

CONREMA®  
cold vulcanizing materials  
for repairing textile  
conveyor belts

Conveyor Belt Group

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# Introduction

The performance and service life of a conveyor system depends on the standard of servicing and maintenance. Such work entails an interruption to conveying operations and so is always carried out under pressure of time.

For this reason, ContiTech developed its range of CONREMA® cold vulcanizing materials. They save time and money, and they can be used to repair any type of belt damage.

CONREMA® repair materials adhere very quickly; the belt can be used immediately after it is repaired.

To ensure a good-quality, lasting repair, the belt must be repaired in clean conditions and in accordance with the instructions.

# General Instructions

## CONREMA® applications

CONREMA® repair materials are:

- suitable for conveyor belts with the following elastomer base covers:
  - natural rubber (NR)
  - styrene butadiene rubber (SBR)
  - natural/styrene butadiene rubber blend (NR/SBR)
  - chloroprene rubber (CR)
- unsuitable for hot-materials belts resistant to temperatures above 80° C
- unsuitable for belts with oil-resistant or grease-resistant covers, as well as those for handling foodstuffs

## Storage to DIN 7716

- keep in a cool, dry and, if possible, dark place.
- Recommended storage temperature is 20°C
- keep away from oils and greases

## Preparing the damaged area

- thoroughly remove any material residue
- ensure cover and fabric are clean and dry
- dry with a hot-air blower or infrared dryer, if necessary

## Treating the damaged area

- buff the cover and cut edges slightly
- use a rotating wire brush, emery cloth or other roughening device
- take care not to damage the fabric surface
- remove the buffing dust dry
- allow the first coat of activated CONTI SECUR® BFA contact adhesive to dry completely.
  - Drying time: min 30 minutes at room temperature.
- allow the second coat of CONTI SECUR® BFA to dry.
  - Drying time: test with back of hand, max. 15 minutes.

## Applying the repair materials

- CONREMA® patches, sheeting and tapes must be 0.5 mm to 1 mm lower than the surface of the belt so as to avoid damage by the belt scraper
- peel the protective film off and apply a thin coat of activated CONTI SECUR® BFA contact adhesive to the adhesive layer
- apply the repair material to the damaged belt and roll on firmly with a roller, working from the centre outwards

### **Applying the CONTI SECUR® BFA contact adhesive**

- you will activate the CONTI SECUR® BFA if you stir the activator solution
- the compound is workable (pot life) for 2 to 5 hours

### **Attention!**

CONTI SECUR® BFA is **not** approved for use underground.

- using CONTI SECUR® BFA you have to take care about the following instructions:

- avoid the inhalation of the vapour
- pay attention to the maximum work area concentration (MAC)
- with higher concentrations a face mask fitted with an A2 filter must be used

## CONREMA® Repair Materials

### CONTI SECUR® BFA Contact Adhesive

- 0,8-, 4,8-, 22,2 and 200 l container are on stock.
- the activator solution is packaged adapted to the container size

### RCE Cleansing Agent

- available in 1-liter and 5-liter tins

### CONREMA® Repair Tapes

thickness approx. 2 mm

Tape size:	30 x 10.000 mm
	50 x 10.000 mm
	70 x 10.000 mm
	100 x 10.000 mm
	150 x 10.000 mm
	220 x 10.000 mm
	300 x 10.000 mm
	350 x 10.000 mm

### CONREMA® Repair Tapes

with fabric layer, thickness approx. 4 mm

Tape size:	100 x 10.000 mm
	150 x 10.000 mm
	220 x 10.000 mm
	300 x 10.000 mm

### CONREMA® Repair Sheeting

Repair sheeting is supplied in rolls and does not have tapered edges.

#### with adhesive layer on one side

Sheeting thickness:	1,5 mm
	2,0 mm
	3,0 mm
	5,0 mm

#### with adhesive layer on both sides

Sheeting thickness:	1,5 mm
	3,0 mm

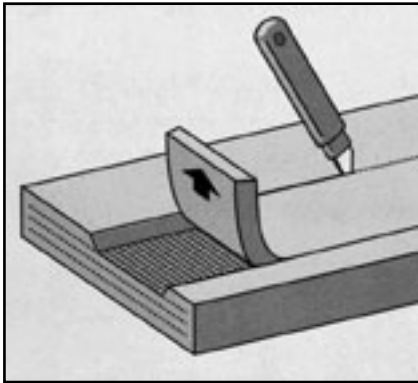
### CONREMA® Repair Fabric

EP fabric with adhesive layer on both sides

### CONREMA® Adhesive Layer

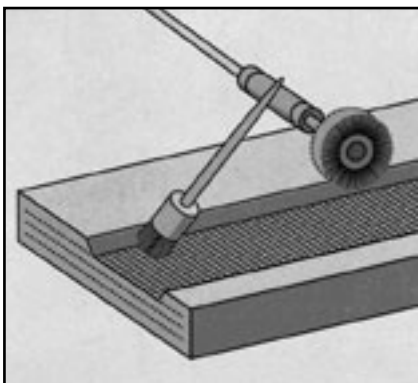
Thickness:	0,8 mm
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## Repairing wear and splits using CONREMA® Repair Tapes



