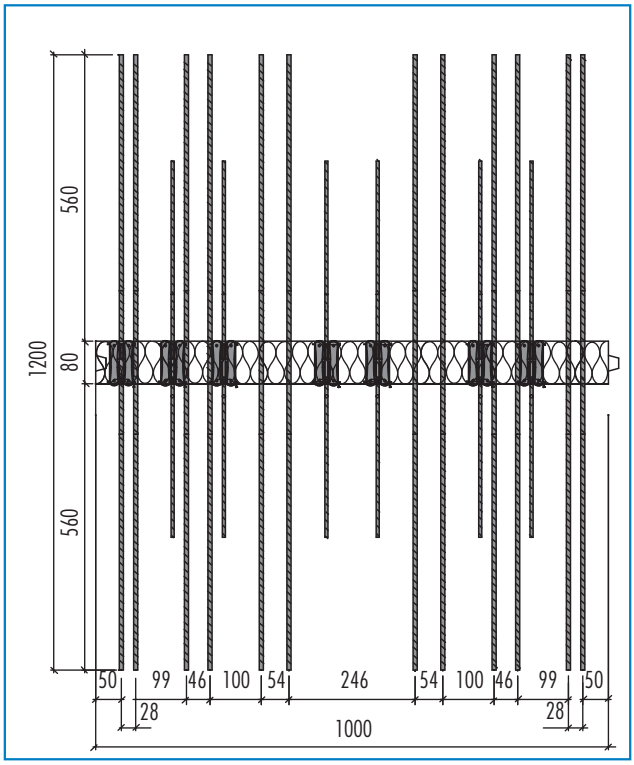


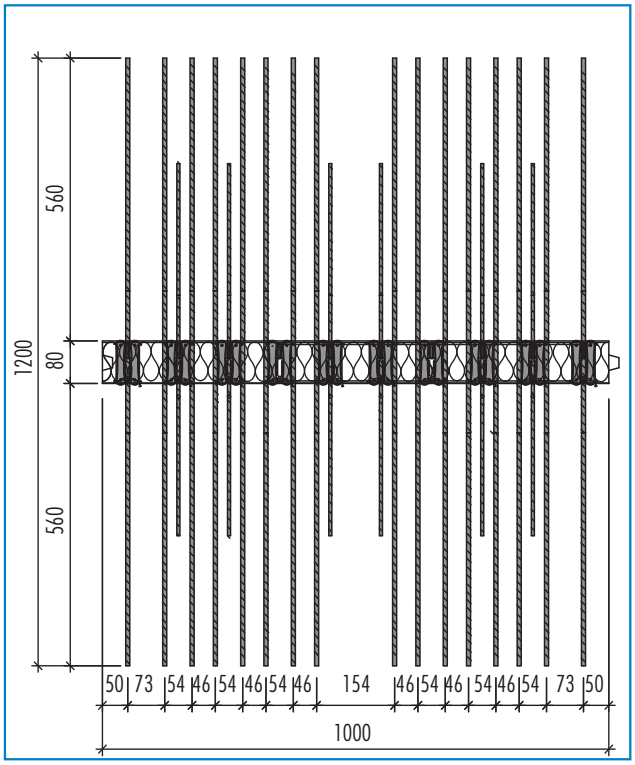
Figure 8: Single-leaf brickwork with blind box and a balcony at inner slab level

SCHÖCK ISOKORB® TYPE K

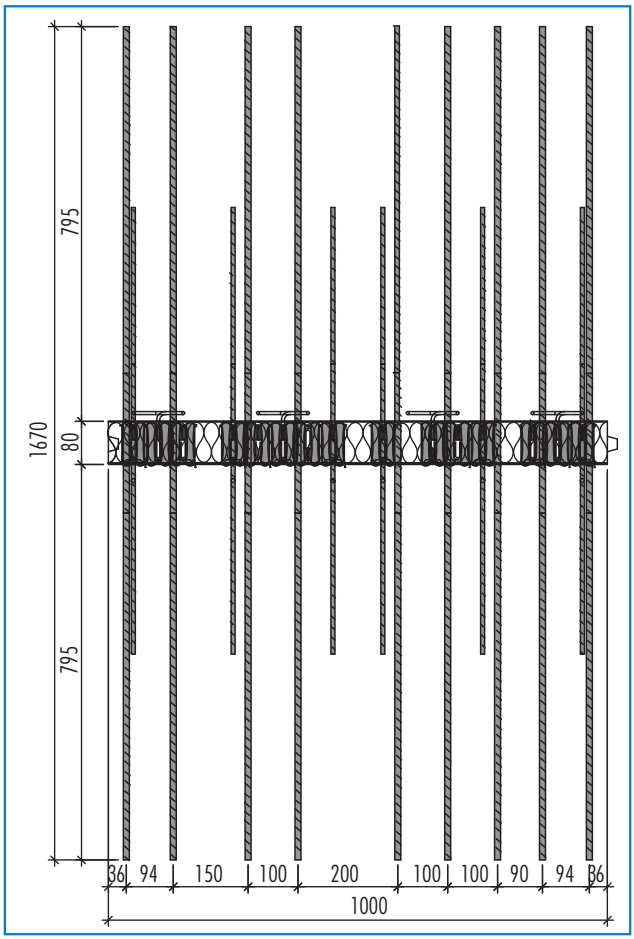
Plan views



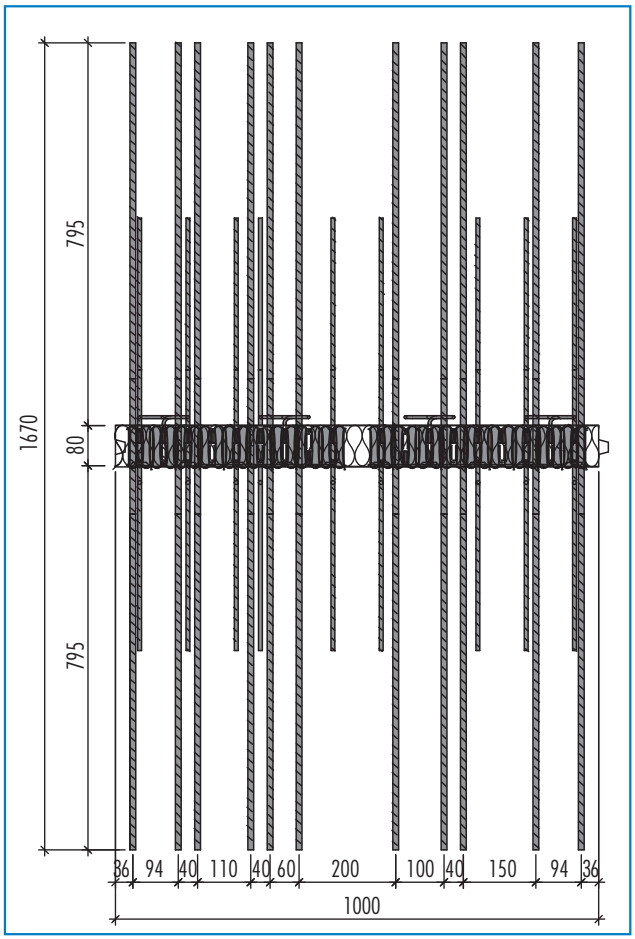
Plan view of Schöck Isokorb® type K30-CV35



Plan view of Schöck Isokorb® type K50-CV35



Plan view of Schöck Isokorb® type K60-CV35



Plan view of Schöck Isokorb® type K80-CV35-V8

SCHÖCK ISOKORB® TYPE K

Product variants/Designations

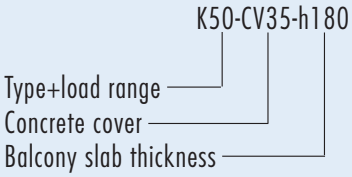
Product selection

▶ Basic type

Lateral force level V6 ≙ standard equipment, does not need to be listed in the type designation.

e.g.: K50-CV35 for a balcony slab thickness of h = 160 - 250 mm

Designations used in planning documents
(structural calculations, specification documents, implementation plans, orders), e.g. for h = 180 mm



▶ Variants:

Lateral force load range

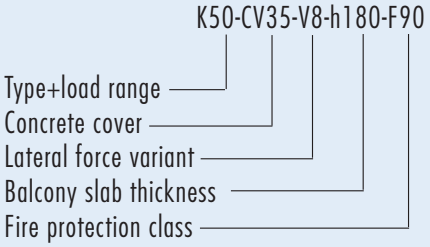
e.g.:	K50-CV35-V8...	(= lateral force rods 6 ∅ 8)
	K50-CV35-V10...	(= lateral force rods 8 ∅ 8)
	K50-CV35-VV...	(= lateral force rods 4 ∅ 8 positive + 4 ∅ 8 negative)

Concrete cover

e.g.:	K50-CV30...	(= installation dimensions for the tension rods c_v = 30 mm)
	K50-CV35..	(= installation dimensions for the tension rods c_v = 35 mm)
	K50-CV50...(≙ 2nd layer)	(= installation dimensions for the tension rods c_v = 50 mm)

Fire protection
e.g.: K50-CV35-...-F90

Designations used in planning documents
(structural calculations, specification documents, implementation plans, orders), e.g. for h = 180 mm

