electromateriales

Camino de la Peñona, 38-B
33211 Gijón (Asturias) · Spain
Tel. +34 985 321 850
Fax. +34 985 312 820
info@klk.es

RAILTECH
K L K



**KLK-USA Co.**
**(dba Dwight & Wilson Co.)**
30 Interstate drive
P.O. Box 363 Napoleon, OH · 43545 USA
Phone. +1 419 591 3778
Fax. +1 419 599 3630
info@klk-usa.com

•••

**KLK Electro Materiales, S.A.**
C/ Rosario Pino, Nº18, 4º - 7ª
28020 Madrid · Spain
Tel. +34 915 709 692
Fax. +34 915 713 540
info@klk.es

•••

**EKE Electra-KLK Europe, S.à.r.l.**
Z.A. de L'Europe, 6 rue de l'Orge
68920 Wintzenheim Logelbach · France
Tel. +33 (0) 389 201 730
Fax. +33 (0) 389 201 731
info@eke.fr



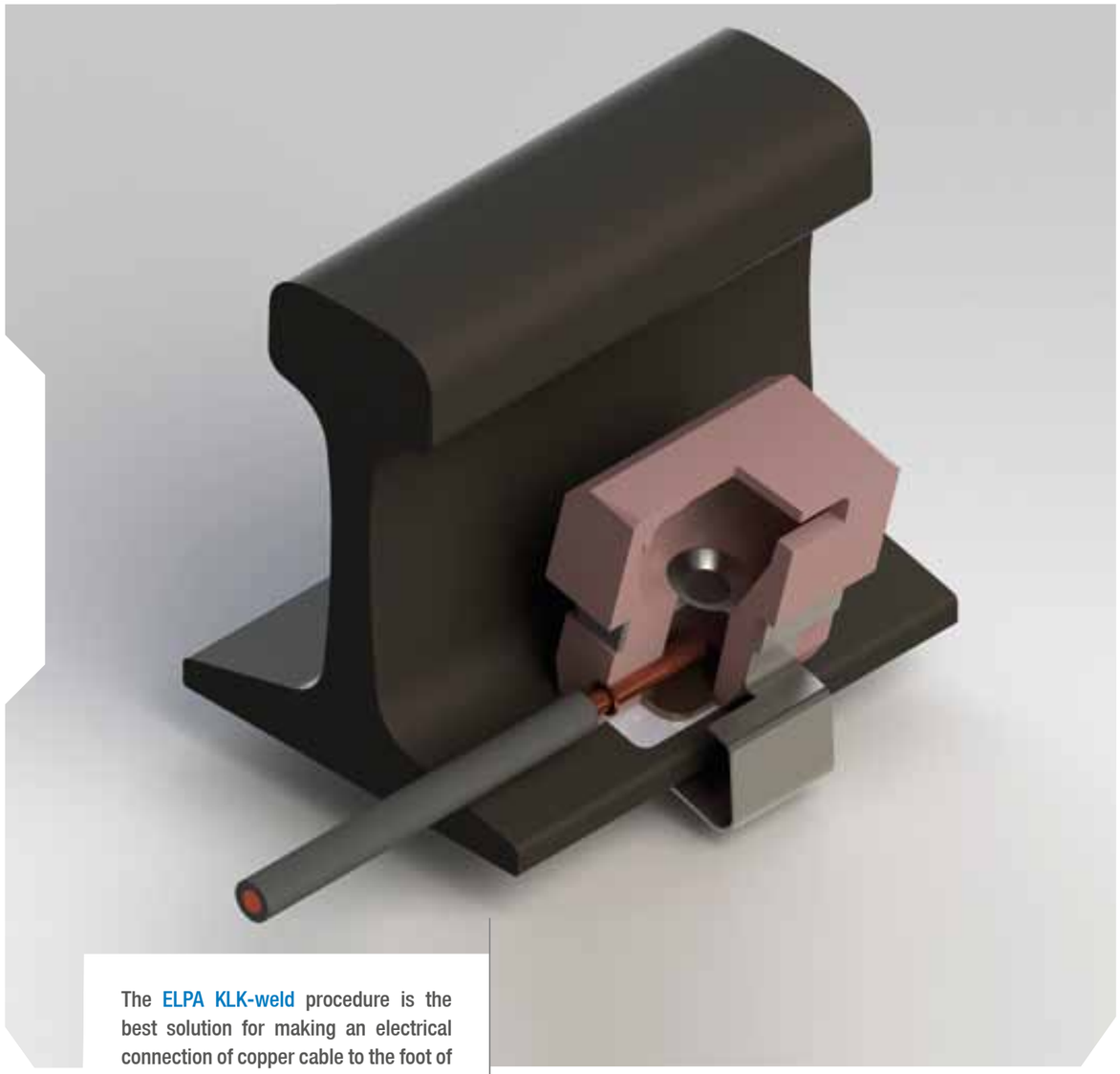

www.klk.es



KLK weld®

# WELDING PROCEDURE
# ELPA

Welding procedure for electrical connections of copper cable to the foot of the rail



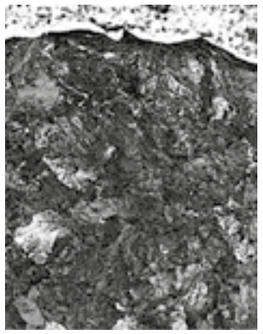
The ELPA KLK-weld procedure is the best solution for making an electrical connection of copper cable to the foot of the rail, since a low electrical resistivity and a high mechanical strength are achieved in the connection without affecting the rail steel, because its temperature never exceeds 500ºC.

RAILTECH
K L K
© GROUPE DELACHAUX

KLK weld®

# WELDING PROCEDURE ELPA

The **ELPA KLK-weld** procedure combines aluminothermic welding and braze welding processes in which the latter takes advantage of the heat produced in the former. A ferritic steel plate is placed between the copper cable and the foot of the rail so the thermal shock of the aluminothermic molten metal is absorbed by it, and the copper cable is welded to the plate. Since the plate incorporates, on the side in contact with the rail, a tin–silver alloy, the final joint of the plate to the rail is made as a result of the combination of the heat that melts this alloy and the force of a spring that pushes the plate against the rail (a force that gives a defect free braze weld).



A micrographic study of the braze weld of the plate to the rail shows that the steel structure in the rail remains unchanged, totally pearlitic and with no cracks.

## USAGE SIMPLE ET FACILE

1. Clean and grind the rail.

2. Remove any traces of grease or moisture.

3. Apply the flux portion to the prepared area.

4. Put the mould in place.

5. Insert the cable into the mould to the stop.

6. Pour the welding powder into the mould and ignite it.

7. Wait for solidification, break the mould and clean.

8. Finished weld.

●●● THE **ELPA KLK–WELD** KITS COME IN WATERPROOF BLISTER-PACKS THAT INCLUDE THE FOLLOWING PARTS:

- (a) Ceramic mould with a steel plate, sleeve for cable entrance, metal disc to seal the crucible draining hole, mould lid and spring clamp.
- (b) Cartridge containing the welding and the ignition powder.
- (c) Flux portion.
- (d) Flare to ignite the welding powder.
- (e) User's guide.

**The ELPA KLK–weld kits are manufactured for copper cables ranging from 35 mm² to 240 mm² and can be used with most rail profiles: AREA, BS, UIC, U, S, RN, etc.**