Application: repairing wear and splits

- clean the damaged area of any material residue
- select a repair tape of suitable width and length
- place tape over the damaged area and mark tape outline to the left and right of the damaged area
- strip cover rubber from the damaged area or cut into it with a knife held at approx. 30° to the belt surface
- remove the remains of the cover from inside the damaged area
- dry the damaged area if necessary

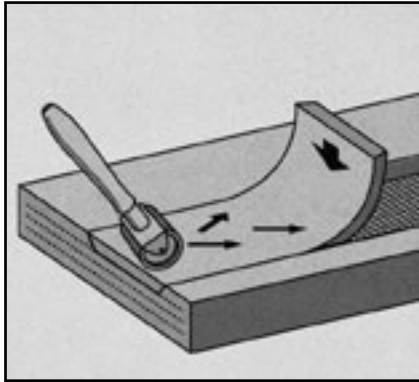


- slightly rough the cover edge and cut area using a rotating wire brush

### **Attention!**

Be careful not to damage the fabric or melt the rubber.

- remove dust *dry*
- activate CONTI SECUR® BFA with activator solution
- apply a coat of CONTI SECUR® BFA in and around the cut area, using a short-bristled brush, allow this first coat to dry completely
  - Drying time at room temperature (approx. 22° C - 25° C) is at least 30 min
- apply a second coat to the damaged area
- peel off the protective film from the adhesive layer
- put only one coat of CONTI SECUR® BFA onto the adhesive layer
  - Drying time: back of the hand test, max. 15 minutes

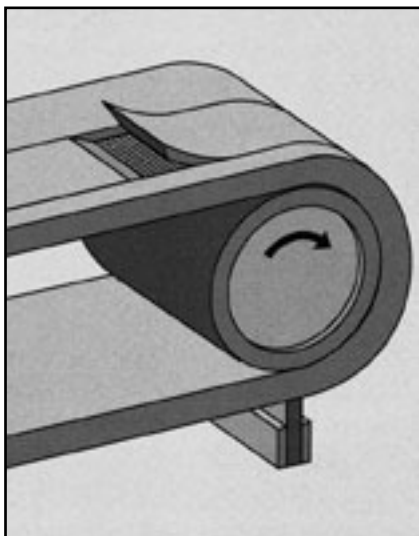


- hold the repair tape over the damaged area with the adhesive layer facing the belt
- apply one end of the tape, press it down firmly, and work gradually towards the other end
- if more than one tape is necessary, make sure that the start of every extra tape is covered by the end of the preceding tape
- press down firmly using a roller, working from the centre outwards; press out any air bubbles
- finally, roll the edge of the tape down firmly

When repairing long tears the belt can be advanced once the repair tapes have been applied.

**Attention!**

With thick covers, e.g. 6 mm, fill the damaged area first of all with CONREMA® sheeting with adhesive layer on both sides and then cover it with a repair tape.



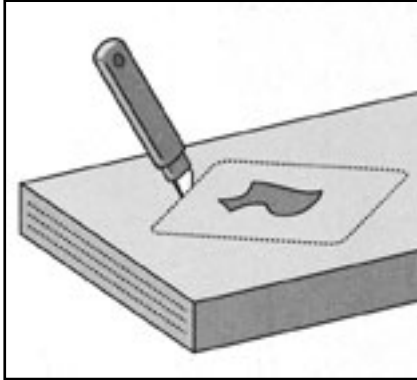
**Attention!**

Where the tapes are joined, the direction of taper has to be opposite to that of belt movement, so as to avoid any tendency for the scraper to "lift" the tape.



# Repairing cover damage using CONREMA® Repair Sheeting

For repairing damaged areas of different sizes and irregular shapes, as well as covers of different thickness

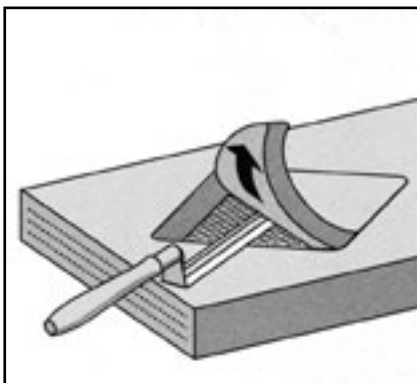


- clean the damaged area of any material residue
- mark the repair area to be cut out; a diamond shape is best.