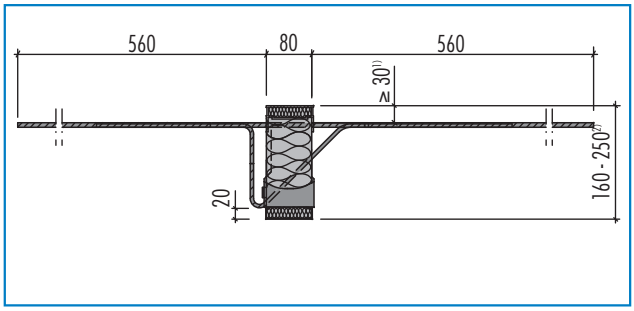


SCHÖCK ISOKORB® TYPE K

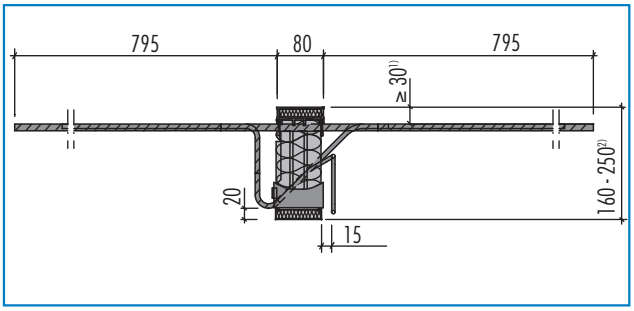
Product description

Schöck Isokorb® type	K10	K20	K30	K40	K50
Element length [m]	1.00	1.00	1.00	1.00	1,00
Tension rods	4 ⌀ 8	8 ⌀ 8	12 ⌀ 8	13 ⌀ 8	16 ⌀ 8
Shear force rods V6	4 ⌀ 6	4 ⌀ 6	6 ⌀ 6	6 ⌀ 6	6 ⌀ 6
Shear force rods V8	4 ⌀ 8	4 ⌀ 8	6 ⌀ 8	6 ⌀ 8	6 ⌀ 8
Shear force rods V10	–	–	8 ⌀ 8	8 ⌀ 8	8 ⌀ 8
Shear force rods VV	–	–	–	4 ⌀ 8 + 4 ⌀ 8	4 ⌀ 8 + 4 ⌀ 8
Pressure bearings (qty)	4	5	7	8	10

Schöck Isokorb® type	K60	K70	K80	K90	K100
Element length [m]	1.00	1.00	1,00	1,00	1,00
Tension rods	9 ⌀ 12	10 ⌀ 12	11 ⌀ 12	12 ⌀ 12	13 ⌀ 12
Shear force rods V6	6 ⌀ 6	6 ⌀ 6	–	–	–
Shear force rods V8	6 ⌀ 8	6 ⌀ 8	6 ⌀ 8	6 ⌀ 8	6 ⌀ 8
Shear force rods V10	8 ⌀ 8	8 ⌀ 8	8 ⌀ 8	8 ⌀ 8	8 ⌀ 8
Shear force rods VV	8 ⌀ 8 + 4 ⌀ 8	8 ⌀ 8 + 4 ⌀ 8	8 ⌀ 8 + 4 ⌀ 8	8 ⌀ 8 + 4 ⌀ 8	8 ⌀ 8 + 4 ⌀ 8
Pressure bearings (qty)	15	16	17	18	18
Special hoops (qty)	4	4	4	4	4



Schöck Isokorb® type K10 to K50



Schöck Isokorb® type K60 to K100

[1] 50 mm for CV50
[2] 180 - 250 mm for CV50

SCHÖCK ISOKORB® TYPE K

Design and calculation tables

Concrete strength ≥ C25/30
Concrete cover c_v 35

For the purposes of the calculations, the member forces should be taken in relation to the middle of the wall (see page 49).

K10-CV35-...

Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α[1)] [–]
160	–7.3	+28.0	+49.8	–	–	0.9
170	–8.1	+28.0	+49.8	–	–	0.8
180	–9.0	+28.0	+49.8	–	–	0.7
190	–9.9	+28.0	+49.8	–	–	0.7
200	–10.8	+28.0	+49.8	–	–	0.6
210	–11.6	+28.0	+49.8	–	–	0.6
220	–12.5	+28.0	+49.8	–	–	0.5
230	–13.4	+28.0	+49.8	–	–	0.5
240	–14.3	+28.0	+49.8	–	–	0.5
250	–15.1	+28.0	+49.8	–	–	0.4

K20-CV35-...

Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α[1)] [–]
160	–14.3	+28.0	+49.8	–	–	0.9
170	–16.0	+28.0	+49.8	–	–	0.8
180	–17.7	+28.0	+49.8	–	–	0.8
190	–19.4	+28.0	+49.8	–	–	0.7
200	–21.2	+28.0	+49.8	–	–	0.6
210	–22.9	+28.0	+49.8	–	–	0.6
220	–24.6	+28.0	+49.8	–	–	0.6
230	–26.3	+28.0	+49.8	–	–	0.5
240	–28.0	+28.0	+49.8	–	–	0.5
250	–29.8	+28.0	+49.8	–	–	0.5

K30-CV35-...

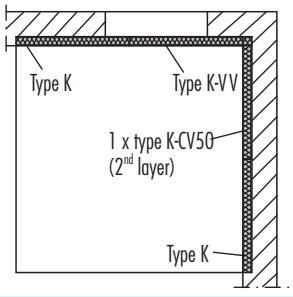
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α[1)] [–]
160	–20.0	+42.0	+74.6	+99.5	–	0.9
170	–22.4	+42.0	+74.6	+99.5	–	0.8
180	–24.8	+42.0	+74.6	+99.5	–	0.8
190	–27.2	+42.0	+74.6	+99.5	–	0.7
200	–29.6	+42.0	+74.6	+99.5	–	0.6
210	–32.0	+42.0	+74.6	+99.5	–	0.6
220	–34.4	+42.0	+74.6	+99.5	–	0.6
230	–36.8	+42.0	+74.6	+99.5	–	0.5
240	–39.3	+42.0	+74.6	+99.5	–	0.5
250	–41.7	+42.0	+74.6	+99.5	–	0.5

K40-CV35-...

Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α[1)] [–]
160	–22.8	+42.0	+74.6	+99.5	±49.8	0.9
170	–25.6	+42.0	+74.6	+99.5	±49.8	0.8
180	–28.4	+42.0	+74.6	+99.5	±49.8	0.8
190	–31.1	+42.0	+74.6	+99.5	±49.8	0.7
200	–33.9	+42.0	+74.6	+99.5	±49.8	0.6
210	–36.6	+42.0	+74.6	+99.5	±49.8	0.6
220	–39.4	+42.0	+74.6	+99.5	±49.8	0.6
230	–42.1	+42.0	+74.6	+99.5	±49.8	0.5
240	–44.9	+42.0	+74.6	+99.5	±49.8	0.5
250	–47.6	+42.0	+74.6	+99.5	±49.8	0.5

Schöck Isokorb® type K-CV50 (2nd layer)
Refer to pages 46 - 48 for the design values.

Concrete strength class for outside components at least C32/40 (see page 32).



Inside corner layout

[1)] Precamber factor to be applied in accordance with page 49.

SCHÖCK ISOKORB® TYPE K

HTE MODULE

Design and calculation tables

≥ C25/30
c_v 35

Schöck
build simply better
SCHÖCK ISOKORB®

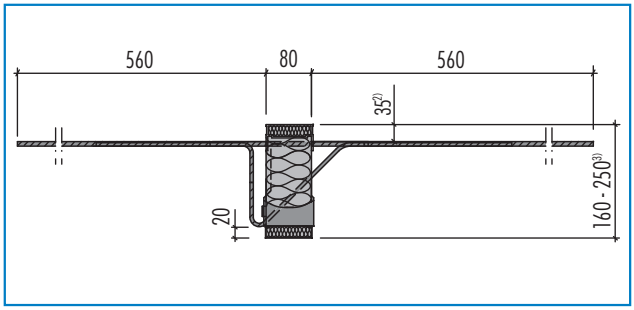
For the purposes of the calculations, the member forces should be taken in relation to the middle of the wall (see page 49).

K50-CV35-...						
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α [1] [–]
160	–28.6	+42.0	+74.6	+99.5	±49.8	0.9
170	–32.0	+42.0	+74.6	+99.5	±49.8	0.8
180	–35.4	+42.0	+74.6	+99.5	±49.8	0.8
190	–38.9	+42.0	+74.6	+99.5	±49.8	0.7
200	–42.3	+42.0	+74.6	+99.5	±49.8	0.6
210	–45.8	+42.0	+74.6	+99.5	±49.8	0.6
220	–49.2	+42.0	+74.6	+99.5	±49.8	0.6
230	–52.6	+42.0	+74.6	+99.5	±49.8	0.5
240	–56.1	+42.0	+74.6	+99.5	±49.8	0.5
250	–59.5	+42.0	+74.6	+99.5	±49.8	0.5

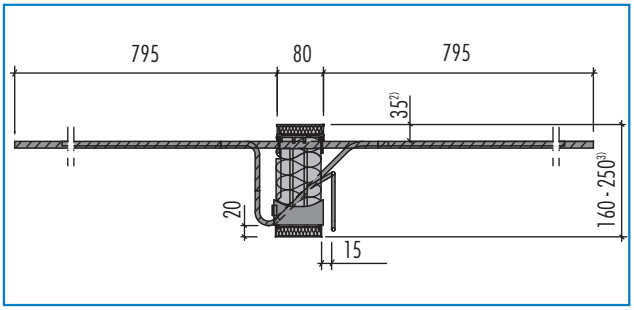
K60-CV35-...						
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α [1] [–]
160	–35.9	+42.0	+74.6	+99.5	+99.5 –49.8	1.1
170	–40.3	+42.0	+74.6	+99.5	+99.5 –49.8	1.0
180	–44.7	+42.0	+74.6	+99.5	+99.5 –49.8	0.9
190	–49.1	+42.0	+74.6	+99.5	+99.5 –49.8	0.8
200	–53.6	+42.0	+74.6	+99.5	+99.5 –49.8	0.7
210	–58.0	+42.0	+74.6	+99.5	+99.5 –49.8	0.7
220	–62.4	+42.0	+74.6	+99.5	+99.5 –49.8	0.6
230	–66.8	+42.0	+74.6	+99.5	+99.5 –49.8	0.6
240	–71.3	+42.0	+74.6	+99.5	+99.5 –49.8	0.6
250	–75.7	+42.0	+74.6	+99.5	+99.5 –49.8	0.5

