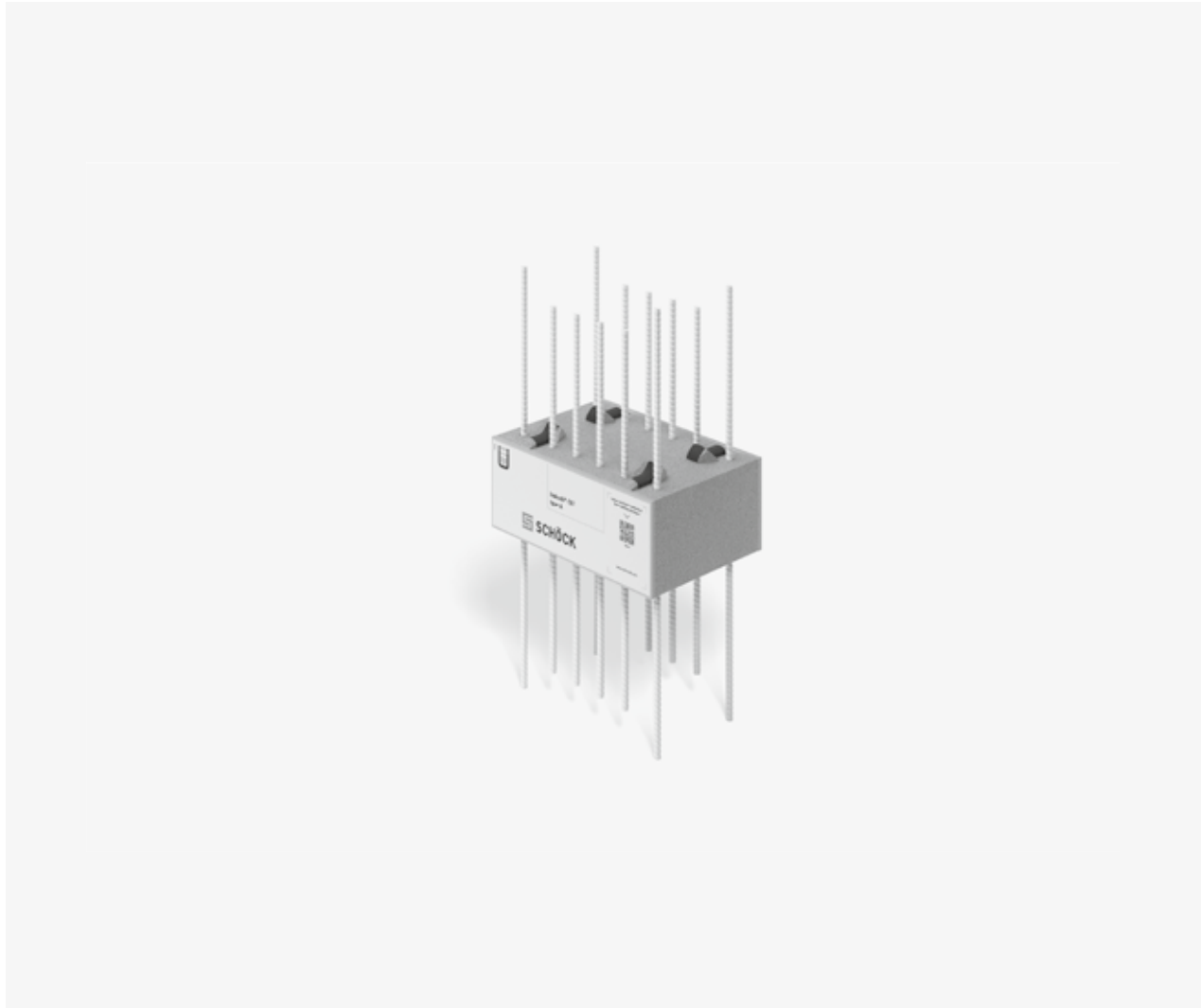


## Schöck Isokorb® CXT Type CA



CXT  
Type CA

Products

### Schöck Isokorb® CXT Type CA

Load-bearing thermal break for curbs and parapets. The thermal break transmits moments, shear forces, and normal forces.