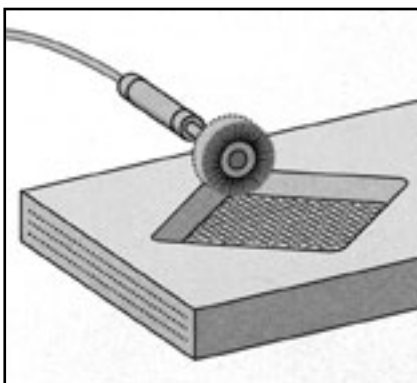
**Attention!**

The diamond must "point" in longitudinal direction.

- strip cover rubber from the damaged area or cut it with a knife held at approx. 30° to the belt surface



- raise the cover from the fabric using a ply separator or a blunt screwdriver
- pull off the cover with a pair of pliers
- dry the damaged area if necessary

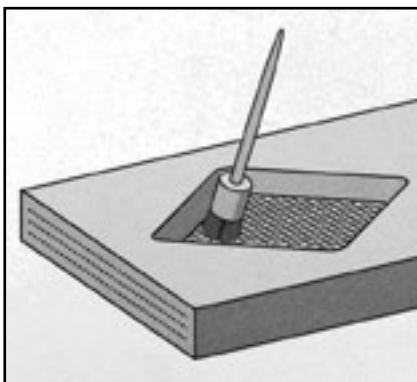


- rough up the cover edge and cut area, for example, with a rotating wire brush

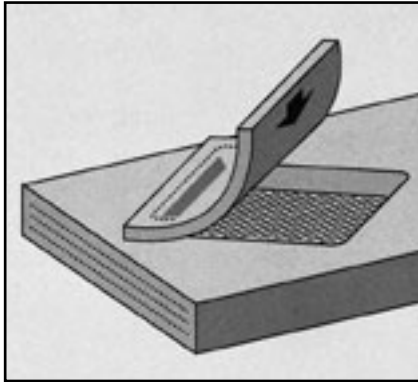
**Attention!**

Be careful not to damage the fabric or melt the rubber.

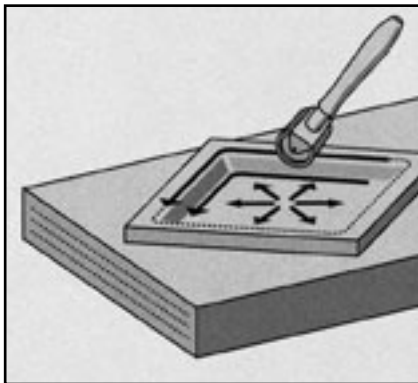
- remove dust *dry* measure the thickness of the removed piece of cover
- select repair sheeting which lies about 0.5 mm to 1 mm lower than the surface of the belt
- measure the area to be repaired
- cut a patch from the repair sheeting that is about 10 mm wider and longer than the repair area



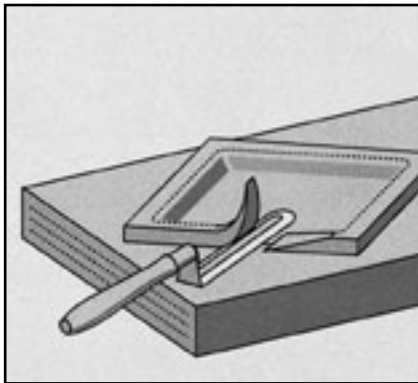
- activate CONTI SECUR® BFA contact adhesive with activator solution
- coat the cover edge and damaged area with the CONTI SECUR® BFA, using a short-bristled brush
- allow this first coat to dry completely;
  - Drying time at room temperature (approx. 22° C - 25° C) is at least 30 min
- apply a second coat to the damaged area
- peel off the protective film from the adhesive layer
- coat the adhesive layer once only with the CONTI SECUR® BFA
  - Drying time: back of the hand test, max. 15 minutes



– apply the patch to the damaged area with the adhesive layer downwards



– roll down firmly using a roller, working from the centre outwards; roll out any air bubbles  
– roll down the edge of the patch very carefully



– trim any edge protruding over the bevel cut with an offset knife  
– roll over the patch again with a roller including the edges

**Attention!**

If the material is not thick enough to fill in the damaged area, do so using repair sheeting with adhesive layer on both sides and then cover with repair sheeting with adhesive layer on one side.

