



The TRUscan testing device enables wire break detection for stranded ropes up to a diameter of 64 mm.

Transparency Thanks to the New MI Testing Device TRUscan

Track and haulage ropes are among the most important components in ropeways, as their reliability is crucial for the safety and availability of the entire system. FATZER has now developed innovative MI testing equipment that can precisely predict the replacement state of the rope using a combination of non-contact length counting and wire break detection.

In addition to its top-quality stranded ropes and fully locked carrying ropes, FATZER, the global market leader in the production of ropeway ropes based in Romanshorn, Switzerland, is also known for its customer-focused range of services such as the splicing, care, maintenance, and servicing of proprietary and third-party ropes.

Working in collaboration with the renowned and globally recognized Institute of Mechanical Handling and Logistics of the University of Stuttgart, or IFT for short, the specialists from FATZER are adding to their range of services with the TRUscan, a piece of

permanently installed, non-contact rope testing equipment that detects wire breaks and rope travel distance in meters fully automatically. The data measured by this device is easy to access remotely via a web-based customer portal, making on-site acceptance by MI experts or test institutes a thing of the past.

The TRUscan testing device works based on the electromagnetic measuring principle: a test coil records the magnetic stray field of the rope, allowing an insight into the inner workings of the running rope.

Wire breaks are detected with millimeter precision and are automatically output in a list of damaged areas. This function was proved on FATZER's company rope test cableway by opening the test rope and comparing the measured results with the real, visually detected wire breaks in a long-term test. This test went from February 2015 to the start of 2016 until the replacement state of the 6-strand hoist rope was exceeded. At the same time, the weather-resistance and the accuracy of measurements in different climatic conditions, such as in severe

humidity and cold, were also successfully tested. The housing of the testing equipment meets the IP64 standard, meaning that the equipment can also be used in extreme cold or salty and humid air, such as in ropeways by the sea, for example.

A measurement can be triggered manually or remotely by the ropeway operator or a testing institute, but can also be programmed to take place at pre-defined intervals. During this measurement, the rope travel distance in meters, as well as the positions and

number of wire breaks is recorded in an XML file and stored on a central server via the Internet or wirelessly using 3G. An algorithm programmed specially for this application converts all data measured into an easy-to-understand diagram which is used to determine the wire break development and the approximate replacement state of the rope. This allows repair work such as splice renovation work to be predicted with precision, thus minimizing ropeway downtimes.

www.fatzer.com

Customer benefits

- Non-contact electromagnetic test with rope circulation measurement
- Completely automated measurement and evaluation of data including provision for the customer
- With IP64 protection for outdoor use in any climate
- Working life prognosis according to country discard criteria



The MI device TRUscan was proved in a long term test on FATZER's company rope test cableway