Installation of BECO® Beam Shoe

INSTALL THE PRODUCT – PRECAST FACTORY

Identification of the product

BECO® Beam Shoes are available in standard models analogous to the M-thread sizes of the COPRA® Anchoring Couplers. The model of the beam shoe can be identified by the name on the product's label and also the color of the product. The color codes are shown in the table below.

Color identification of BECO® Beam Shoe with corresponding COPRA® Anchoring Coupler.

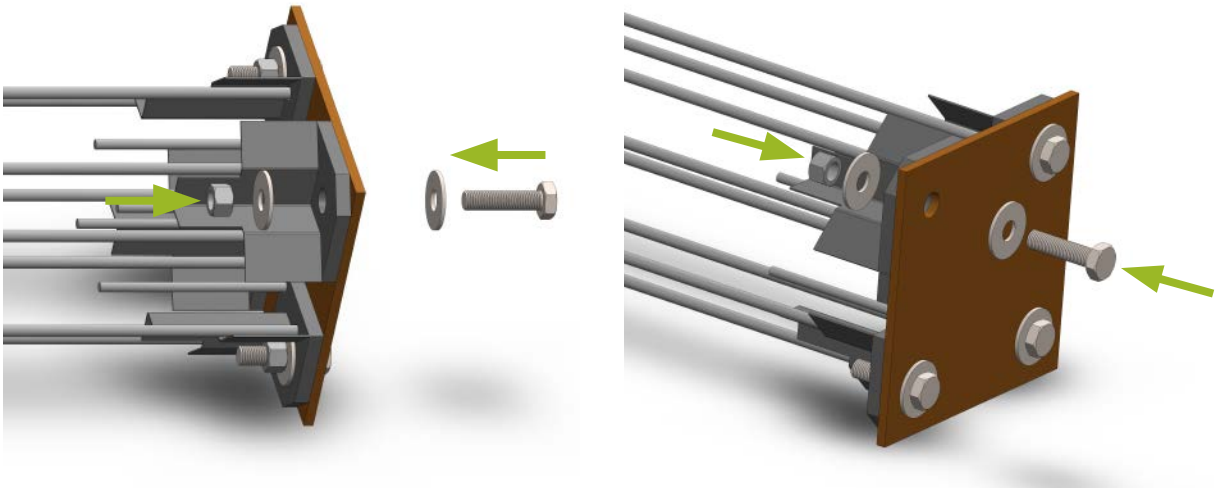
Beam Shoe	Anchoring Coupler	Color Code
BECO® 16H*	COPRA® 16H-...	Yellow
BECO® 20H*	COPRA® 20H-...	Blue
BECO® 24H*	COPRA® 24H-...	Grey
BECO® 30H*	COPRA® 30H-...	Green
BECO® 39H*	COPRA® 39H-...	Orange
BECO® 30P*	COPRA® 30P-...	Black
BECO® 36P*	COPRA® 36P-...	Red
BECO® 39P*	COPRA® 39P-...	Brown
BECO® 45P*	COPRA® 45P-...	Purple
BECO® 52P*	COPRA® 52P-...	White

** Color code is marked on base surface of BECO® bottom plate.*

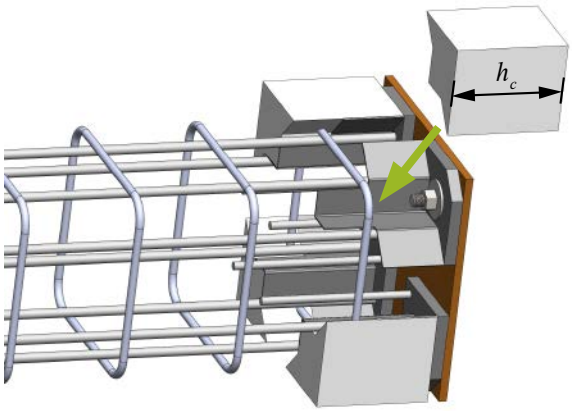
Installation of the beam shoes

BECO® Beam Shoes are placed into the reinforcement and fixed to the mold's end plate with bolts. Before concreting, the beam recess box must be filled with an additional element (Styrofoam) to ensure that there is a sufficient cavity for the insertion of the threaded bar, and the threaded bar should then be tightened. After the concrete has hardened, the additional element should be removed. Supplementary reinforcement must be provided in accordance with Appendix A. The maximum installation tolerances of the beam shoe in the precast beam element are ±2 mm.

