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## Erecting / Sealing of joint BSF, BCC

### ERECTION:

As the beam is hoisted into position, the BSF/ BCC knives are hidden within the beam unit. When the beam is in the correct position, the knives are pushed out of the beam and into the column units by means of a crowbar. The beam is then lowered carefully to the supported position, making sure that the slots on the underside of the knives are hooked over the safety plate in the column unit.

### ADJUSTMENT OF THE JOINTS:

Before releasing the lifting wires from the beam, the joint width (a) should be checked. Normally this should be about 15 - 20 mm. The joints should be adjusted to be as nearly as possible the same width at both ends of the beam, and at both sides of the column when two beams meet.

Adjustment of the joint width is done with a crowbar as follows:

Position A: Increase of the width.

Position B: Decrease of the width.

One person can carry out the operation, but the process is quicker and more convenient with one person at each end of the beam being erected.

A slight pull from the crane during this operation will ease the process.

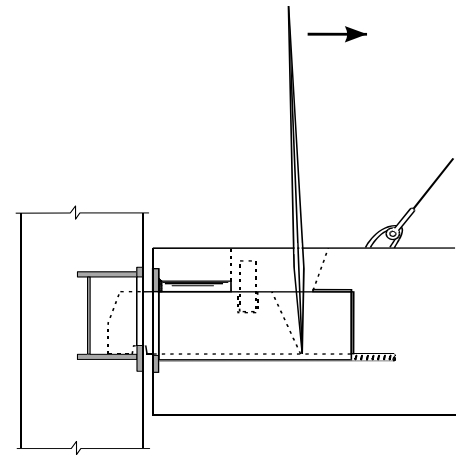


Figure 4.1. Entering the knife. Figure shows a BSF unit

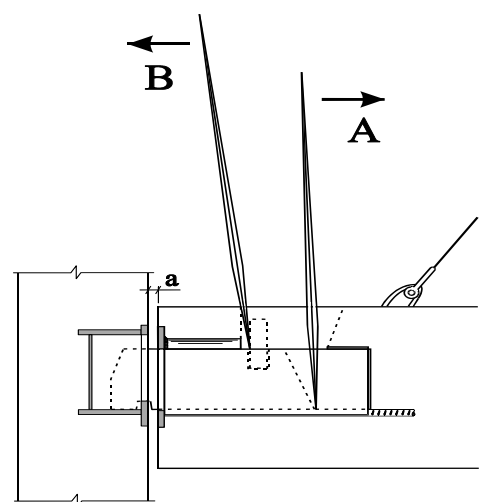


Figure 4.2. Adjusting the joint width. Figure shows a BSF unit

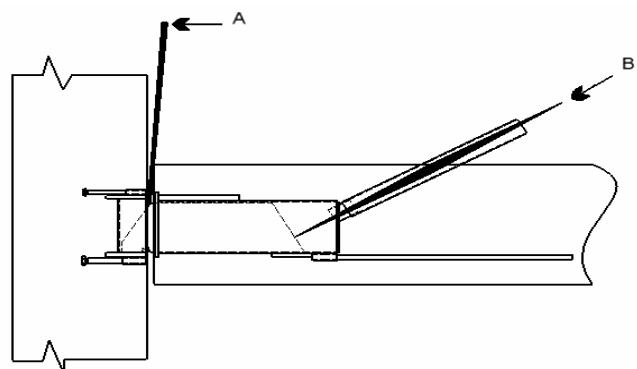


Figure 4.3 Adjusting the joint width . Figure shows a BCC unit

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### SEALING OF THE JOINTS:

Sealing of the joints between the beam ends and the sides of the columns is done for esthetical reasons, and to fire protect the BSF/ BCC knives.

Various materials can be used:

- a) Self-expanding fire resistant foam.
- b) Mineral wool covered by a fire resistant joint sealant.
- c) Quick setting concrete based mortar.

When allowance has to be made for movement in the joints, for example due to thermal expansion or creep and shrinkage, a) or b) must be used. The most commonly used sealant is grouting of the joint.

### CONCRETING THE JOINTS:

As shuttering for the mortar can be plastic, solid but flexible. One used compressible strips of rubber or suitable type is TREMCO joint backing, supplied by Götekjemi AB, Sweden. These are round, extruded neoprene backings, obtainable in diameters from 10 to 50 mm.

A joint backing of suitable dimension is squeezed in between the beam end and column, on the sides and underside along the outer rim of the joint. The dimension of the joint backing should generally be about 5 mm larger than the joint width.

A suitable pre-mixed dry mortar (obtainable in 20 kg bags) is mixed to a floating consistency, and poured into the joint. When the mortar has cured the joint backing is removed, leaving a 15 to 20 mm deep recess. To improve the appearance of the joint a joint sealant may be used as a finish.

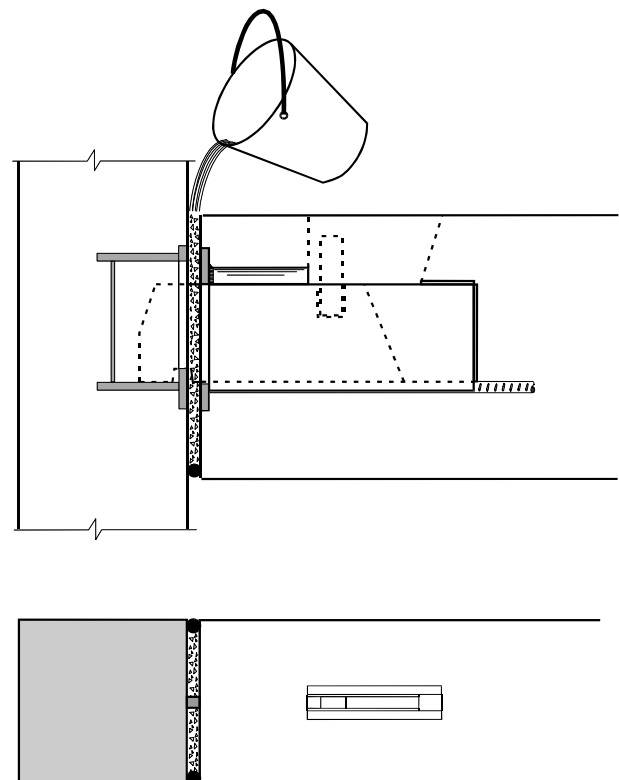


Figure 4.3. Concreting the joints.  
Figure shows a BSF unit