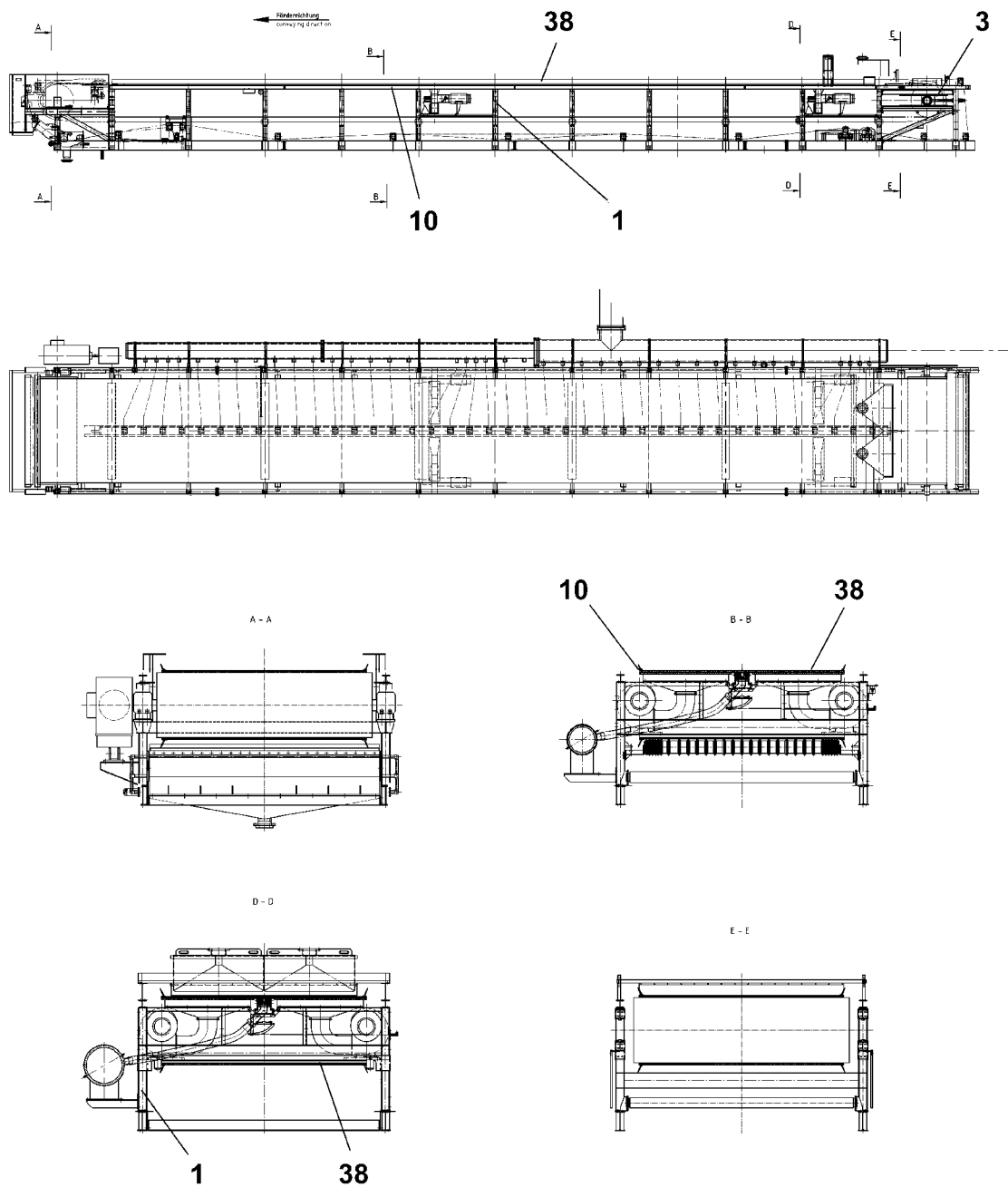




### 3.14 Filter belt

Items of assembly drawing no. 4410684 / 4410685:

- 1 = Belt frame
- 3 = Tensioning pulley
- 10 = belt carrier system
- 38 = filter belt



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### 3.14.1 Assembly steps

Note: Items of assembly drawing no. 4410684 / 4410685



- Position the filter belt (38) behind the tension pulley (3).
- Put in the filter belt through the belt frame (1) with a winch.
- Put both filter ends in front of the other on the belt carrier system (10)

Note: Forming the filter belt loop, cutting and providing the lateral edges as well as the perforation shall be the responsibility of the filter belt supplier.



## **Splicing of Phoenix Filter Belts**

### **1. Mounting of Conveyor Belt**

The filter belt will be pulled from the jacked-up reel onto the filter construction. Both partial lengths will be put in that way that they lay one on top of the other over the whole splicing length.