## Assembly Section Details | Element Arrangement

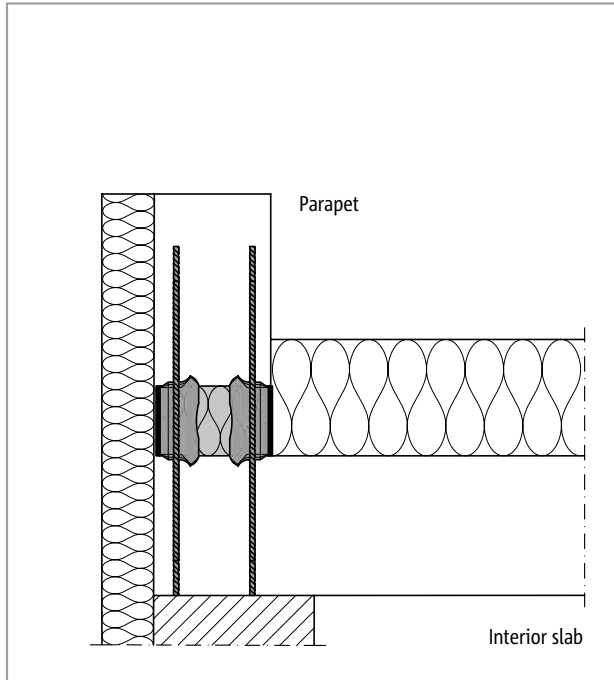


Fig. 1: Schöck Isokorb® CXT Type CA: Connection of a curb

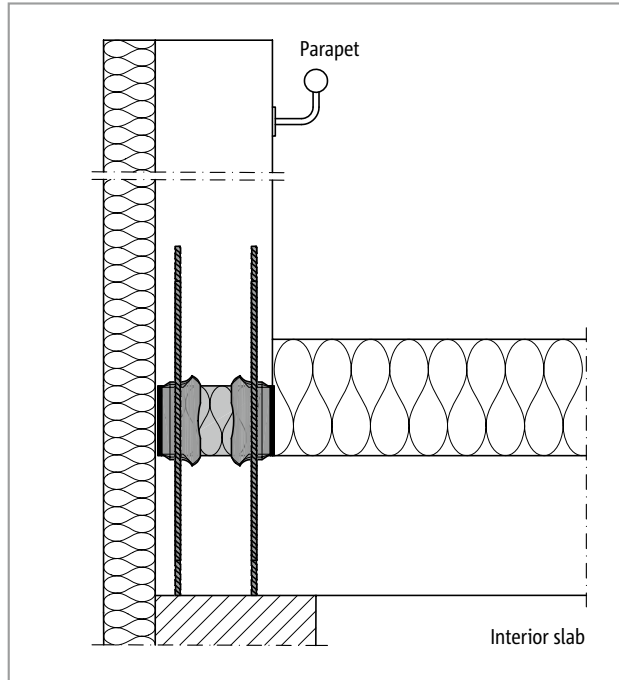


Fig. 2: Schöck Isokorb® CXT Type CA: Connection of a parapet

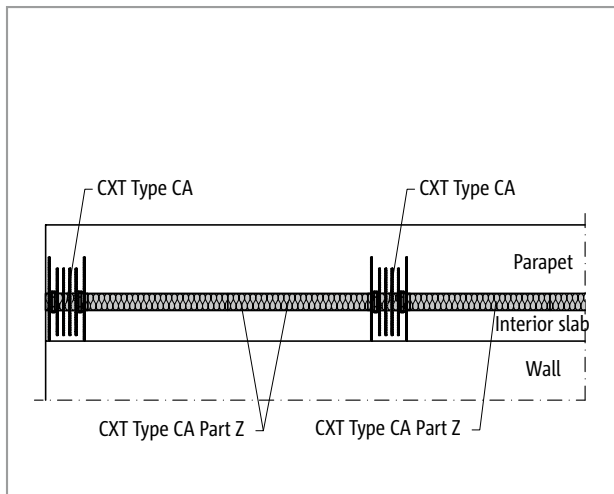


Fig. 3: Schöck Isokorb® CXT Type CA and CXT Type CA Part Z: Curb

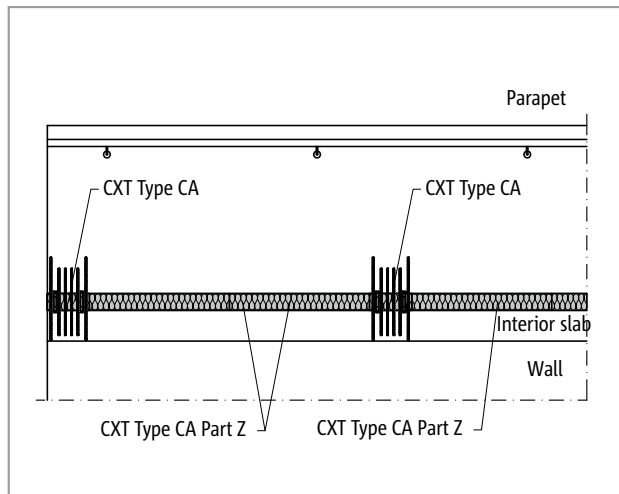


Fig. 4: Schöck Isokorb® CXT Type CA and CXT Type CA Part Z: Parapet

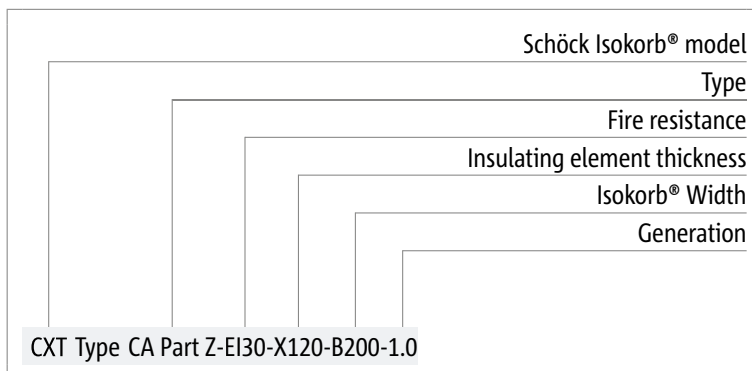
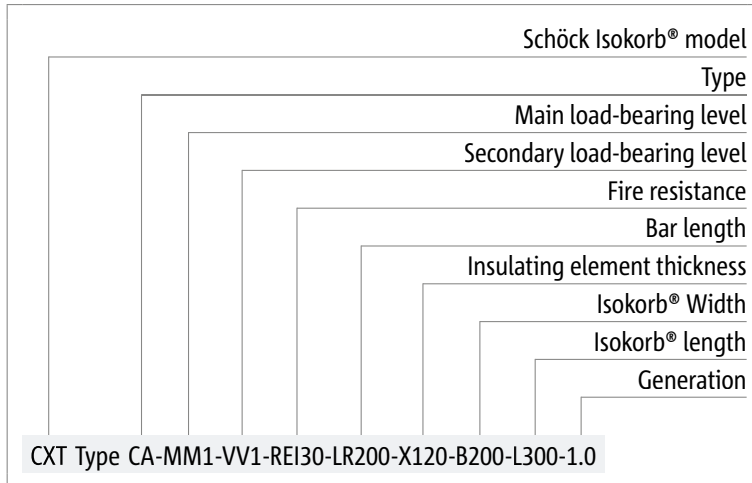
### **i** Notes

- If the Schöck Isokorb® is used in precast concrete construction, a cast-in-place strip of concrete (width = bar length from insulating element) must be allowed for sufficient connection bar anchorage.

## Type Designation

### Type designation

The following product naming system is used to specify the attributes of the Schöck Isokorb® product as required in the structural design. This naming system ensures that the product is manufactured in accordance with the required specification. There is also a short-form of each product name to facilitate recognition of the product on the construction site during installation. Every Schöck Isokorb® product comes with both its full production designation and short-form name printed on the label on each unit to ensure the product type is clearly represented.