# Repairing damage to the fabric using CONREMA® Repair Sheeting and CONREMA® Repair Fabric

**Note:**

- penetrations must be repaired quickly to prevent the fabric from tearing any further
- in transverse direction, the fabric tear must not exceed 25 % of the belt width (otherwise the belt could tear apart or tracking problems arise)
- if the damage is serious, you have to cut out the whole of the damaged section and replace it with a new piece of belt
- when repairing fabric damage, the cover and the individual fabric plies should be made into „steps“ about 30 mm long and wide
- the size of the repair area can be calculated from the number of plies and the step width

$$a = \text{number of plies} \times 30 \text{ mm}$$

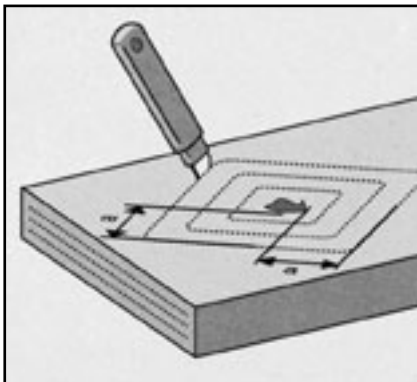
$$\text{width of repair area} = \text{width of damaged area} + 2 \times a$$

$$\text{length of repair area} = \text{length of damaged area} + 2 \times a$$

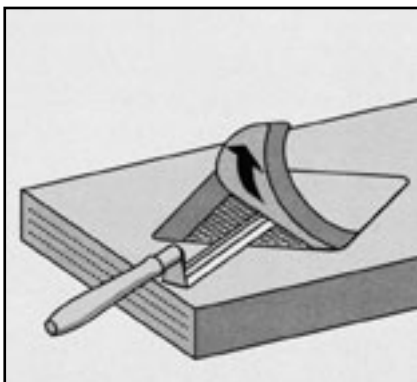
Shape of the repair area:

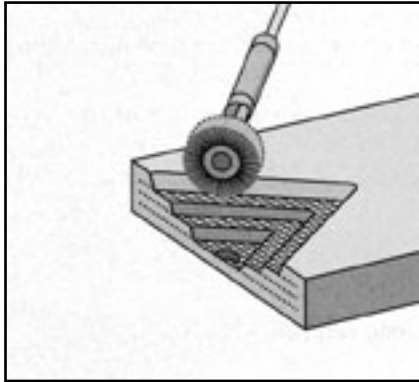
A diamond shape pointing towards the direction of belt travel.

- clean the damaged area of any material residue
- mark the area to be cut out



- strip cover rubber from the damaged area or cut into it with a knife held at approx. 30° to the belt surface
- cut rounded corners
- raise the cover from the fabric around the cut area using a ply separator or a blunt screwdriver
- pull off the cover with a pair of pliers
- where large areas are involved, cut the cover into strips before stripping
- mark the first step, 30 mm wide, on the exposed layer of fabric
- cut into the fabric layer with a ply knife
- force up the cut edge of the fabric ply with a ply lifter
- cut the fabric into longitudinal strips
- pull off the fabric strips with a pair of pliers
- repeat fabric stepping until all fabric plies have been stepped; only the bottom fabric ply with the tear remains intact
- dry the repair area if necessary



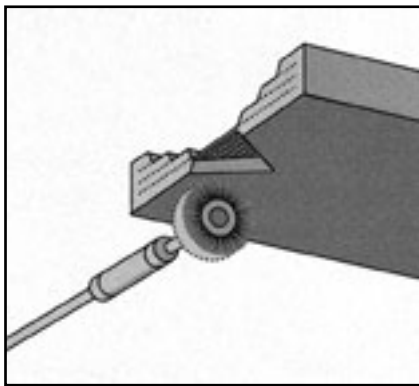


- rough up the cover edge and cut area, for example, with a rotating wire brush
- remove residual rubber on the fabric plies

**Attention!**

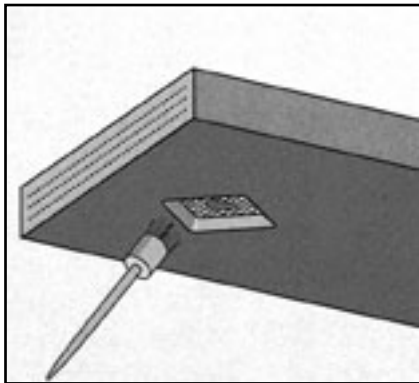
Be careful not to damage fabric or melt the rubber.

- remove dust *dry*
- either turn the belt over, advance it, or work on the bottom side of the belt

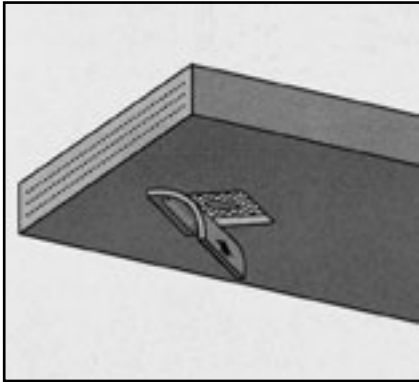


Underside of belt:

