

Conveyor Belt Inspection

Comprehensive and reliable examination of conveyor belts for detection of cord fraying, broken cords, bonding defects, cavities, cord pull and voids in the belt material.



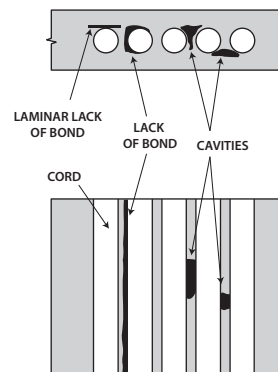
Radiographic film positioned under conveyor belt



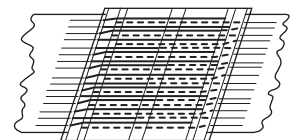
Conveyor belts in remote locations demand accurate inspection to maintain production levels

Features

- ⊕ Actual size
- ⊕ X-radiographic film or fluoroscopy
- ⊕ Carried out in-situ
- ⊕ Reveals a wide range of defects
- ⊕ Full reporting on belt condition
- ⊕ No preparation of belt surface needed
- ⊕ Reduces risk of catastrophic failure.



Sectional view of splice showing typical rubber discontinuities

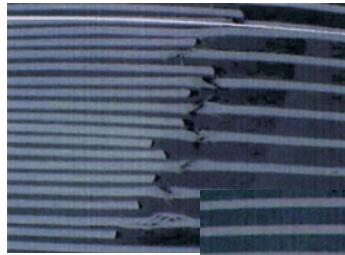


Typical cord splice layout

Rapid and effective belt inspection

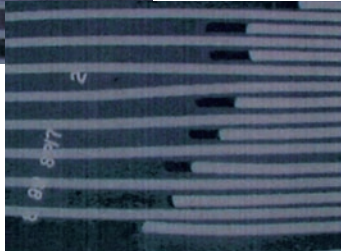
Applus RTD has been involved in the testing of conveyor belts in Australia for many years, servicing some of the major resource companies. More recently **Applus RTD** has been awarded contracts to inspect conveyor belt systems in Papua New Guinea and Chile.

Radiographic inspection of conveyor belts can reveal defects such as fraying of the cords, lack of bonding between the cords and the rubber belt material, broken cords, and cavities due to cord pull and voids within the belt material. It is also a useful tool in determining the splice cord arrangements that exist within a belt.



Broken cords in splice

Cord end pull in splice



X-Radiography Film

When conducting an inspection using radiographic film the suspect splice section is positioned at the X-ray station. The X-ray source is positioned at a specific distance above the conveyor belt dependant on the type of equipment being used.

The film is then located under the belt, covering the splice or area to be inspected. After exposure, the film is processed and an assessment made of the radiographic image.

A full report is then prepared and forwarded to the client.



Crane positioning X-ray equipment into position

Fluoroscopic Inspection

This technique was developed to service the requirements of a remotely located resource company. The task was to identify major discontinuities in a very high vertical lift belt which required 100% inspection to avert any catastrophic belt failure.

Time was of the essence, as the belt could only be shut down for a short time due to production requirements.



Fluoroscopic inspection setup

With fluoroscopic inspection, the X-ray source is positioned above or below the belt, while in place of the film on the underside of the belt an arrangement comprising fluoroscopic intensifying screens and a video tape recording device is utilised.

The belt is then run at inching speed and the resultant image recorded on videotape. The degree of sensitivity is not as fine as the film method due to the movement of the belt. It is, however, sufficiently precise to identify broken cords, tears in the belt and splice patterns.