



# **3M™ Scotchkote™ System Application Guide**

## **High Performance Protection System For Conveyor Belt Repair**

### **SKE.67XRG - Issue 1**

Surface Preparation and Cleaning

Primer Application

**3M™ Scotchkote™ Urethane Elastomer Primer 075**

Repair Procedure

**3M™ Scotchkote™ Urethane Elastomer 80XRG 539**

## Surface Preparation

### Ripped or Torn Conveyor Belts

Surfaces should first be degreased using hot detergent or steam cleaning. Worn fabric or torn rubber should first be cut away. Splits and cuts should be undercut using a sharp knife. Where exposed fabric has become wet, it must be allowed to dry out. The complete area of damage should be abraded to produce a 'wooly finish'. This can be achieved by use of a rotary wire brush, or a special roughening tool. The entire area should then be thoroughly cleaned to remove all dust and abrasive residue.

For rips and tears longer than 15cm, or where the ultimate strength of the belt is questionable, it may be advisable to incorporate mechanical fasteners at approximately 8cm centre. These then ultimately become an integral part of the Scotchkote repair.

### Lap Joint Laminated Belts

The belt to be treated should be positioned on a flat working surface and clamped in place, belt ends should now be cut square with a sharp knife. The joint should be marked out using chalk. The overlap of the belt should be a minimum of 75% of the belt width and should be made in steps dependent upon the number of layers of reinforcement. For example, a 3 ply belt would require two steps, a 4 ply would require three steps etc. The width of each step should be equal and equally divided into the length of the joint overlap.

After marking out, a sharp knife should be used to carefully cut through the plies at each step. The plies are then removed by cutting horizontally between reinforcement layers at each step and easing up the delaminated edge with a suitable tool. The delaminated edge may then be gripped using a set of pliers or vice grips attached to a chain pulley and the plies are carefully stripped from the belt carcass.

After removal of the plies is complete, a rotary wire brush or roughening tool must be used to fluff up the exposed plies, belt edges and an area extending at least 8cm onto the belt surface.

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## Application of 3M™ Scotchkote™ Urethane Elastomer Primer 075

All areas to be repaired or resurfaced should be first primed with a special fast setting primer comprising of **Scotchkote Urethane Elastomer Primer 075** premixed with **3M™ Scotchkote™ Urethane Elastomer 60RG 537 Primer Catalyst**. The contents of the catalyst bottle should be added to the primer container immediately prior to use and the container should be shaken to ensure complete mixing is achieved.

The premixed **Scotchkote Urethane Elastomer Primer 075** and **Catalyst** should be applied using a soft bristled brush to give an even but low coating thickness, taking care to avoid any ponding.

The **Scotchkote Urethane Elastomer Primer 075** and **Catalyst** should be allowed a minimum of 10 minutes and a maximum of 1 hour at 20°C under dust free conditions before applying **3M™ Scotchkote™ Urethane Elastomer 80XRG 539**.

## Ripped or Torn Conveyor Belts

The primed surface must be completely dry, free from dust and solvent prior to the application of **3M™ Scotchkote™ Urethane Elastomer 80XRG 539**.

**Scotchkote Urethane Elastomer 80XRG 539** is a two component flexible repair compound, supplied as separate Part A (Base) and Part B (Activator) components which must be mixed together prior to use.

The Part B (Activator) component is supplied in a foil bag. Using scissors to cut off a corner, pour the contents into the Part A (Base) container and mix thoroughly to produce a smooth streak free material. Thorough mixing is extremely important, and once the material appears mixed, a further period of mixing should be carried out to ensure there is not unmixed material, normally allow 1 minute for mixing and 2 minutes for application. Once mixed the product should be used within 3 minutes at 20°C.

The **Scotchkote Urethane Elastomer 80XRG 539** should be applied over the prepared area, fully encapsulating any mechanical reinforcement used. Where belt reinforcement is worn away, **3M™ Scotchkote™ Reinforcement Tape 040** should be embedded into the **Scotchkote Urethane Elastomer 80XRG 539** product and completely encapsulated.

One or several layers of this reinforcement may be used where severe wear has occurred. Each coat should be applied after a minimum period of 30 minutes and within 6 hours at 20°C, these times will be extended at lower temperatures and reduced at higher temperatures. Note: if two coats are used within the overcoating window, full cross linking of layers will require an overnight cure or delamination can occur.

To achieve a perfectly smooth surface, stiff polyethylene sheeting can be pressed onto the uncured material. This should be removed when the product has completely cured and excess material removed with a sharp knife or grinder.

Holes in the belt may be filled with **Scotchkote Urethane Elastomer 80XRG 539** incorporating layers of **Scotchkote Reinforcement Tape 040**. If these holes are large or the belt strength questionable it is best to square off the damaged area with a sharp knife and peel back the surface rubber over the plies. Another piece of similar conveyor belt is then cut, stepped and bonded into place, essentially creating a four sided lapped joint.

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## Lap Joint Laminated Belts

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The prepared joint should be laid flat on the working surface and a polyethylene sheet inserted below the joint. The belt should be aligned and then clamped into position. The **Scotchkote Urethane Elastomer 80XRG 539** should then be applied to thoroughly wet out all mating surfaces. The two halves of the joint should then be brought together and wrapped in polyethylene sheeting. To ensure all air pockets are driven out, heavy steel plate should then be placed on top of the joint and clamped firmly until full cure of the repair is effected. Following the cure, excess material can be cut away using a sharp knife and the belt put back into service.

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## Notes

## Document References

3M™ Scotchkote™ Urethane Elastomer Primer 075      Product Technical Data Sheet

3M™ Scotchkote™ Urethane Elastomer 80XRG 539

3M™ Scotchkote™ Reinforcement Tape 040

## Handling & Safety Precautions

Read all Health Hazard, Precautionary, and First Aid statements found in the Material Safety Data Sheet, and/or product label prior to handling or use.

## Ordering Information/Customer Service

For ordering technical or product information, or a copy of the Material Safety Data Sheet, call:

Phone: 800/722-6721

Fax: 877/601-1305

Data sheets and MSDS can be found on the website.

## Shipping and Storage

Handling precautions for individual Scotchkote coatings are described on product data sheets and materials safety data sheets.

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