

Cable & Pipe Pull Out Force

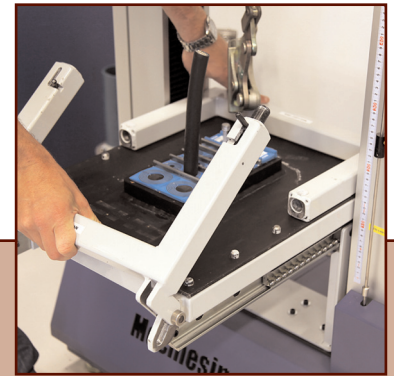
Specification

Roxtec is a Swedish based world leading provider of **flexible cable and pipe seals**. The company offers an adaptable sealing solution, known as the Multidiameter™, which is ideal for any opening, where cables and pipes pass through, regardless of size. It is based on sealing modules with removable layers, allowing for a perfect seal.

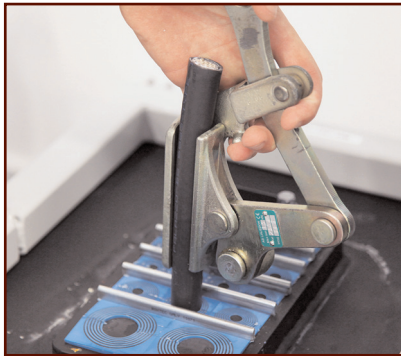
Roxtec wanted to guarantee the resistance against pull-out force of their sealing system. An important attribute of the test was to measure the **retention force versus length and time**, and enable a reduction in the overall time to perform each test.



Using Emperor™ enables visual observation, recording, interrogation and reporting



Special test fixture secured to base of twin-column test system, securely locks sample into position



Cable, pre-joined to Roxtec sealing system, being prepared for test application

Solution

Mecmesin's 50-i high capacity computer-controlled test system provided the ideal solution for this complex test. As the retention test required a length of cable or pipe pre-joined to the Roxtec sealing system, Mecmesin's Distributor, in Sweden (CA Mätssystem AB), designed and produced a special test fixture, which could accommodate different test frame sizes and various thicknesses of test material.

The fixture consists of a self-adjusting load cell trolley, attached to the crosshead, upon which a tension grip is fixed for natural alignment during testing. The test frame, fixed to the system's base, is also self-adjustable and includes a bottom frame with locators, for quick mounting of test samples. An interlocking frame secures the sample, automatically adjusting to suit the material's thickness. The entire fixture is then able to adjust horizontally, across the test plate, and vertically, in-line with the load cell. A heavy-duty tension grip applies a pull-force to the cable, with all test data recorded and shown graphically on a PC, via Emperor™ software. The inclusion of Emperor™ offers the company detailed test information, data interrogation and reporting options, which is used for further research and development, as well as, historical traceability.

System

- MultiTest 50-i - computer-controlled test frame, rated to 50kN
- ILC-P 50kN
- Special test fixture

Other Solutions

- Railcar spring testing
- Solenoid testing
- Wall-mounted air freshener load test
- Euro coins extraction test

“ We have made pull-out tests for many years, but with our new equipment, we get the result much quicker and with better accuracy. We can rapidly prepare and perform advanced tests and present the result in a more precise way for both customers and our colleagues, within research and development.

The new equipment enables studies of how much force is needed to make a cable or pipe start moving within a seal. The test fixture was developed at CA Mätssystem AB (Mecmesin's distributor) in Sweden, especially for Roxtec products, in order to enable a thorough testing of all existing Roxtec solutions. All results are stored in a database providing extended knowledge for future product development, as well as, useful information for customers and sales people.

Patrik Cederholm, Tests & Certificates Engineer, Roxtec International AB

engineering industry