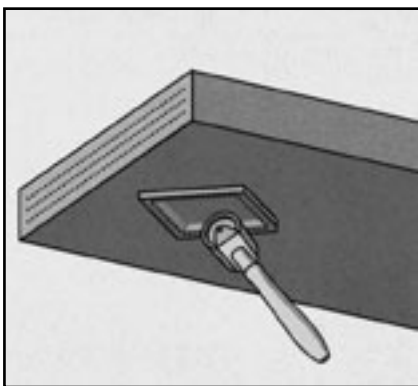
- follow the same procedure there, i.e cut a diamond shape in the cover and pull it out
- the fabric ply remains intact
- dry the damaged area if necessary
- rough the cover edge and cut area, for example, with a rotating wire brush
- remove dust *dry*
- if the fabric tear is badly frayed, trim the torn edge with scissors



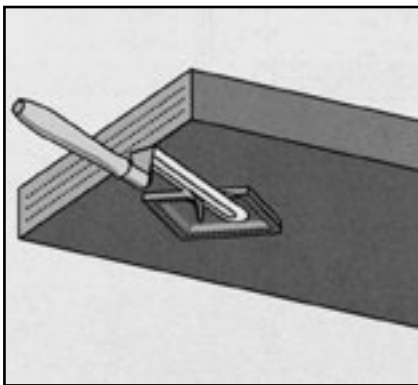
- activate CONTI SECUR® BFA with activator solution coat the repair area on the bottom side with the CONTI SECUR® BFA, using a short-bristled brush
- allow this first coat to dry completely;
  - Drying time at room temperature (approx 22° C - 25° C) is at least 30 min
- measure the thickness of the removed top cover
- select CONREMA® repair sheeting that will lie about 0.5 mm to 1 mm lower than the surface of the belt
- cut patch from the repair sheeting, about 10 mm -15 mm wider and longer than the prepared repair area
- apply a second coat to the damaged area
- peel off the protective film from the adhesive layer
- coat the adhesive layer once only with the CONTI SECUR® BFA
  - Drying time: back of the hand test, max. 15 minutes



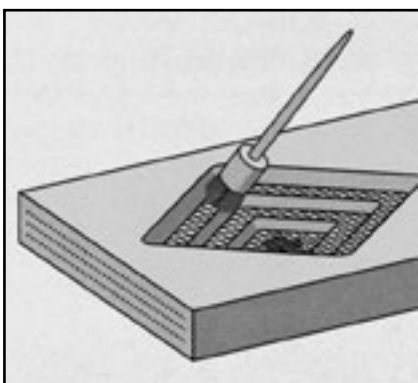
- apply the patch onto the repair area with the adhesive layer facing towards the belt



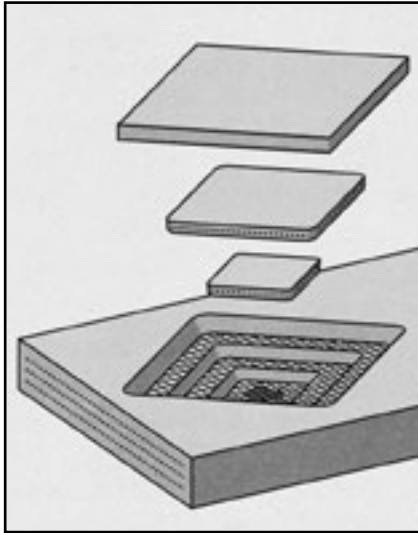
- press down using a roller, working from the centre outwards; press out any air bubbles



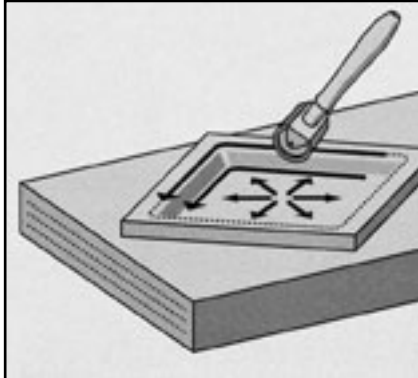
- trim any protruding patch edges with an offset knife
- turn the belt over again to repair the top cover



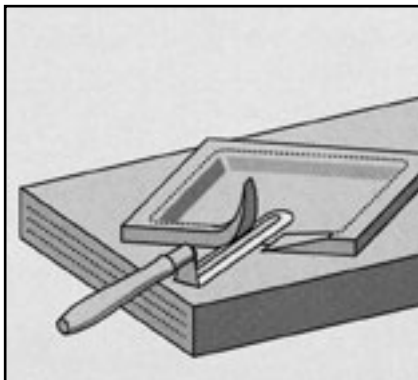
- Top side of belt:
- coat in and around the repair area with CONTI SECUR® BFA
  - allow this first coat to dry completely;
    - Drying time: back of the hand test, max. 15 minutes
  - fill the gap in the bottom fabric ply resulting from trimming the fabric tear with CONREMA® adhesive layer
  - press down the adhesive layer firmly using a roller