K70-CV35-...						
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α [1] [–]
160	–39.8	+42.0	+74.6	+99.5	+99.5 –49.8	1.1
170	–44.8	+42.0	+74.6	+99.5	+99.5 –49.8	1.0
180	–49.7	+42.0	+74.6	+99.5	+99.5 –49.8	0.9
190	–54.6	+42.0	+74.6	+99.5	+99.5 –49.8	0.8
200	–59.5	+42.0	+74.6	+99.5	+99.5 –49.8	0.7
210	–64.4	+42.0	+74.6	+99.5	+99.5 –49.8	0.7
220	–69.3	+42.0	+74.6	+99.5	+99.5 –49.8	0.7
230	–74.3	+42.0	+74.6	+99.5	+99.5 –49.8	0.6
240	–79.2	+42.0	+74.6	+99.5	+99.5 –49.8	0.6
250	–84.1	+42.0	+74.6	+99.5	+99.5 –49.8	0.5

K80-CV35-...						
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α [1] [–]
160	–43.8	–	+74.6	+99.5	+99.5 –49.8	1.1
170	–49.2	–	+74.6	+99.5	+99.5 –49.8	1.0
180	–54.6	–	+74.6	+99.5	+99.5 –49.8	0.9
190	–60.0	–	+74.6	+99.5	+99.5 –49.8	0.8
200	–65.4	–	+74.6	+99.5	+99.5 –49.8	0.7
210	–70.8	–	+74.6	+99.5	+99.5 –49.8	0.7
220	–76.2	–	+74.6	+99.5	+99.5 –49.8	0.7
230	–81.6	–	+74.6	+99.5	+99.5 –49.8	0.6
240	–87.0	–	+74.6	+99.5	+99.5 –49.8	0.6
250	–92.4	–	+74.6	+99.5	+99.5 –49.8	0.5



Schöck Isokorb® type K10-CV35 to K50-CV35



Schöck Isokorb® type K60-CV35 to K80-CV35

[1] Precamber factor to be applied in accordance with page 49. [2] 50 mm for CV50 [3] 180 - 250 mm for CV50

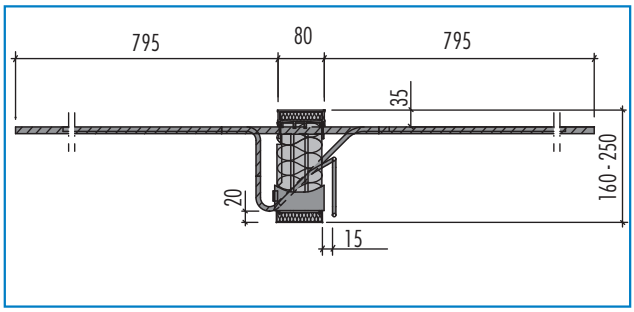
SCHÖCK ISOKORB® TYPE K

Design and calculation tables

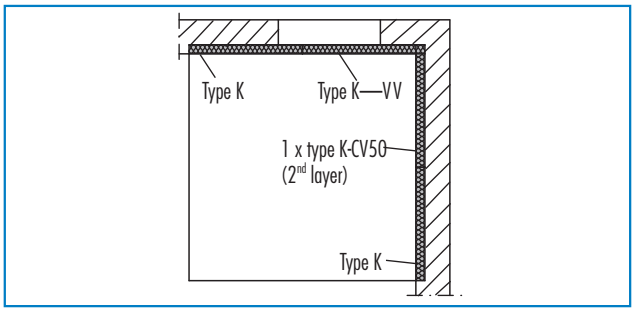
For the purposes of the calculations, the member forces should be taken in relation to the middle of the wall (see page 49).

Concrete strength ≥ C25/30
Concrete cover c_v 35

K90-CV35-...						
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α [1] [–]
160	–46.4	–	+74.6	+99.5	+99.5 –49.8	1.1
170	–52.1	–	+74.6	+99.5	+99.5 –49.8	1.0
180	–57.8	–	+74.6	+99.5	+99.5 –49.8	0.9
190	–63.5	–	+74.6	+99.5	+99.5 –49.8	0.8
200	–69.3	–	+74.6	+99.5	+99.5 –49.8	0.7
210	–75.0	–	+74.6	+99.5	+99.5 –49.8	0.7
220	–80.7	–	+74.6	+99.5	+99.5 –49.8	0.7
230	–86.4	–	+74.6	+99.5	+99.5 –49.8	0.6
240	–92.2	–	+74.6	+99.5	+99.5 –49.8	0.6
250	–97.9	–	+74.6	+99.5	+99.5 –49.8	0.5



Schöck Isokorb® type K90-CV35 to K100-CV35



Inside corner layout

Schöck Isokorb® type K-CV50 (2nd layer)
Refer to pages 46 - 48 for the design values.

Concrete strength ≥ C32/40
Concrete cover c_v 35

K100-CV35-...						
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α [1] [–]
160	–50.2	–	+74.6	+99.5	+99.5 -49.8	1.1
170	–56.4	–	+74.6	+99.5	+99.5 -49.8	1.0
180	–62.5	–	+74.6	+99.5	+99.5 -49.8	0.9
190	–68.7	–	+74.6	+99.5	+99.5 -49.8	0.8
200	–74.9	–	+74.6	+99.5	+99.5 -49.8	0.7
210	–81.1	–	+74.6	+99.5	+99.5 -49.8	0.7
220	–87.3	–	+74.6	+99.5	+99.5 -49.8	0.7
230	–93.5	–	+74.6	+99.5	+99.5 -49.8	0.6
240	–99.7	–	+74.6	+99.5	+99.5 -49.8	0.6
250	–105.9	–	+74.6	+99.5	+99.5 -49.8	0.5

[1] Precamber factor to be applied in accordance with page 49.

SCHÖCK ISOKORB® TYPE K

HTE MODULE

Design and calculation tables

Concrete strength ≥ C25/30
Concrete cover c_v 30

For the purposes of the calculations, the member forces should be taken in relation to the middle of the wall (see page 49).

K10-CV30-...

Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α[1)] [–]
160	–7.7	+28.0	+49.8	–	–	0.9
170	–8.6	+28.0	+49.8	–	–	0.8
180	–9.4	+28.0	+49.8	–	–	0.7
190	–10.3	+28.0	+49.8	–	–	0.7
200	–11.2	+28.0	+49.8	–	–	0.6
210	–12.1	+28.0	+49.8	–	–	0.6
220	–12.9	+28.0	+49,8	–	–	0.5
230	–13.8	+28.0	+49.8	–	–	0.5
240	–14.7	+28.0	+49.8	–	–	0.5
250	–15.6	+28.0	+49.8	–	–	0.4

K20-CV30-...

Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α[1)] [–]
160	–15.1	+28.0	+49.8	–	–	0.9
170	–16.9	+28.0	+49.8	–	–	0.8
180	–18.6	+28.0	+49.8	–	–	0.8
190	–20.3	+28.0	+49.8	–	–	0.7
200	–22.0	+28.0	+49.8	–	–	0.6
210	–23.7	+28.0	+49.8	–	–	0.6
220	–25.5	+28.0	+49.8	–	–	0.6
230	–27.2	+28.0	+49.8	–	–	0.5
240	–28.9	+28.0	+49.8	–	–	0.5
250	–30.6	+28.0	+49.8	–	–	0.5

K30-CV30-...

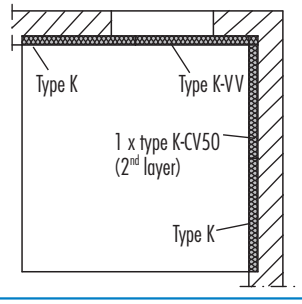
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α[1)] [–]
160	–21.2	+42.0	+74.6	+99.5	–	0.9
170	–23.6	+42.0	+74.6	+99.5	–	0.8
180	–26.0	+42.0	+74.6	+99.5	–	0.8
190	–28.4	+42.0	+74.6	+99.5	–	0.7
200	–30.8	+42.0	+74.6	+99.5	–	0.6
210	–33.2	+42.0	+74.6	+99.5	–	0.6
220	–35.6	+42.0	+74.6	+99.5	–	0.6
230	–38.1	+42.0	+74.6	+99.5	–	0.5
240	–40.5	+42.0	+74.6	+99.5	–	0.5
250	–42.9	+42.0	+74.6	+99.5	–	0.5

K40-CV30-...

Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α[1)] [–]
160	–24.2	+42.0	+74.6	+99.5	±49.8	0.9
170	–27.0	+42.0	+74.6	+99.5	±49.8	0.8
180	–29.7	+42.0	+74.6	+99.5	±49.8	0.8
190	–32.5	+42.0	+74.6	+99.5	±49.8	0.7
200	–35.2	+42.0	+74.6	+99.5	±49.8	0.6
210	–38.0	+42.0	+74.6	+99.5	±49.8	0.6
220	–40.7	+42.0	+74.6	+99.5	±49.8	0.6
230	–43.5	+42.0	+74.6	+99.5	±49.8	0.5
240	–46.2	+42.0	+74.6	+99.5	±49.8	0.5
250	–49.0	+42.0	+74.6	+99.5	±49.8	0.5

Schöck Isokorb® type K-CV50 (2nd layer)
Refer to pages 46 - 48 for the design values.