CXT  
Type CA

Products

## Product Description

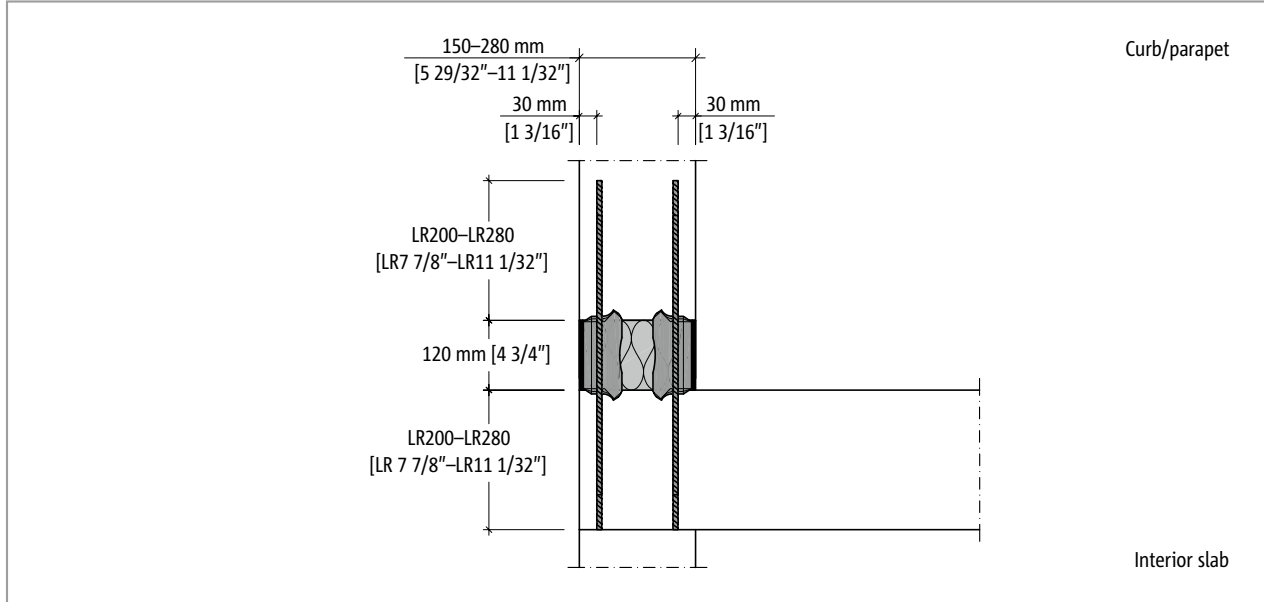


Fig. 5: Schöck Isokorb® CXT Type CA-MM1-REI30: Product section

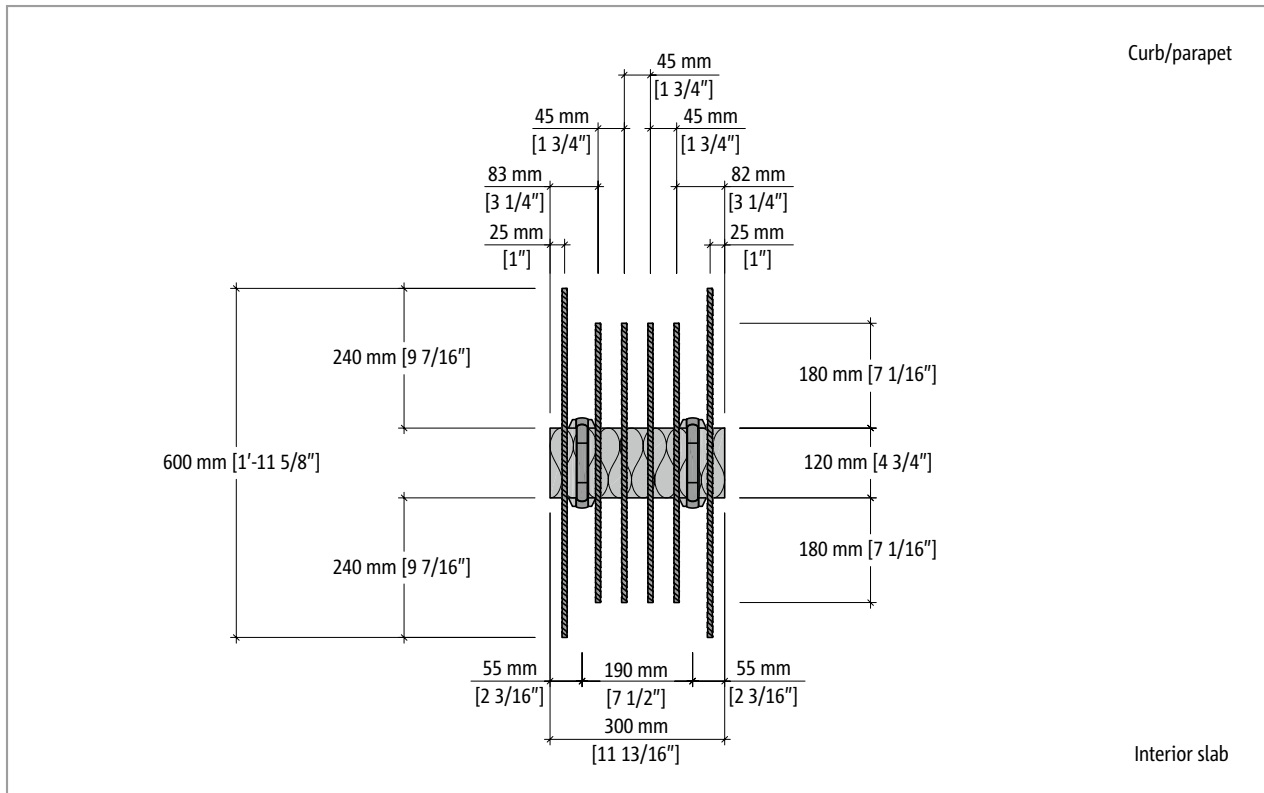


Fig. 6: Schöck Isokorb® CXT Type CA-MM1-REI30-LR240: Product view for slab thickness  $D = 240 \text{ mm}$  [9 1/2"]

## Product Description

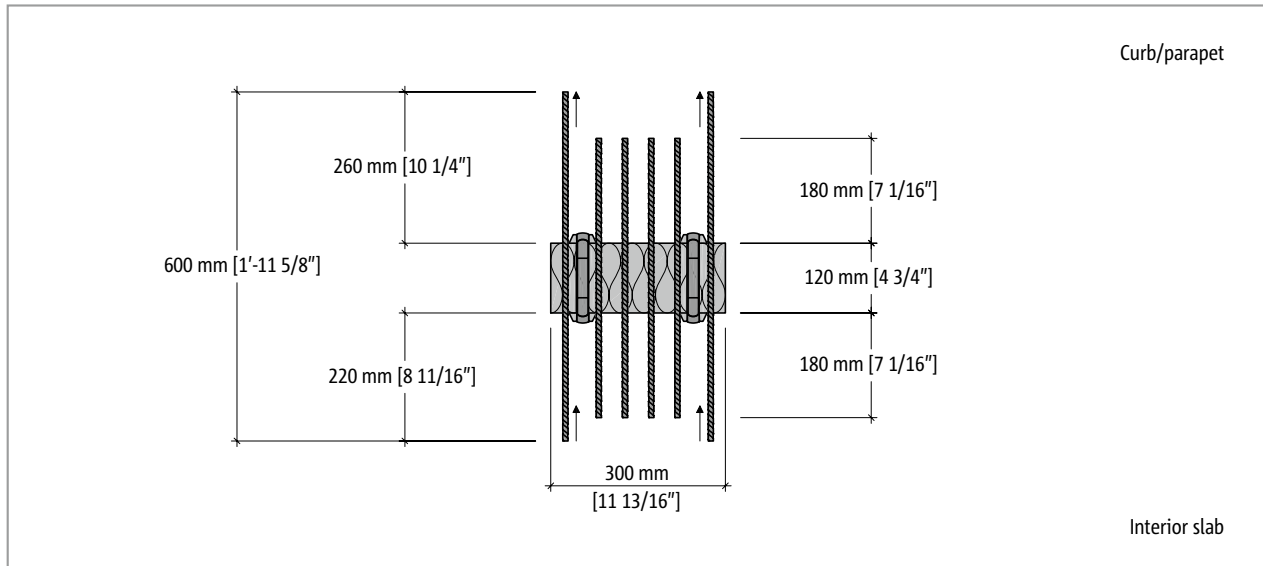


Fig. 7: Schöck Isokorb® CXT Type CA-MM1-REI30-LR240: Product view for slab thickness  $D = 260 \text{ mm}$  [10 1/4"] - Corner bars are shifted by  $+20 \text{ mm}$  [+13/16"].