- cut to the required size a piece of CONREMA® repair fabric for each stepped area
- peel off the protective film from one side of the pre cut piece of repair fabric and coat this area with CONTI SECUR® BFA
  - Drying time: back of the hand test, max. 15 minutes
- place the piece of repair fabric on the bottom fabric ply of the repair area
- press the repair fabric down well using a roller
- after rolling, pull the protective film from the upper side of the repair fabric
- coat the next fabric step and the surface of the inserted piece of fabric with CONTI SECUR® BFA.
- peel off the protective film from one side of the next pre cut piece of repair fabric and coat with CONTI SECUR® BFA
  - Drying time: back of the hand test, max. 15 minutes
- position the repair fabric and roll down firmly
- repeat this procedure until all fabric steps have been filled in
- measure the thickness of the removed piece of cover
- choose repair sheeting that will lie about 0,5 mm to 1 mm lower than the surface of the belt
- cut a patch from the repair sheeting about 10 mm to 15 mm longer and wider than the repair area
- coat the last step of the repair area, fabric surface and adhesive layer with CONTI SECUR® BFA
  - Drying time: back of the hand test, max. 15 minutes
- unroll the patch over the repair area



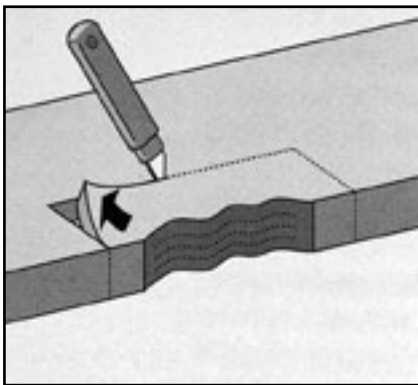
- press down the repair sheeting firmly with a roller, working from the centre outwards



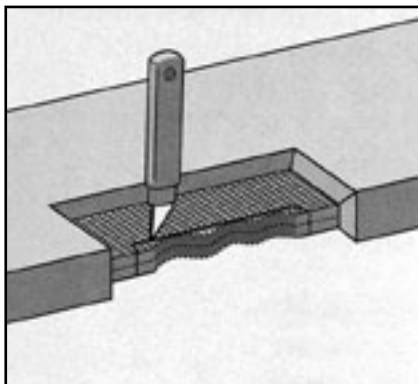
- trim excess material with an offset knife
- roll the edge of the sheet down firmly along the bevel cut

## Repairing damage to conveyor belt edges using CONREMA® Repair Tapes

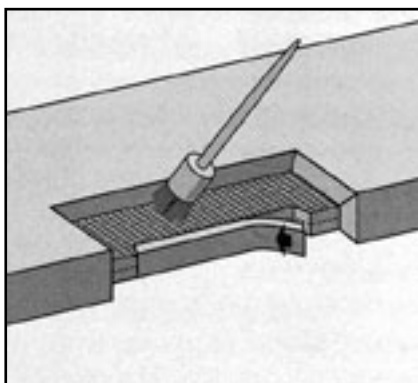
Edge repairs to today's fully synthetic fabrics for rot protection reasons are unnecessary, although such repairs do prevent the fabric fraying further and the rubber flaking. CONREMA® repair tape in widths of 100 mm or 150 mm, depending on the length of the damage, is ideal for this kind of repair work.



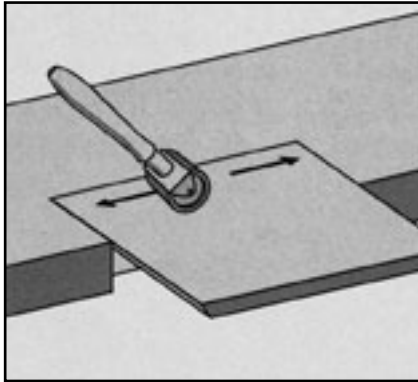
- clean the damaged area of any material residue
- select a CONREMA® repair tape of suitable size
- wrap the repair tape around the edge of the belt
- mark the position of the tape edges on the top and bottom covers
- strip cover rubber from the damaged area or cut into it with a knife held at approx. 30° to the belt surface
- raise the cover from the fabric around the cut area with a loosening tool or a blunt screwdriver
- pull off any remaining pieces of cover with a pair of pliers



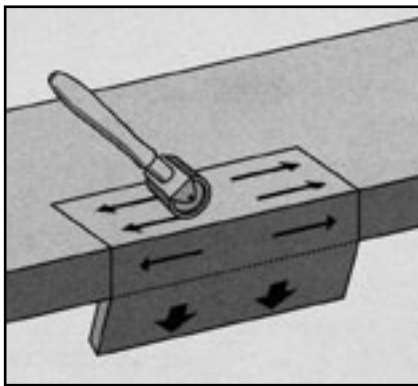
- trim off any frayed fabric ends
  - dry the damaged area if necessary
  - rough the cover edge and cut area, for example using a rotating wire brush
  - also remove any skim rubber remaining on the fabric core
- Attention!**  
Be careful not to damage the fabric or melt the rubber.
- remove dust *dry*