### **2. Folding back of Belt Ends**

For positioning the bottom plates of the press both belt ends will be folded back.

### **3. Mounting of working table and protection tent on site**

The lower part of the portable heating press will be used as a working table. On both sides of the belt ends tables of appr. 2 m length will be used as a working platform. The upper edge of the heating plates and the working table will be in one level.

The layout of the tent depends on the local conditions, it is obsolete when splicing takes place in a hall.

### **4. First alignment of belt ends**

Both belt ends will be placed over the working tables on the lower press plates and aligned visually.

### **5. Marking of datum lines**

On both belt ends a chalk line will be applied for the belt centre line (the rectangular datum lines, as well as the marking lines of the splice). For determining the centre line 3 centre points at intervals of ~2 m will be marked.

Additionally the alignment is checked at the belt edges.

The splicing is done according to DIN 22102 part 3. Principally the Filter Belt splice consists of two single fabric splices.

## **6. Stripping of rubber covers**

The rubber covers of carrying and running side of both belt ends will be stripped in the marked splice length as follows:

- In the rubber cover on the carrying side along inner splice line marking, cut with a knife held at a 45° angle until it gets down to the fabric.
- Rubber edge of the belt will be removed down to the fabric.
- For pulling off the covers a gripper tool will be used.  
The rubber will be removed down to the fabric.
- Stripping on running side of the belt ends is done in the same way.

## **7. Cutting of plies**

For cutting the plies a special ply-knife is used. This knife prevents damage to the ply underneath.

## **8. Roughening of splice edges**

Splicing edges (ramps) of the carrying and pulley side of both belt ends and the carcass-free areas will be roughened with a wire brush.

## **9. Coating of fabric**

The fabric is coated with solution by means of a paintbrush.  
Whilst the drying times it will be proceeded as follows.

## **10. Preparation of rubber sheeting of bottom side**

An unvulcanized rubber sheet, thickness 0,5 mm, will be put on the fabric.  
To avoid air inclusions a hand-roller is used. Please note that the EPM splicing material is almost not sticky.

## **11. Vulkatrix**

Between the lower heating plate and the bottom rubber cover Vulkatrix is placed across the whole splicing area. Vulkatrix cloth should be 300 mm longer in both longitudinal directions and at least 100 mm wider than the splice itself.

**12. Correcting of alignment of splice ends**

The alignment of both belt ends is controlled by means of a string across the three marked centre dots.

**13. Positioning of the second splice edge**

The splice length will be transferred to the combined rubber sheeting and the splice edge will be placed to the lower splice edge of the second belt end. In accordance with the rectangular datum line it will be checked parallelly and diagonally whether the alignment is correct. If not it will be readjusted.

Combined rubber sheeting will be tapped with a mallet.

**14. Cutting of combined rubber sheeting ends**

A chalk line will be marked and rubber edges will be trimmed off.

**15. Final correction of alignment**

It will be checked again by means of a string whether the middle lines of belt ends are centered. Any possible deviations can now be readjusted. This final correction is very important and should not be omitted. Due to the low stickyness take care of the final alignment of both belt ends.

**16. Preparation for mounting of the press**

Edge bars will be placed at both sides of the belt and fastened with edge clamps outside the splice area. The rubber strips that were cut out during production have to be put into the reels in the area of the splicing press. This is to ensure an even distribution of pressure and avoiding any damage to the bars.

The edge bars will be approximately 1-2 mm thinner than the belt itself.

Vulkatrix is placed across the whole splice area between upper belt side and upper heating plate.

**17. Build-up of upper plates**

Upper plates will be placed and aligned.

Upper traverses will be placed in a way that both end traverses are positioned outside the splice area.

End locking bolts will be positioned and tightened slightly.

Oil pumps will be connected to upper traverses.

End bolts will be tightened thoroughly.

Electrical cables will be connected to heating platens.

A pressure of 8 bar (spec.) will be applied on the splice area with the oil pump.

## **18. Vulcanization**

Heating plates will be plugged in.

Pressure will be increased as temperature rises. Temperatures at all heating plates must be controlled.

Allow temperature to rise to  $150^{\circ}\text{C} \pm 5^{\circ}\text{C}$ . The curing time counts when temperature reaches  $150^{\circ}\text{C}$ .

The curing time is determined according to belt thickness, i.e. 2,5 minutes per mm belt thickness.

After curing time has elapsed plates will be allowed to cool down to  $70^{\circ}\text{C}$ .

## **19. Removal of press and final procedure**

Traverses and end bolts will be loosened and removed.

Upper heating plates will be removed.