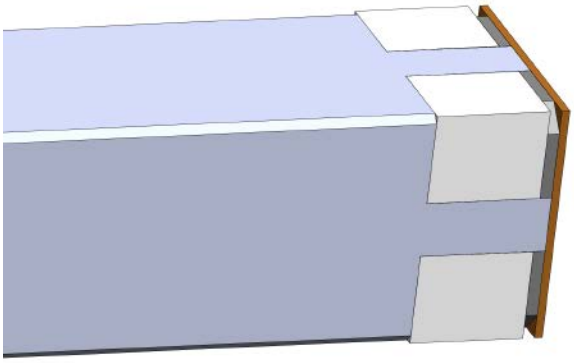
Installation of a BECO® Beam Shoe into a mold.



Installation of polystyrene recess block.



Concreting beam.



Removing additional element.

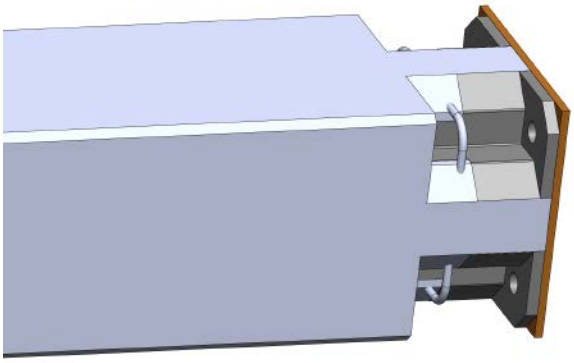


Table 7. Height of polystyrene recess block in mm.

	BECO® 16H	BECO® 20H	BECO® 24H	BECO® 30H	BECO® 39H	BECO® 30P	BECO® 36P	BECO® 39P	BECO® 45P	BECO® 52P
h_c	130	145	166	195	245	195	220	245	263	320

Please note, polystyrene recess box and installation bolts with washers are not part of the Peikko's delivery. Those must be supplied separately.

INSTALL THE PRODUCT – CONSTRUCTION SITE

Identification of the product

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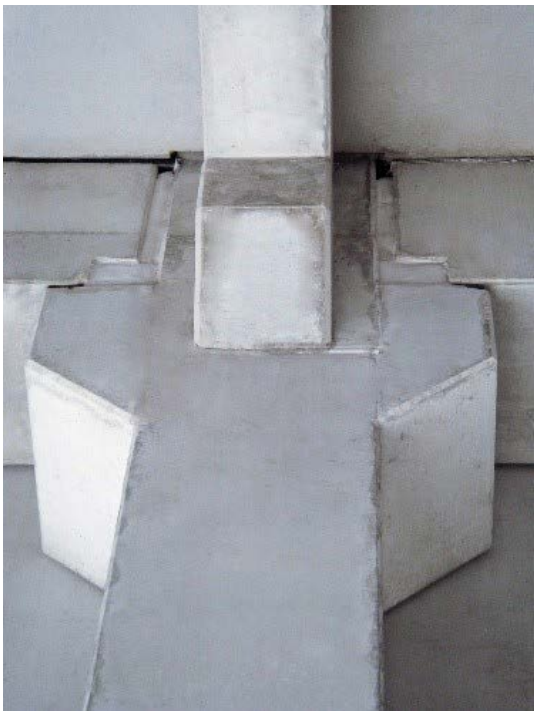
BECO® 45P*	COPRA® 45P-...	Purple
BECO® 52P*	COPRA® 52P-...	White

* Color code is marked on base surface of BECO® bottom plate.



Erection of a precast beam

When erecting the beam on the corbel, the position of the beam in the vertical direction may be adjusted using shims or steel plates on the corbel. The element must be checked to ensure that it is in the correct position before the nuts are tightened using a slogging ring wrench (DIN 7444) and a 1.5 kg sledgehammer or equivalent. The threaded bars must be screwed to the COPRA® Anchoring Couplers. The nuts must be screwed on tightly. After the nuts have been tightened, the crane can be detached from the beam. The joint of the element can then be grouted with mortar. The grout must be of a non-shrinking type. After the grout has reached sufficient strength, the connection is finalized. The installation must be carried out according to the erection plan.

The tolerances and the thickness of the joint are shown in *Table 8*.

	M16	M20	M24	M30	M36	M39	M45	M52
d_A	42	50	56	71	85	92	110	125
s_w	24	30	36	46	55	60	70	80

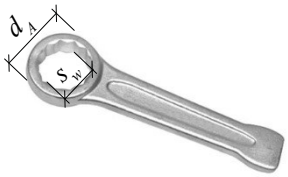
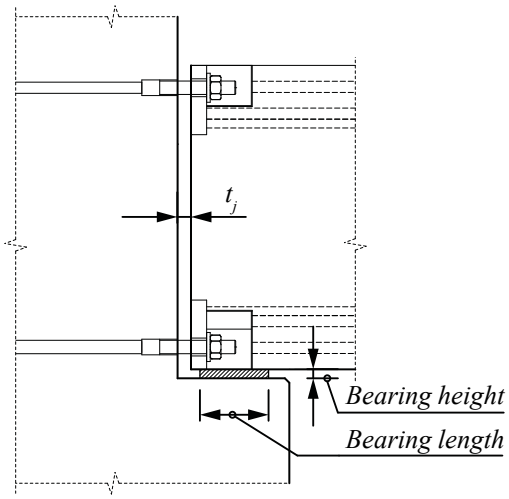


Table 8. Recommendations for tolerances.