- activate CONTI SECUR® BFA contact adhesive with activator solution
- coat the repair area and cover edge on the top and bottom covers with the CONTI SECUR® BFA using a short-bristled brush
- allow this first coat to dry completely;
  - Drying time at room temperature (22° C - 25° C) is at least 30 minutes.
- if the edge of the fabric has been cut away, fill it in with narrow strips of CONREMA® adhesive layer or CONREMA® repair sheeting with adhesive layer on both sides; the width of the strips must be equal to the fabric core thickness
- coat each strip once with the CONTI SECUR® BFA and lay the strip flat against the edge of the fabric; press down firmly with a roller
- repeat this procedure until the edge has been restored to its original size
- coat the repair area again with the CONTI SECUR® BFA
- pull off the protective film from the tape's adhesive layer
- put only one coat of CONTI SECUR® BFA mixture onto the adhesive layer
  - Drying time: back of the hand test, max. 15 minutes



- as soon as the surface is tacky, apply the edge of one end of the CONREMA® repair tape to the cut made at an angle in the top cover
- roll the repair tape down firmly on the top cover using a roller



- gradually apply the whole length of the tape to the belt edge, keeping it tensioned
- pull the repair tape around the belt edge and right up to the cut made in the bottom cover; roll down firmly, pressing out any air bubbles
- roll the tapered edge of the tape down firmly against the bevel cut, using a roller

**Note:**

When joining a number of repair tapes, make sure that the end of one tape covers the „beginning“ of the following tape in belt-running direction, otherwise the belt scraper will damage the edge of the strip.



# Repairing edge tears using CONREMA® Adhesive Layer and CONREMA® Repair Sheetting

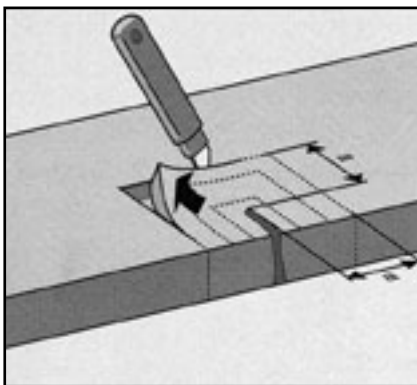
A torn belt edge is one of the most serious types of damage.

- the fabric tear must not exceed 25 % of the belt width (otherwise the belt could tear apart or tracking problems arise)
- if the damage is serious, you have to cut out the whole of the damaged section and replace it with a new piece of belt
- when repairing fabric damage, the cover and the individual fabric plies should be made into ‚steps‘ about 30 mm long and wide
- the size of the repair area can be calculated from the number of plies and the step width

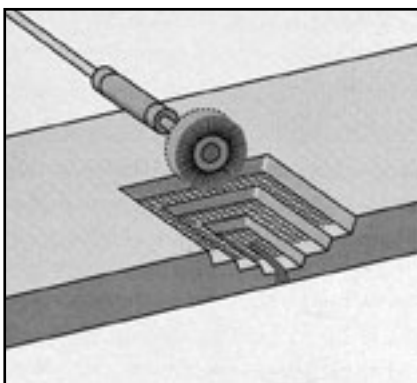
$$a = \text{number of plies} \times 30 \text{ mm}$$

$$\text{width of repair area} = \text{width of damaged area} + 2 \times a$$

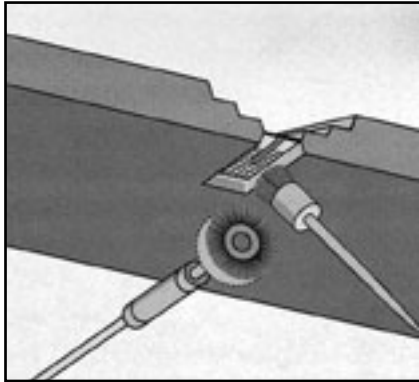
$$\text{length of repair area} = \text{length of damaged area} + 2 \times a$$



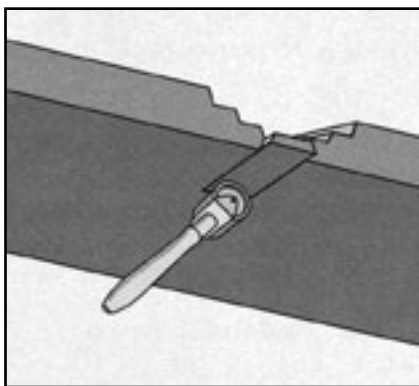
- clean the damaged area of any material residue and mark the area to be cut out
- strip cover rubber from the damaged area or cut into it with a knife held at approx. 30° to the belt surface
- raise the cover from the fabric around the cut area using a ply separator or a blunt screwdriver
- pull off the cover with a pair of pliers
- mark the first step, 30 mm wide, on the exposed layer of fabric
- cut into the fabric layer with a knife
- force up the cut edge of the fabric ply with a ply separator
- fill the repair area on the bottom cover with repair sheetting which should be approx. 0.5mm to 1 mm lower than the surface of the belt
- cut the fabric into longitudinal strips
- pull off the fabric strips with a pair of pliers



