

19th February 2021

Wire Rope Condition Assessment - Magnetic Rope Testing

Steel wire ropes, although a safety critical part of many lifting systems, are regarded as consumable items and their load bearing capacity deteriorates with usage. In order to establish the current condition of a wire rope and assess its ability to safely remain in service, a periodic thorough examination by a "competent person" is required by law. The periodic thorough examination should be carried out in accordance with a recognised standard relating to the end use or working application of the wire ropes. There are a number of International Standards relating to the inspection and discard of wire ropes and in order to follow their requirements, Magnetic Rope Testing (MRT) is required. As many wire ropes deteriorate from the inside, MRT is the only practical means of checking their integrity.

We have been involved in the inspection of steel wire ropes for over 40 years both at Bridon International Ltd and now at Tensology Ltd. In order to properly inspect a wire rope and to comply with the requirements of the standards, we started using MRT to assist with our rope inspections and thorough examinations approximately 15 years ago. During this time, MRT has enabled us to identify and locate hundreds of defects which would not have otherwise been found. Without MRT, a number of wire ropes would have been allowed to continue in service when they posed a safety risk.

Establishing the condition of a rope and deciding upon whether it is safe to remain in service not only relies upon the knowledge and experience of the person carrying out the inspection but also relies upon the performance of the MRT equipment being used. There are a number of different manufacturers producing MRT equipment and the ability of the equipment to reliably detect rope defects, along with ease of use are key to a successful outcome. Prior to purchasing our MRT equipment we carried out a number of trials and found the Intros MRT equipment from Intron Plus offered the best results.

In our opinion, MRT is an essential process for establishing whether a wire rope is safe to remain in service, when used by a competent person operating verified equipment.

Barrie Mordue



Managing Director
Tensology Ltd.