

# Diagnosis through and through

Steel-cord conveyor belts



# The safety inside

Steel-cord conveyor belts are main arteries in the transportation of bulk materials and are also used for manriding. Therefore, they must meet high operational safety and reliability standards. They are conveying systems in continuous operation and are subject to considerable stress.

coverpage: surface coal deposit



right: conveyor hoisting Prosper-Haniel coal mine

Impacting materials, damaged or worn cover plates and material fatigue cause damage and corrosion to the interior steel cords. Visual inspection provides information regarding the state of the cover but less information about the steel cords inside. The non-destructive magneto-inductive method reveals detailed information about cord damage. This method provides information on the following:

- Damage to steel cords, i.e. strand and cord rupture, corrosion
  - Irregularities in cord pitch and splice structure
  - Other irregularities
- Extremely experienced in the evaluation and assessment of measurement results, the accredited DMT Laboratory for Non-destructive and Destructive Testing -Rope Testing Centre- provides you with a comprehensive damage related state analysis and inspection report:
- Damage / Irregularities
    - Belt length (belt section):
      - Size and position on belt in reference to belt width and distance to preceding splice
    - Splice area:
      - Size and position on belt in reference to belt width and splice section
  - Pre-evaluation on-site directly after measurement
  - Description of damage
  - Assessment of operational safety

Testing at conveyance speed



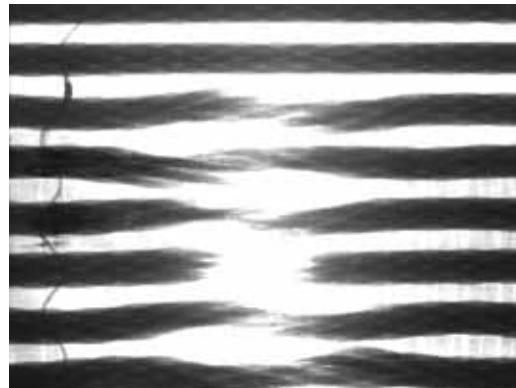
- Recommendation for test cycles (recurrent tests) to examine the development of damage and to determine remaining lifetime
- Presentation of results in an operator friendly working paper (overview in chart form / belt chart)
- Inspection report (testing, assessment, recommendation)
- Damage can be located by your personnel (a prolonged length of time after testing) without opening the covers by the stray-field examination method

Our non-destructive magneto-inductive conveyor-belt test helps you to avoid stoppages and accidents caused by undetected damages. The early damage analysis of the steel cords inside a belt conveyor enables you to monitor your conveying plant and to react in time. Any necessary repair and maintenance work can be planned in advance regarding time and economic considerations.

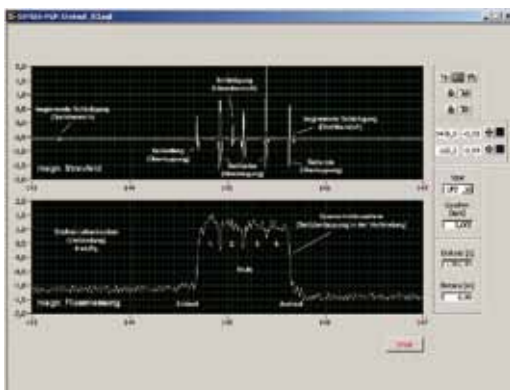
The conveyor belt advances your product.  
We advance the safety of your equipment.

### Our testing range:

- Testing on all types of steel-cord conveyor belts
- Testing at conveyance speed
- No loss of production: Test equipment on bottom strand, product transport on top strand
- Accredited explosion-proof test equipment
- Testing on special forms and types (i.e. pipe conveyor, lifting belts, roller belts)
- Cover thickness (abrasion) measurement (on demand)



Steel-cord damage (x-ray)



Measurement data evaluation

## Certification

### Accredited by the DAP (Deutsches Akkreditierungssystem Prüfwesen GmbH)

- DMT GmbH, DMT-Laboratory for Non-destructive and Destructive Testing -Rope Testing Centre-, Bochum
- For manual non-destructive testing (UT, MT, PT, VT, magneto-inductive testing) and mechanical testing of metallic and non-metallic materials

### Accredited by GLC (Germanischer Lloyd Certification GmbH)

- DMT GmbH, Essen
- Quality management system for consulting, exploration, raw materials, geo-engineering, drafting of expert reports, research & development, testing & certification and training complies with DIN EN 9001:2000

### Accredited by Lloyd's Register

- DMT GmbH, Mining Service, Bochum
- Recognised proving establishment for anchoring and mooring systems

DMT GmbH & Co. KG

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