The belt will be regrooved in the ramp area of the carry side with a heated profiled knife (which has the profile of the groove).

Edge clamps will be loosened and edge bars will be removed.

Spliced belt will be lifted and lower heating plates will be removed.

Working platform will be removed.

Rubber overflow at both edges will be trimmed off.

Belt surface, ramps and edges are inspected visually.

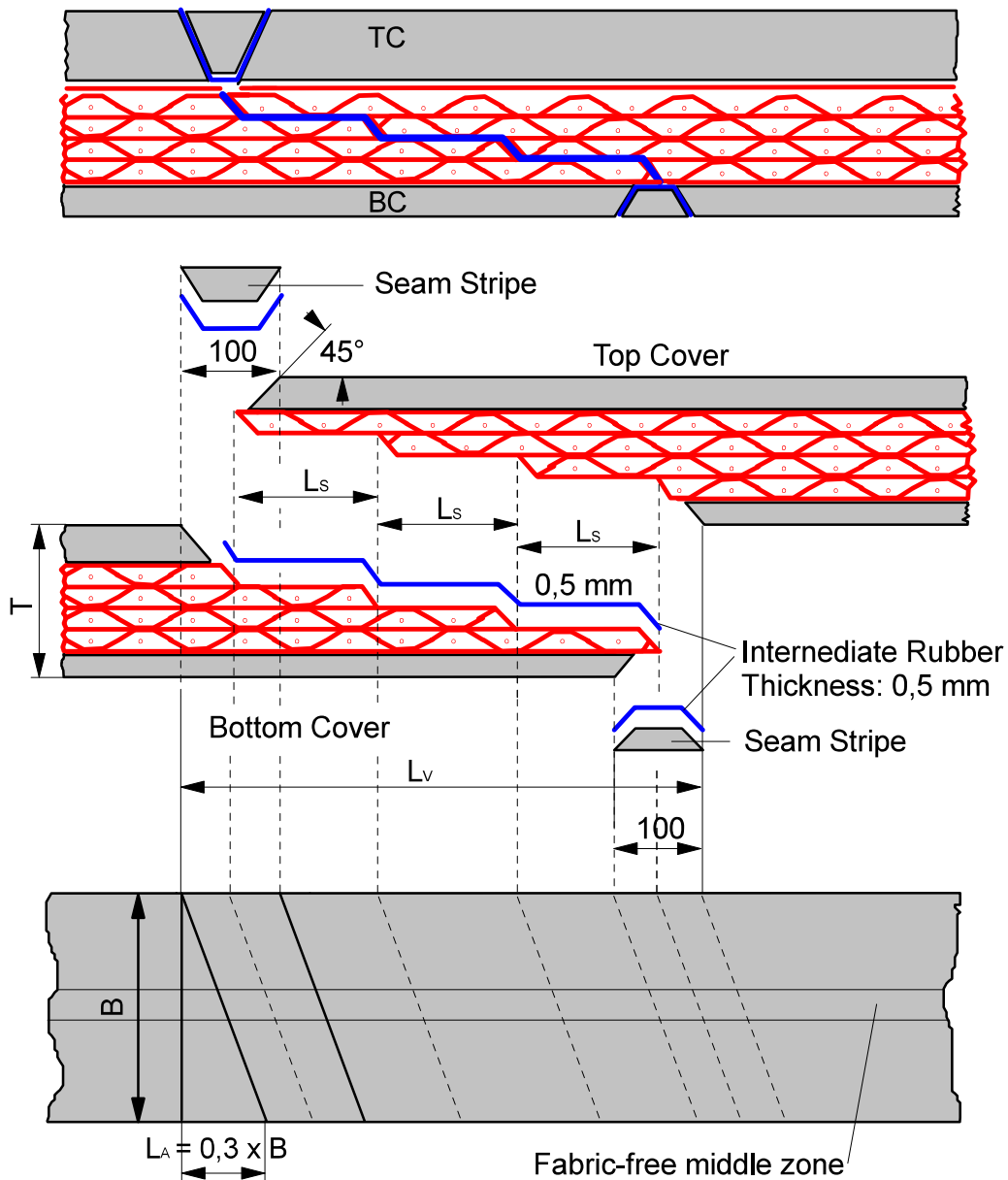
Belt will be put into service.

## Splice Scheme (Example)

**3200 EE 800/4**

**PHOENIX**  
Conveyor Belt Systems

(according to DIN 22 102 part 3)



B = Belt Width  
T = Belt Thickness

$L_v$  = Length of Splice = 850 mm  
 $L_s$  = Length of step = 250 mm

Sketch not true to scale

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## **20. Running-in procedure**

The belt has to run 24-48 h in order to ensure a smooth and straight run.

