Conveyor Belt Repair

TSGlobal®
Leaders in Conveyor Products
Since 2007 TS Global has specialised in the manufacture of a comprehensive range of high quality conveyor accessories and polyurethane components. Our engineering and manufacturing expertise delivers world-class conveyor solutions that are built to withstand the harshest conditions.

Our focus is on high performance, low maintenance products to ensure we deliver our clients solutions that improve plant availability, reduce downtime and minimise maintenance expenditure.

Our range of CoBond products provide a simple, fast curing and cost-effective solution to repairing a damaged or torn conveyor belt. The repair kits are a two part, 100% solids urethane compound for the rapid repair of rubber (fabric and steel cord) and PVC (solid woven) conveyor belts and linings. CoBond products can be used to repair:

- Skirt-line wear
- Impact damage
- Punctures/holes
- Split belt/tears
- Edge damage including shark bite
- Mechanical fastener concealing
- All products are Australian made
CoBond Qik Fix is suitable for repairs to fabric, steel cord and PVC conveyor belts. CoBond Qik Fix is applied with either our 1050g manual or pneumatic caulking gun and self-mixing nozzle, ensuring the product is thoroughly mixed at the correct ratio. Once applied to the conveyor belt, it has a working time of 10-15 minutes (at 24°C). The high viscosity of CoBond Qik Fix, allows it to be applied on incline conveyors or conveyor belt troughs up to 50° without sagging or slumping. This fast curing product, provides an engineering grade bond increasing the life of the belt with minimal downtime.

<table>
<thead>
<tr>
<th>Colour</th>
<th>Black</th>
<th>Hardness: 80 - 85A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shrinkage</td>
<td>&lt;1%</td>
<td>Shelf life: 12 months @ 22°C</td>
</tr>
<tr>
<td>Working time</td>
<td>10 to 15 mins</td>
<td>Return belt to service: 4 hr @ 24°C</td>
</tr>
</tbody>
</table>

CoBond White is suitable for repairs to light duty PVC conveyor belts. CoBond White is applied with our 600g manual caulking gun and self-mixing nozzle, ensuring the product is thoroughly mixed at the correct ratio. Once applied to the conveyor belt, CoBond White has a working time of 10-15 minutes (at 24°C). The high viscosity of CoBond White, allows it to be applied on incline conveyors or conveyor belt troughs of up to 50° without sagging or slumping. This fast curing product, provides an engineering grade bond increasing the life of the belt with minimal downtime.

<table>
<thead>
<tr>
<th>Colour</th>
<th>White</th>
<th>Hardness: 60 - 65A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shrinkage</td>
<td>&lt;1%</td>
<td>Shelf life: 12 months @ 22°C</td>
</tr>
<tr>
<td>Working time</td>
<td>10 to 15 mins</td>
<td>Return belt to service: 5 hr @ 24°C</td>
</tr>
</tbody>
</table>
COBOND PRIMERS

A range of primers have been specially formulated to ensure an engineering grade bond can be achieved between the parent conveyor belt and the selected CoBond product. Our range of primers include:

<table>
<thead>
<tr>
<th>Prime No.6 (500g or 1kg)</th>
<th>Rubber</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prime No.2 (1kg)</td>
<td>White Rubber</td>
</tr>
<tr>
<td>Prime No.3 (250g or 500g)</td>
<td>PVC</td>
</tr>
</tbody>
</table>

**Case Study**

**Repair:** 146 metre skirt damage conveyor belt repair  
**Material:** CoBond Qik Fix (30 minutes cure time)  
**Situation:** Large rock was caught between skirt and conveyor and had made a 100mm (w) x 12mm (d) groove in a 120 metre section of the belt.  
**Result:** Estimated cost to replace belt $270,000  
Cost to repair belt $25,000  
**Cost Saving:** $245,000  
**Time savings:** Repairs were performed during planned maintenance windows. Repair remained in service, without issue, until the belt was due for replacement.

**ADVANCED REPAIR KIT - TROWELABLE**

The advanced repair kit is excellent for repairing conveyor belts or lining chutes, hoppers and screens. It is a two-part 100% solids polyurethane repair kit. When the two components are mixed, a thick paste is formed which can then be applied to a thickness of up to 30mm. Once mixed, the composition of the material allows for high build-up application to vertical surfaces without sagging and application to the underside of horizontal surfaces without falling off.
SURFACE PREPARATION

To optimise bond adhesion between the CoBond repair material and the conveyor belt, the correct preparation is essential. The following provides several critical steps that must be undertaken.

**Buffing:** It is our recommendation to use a 180mm Markita Grinder with a wire wheel on speed 2/4. The buffing should be performed to achieve clear visible marks (cross hatched pattern) to prepare the surface for optimum bond strength. Take care not to burn the parent belt.

**Priming:** When applying the primer to the conveyor belt use a short haired brush and ensure that the primer is vigorously worked into the belt. Mix part A & B of the primer and brush on the first coat (it is imperative that 100% coverage of the repair area is achieved). Allow 20 minutes minimum to ensure the first coat to completely dry. Apply the second coat and once tacky, the repair is ready for the CoBond material to be applied.