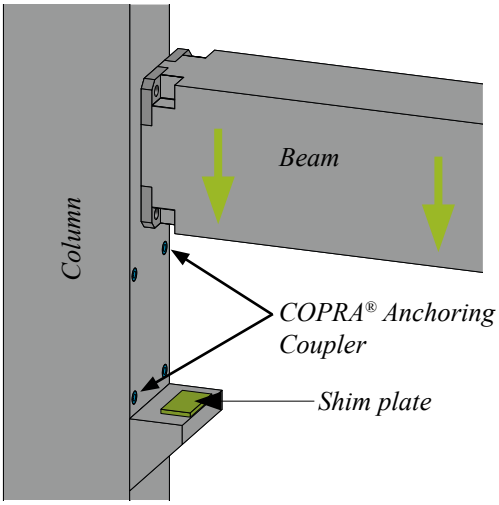
Beam Shoe	Anchoring Coupler	Joint thickness t_j [mm]	Tolerance of the joint [mm]
BECO® 16H	COPRA® 16H	20	± 5
BECO® 20H	COPRA® 20H	20	± 5
BECO® 24H	COPRA® 24H	20	± 5
BECO® 30H	COPRA® 30H	20	± 5
BECO® 39H	COPRA® 39H	20	± 8
BECO® 30P	COPRA® P30	20	± 5
BECO® 36P	COPRA® 36P	20	± 7
BECO® 39P	COPRA® 39P	20	± 8
BECO® 45P	COPRA® 45P	20	± 7
BECO® 52P	COPRA® 52P	20	± 9



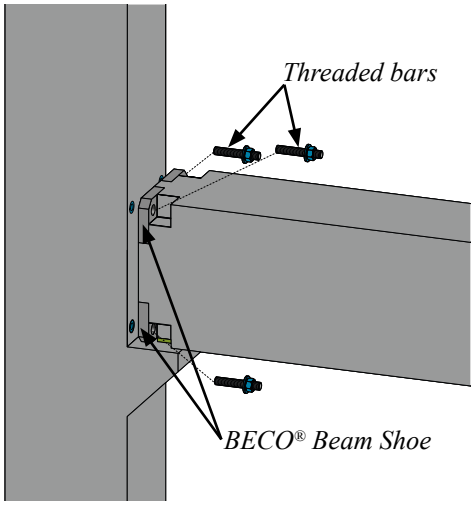
For alternative joint thickness solutions, please contact Peikko's Customer Engineering Service.

Erection of a precast concrete beam with beam shoes step by step.

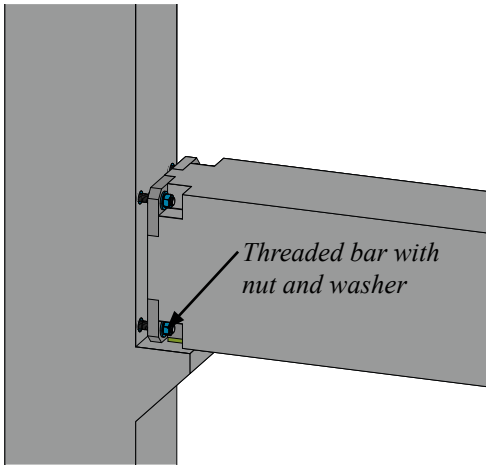
Install the beam on pre-leveled shim plates.



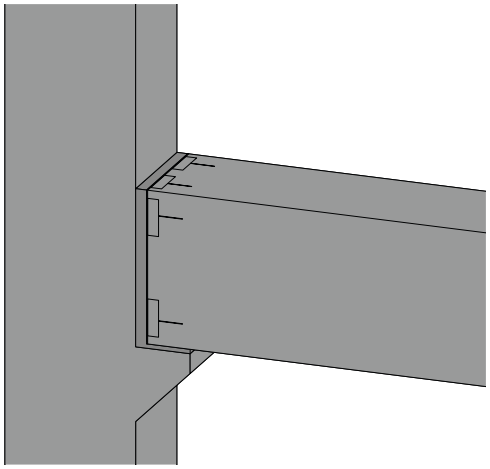
Insert the threaded bars with washers and nuts through the base plates into the coupler parts of the anchoring couplers.



Screw the nuts, washers and threaded bars on and tighten them.