Due to the fact that the belt is running untroughed on a table, possible deviations must be controlled by adjustment of pretension of the return pulley and mounting of vertical idlers to the construction

## **21. Final edge cut**

Once the belt is running stable, the edges can be cut with a special knife mounted on a cross bar above one pulley. This is to avoid deviations occurring from the forces inducted by the knife.

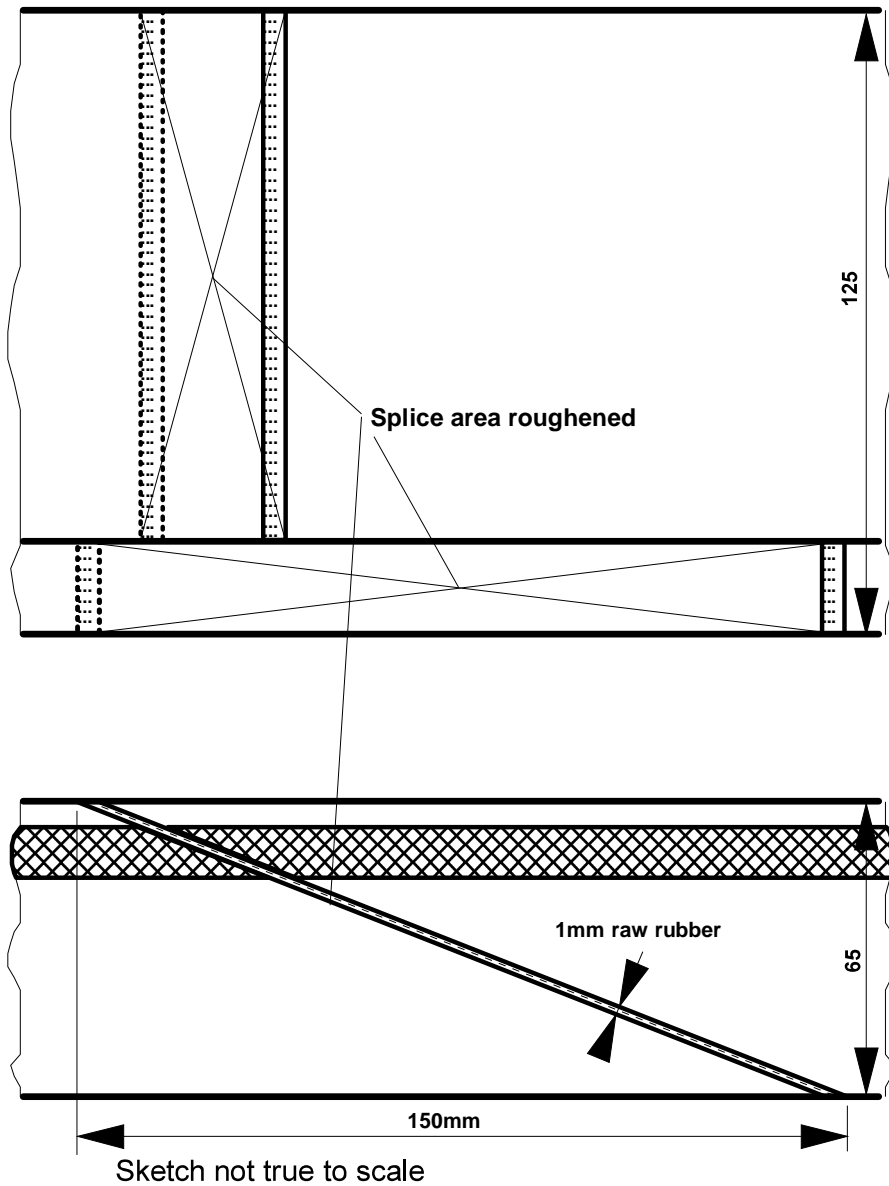


### **Splicing of Side Curbs**

14. At the last vulcanisation the curbs must be joined endless. Both ends of the curbs will have an overlap of 150 mm (see drawing) with appropriated bevel cuts of 60 degrees.
15. Roughen up the bevel cuts, remove the dust and coat the roughened areas of belt, curbs and bevel cuts with solution. Put the coated curbs on clean plastic film.
16. The coated areas have to be completely dry. Now place the intermediate rubber strips (1 mm thick and 65 mm wide) on the belt edges and on one bevel cut.
17. Roll on the strips without blister. Place the curbs on the strips exactly and roll them on. Please notice that the thickness of the raw joint must be the same as the thickness of the rest of the side curb.
18. Now vulcanize the joined curb on the belt as item 6 to 12 on page 1.

## 19. Splicing Scheme

**Side Curb Splice****3200 EE 800/4 22:8 SBR**

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