Concrete strength class for outside components at least C32/40 (see page 32).



Inside corner layout

[1)] Precamber factor to be applied in accordance with page 49.

SCHÖCK ISOKORB® TYPE K

HTE MODULE

Design and calculation tables

≥ C25/30
c_v 30

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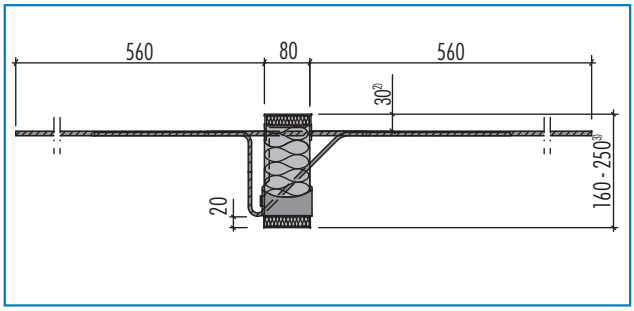
For the purposes of the calculations, the member forces should be taken in relation to the middle of the wall (see page 49).

K50-CV30-...						
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α [1] [–]
160	–30.3	+42.0	+74.6	+99.5	±49.8	0.9
170	–33.7	+42.0	+74.6	+99.5	±49.8	0.8
180	–37.2	+42.0	+74.6	+99.5	±49.8	0.8
190	–40.6	+42.0	+74.6	+99.5	±49.8	0.7
200	–44.0	+42.0	+74.6	+99.5	±49.8	0.6
210	–47.5	+42.0	+74.6	+99.5	±49.8	0.6
220	–50.9	+42.0	+74.6	+99.5	±49.8	0.6
230	–54.4	+42.0	+74.6	+99.5	±49.8	0.5
240	–57.8	+42.0	+74.6	+99.5	±49.8	0.5
250	–61.2	+42.0	+74.6	+99.5	±49.8	0.5

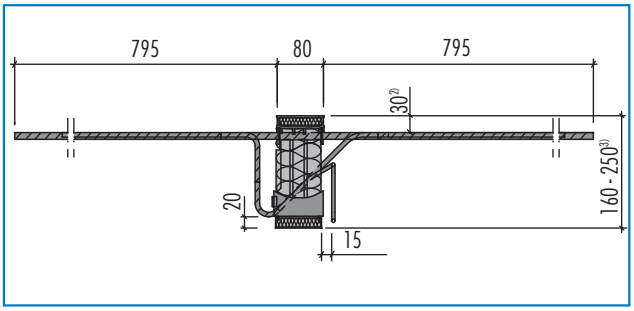
K60-CV30-...						
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α [1] [–]
160	–38.1	+42.0	+74.6	+99.5	+99.5 –49.8	1.1
170	–42.5	+42.0	+74.6	+99.5	+99.5 –49.8	1.0
180	–46.9	+42.0	+74.6	+99.5	+99.5 –49.8	0.9
190	–51.3	+42.0	+74.6	+99.5	+99.5 –49.8	0.8
200	–55.8	+42.0	+74.6	+99.5	+99.5 –49.8	0.7
210	–60.2	+42.0	+74.6	+99.5	+99.5 –49.8	0.7
220	–64.6	+42.0	+74.6	+99.5	+99.5 –49.8	0.6
230	–69.0	+42.0	+74.6	+99.5	+99.5 –49.8	0.6
240	–73.5	+42.0	+74.6	+99.5	+99.5 –49.8	0.6
250	–77.9	+42.0	+74.6	+99.5	+99.5 –49.8	0.5

K70-CV30-...						
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α [1] [–]
160	–42.3	+42.0	+74.6	+99.5	+99.5 –49.8	1.1
170	–47.2	+42.0	+74.6	+99.5	+99.5 –49.8	1.0
180	–52.1	+42.0	+74.6	+99.5	+99.5 –49.8	0.9
190	–57.0	+42.0	+74.6	+99.5	+99.5 –49.8	0.8
200	–62.0	+42.0	+74.6	+99.5	+99.5 –49.8	0.7
210	–66.9	+42.0	+74.6	+99.5	+99.5 –49.8	0.7
220	–71.8	+42.0	+74.6	+99.5	+99.5 –49.8	0.6
230	–76.7	+42.0	+74.6	+99.5	+99.5 –49.8	0.6
240	–81.6	+42.0	+74.6	+99.5	+99.5 –49.8	0.6
250	–86.5	+42.0	+74.6	+99.5	+99.5 –49.8	0.5

K80-CV30-...						
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α [1] [–]
160	–46.5	–	+74.6	+99.5	+99.5 –49.8	1.1
170	–51.9	–	+74.6	+99.5	+99.5 –49.8	1.0
180	–57.3	–	+74.6	+99.5	+99.5 –49.8	0.9
190	–62.7	–	+74.6	+99.5	+99.5 –49.8	0.8
200	–68.1	–	+74.6	+99.5	+99.5 –49.8	0.7
210	–73.5	–	+74.6	+99.5	+99.5 –49.8	0.7
220	–78.9	–	+74.6	+99.5	+99.5 –49.8	0.6
230	–84.3	–	+74.6	+99.5	+99.5 –49.8	0.6
240	–89.7	–	+74.6	+99.5	+99.5 –49.8	0.6
250	–95.2	–	+74.6	+99.5	+99.5 –49.8	0.5



Schöck Isokorb® type K10-CV30 to K50-CV30



Schöck Isokorb® type K60-CV30 to K80-CV30

[1] Precamber factor to be applied in accordance with page 49. [2] 50 mm for CV50 [3] 180 - 250 mm for CV50

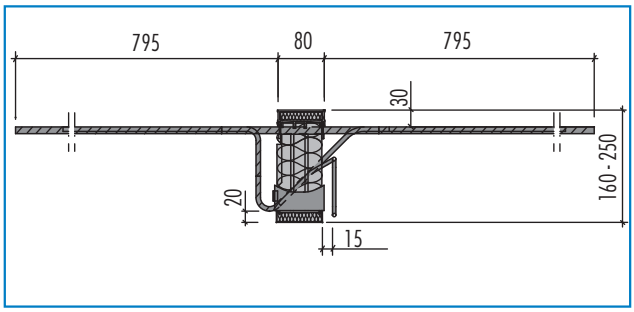
SCHÖCK ISOKORB® TYPE K

Design and calculation tables

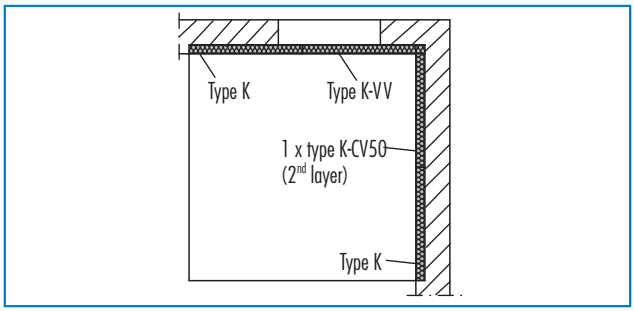
For the purposes of the calculations, the member forces should be taken in relation to the middle of the wall (see page 49).

Concrete strength ≥ C25/30
Concrete cover c_v 30

K90-CV30-...						
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α [1] [–]
160	–49.2	–	+74.6	+99.5	+99.5 –49.8	1.1
170	–55.0	–	+74.6	+99.5	+99.5 –49.8	1.0
180	–60.7	–	+74.6	+99.5	+99.5 –49.8	0.9
190	–66.4	–	+74.6	+99.5	+99.5 –49.8	0.8
200	–72.1	–	+74.6	+99.5	+99.5 –49.8	0.7
210	–77.9	–	+74.6	+99.5	+99.5 –49.8	0.7
220	–83.6	–	+74.6	+99.5	+99.5 –49.8	0.6
230	–89.3	–	+74.6	+99.5	+99.5 –49.8	0.6
240	–95.0	–	+74.6	+99.5	+99.5 –49.8	0.6
250	–100.7	–	+74.6	+99.5	+99.5 –49.8	0.5



Schöck Isokorb® type K90-CV30 to K100-CV30



Inside corner layout

Schöck Isokorb® type K-CV50 (2nd layer)
Refer to pages 46 - 48 for the design values.

Concrete strength ≥ C32/40
Concrete cover c_v 30

K100-CV30-...						
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α [1] [–]
160	–53.3	–	+74.6	+99.5	+99.5 –49.8	1.1
170	–59.4	–	+74.6	+99.5	+99.5 –49.8	1.0
180	–65.6	–	+74.6	+99.5	+99.5 –49.8	0.9
190	–71.8	–	+74.6	+99.5	+99.5 –49.8	0.8
200	–78.0	–	+74.6	+99.5	+99.5 –49.8	0.7
210	–84.2	–	+74.6	+99.5	+99.5 –49.8	0.7
220	–90.4	–	+74.6	+99.5	+99.5 –49.8	0.6
230	–96.6	–	+74.6	+99.5	+99.5 –49.8	0.6
240	–102.8	–	+74.6	+99.5	+99.5 –49.8	0.6
250	–109.0	–	+74.6	+99.5	+99.5 –49.8	0.5

[1] Precamber factor to be applied in accordance with page 49.