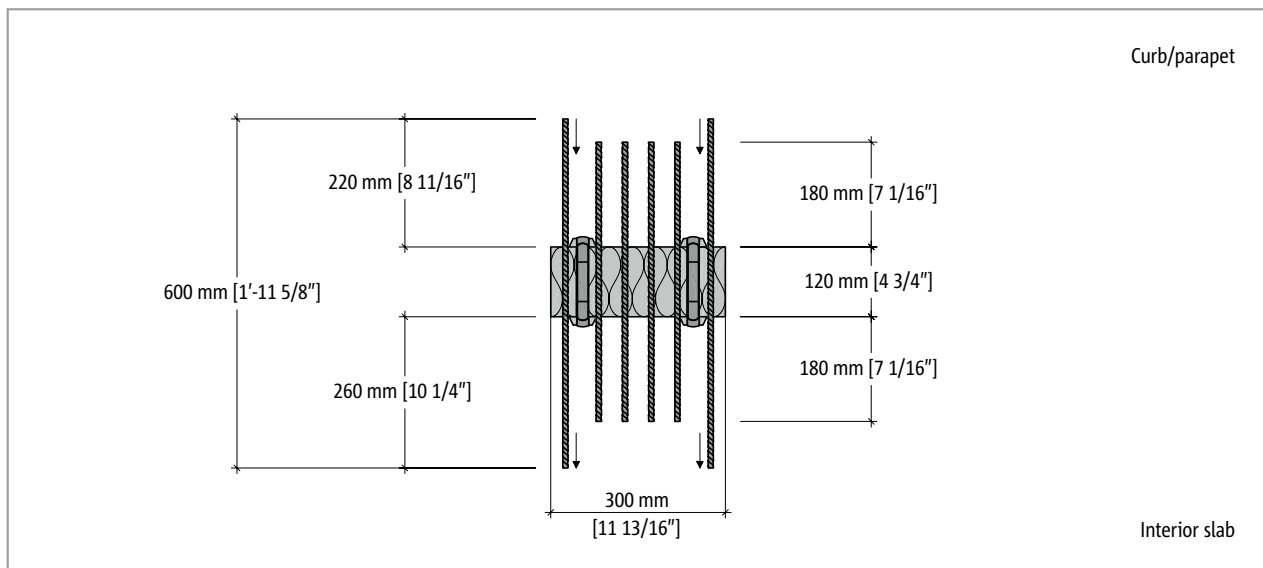


Fig. 8: Schöck Isokorb® CXT Type CA-MM1-REI30-LR240: Product view for slab thickness  $D = 220 \text{ mm}$  [8 5/8"] - Corner bars are shifted by  $-20 \text{ mm}$  [-13/16"].

### **i** Product information

- Minimum width of the parapet or curb  $B_{\min} = 150 \text{ mm}$  [6"], note the minimum slab thickness  $D_{\min} = 180 \text{ mm}$  [7"].
- Maximum slab thickness  $D_{\max} = 300 \text{ mm}$  [12"]
- The four corner bars can be moved by  $\pm 20 \text{ mm}$  [ $\pm 13/16$ "] using integrated plastic clips.
- Download further product plans and cross-sections at [www.schoeck.com/en-us/cad-bim](http://www.schoeck.com/en-us/cad-bim)

## Product Description

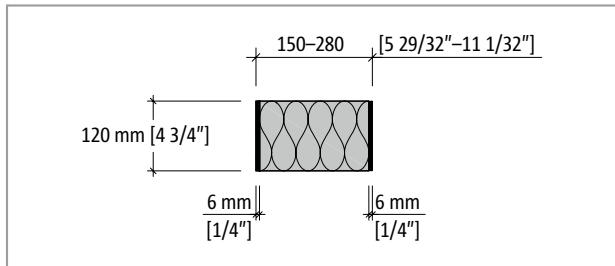


Fig. 9: Schöck Isokorb® CXT Type CA Part Z: Product section

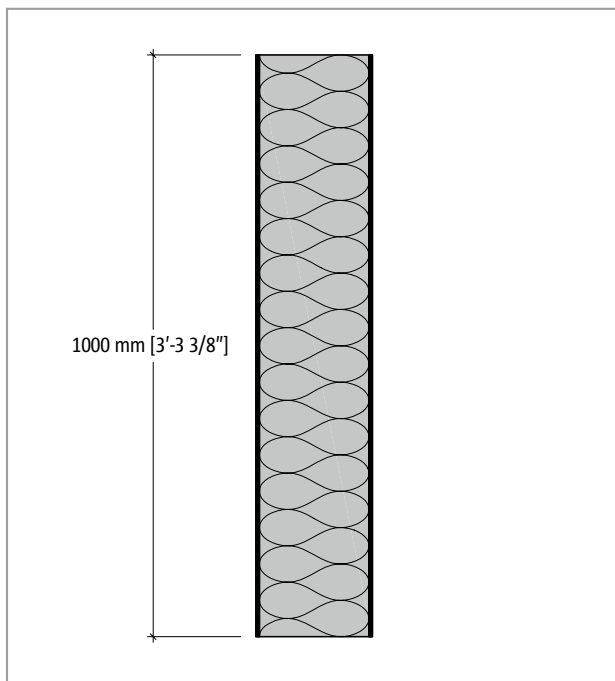


Fig. 10: Schöck Isokorb® CXT Type CA Part Z: Product top view

### **i** Product information

- Download further product plans and cross-sections at [www.schoeck.com/en-us/cad-bim](http://www.schoeck.com/en-us/cad-bim)

## Product Description

### Schöck Isokorb® length and configuration

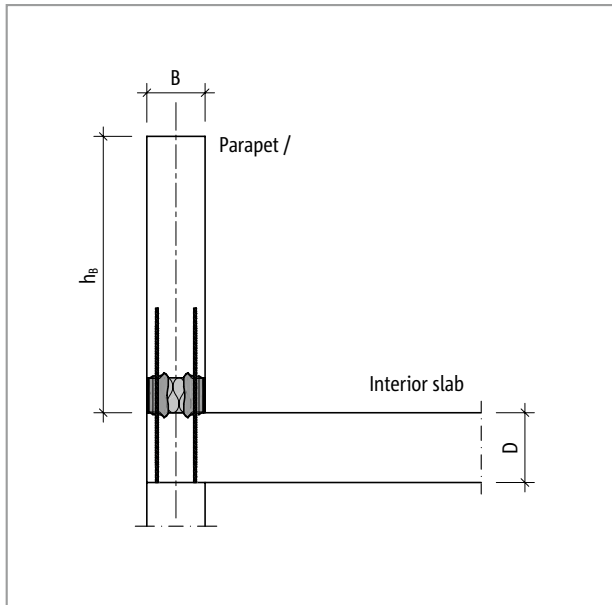


Fig. 11: Schöck Isokorb® CXT Type CA: Static system

Schöck Isokorb® CXT Type CA 1.0	MM1
Placement with	Isokorb® length [mm]
	300
Length [ft in]	11 13/16"
Tension/Compression Bars	2 × 6 Ø 8
Pressure bearing [piece]	4
Parapet/curb B <sub>min</sub> [mm]	150
Parapet/curb B <sub>min</sub> [in]	6"
Slab D <sub>min</sub> [mm]	180
Slab D <sub>min</sub> [in]	7"

#### Product information

- The Schöck Isokorb® consists of metric components.
- Reinforcement bars Ø8 correspond to 5/16" diameter, approximately

## Product Description

Schöck Isokorb® CXT Type A 1.0	MM1		
Bar length [-]	Length adjustment of corner bars [mm] / [in]	Slab thickness D [mm] / [in]	Minimum height $h_B$ [mm] / [in]
LR200	-20 [-13/16"]	180 [7"]	340 [13 3/8"]
	0	200 [8"]	320 [12 5/8"]
	+20 [+13/16"]	220 [8 5/8"]	300 [12"]
LR220	-20 [-13/16"]	200 [8"]	360 [14 3/16"]
	0	220 [8 5/8"]	340 [13 3/8"]
	+20 [+13/16"]	240 [9 1/2"]	320 [12 5/8"]
LR240	-20 [-13/16"]	220 [8 5/8"]	380 [14 15/16"]
	0	240 [9 1/2"]	360 [14 3/16"]
	+20 [+13/16"]	260 [10 1/4"]	340 [13 3/8"]
LR280	-20 [-13/16"]	260 [10 1/4"]	420 [16 9/16"]
	0	280 [11 1/32"]	400 [15 3/4"]
	+20 [+13/16"]	300 [12"]	380 [14 15/16"]

### **i** Product information

- For the length adjustment of corner bars, see the product description.
- The following applies to connecting curbs or parapets:  $300 \text{ mm [12"]} \leq h_B \leq 1,600 \text{ mm [5' 3"]}$ .



