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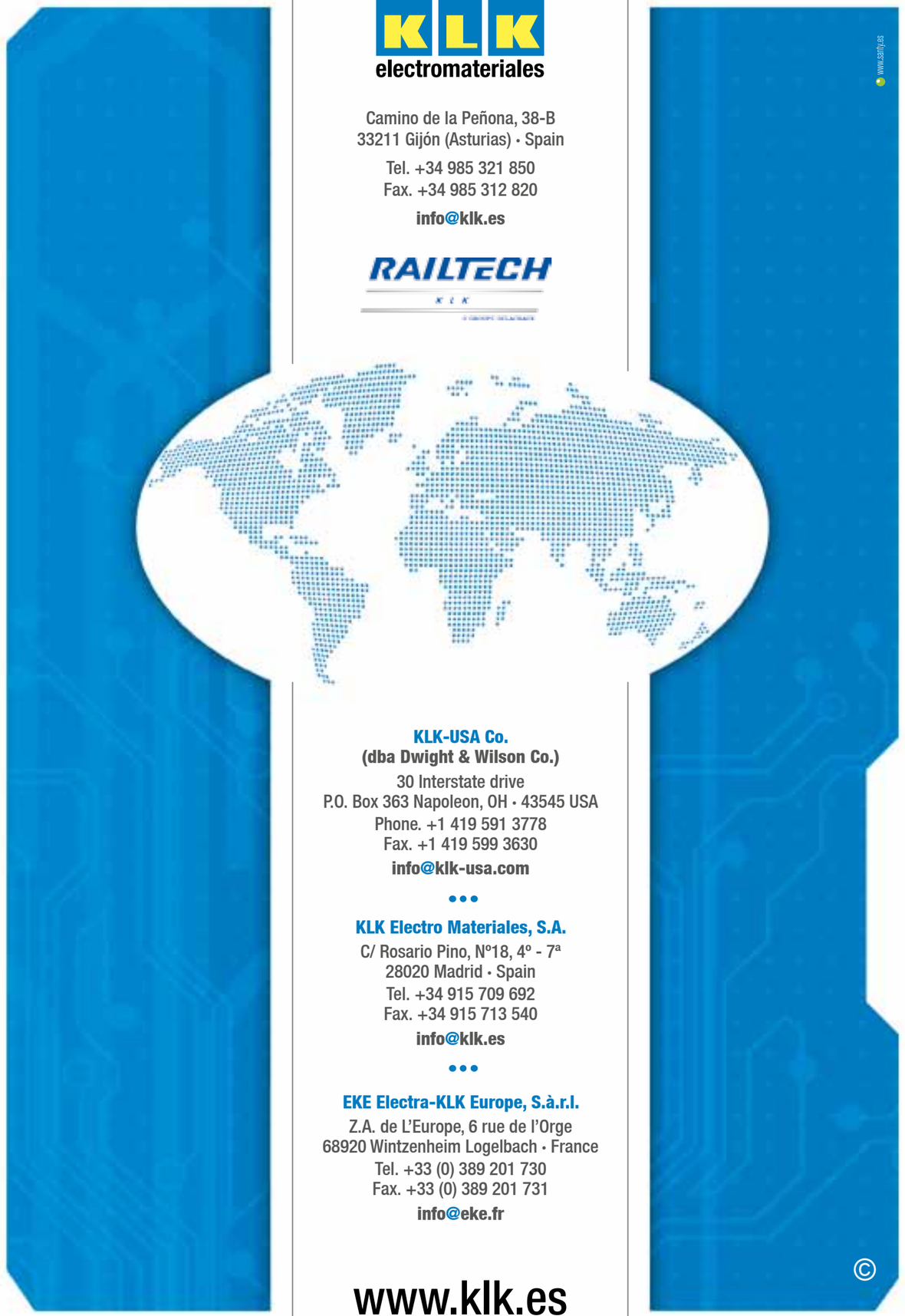