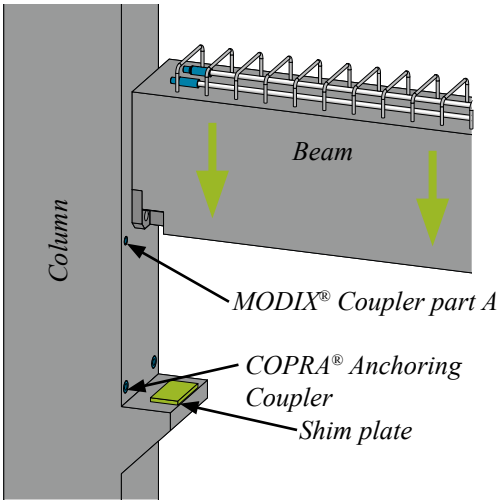


The connection is finalized after the grout has hardened.

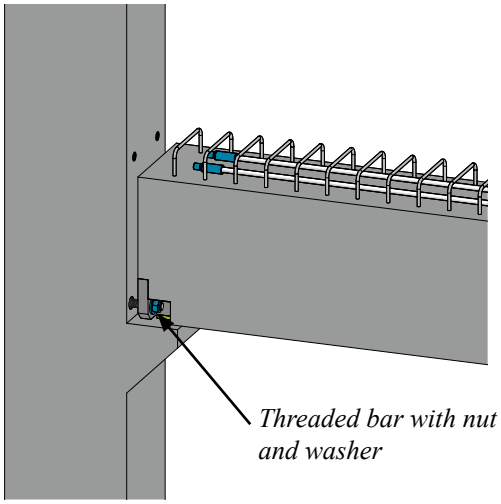


Erection of a precast concrete beam with half precast concrete slab step by step.

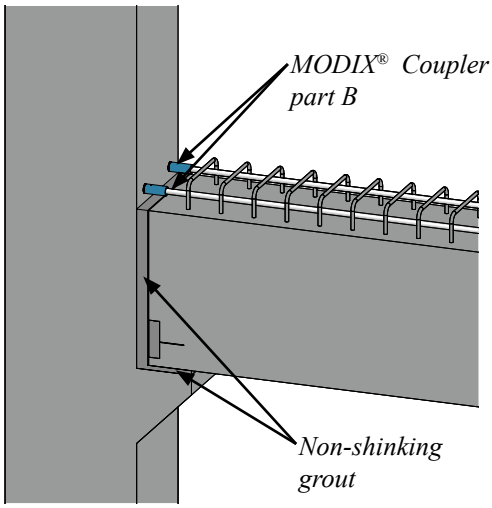
Installed the beam on pre-leveled shim plates.



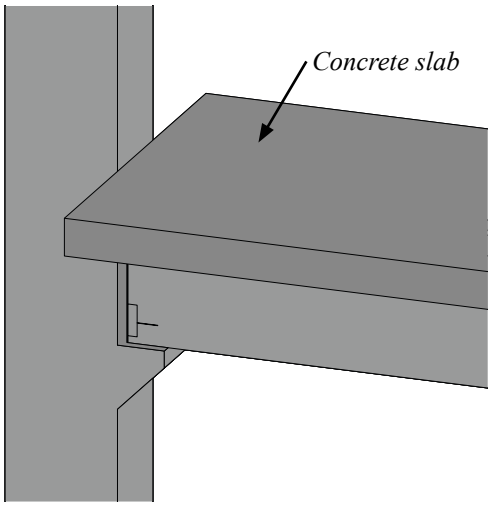
Screw the nuts, washers and threaded bars on and tighten them.



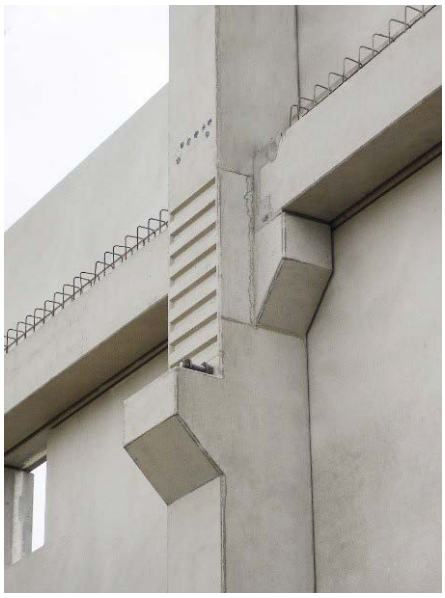
Fill the connection with grout and screw on the MODIX® Rebar Couplers.



Finalize construction with the concrete slab.



Erection of a precast concrete beam.



Connecting a COPRA® Anchoring Coupler with a BECO® Beam Shoe with the help of a threaded bar step by step.