## Sign Convention | Strength Capacity

### Sign convention for structural system

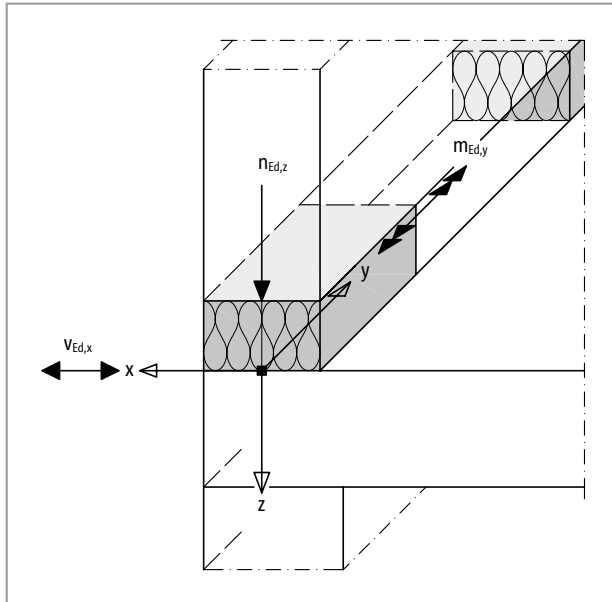


Fig. 12: Schöck Isokorb® CXT Type CA: Sign rule for designing

### Determination of the maximum center distances

The maximum center distance  $a_{max}$  of multiple Schöck Isokorb® CXT Type CA components depends on the acting torques  $m_{Ed,y}$ , normal forces  $n_{Ed,z}$ , shear forces  $v_{Ed,x}$ , and the installation situation. It can be determined using the procedure described as follows.

#### Procedure:

Determination of the combination factor KF:

$$KF = [m_{Ed}/(B - 0.07) + n_{Ed}/2] / |v_{Ed}|$$

Determination of maximum component center distance:

$$[1' 11 5/8"] 0.6 \text{ m} \leq \text{maximum component center distance } a_{max} = \min(F_t; F_c) / (KF \cdot |v_{Ed}|) \leq 3.0 \text{ m } [9' 10 1/8"]$$

with

B: Schöck Isokorb® CXT Type A width [m] [ft]

$v_{Ed}$ : Design value of the acting shear force in the section [kN/m] [kips/ft]

$n_{Ed}$ : Design value of the acting normal force in the section [kN/m] [kips/ft]

$m_{Ed}$ : Design value of the acting bending moment in the section [kNm/m] [kNm/m]

$F_t$ : Resistance of the tie bar [kN/component] [kips/component] - see diagram

$F_c$ : Resistance of the strut [kN/component] [kips/component] - see diagram

$a_{max}$ : Maximum component center distance at 100% utilization in the load bearing capacity limit state [m] [ft]

# Strength Capacity

## Strength Capacity (Imperial)

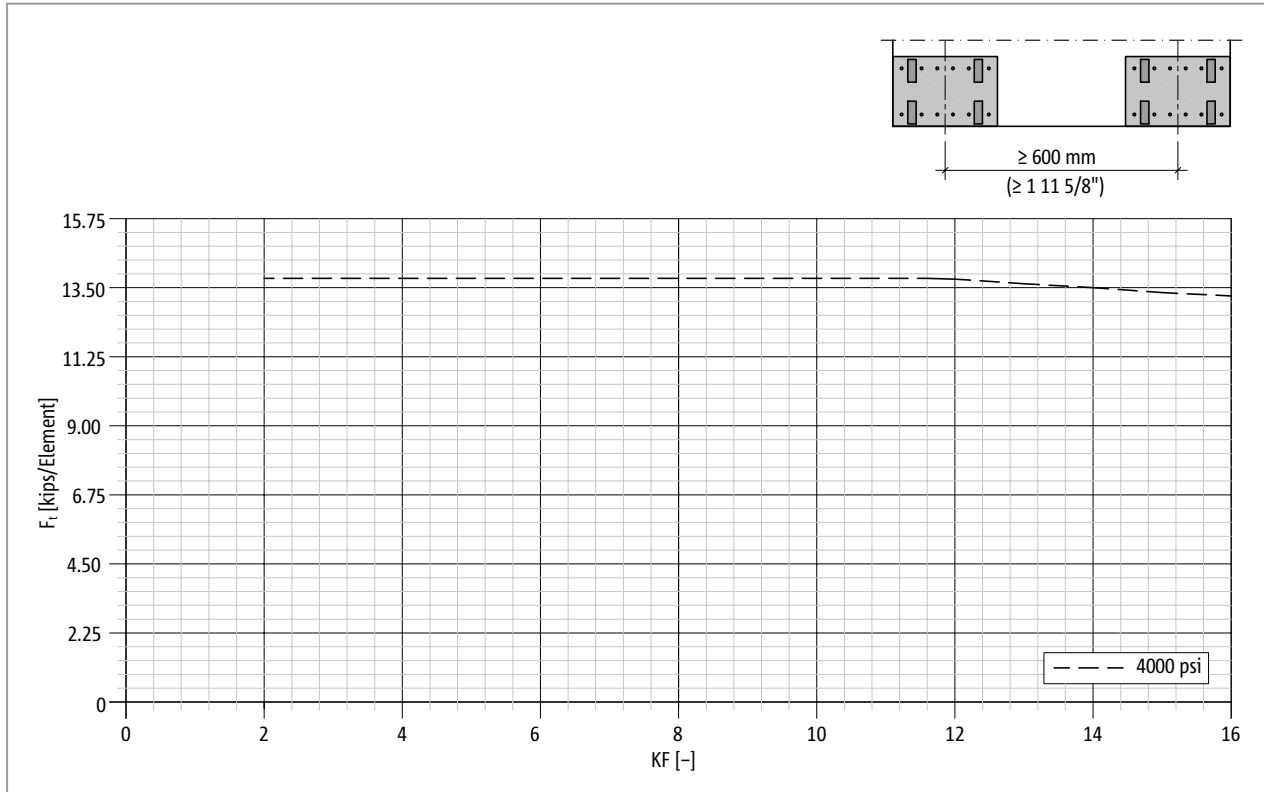


Fig. 13: Schöck Isokorb® CXT Type CA: Resistance of the tie bar  $F_t$  for component center distance  $\geq 1' 11 5/8''$