SCHÖCK ISOKORB® TYPE K

HTE MODULE

Design and calculation tables

Concrete strength ≥ C25/30
Concrete cover c_v 50

For the purposes of the calculations, the member forces should be taken in relation to the middle of the wall (see page 49).

K10-CV50-...

Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α[1] [–]
160	–	–	–	–	–	–
170	–	–	–	–	–	–
180	–7.7	+28.0	+49.8	–	–	0.9
190	–8.6	+28.0	+49.8	–	–	0.8
200	–9.4	+28.0	+49.8	–	–	0.7
210	–10.3	+28.0	+49.8	–	–	0.7
220	–11.2	+28.0	+49.8	–	–	0.6
230	–12.1	+28.0	+49.8	–	–	0.6
240	–12.9	+28.0	+49.8	–	–	0.5
250	–13.8	+28.0	+49.8	–	–	0.5

K20-CV50-...

Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α[1] [–]
160	–	–	–	–	–	–
170	–	–	–	–	–	–
180	–15.1	+28,0	+49.8	–	–	0.9
190	–16.9	+28,0	+49.8	–	–	0.8
200	–18.6	+28,0	+49.8	–	–	0.8
210	–20.3	+28,0	+49.8	–	–	0.7
220	–22.0	+28,0	+49.8	–	–	0.6
230	–23.7	+28,0	+49.8	–	–	0.6
240	–25.5	+28,0	+49.8	–	–	0.6
250	–27.2	+28,0	+49.8	–	–	0.5

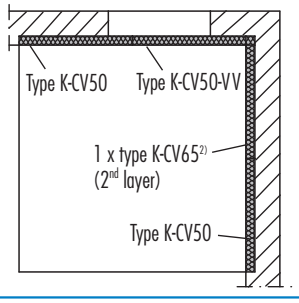
K30-CV50-...

Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α[1] [–]
160	–	–	–	–	–	–
170	–	–	–	–	–	–
180	–21.2	+42.0	+74.6	+99.5	–	0.9
190	–23.6	+42.0	+74.6	+99.5	–	0.8
200	–26.0	+42.0	+74.6	+99.5	–	0.8
210	–28.4	+42.0	+74.6	+99.5	–	0.7
220	–30.8	+42.0	+74.6	+99.5	–	0.6
230	–33.2	+42.0	+74.6	+99.5	–	0.6
240	–35.6	+42.0	+74.6	+99.5	–	0.6
250	–38.1	+42.0	+74.6	+99.5	–	0.5

K40-CV50-...

Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α[1] [–]
160	–	–	–	–	–	–
170	–	–	–	–	–	–
180	–24.2	+42.0	+74.6	+99.5	±49.8	0.9
190	–27.0	+42.0	+74.6	+99.5	±49.8	0.8
200	–29.7	+42.0	+74.6	+99.5	±49.8	0.8
210	–32.5	+42.0	+74.6	+99.5	±49.8	0.7
220	–35.2	+42.0	+74.6	+99.5	±49.8	0.6
230	–38.0	+42.0	+74.6	+99.5	±49.8	0.6
240	–40.7	+42.0	+74.6	+99.5	±49.8	0.6
250	–43.5	+42.0	+74.6	+99.5	±49.8	0.5

Concrete strength class for outside components at least C32/40 (see page 32).



Inside corner layout

[1] Precamber factor to be applied in accordance with page 49.
[2] Schöck Isokorb® type K-CV65 (2nd layer) available on request from our technical design department, Tel.: 059 915 1350.

SCHÖCK ISOKORB® TYPE K

I-TE MODULE

Design and calculation tables

≥ C25/30
c_v 50

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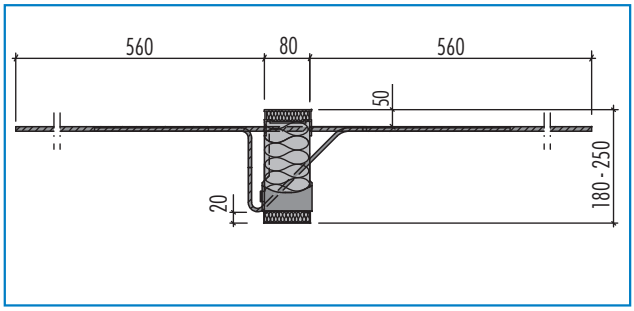
For the purposes of the calculations, the member forces should be taken in relation to the middle of the wall (see page 49).

K50-CV50-...						
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α[1)] [–]
160	–	–	–	–	–	–
170	–	–	–	–	–	–
180	–30.3	+42.0	+74.6	+99.5	±49.8	0.9
190	–33.7	+42.0	+74.6	+99.5	±49.8	0.8
200	–37.2	+42.0	+74.6	+99.5	±49.8	0.8
210	–40.6	+42.0	+74.6	+99.5	±49.8	0.7
220	–44.0	+42.0	+74.6	+99.5	±49.8	0.6
230	–47.5	+42.0	+74.6	+99.5	±49.8	0.6
240	–50.9	+42.0	+74.6	+99.5	±49.8	0.6
250	–54.4	+42.0	+74.6	+99.5	±49.8	0.5

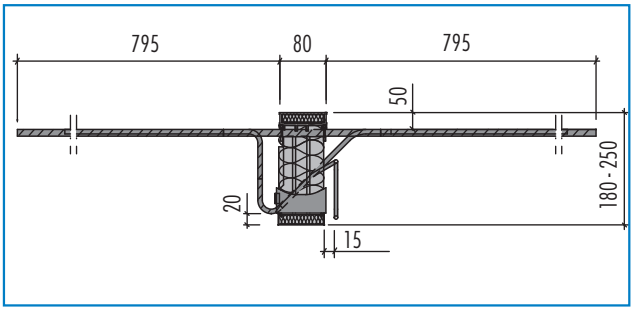
K60-CV50-...						
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α[1)] [–]
160	–	–	–	–	–	–
170	–	–	–	–	–	–
180	–38.1	+42.0	+74.6	+99.5	+99.5 –49.8	1.1
190	–42.5	+42.0	+74.6	+99.5	+99.5 –49.8	1.0
200	–46.9	+42.0	+74.6	+99.5	+99.5 –49.8	0.9
210	–51.3	+42.0	+74.6	+99.5	+99.5 –49.8	0.8
220	–55.8	+42.0	+74.6	+99.5	+99.5 –49.8	0.7
230	–60.2	+42.0	+74.6	+99.5	+99.5 –49.8	0.7
240	–64.6	+42.0	+74.6	+99.5	+99.5 –49.8	0.6
250	–69.0	+42.0	+74.6	+99.5	+99.5 –49.8	0.6

K70-CV50-...						
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α[1)] [–]
160	–	–	–	–	–	–
170	–	–	–	–	–	–
180	–42.3	+42.0	+74.6	+99.5	+99.5 –49.8	1.1
190	–47.2	+42.0	+74.6	+99.5	+99.5 –49.8	1.0
200	–52.1	+42.0	+74.6	+99.5	+99.5 –49.8	0.9
210	–57.0	+42.0	+74.6	+99.5	+99.5 –49.8	0.8
220	–62.0	+42.0	+74.6	+99.5	+99.5 –49.8	0.7
230	–66.9	+42.0	+74.6	+99.5	+99.5 –49.8	0.7
240	–71.8	+42.0	+74.6	+99.5	+99.5 –49.8	0.6
250	–76.7	+42.0	+74.6	+99.5	+99.5 –49.8	0.6

K80-CV50-...						
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α[1)] [–]
160	–	–	–	–	–	–
170	–	–	–	–	–	–
180	–46.5	–	+74.6	+99.5	+99.5 –49.8	1.1
190	–51.9	–	+74.6	+99.5	+99.5 –49.8	1.0
200	–57.3	–	+74.6	+99.5	+99.5 –49.8	0.9
210	–62.7	–	+74.6	+99.5	+99.5 –49.8	0.8
220	–68.1	–	+74.6	+99.5	+99.5 –49.8	0.7
230	–73.5	–	+74.6	+99.5	+99.5 –49.8	0.7
240	–78.9	–	+74.6	+99.5	+99.5 –49.8	0.6
250	–84.3	–	+74.6	+99.5	+99.5 –49.8	0.6



Schöck Isokorb® type K10-CV50 to K50-CV50



Schöck Isokorb® type K60-CV50 to K80-CV50

[1)] Precamber factor to be applied in accordance with page 49.

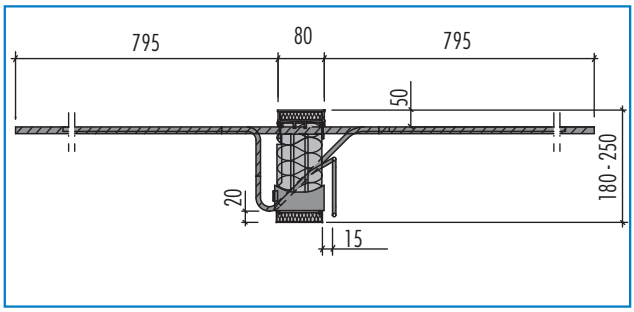
SCHÖCK ISOKORB® TYPE K

Design and calculation tables

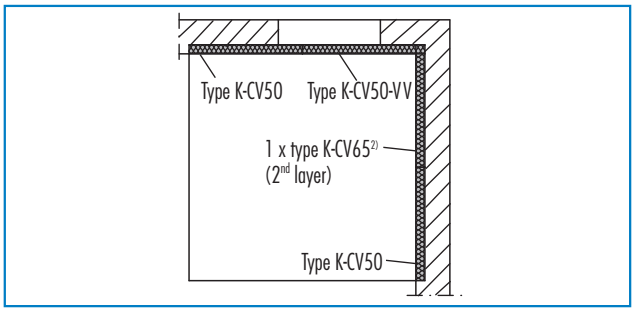
For the purposes of the calculations, the member forces should be taken in relation to the middle of the wall (see page 49).

