

Application example

Aluminium cables with multiple wires on a Cu eyelet terminal

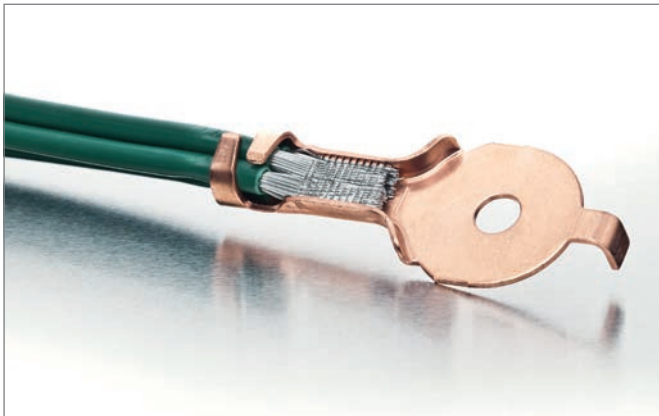
PLASTIC WELDING

METAL WELDING

CUTTING

CLEANING

SCREENING



Task

The terminal is used to attach a vehicle's earthing connections to certain points on the running gear. Side terminations are used for bringing the vehicle's individual earthing connections together and welding them. The terminal's cord grip then has to be crimped at a very particular height. In the past, aluminium used to cause problems by sticking to the tools though this issue has now been solved.

Solution

This application was solved using an MPX (3.6 kW, 20 kHz) universal welding system with a special device for ensuring repeatability in the process. The welding system logs the location of the terminal with a high degree of precision in order to make sure the cable is fed into exactly the right place. Using an exclusive, fixed oscillator helps to create a smooth weld – a key factor when welding different materials.

Configuration advantages

The MPX universal welding system allows you to monitor quality using a built-in load cell that collects data. Thanks to the rigidity of the fixed oscillator (which eliminates almost all bending during the welding process) and the controlled application of the ultrasonic oscillations, the aluminium no longer sticks to the tools. The holding system balances out any differences in perforated terminals and the adjustable crimping tool can be adapted to various types and thicknesses of insulation. The holder is designed so that a wide array of eyelet terminals and cable configurations can be welded onto the same system.



The application was produced on a linear 3.6 kW MPX ultrasonic welding system with suitable special equipment.