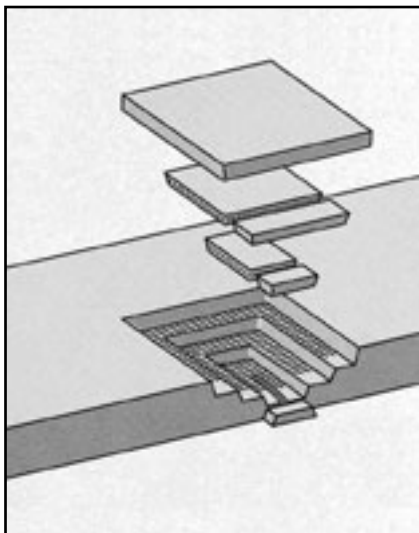
- repeat fabric stepping until all fabric plies have been stepped; only the bottom fabric ply with the tear remains intact
- cut rubber edge down to the level of the fabric plies
- dry the repair area if necessary
- rough up the cover edge and cut area, for example, with a rotating wire brush
- remove residual rubber on the fabric plies
- Attention!**  
Be careful not to damage plies or melt the rubber.
- remove dust dry



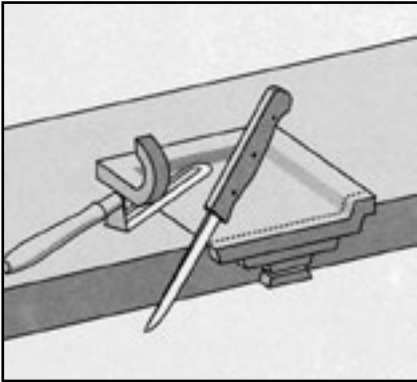
- work on the bottom side following the same procedure, i.e. cut the cover and pull it out
- dry the damaged area if necessary
- rough up the cover edge and cut area, for example, with a rotating wire brush
- remove dust *dry*
- using a short-bristled brush, coat the repair area on the top and bottom covers with the CONTI SECUR® BFA mixture
- fill in the repair area on the bottom cover with repair sheeting which will lie approx. 0.5 mm to 1 mm lower than the surface of the belt
- cut a slightly longer piece of repair sheeting so that it protrudes beyond the edge of the belt by about 10 mm
- coat the repair area with CONTI SECUR® BFA
  - Drying time: back of the hand test, max. 15 minutes



- once the surface is tacky, apply the piece of repair sheeting and roll it down firmly using a roller
- roll down the edge of the repair sheeting again firmly onto the slanted cut fill in the fabric tear with CONREMA® adhesive layer and roll down firmly



- cut a piece of CONREMA® repair fabric of suitable size for each ply; the repair fabric must not protrude further than the edge of the fabric core
- coat the stepped areas and the adhesive layer of the repair fabric with the CONTI SECUR® BFA
  - Drying time: back of the hand test, max. 15 minutes
- apply the piece of repair fabric and press down firmly with the roller
- cut a strip of CONREMA® repair sheeting per step for the belt edge (about 10 mm wider than the rubber edge); coat with the CONTI SECUR® BFA
  - Drying time: back of the hand test, max. 15 minutes
- apply the strips of CONREMA® repair sheeting and press down with the roller; the strip should protrude over the belt edge
- measure the remaining cover thickness at the top step of the repair area
- select CONREMA® repair sheeting that will lie about 0.5 mm to 1 mm lower than the surface of the belt
- cut CONREMA® repair sheeting so that it protrudes by about 10 mm to 15 mm over the belt edge
- remove the protective film from adhesive layer
- coat the repair area, the cover edge and the adhesive layer with the CONTI SECUR® BFA
  - Drying time: back of the hand test, max. 15 minutes
- apply the repair sheeting and press down firmly with the roller



- hold a ruler against the edge of the belt
- cut any protruding layers of repair sheeting so that they are in line with the belt edge
- trim any repair sheeting protruding over the bevel cut using an offset knife
- firmly roll down the edge of the repair sheeting and the built-up belt edge

[www.contitech.de/conveyorbelts](http://www.contitech.de/conveyorbelts)



#### Conveyor Belt Group

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The ContiTech division of the Continental Corporation is a development partner and original equipment supplier to numerous industries for high-quality functional parts, components and systems. With its know-how in rubber and plastics technology, ContiTech contributes significantly to industrial progress and mobility that is safe, comfortable and eco-friendly.

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