Concrete strength ≥ C25/30
Concrete cover c_v 50

K90-CV50-...						
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α[1] [–]
160	–	–	–	–	–	–
170	–	–	–	–	–	–
180	–49.2	–	+74.6	+99.5	+99.5 –49.8	1.1
190	–55.0	–	+74.6	+99.5	+99.5 –49.8	1.0
200	–60.7	–	+74.6	+99.5	+99.5 –49.8	0.9
210	–66.4	–	+74.6	+99.5	+99.5 –49.8	0.8
220	–72.1	–	+74.6	+99.5	+99.5 –49.8	0.7
230	–77.9	–	+74.6	+99.5	+99.5 –49.8	0.7
240	–83.6	–	+74.6	+99.5	+99.5 –49.8	0.6
250	–89.3	–	+74.6	+99.5	+99.5 –49.8	0.6



Schöck Isokorb® type K90-CV50 to K100-CV50



Inside corner layout

Concrete strength ≥ C32/40
Concrete cover c_v 50

K100-CV50-...						
Balcony slab thickness h [mm]	m_{Rd} [kNm/m]	v_{Rd} [kN/m]	V 8 v_{Rd} [kN/m]	V 10 v_{Rd} [kN/m]	VV v_{Rd} [kN/m]	Precamber factor tan α[1] [–]
160	–	–	–	–	–	–
170	–	–	–	–	–	–
180	–53.3	–	+74.6	+99.5	+99.5 –49.8	1.1
190	–59.4	–	+74.6	+99.5	+99.5 –49.8	1.0
200	–65.6	–	+74.6	+99.5	+99.5 –49.8	0.9
210	–71.8	–	+74.6	+99.5	+99.5 –49.8	0.8
220	–78.0	–	+74.6	+99.5	+99.5 –49.8	0.7
230	–84.2	–	+74.6	+99.5	+99.5 –49.8	0.7
240	–90.4	–	+74.6	+99.5	+99.5 –49.8	0.6
250	–96.6	–	+74.6	+99.5	+99.5 –49.8	0.6

[1] Precamber factor to be applied in accordance with page 49.
[2] Schöck Isokorb® type K-CV65 (2nd layer) available on request from our technical design department, Tel.: 059 915 1350.

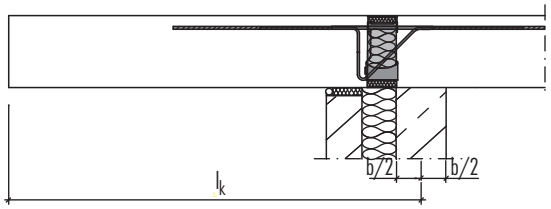
Precamber

The precamber values shown in the calculation tables (p. 38 - 48) result solely from the deformation of the Schöck Isokorb® element under 100 % exploitation of the steel stress of f_{yd} = 435 N/mm². The final precamber of the balcony slab formwork results from the calculation according to BS 8500, or according to EC 2, plus the precamber due to the Schöck Isokorb®.
The up-lift of the balcony formwork to be specified by the engineer in charge of the planning of the load-bearing structure or the designing engineer in the implementation plans (basis: calculated overall deformation resulting from the cantilever slab + angle of rotation of the inner slab + Schöck Isokorb®) should be rounded so that the planned water drainage direction is met (round up for water drainage towards the building facade, round down for water drainage towards the end of the cantilever slab).

Precamber (p) due to Schöck Isokorb®
$p = [\text{table value} \cdot l_k \cdot (m_{pd} / m_{Rd})] \cdot 10$ [mm]

l_k Length of projection [m]
m_{pd} Critical bending moment for calculation of the precamber p due to Schöck Isokorb®. The load combination to be applied here can be determined by the structural analysis engineer.
m_{Rd} Maximum rated moment of the Schöck Isokorb® type K (see pages 38 - 48).

Member forces to be taken in relation to the middle of the supporting wall.



Example calculation

Choice:	Concrete quality C32/40 for balcony Concrete quality C25/30 for for inner slab Concrete cover c_v = 35 mm		
Length of projection		l_k	= 1.90 m
Concrete slab thickness		h	= 180 mm
Load assumptions	Balcony slab and coating	g	= 5.7 kN/m²
	Live load	q	= 4.0 kN/m²
	Edge load (balustrade)	g_R	= 1.5 kN/m
Member forces	Bending moment	m_{Ed}	= −28.6 kNm/m
	Lateral force	v_{Ed}	= +28.1 kN/m

Choice: **Schöck Isokorb® type K50-CV35-h180**

m_{Rd}	= −35.4 kNm/m	(see page 39) > m_{Ed}
v_{Rd}	= +42.0 kN/m	(see page 39) > v_{Ed}
tan α	= 0.8	(see page 39)

Chosen load combination for precamber due to Schöck Isokorb®: g + q/2

$m_{pd} = -[(\gamma_G \cdot g + \gamma_Q \cdot q/2) \cdot l_k^2/2 + \gamma_G \cdot g_R \cdot l_k]$
$m_{pd} = -[(1.35 \cdot 5.7 + 1.5 \cdot 4/2) \cdot 1.9^2/2 + 1.35 \cdot 1.5 \cdot 1.9]$
$= -23.2$ kNm/m
$p = [\tan \alpha \cdot l_k \cdot (m_{pd}/m_{Rd})] \cdot 10$
$p = [0{,}8 \cdot 1.9 \cdot (23.2/35.4)] \cdot 10 = 10$ mm

Notes

- In the case of a combination of different concrete qualities (e.g. balcony C32/40, inner slab C25/30), the weaker concrete is critical in terms of the Isokorb® calculations.
- The lateral force load bearing capacity of the slabs at the limits of load-bearing capacity is to be limited to 0.3 $V_{Rd,\,max}$, whereby $V_{Rd,\,max}$ should be determined for θ = 45° and α = 90°.
- Concrete strength class for outside components at least C32/40 (see page 32).

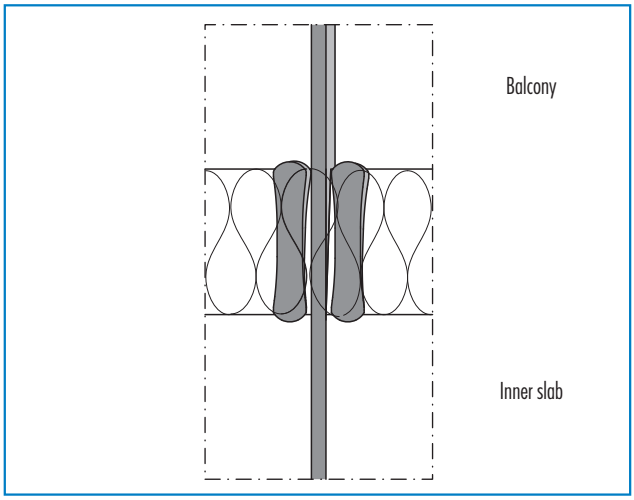
For the limitation of flexural slenderness, we advise the following maximum cantilivered lengths max l_k [m]:

	Balcony slab thickness h [mm]				
Concrete cover	160	180	200	220	240
c_v = 30 mm	1.75	2.00	2.25	2.50	2.70
c_v = 35 mm	1.65	1.90	2.10	2.40	2.60
c_v = 50 mm	1.45	1.70	1.90	2.10	2.40

