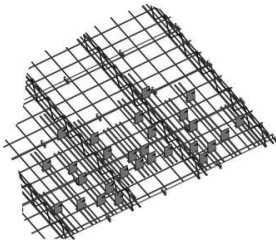
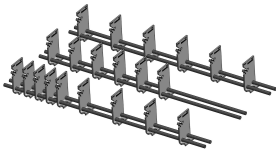
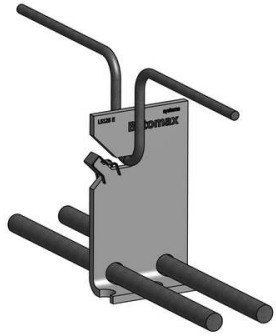


## CLIXS® punching element incl. clip

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BETOMAX® CLIXS®- the ideal punching shear and composite reinforcement system for use in semi-precast elements (prefabricated element slabs with in-situ concrete supplement).

The CLIXS® punching shear reinforcement system consists of punched and beveled special steel plates and 1 (or 2) additional stirrups made of reinforcing steel B 500 A/B, which are used together with reinforcing steel bars B 500 B as punching shear reinforcement.

easy storage - only L-sheets  
no risk of confusion due to the use of only one type of plate  
ready-made individual solutions ex works  
production- and process-oriented delivery forms after consultation  
software ejects parts list and laying sketch  
transport advantages: L-sheets are lower than lattice girders and cannot bend when the element plates are stacked  
Arrangement is linear parallel to the lattice girders - not star-shaped  
Clips to secure the position of the bracket - cannot slip out  
Easy and quick installation  
Simple visual control of the installed elements  
max. load capacity is higher than for floor slabs without punching shear reinforcement  
Reduced formwork costs  
installations are easy to perform  
reduced floor heights compared to joist constructions  
approved installation element Z-15.1-281

The L-shaped steel sheets with suspended stirrups  $d_s = 6 \text{ mm}$  are preferably used in precast elements. They enclose or extend to the outermost lower and outermost upper reinforcement layer.

The design is based on EC2 with NAD, taking into account the specifications in approval Z-15.1-281. The arrangement can be circular or orthogonal, with an essentially orthogonal design, parallel to the reinforcement directions.

The element arrangement specified by the design is divided into individual positions - line elements - parallel to the main supporting direction. The line elements are produced in advance by threading the L-sheets onto the two reinforcement bars  $d_s = 12 \text{ mm}$  at the specified edge and intermediate spacings and inserted like fixtures during reinforcement in accordance with the plan.

The position can be secured by spring clips or binding wire. After the floor slabs have been reinforced, the line elements are placed on the lower spacers in the direction of the main reinforcement like additional beams.

Depending on the concreting process, the position of the elements is fixed before concreting. The cast-in sheet does not protrude above the lattice girders and the floor slabs can be stapled as usual.

After the upper reinforcement layer has been placed on site, the stirrups  $d_s = 6 \text{ mm}$  are clipped into the receptacle of the L-sheets from above and folded over onto the upper reinforcement layer. Due to the necessary tolerance for the installation of the stirrups, they may have an inclination of  $30^\circ$  according to the approval.