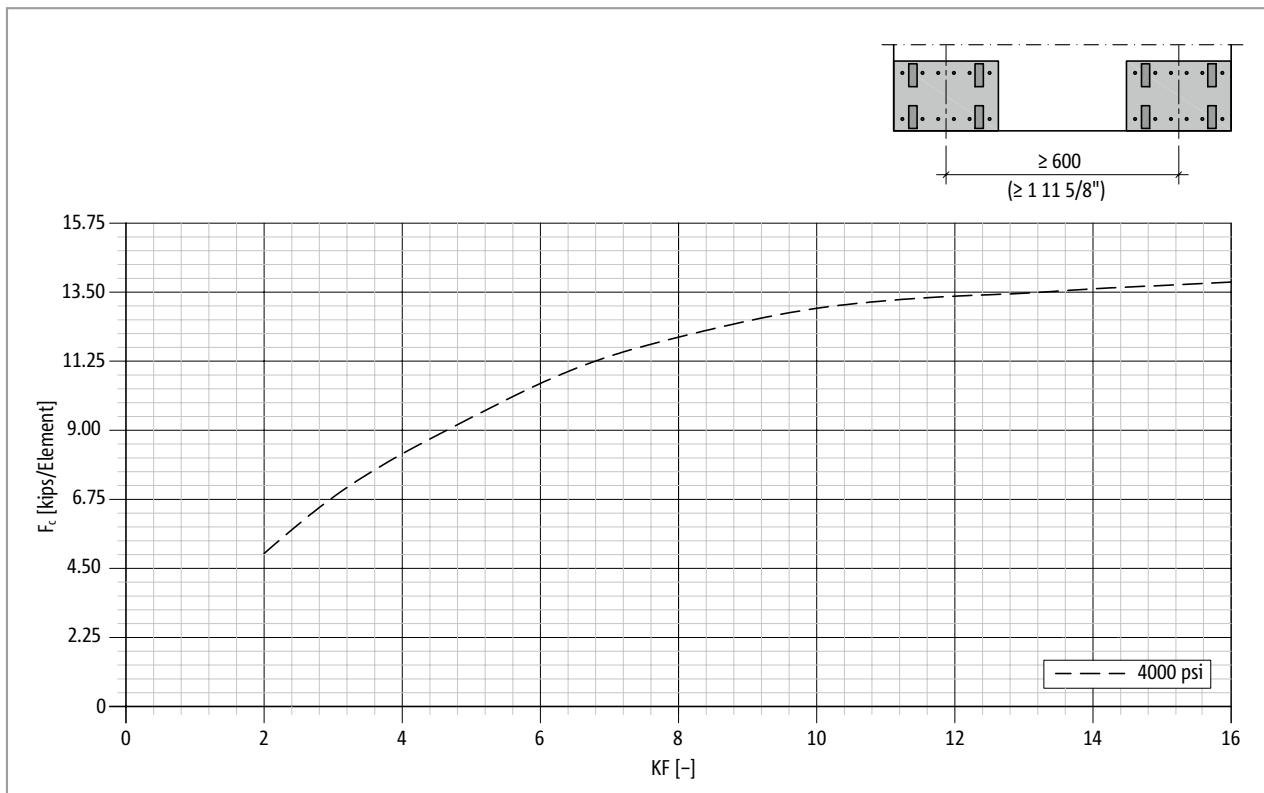


Fig. 14: Schöck Isokorb® CXT Type CA: Resistance of the strut  $F_c$  [kips/component] for component center distance  $\geq 1' 11 5/8''$

CXT  
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Products

## Strength Capacity

### Strength Capacity (Metric)

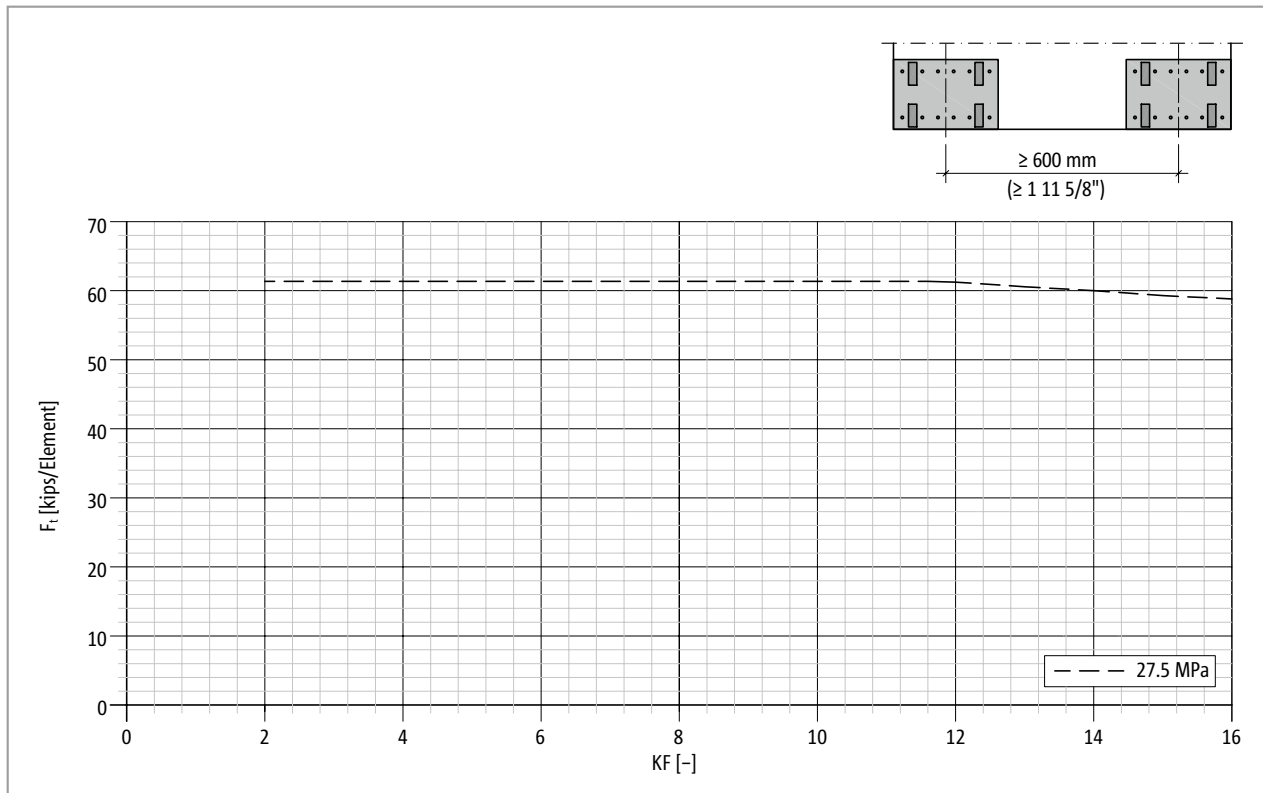


Fig. 15: Schöck Isokorb® CXT Type CA: Resistance of the tie bar  $F_t$  for component center distance  $\geq 600$  mm