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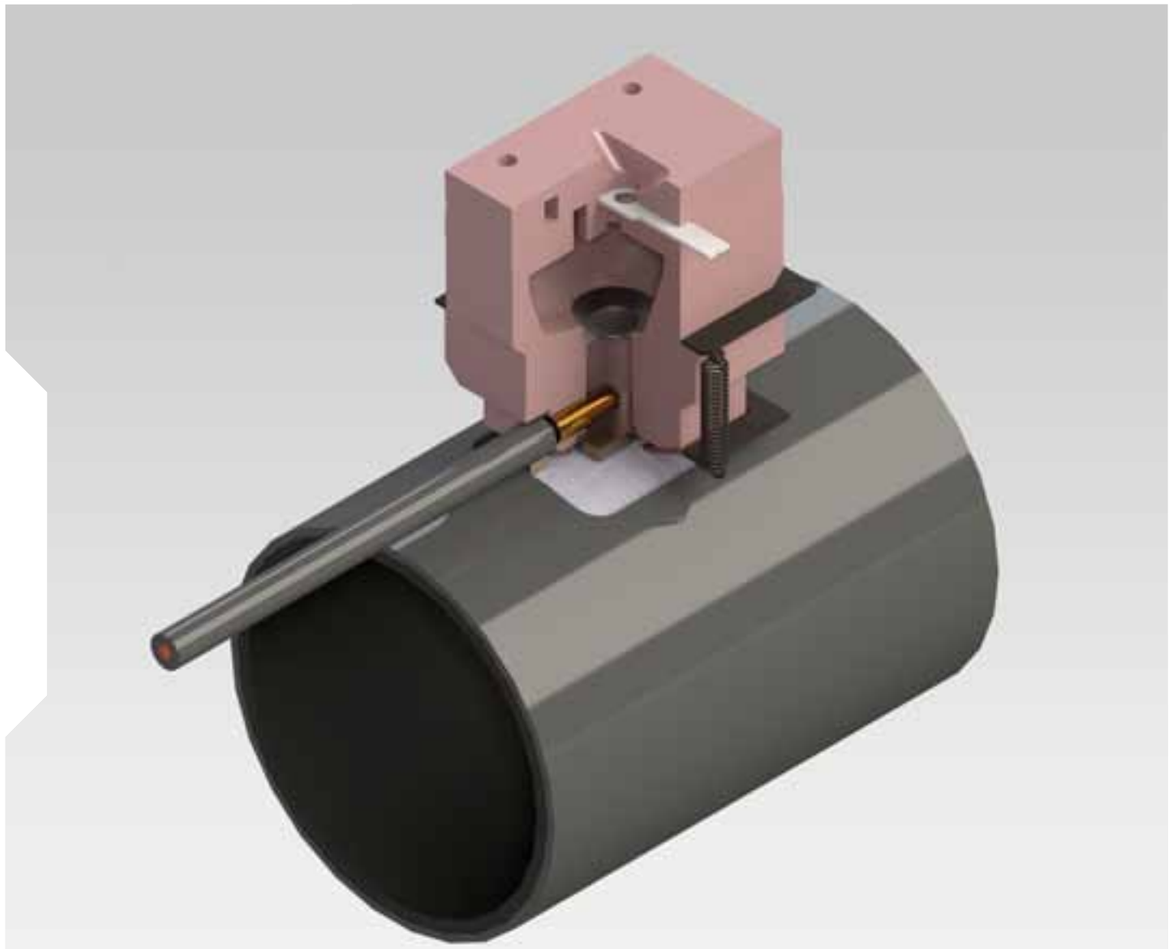
KLK weld®

WELDING PROCEDURE
ELPA–PIPE

Welding of electric copper cable to steel pipe



The ELPA-Pipe KLK-weld procedure is the best solution for making the electrical connections of copper cable to steel pipe in order to give cathodic protection to the pipe, as the resulting weld has a low electrical resistivity and a high mechanical strength in the connection. This procedure does not change the structure of the steel pipe as the temperature never exceeds 450 ºC.

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WELDING PROCEDURE **ELPA–PIPE**

The **ELPA-Pipe KLK-weld** procedure combines aluminothermic welding and braze– welding processes in which the latter partially uses the heat produced by the former. A ferritic steel plate is placed between the copper conductor and the pipe absorbing the thermal shock of the aluminothermic molten metal. As a result of this, the plate will be welded to the cable's end. A tin–silver alloy on the pipe side of this plate makes the pipe/plate joint possible through the combination of the heat that melts this alloy and the strength of the device that pushes the plate to the pipe during the solidification process. The result is a fault free braze–weld

The procedure has two versions:

- The **first version** uses one-shot moulds and reusable fixing tools.
- The **second version** consists of one-shot moulds mounted on non-reusable fixing tools.

For both options, there is no need to completely unearth the pipes because the fixing devices do not encompass them. To make the welds, it is sufficient to uncover the top of the pipe.

Also, the same kit may be used with any size of pipe (greater than a minimum). It is also possible to supply kits that can be used with different sections of cable. The most common ones go from 10 mm^2 to 70mm^2.

As an option, the LsVIP (**Low smoke Versatile Ignition Procedure**) may be used. This allows safe distance to be kept during welding.

THE **ELPA–PIPE KLK–WELD KIT** INCLUDES THE FOLLOWING PARTS:

- (a) Ceramic mould with a steel plate, sleeve for cable entrance, metal disc to seal the crucible draining hole, sealing joints, lid with fuse for the remote starting and, depending on the above mentioned version, a fixing device.
- (b) Cartridge containing the welding and the ignition powder.
- (c) Flux portion.
- (d) Flare to ignite the powder.
- (e) Additional sleeves to be used with other cable sections (as an option).
- (f) User's guide.

EASY AND **CONVENIENT** USE