SKIRT LINE DAMAGE/IMPACT DAMAGE

1. **Prepare surface** – clean and grind out the repair area with a wire brush/wheel. Ensure a rounded profile (no sharp corners) in the rubber is produced as per figure 1.
2. **Clean the surface** – use Acetone, MEK, Perchloroethylene or CoBond’s SafeT solvent to clean the repair after grinding.
3. **Prime the surface** – As per above procedure.
4. **Repair the surface** – once the second coat of the Primer is tacky, fill the repair area using CoBond’s conveyor repair kit.
5. **Finish the surface** – use a scraper blade to smooth out the material to the repair area (as per figure 2) and feather out the edges. No need to buff once completed.
**PUNCTURES/HOLES**

1. Cut jagged edge of hole or split back to a clean surface as shown in figure 3.
2. **Prepare surface** – clean and grind out the repair area with a wire brush/wheel. Ensure a profile in the rubber is produced as per figure 4.
3. **Clean the surface** – use Acetone, MEK, Perchloroethylene or CoBond’s SafeT solvent to clean the repair after grinding.
4. **Prime the surface** – mix and brush on 2 coats of CoBond Primer No.6 — allow 20 minutes minimum on the 1st coat and then apply a second coat.
5. **Repair the surface** – once the second coat of the Primer is tacky, apply and secure backing plate of malemine, Aluminium or simliar (wax surface) as per figure.
6. Fill the repair area using CoBond’s conveyor repair kit.
7. **Finish the surface** – use a scraper blade to smooth out the material to the repair area (as per figure 5) and feather out the edges. No need to buff once completed.

**SPLIT BELT**

1. **Prepare surface** – Trim jagged edges of belt with knife as per figure 6. Clean and grind out the repair area with a wire brush/wheel. Ensure a profile in the rubber is produced as per figure 7.
2. **Clean the surface** – use Acetone, MEK, Perchloroethylene or CoBond’s SafeT solvent to clean the repair after grinding.
3. **Prime the surface** – mix and brush on 2 coats of CoBond Primer No.6 — allow 20 minutes minimum on the 1st coat and then apply a second coat.
4. **Repair the surface** – once the second coat of the Primer is tacky, apply and secure backing plate as per figure 7.
5. Fill the repair area using CoBond’s conveyor repair kit.
6. **Finish the surface** – use a scraper blade to smooth out the material to the repair area (as per figure 8) and feather out the edges. No need to buff once completed.

**EDGE DAMAGE**

1. **Prepare surface** – Trim damaged edge of belt with a knife as per figure 9. Clean and grind out the repair area with a wire brush/wheel. Ensure a profile in the rubber is produced as per figure 10.
2. **Clean the surface** – use Acetone, MEK, Perchloroethylene or CoBond’s SafeT solvent to clean the repair after grinding.
3. **Prime the surface** – mix and brush on 2 coats of CoBond Primer No.6 — allow 20 minutes minimum on the 1st coat and then apply a second coat.
4. **Repair the surface** – once the second coat of the Primer is tacky, apply and clamp angle as per figure 11.
5. Fill the repair area using CoBond’s conveyor repair kit.
6. **Finish the surface** – use a scraper blade to smooth out the material to the repair area (as per figure 11) and feather out the edges. No need to buff once completed.
MECHANICAL FASTENER CONSEALMENT

1. **Prepare surface** – Cut the belt and skive top cover down to first ply as per figure 12. Grind the skive area with a wire brush/wheel. Ensure a profile in the rubber is produced as per figure 12.

2. **Install the fastener/Clip** – As per manufacturers instructions.

3. **Clean the surface** – use Acetone, MEK, Perchloroethylene or CoBond’s SafeT solvent to clean the repair after grinding.

4. **Prime the surface** – mix and brush on 2 coats of CoBond Primer No.6 – allow 20 minutes minimum on the 1st coat and then apply a second coat.

5. **Repair the surface** – once the second coat of the Primer is tacky, apply fill the area using CoBond’s conveyor repair kit.

6. **Finish the surface** – use a scraper blade to smooth out the material to the area (as per figure 13) and feather out the edges. No need to buff once completed.

ADVANCED REPAIR KIT - TROWELABLE APPLICATION

1. **Prepare surface** – Buff the area for repair with a wire wheel. Ensure a profile in the rubber is produced as per “buffing instruction on page 5.

2. **Clean the surface** – use Acetone, MEK or Perchloroethylene (DO NOT use Toluene) with a clean white rag to clean the surface of the repair after buffing.

3. **Prime the surface** – mix and brush on 2 coats of CoBond Primer No.6. Allow 20 - 45 minutes (depending on temperature) for the 1st coat the completely dry and then apply a second coat.

4. **Mix the product** – Hand mixing with a steel spatula, long enough to reach the bottom of the container is satisfactory for 1kg kits. With the 4kg kits, use a small Jiffy mixer driven by an electric or air drill. Scrape the whole of the contents of the Part B container into the Part A container and mix thoroughly. The sides and bottom of the container must be scraped closely with a spatula. Failure to do this will result in sticky soft spots in the finished coating. The mixing time by hand should take no more than 5 minutes, while power mixing should be faster. When properly mix a thick paste will be formed.

5. **Repair the surface** – once the second coat of Primer No.6 is tacky and the Advanced Repair Kit is thoroughly mixed, apply and fill the area for repair.

6. **Finish the surface** – using a plastic or steel scraper blade, smooth out the material to the area and feather out the edges. No need to buff once completed.

ACCESSORIES

We also supply a range of repair kit accessories to assist with the safe and efficient application of the CoBond repair kit product range. They assist in avoiding air entrapment, improve static mixing reliability, minimise waste and increase productivity.

The range includes:

- Manual caulking guns
- Pneumatic caulking guns
- Static mixing nozzles
- Applicators
CoBond Material Solutions is an Australian company, manufacturing in Australia. CoBond is challenging the way things are done and delivering innovative and cost-effective products and solutions to overcome excessive wear while reducing downtime and increasing productivity.