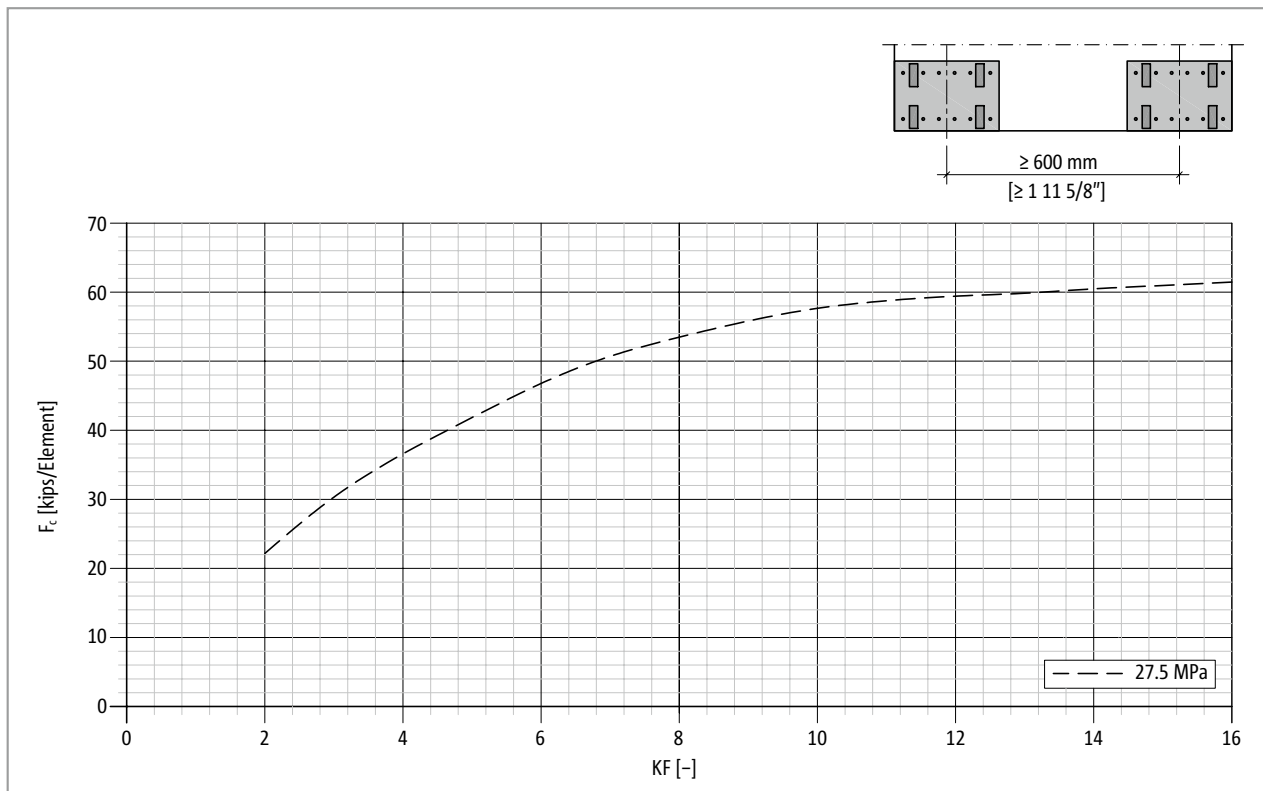


Fig. 16: Schöck Isokorb® CXT Type CA: Resistance of the strut  $F_c$  [kN/component] for component center distance  $\geq 600$  mm

## On Site Reinforcement

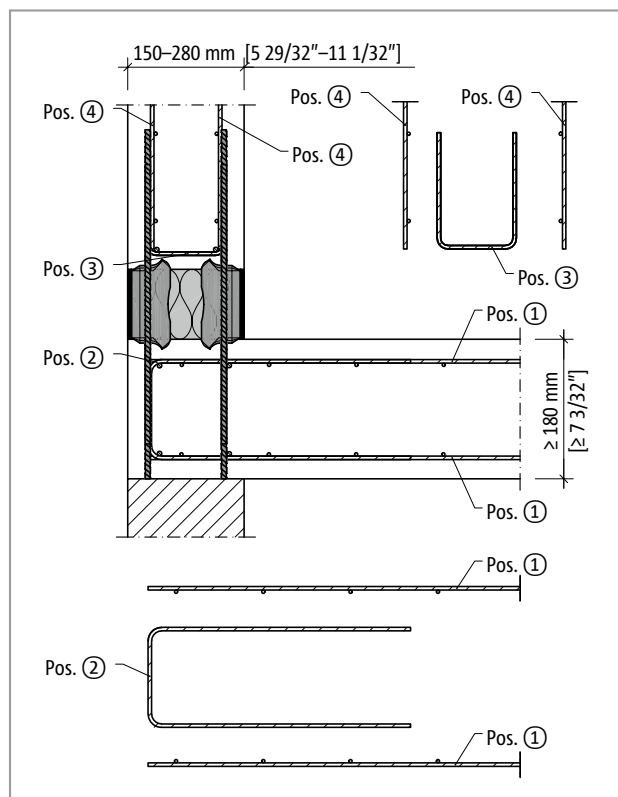


Fig. 17: Schöck Isokorb® CXT Type CA: On-site reinforcement

Schöck Isokorb® CXT Type CA 1.0		MM1
On-site reinforcement	Location	Concrete Strength $\geq 27.5$ MPa (4,000 psi)
<b>Longitudinal reinforcement</b>		
Pos. 1	Roof Slab Side	In accordance with EOR specifications
<b>Constructive Edge Reinforcement</b>		
Pos. 2	Roof Slab Side	In accordance with EOR specifications
<b>Bracket</b>		
Pos. 3	Parapet Side	In accordance with EOR specifications
<b>Longitudinal reinforcement</b>		
Pos. 4	Parapet Side	In accordance with EOR specifications

### **i** Information about on-site reinforcement

- No additional on-site reinforcement is required for connecting the Schöck Isokorb® CXT Type CA component.

## Expansion Joint Spacing

### Maximum vertical expansion joint distance in horizontal direction

Vertical expansion joints must be arranged in the external component. The decisive factor determining the change in length due to temperature is the maximum distance  $e_a$  of the outer edges of the outermost SchöckIsokorb® types. The external component can protrude laterally over the Schöck Isokorb®.

For fixed points, such as corners, for example, half the maximum length  $e_a$  applies from the fixed point.

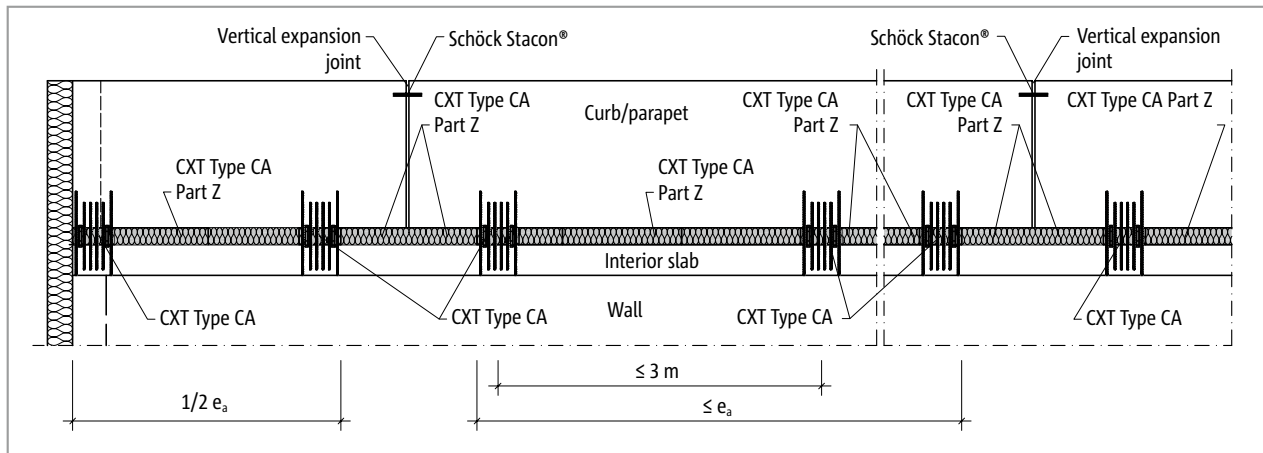


Fig. 18: Schöck Isokorb® CXT Type CA: Vertical expansion joint arrangement

Schöck Isokorb® CXT Type CA 1.0		MM1
Maximum distance for		$e_a$ [ft in]
Insulation Thickness [in]	4 3/4"	75' 5 1/2"

Schöck Isokorb® CXT Type CA 1.0		MM1
Maximum distance for		$e_a$ [m]
Insulation Thickness [mm]	120	23.0

### Horizontal expansion joints

The joint and edge distances based on the Schöck Isokorb® as a component connection do not provide the necessary horizontal expansion joint between the external component and the slab.