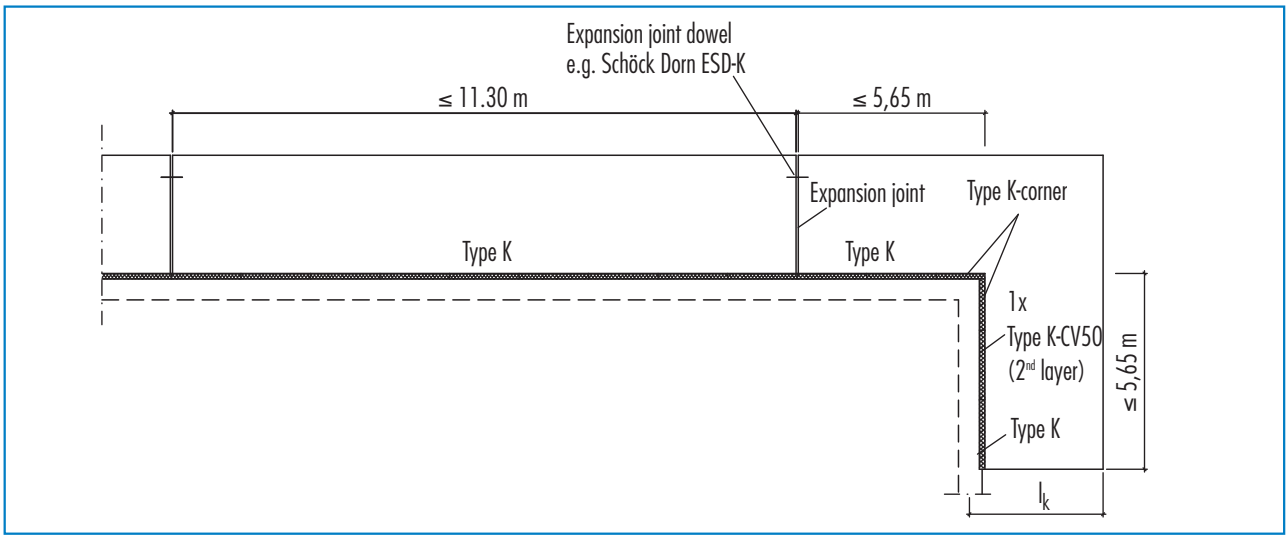
SCHÖCK ISOKORB® TYPE K

Expansion joint/Example showing joint detail

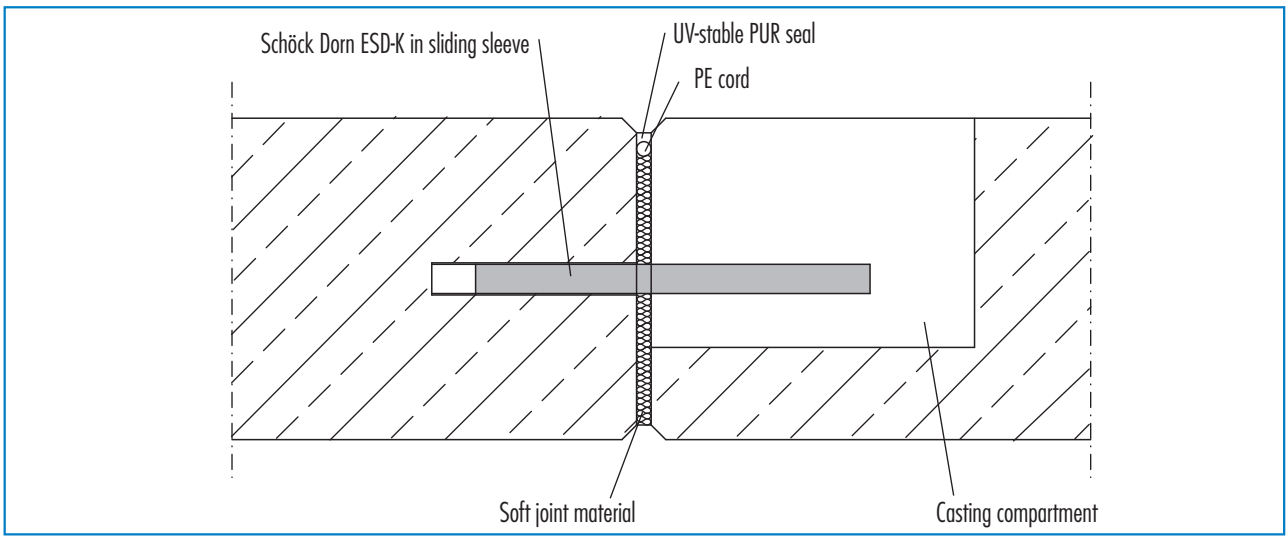
External balcony slabs are subject to changes in length as a result of temperature fluctuations. Due to the lengthening and shortening of the balcony slabs, the load-bearing elements which run through the thermal insulation may be shifted by up to several millimetres. To insure that the rods can survive many thousands of temperature changes, the edge bending stresses determined in tests must not be exceeded. The HTE module compensates for the movements by individually inclining each separate pressure element.



Deflection due to temperature difference



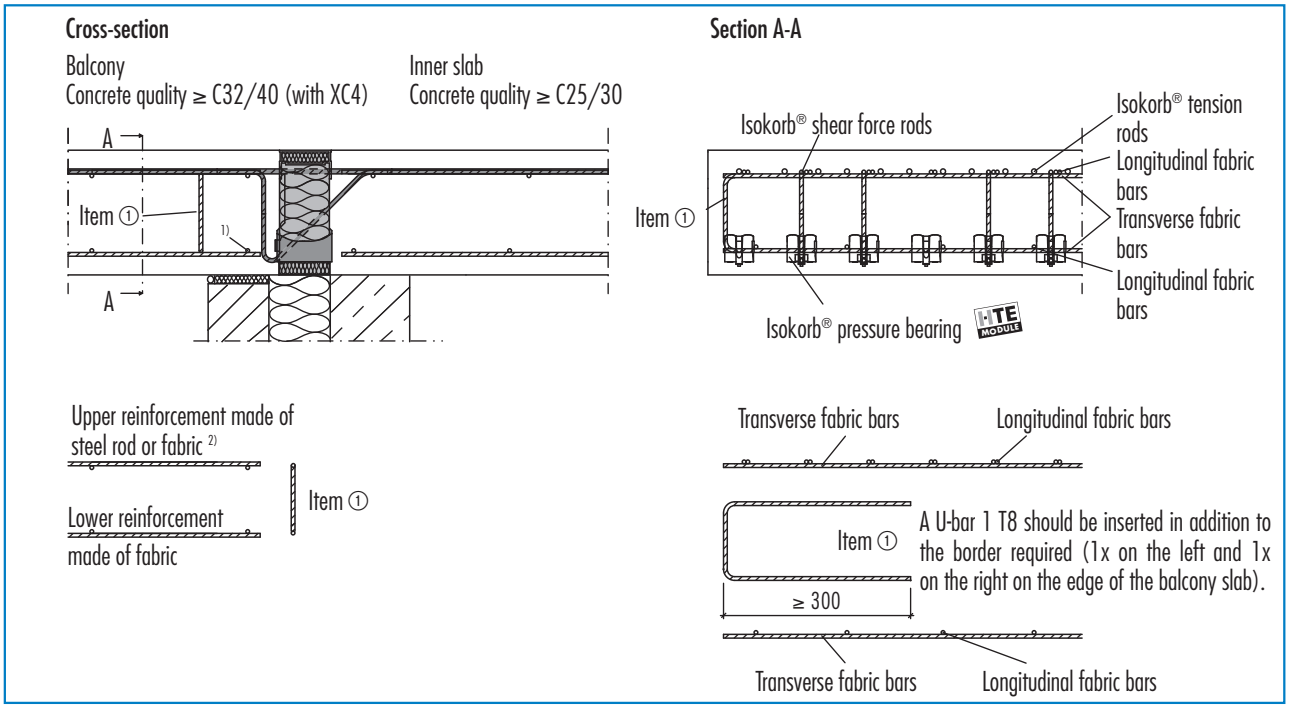
Expansion joint spacing



Example showing joint detail

SCHÖCK ISOKORB® TYPE K

On-site additional reinforcement



On-site additional reinforcement - direct mounting

Recommendations for on-site reinforcement of connections

Option A: Connections with reinforcing steel fabric to BS 4483
Option B: Connections with steel rod to BS 4449
Option C: Combined reinforcement of connections with reinforcing steel fabric to BS 4483 and steel rod to BS 4449. The transverse reinforcement of the chosen reinforcing steel fabric covers 1/5 of the main reinforcement.

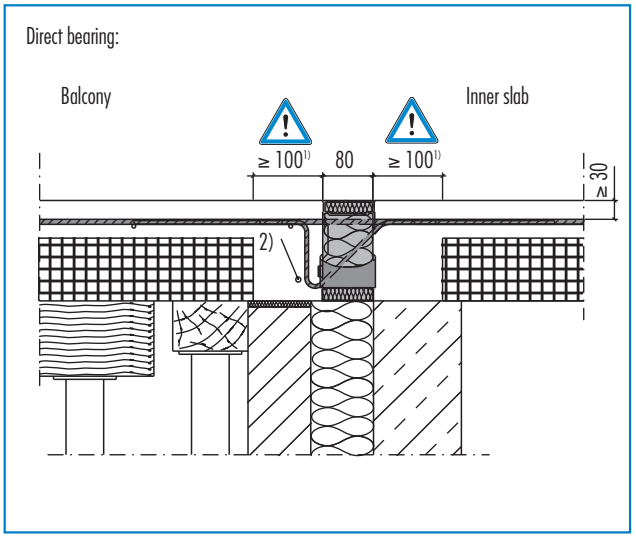
Recommendations for the reinforcement of connections for Schöck Isokorb® with a load of 100 % of the maximum rated moment with C25/30, c_v = 30 mm or c_v = 35 mm

Schöck Isokorb® type	On-site reinforcement of connections[3]		
	Option A	Option B	Option C
K10	A193	T8@150 mm c/c	–
K20	B385	T10@150 mm c/c	A193 + T8@150 mm c/c
K30	B503	T10@125 mm c/c	A193 + T8@125 mm c/c
K40	B785	T10@100 mm c/c	A193 + T8@100 mm c/c
K50	B785	T10@90 mm c/c	A193 + T10@100 mm c/c
K60	–	T12@110 mm c/c	A252 + T10@90 mm c/c
K70	–	T12@100 mm c/c	A252 + T10@90 mm c/c
K80	–	T12@90 mm c/c	A252 + T12@100 mm c/c
K90	–	T12@80 mm c/c	A252 + T12@100 mm c/c
K100	–	T12@75 mm c/c	A385 + T12@100 mm c/c

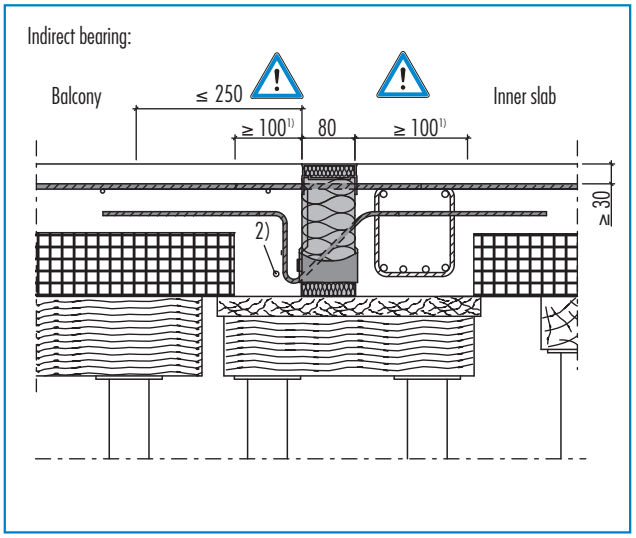
[1] The last transverse bar of the fabric must be positioned as closely as possible to the pressure bearing. Otherwise an T8 mm steel rod is required there.
[2] The calculations of the upper reinforcement layer are performed according to the standard calculation methods for reinforced steel construction.
[3] Alternative connection reinforcements are also possible. The rules according to EC 2 apply to the determination of the lap length. It is permissible to reduce the required lap length with $A_{s,req}/A_{s/prov}$. For lapping (l_s) with the Schöck Isokorb®, a tension rod length of 530 mm can be used in the calculations for the types K10 to K50 and a tension rod length of 765 mm for the types K60 to K100.

SCHÖCK ISOKORB® TYPE K

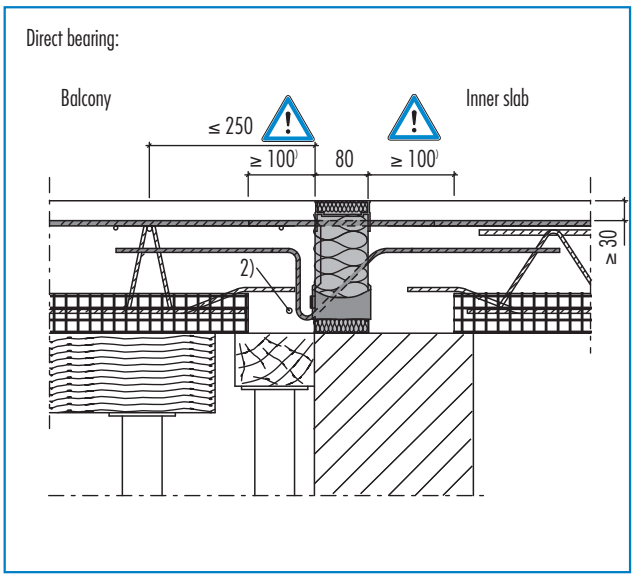
Installation in conjunction with precast planks



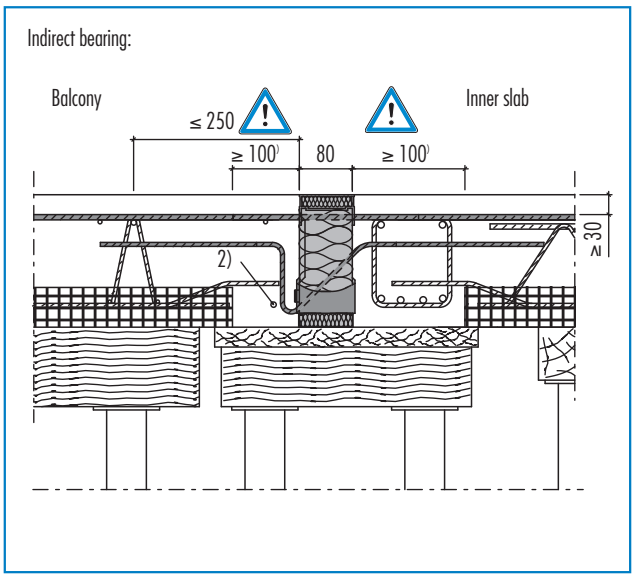
Installation of Schöck Isokorb® type K/KF in conjunction with precast planks (here: h ≤ 200 mm).



Installation of Schöck Isokorb® type K/KF in conjunction with precast planks (here: h ≤ 200 mm).



Installation of Schöck Isokorb® type K/KF in conjunction with lattice girder floor slabs (here: h ≤ 200 mm).



Installation of Schöck Isokorb® type K/KF in conjunction with lattice girder floor slabs (here: h ≤ 200 mm).

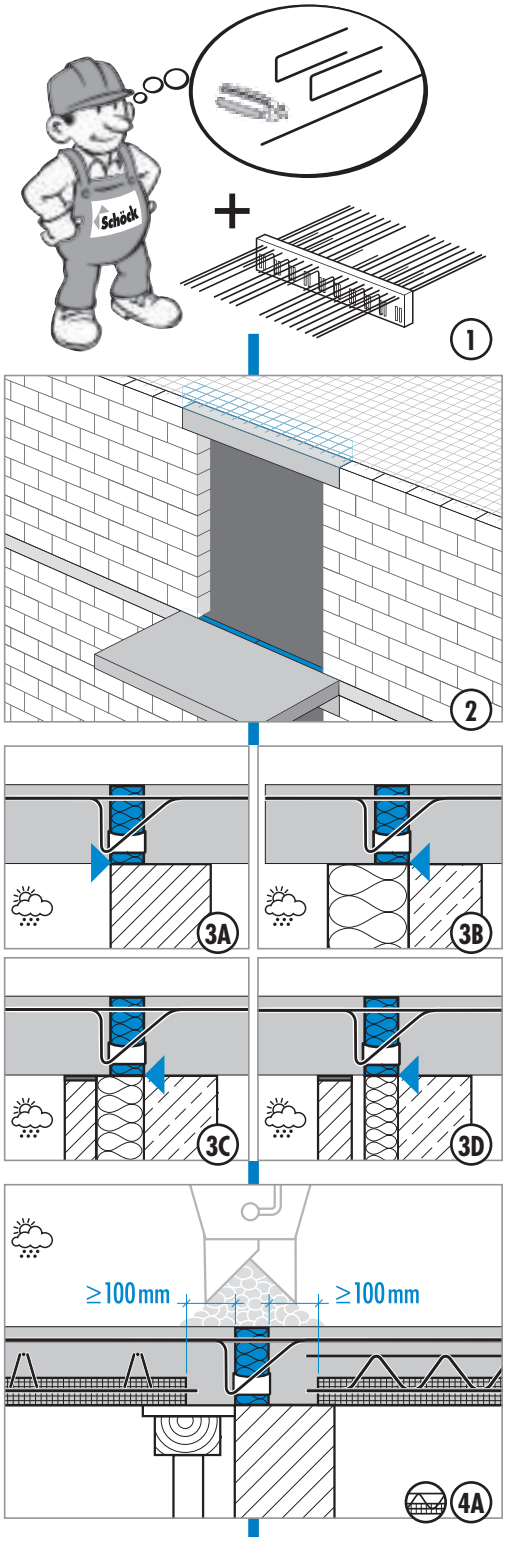
Notes

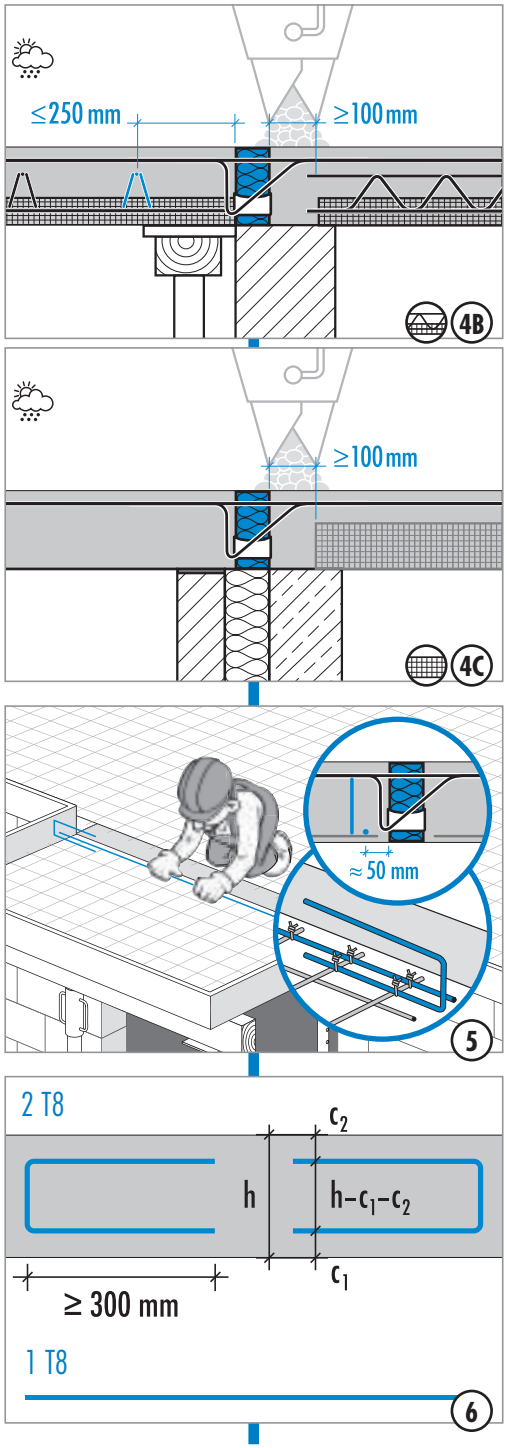
- A cast-in-place strip of concrete between precast planks and Schöck Isokorb® is essential for structural reasons!
- Sufficient bond action between structural screed and precast planks has to be guaranteed!

[1] A cast-in-place strip of concrete is essential for structural reasons.
[2] Steel rod T8 along the pressure bearings

SCHÖCK ISOKORB® TYPE K

Installation instructions





SCHÖCK ISOKORB® TYPE K

Installation instructions