#### Note

- The permissible component center distance should be at least  $\geq 0.6$  m [1' 11 5/8"] and a maximum of  $\leq 3.0$  m [9' 10 1/8"].
- Any vertical and horizontal expansion joints in the plaster that may be required must be coordinated with the specialist planner for the facade.

## Design example

### Design example (Metric)

#### Given:

Concrete strength class of the parapet	27.5 MPa	
Parapet width	$B = 0.20$ m	
Parapet height	$h_B = 1.00$ m	
Concrete strength class of the slab		27.5 MPa
Slab thickness	$D = 0.20$ m	

#### Load assumptions:

Dead weight and expansion	$g_k = 6.00$ kN/m
Wind	$w_k = 1.20$ kN/m <sup>2</sup>
Beam load	$q_k = 1.00$ kN/m

**Selected:** Schöck Isokorb® CXT Type CA-MM1-REI30-LR200-X120-B200-L300-1.0

#### Impacts:

Normal force	$n_{Ed,z} = \gamma_G \cdot g_k = 1.35 \cdot 6.00$ kN/m = 8.1 kN/m
Shear force	$v_{Ed,x} = -(\gamma_Q \cdot w_k \cdot h_B + \gamma_Q \cdot \psi_0 \cdot q_k)$ $v_{Ed,x} = -(1.5 \cdot 1.2 \cdot 1.00 + 1.5 \cdot 0.7 \cdot 1.0) = -2.85$ kN/m
Bending moment	$m_{Ed,y} = \gamma_Q \cdot w_k \cdot h_B^2 / 2 + \gamma_Q \cdot \psi_0 \cdot q_k \cdot h_B$ $m_{Ed,y} = 1.5 \cdot 1.2 \cdot 1.0 \cdot 0.5 + 1.5 \cdot 0.7 \cdot 1.0 \cdot 1.0 = 1.95$ kNm/m

**Determination of the combination factor KF:**  $KF = [m_{Ed}/(B - 0.07) + n_{Ed}/2] / |v_{Ed}| = 6.68$  [-]

**Reading the resistance of the strut and tie bar from the diagrams (see page10):**

$$F_t = 61.00 \text{ kN/m}$$

$$F_c = 49.00 \text{ kN/m}$$

**Determination of component spacing at 100% utilization in the load bearing capacity limit state:**

$$a_{max} = \min(F_t; F_c) / (KF \cdot |v_{Ed}|) \leq 3.00 \text{ m}$$

$$a_{max} = \min(61; 49.0) / (6.68 \cdot 2.85) = 2.60 \text{ m} \leq 3.00 \text{ m}$$

$$a_{max} = 2.60 \text{ m}$$

**Selected center distance:**

$$a_{prov} = 2.50 \text{ m}$$

**Degree of utilization in the load bearing capacity limit state:**

$$a_{prov} / a_{max} = 2.50 \text{ m} / 2.60 \text{ m} = 0.96$$

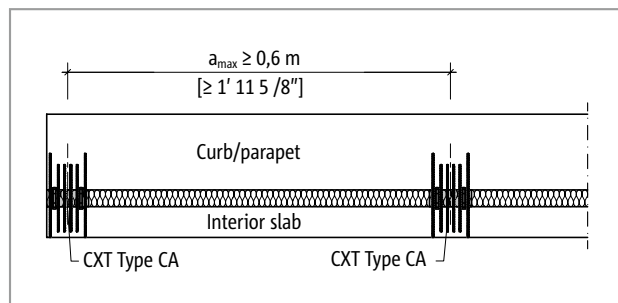


Fig. 19: Schöck Isokorb® CXT Type CA: This requirement is fulfilled if the selected distance  $\leq a_{max}$  and  $\geq 0.60$  m [1' 11 5/8"]

## Prefabricated construction | Installation Instructions

### Use in semi-finished slabs

To use the Schöck Isokorb® CXT Type CA, a minimum bond length of 180 mm [7 1/16"] in in-situ concrete on the slab side is required. When using semi-finished slabs, recesses may have to be planned in the component panel. The minimum dimensions of the recess can be found in the images below.

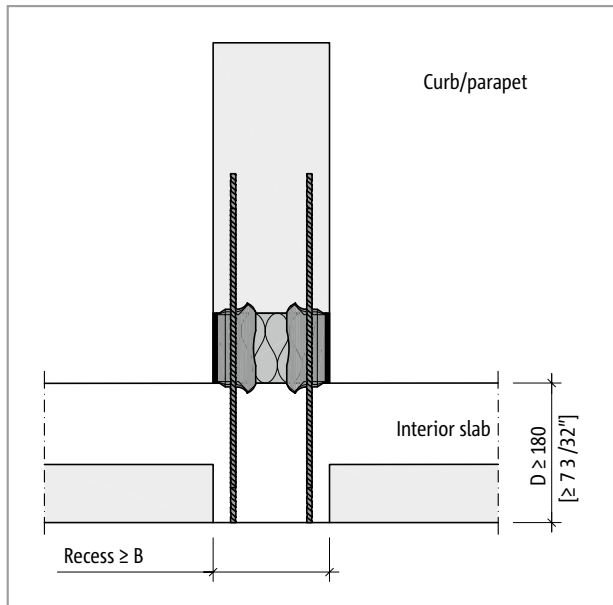


Fig. 20: Schöck Isokorb® CXT Type CA: Section; Minimum measurement Recess Component panel

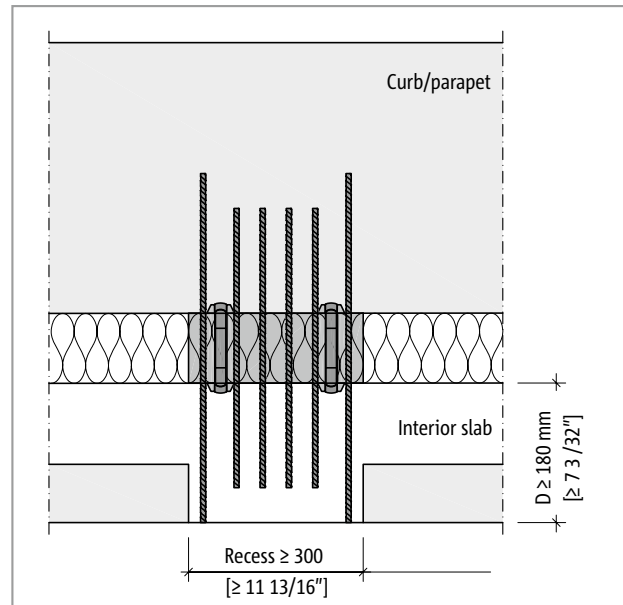


Fig. 21: Schöck Isokorb® CXT Type CA: View; Minimum measurement Recess Component panel

### 1 Installation instructions

The current installation instruction can be found online under: [www.schoeck.com/view/14625](http://www.schoeck.com/view/14625)

## Check List

- Have the factored member forces on the Schöck Isokorb® connection been determined at design level?
- Has the maximum permissible continuous parapet length between Isokorb® units been maintained?
- Are the requirements with regard to fire protection confirmed?
- Are additional loads taken into account due to the arrangement of Schöck Isokorb® CXT Type CA components over wall openings?
- Has the requirement for horizontal expansion joints in the plaster been agreed with the specialist planner for the facade?