



Safely connecting the world ...

A long-exposure photograph of a train at night. The train is moving from left to right, creating bright, horizontal light trails that stretch across the frame. The background shows a dark sky with some distant lights and a snow-covered ground. The train tracks are visible in the foreground, leading towards the horizon.

WWW.SAFETRACK.SE
RAIL PINBRAZING

SAFETRACK

A reliable and experienced partner when it comes to connecting cables

- The company was founded in Sweden 1988
- Supplies cable bonding systems in over 50 countries worldwide
- Manufacture and deliver more than 1,5 Million Cable Connections every year
- ISO 9001:2008 Certified



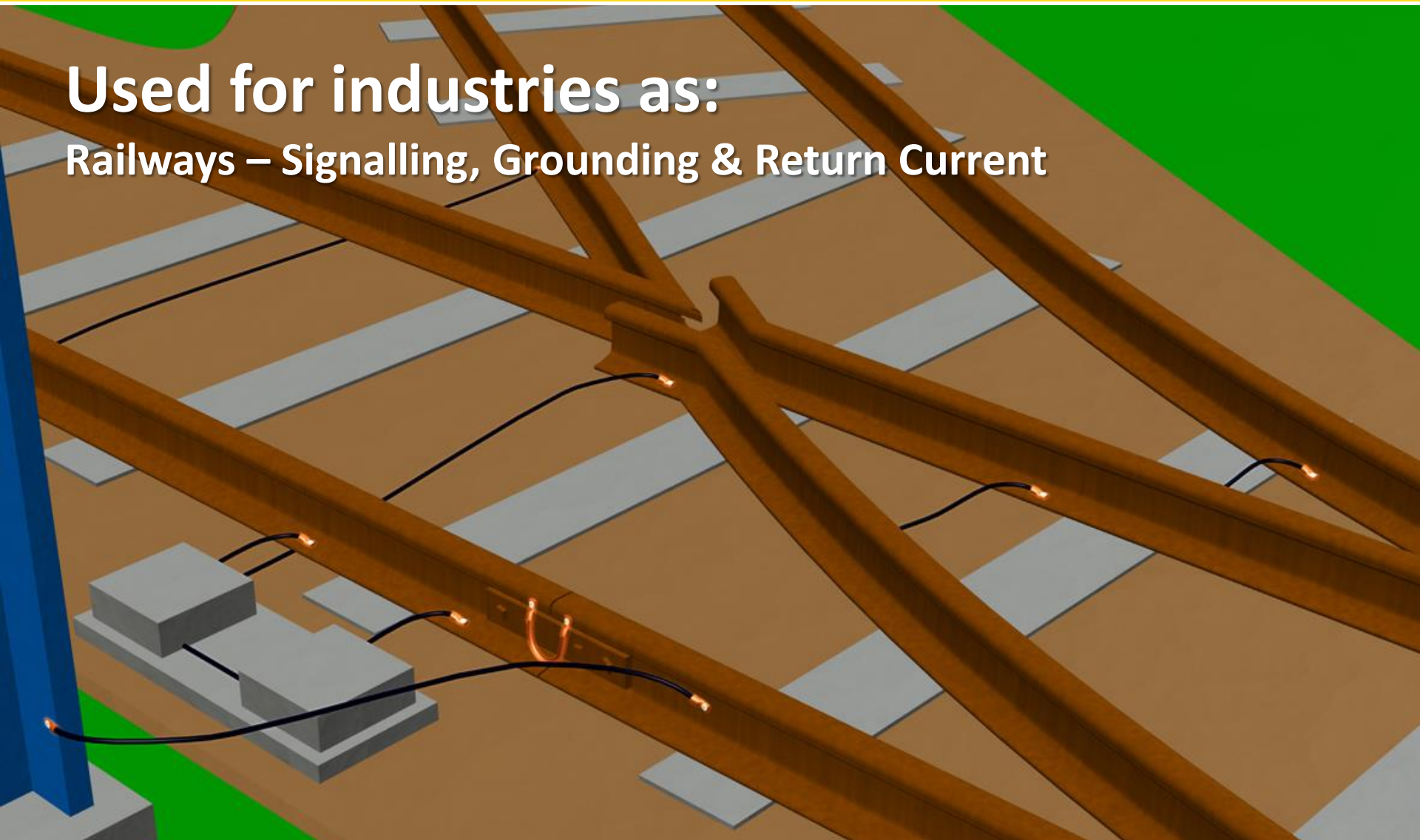
Intertek



Electrical Cable Bonding Technologies

- PinBrazing
- SafePlug[®]
- SafeBond[®]
- Temporary RailBonds

Used for industries as:
Railways – Signalling, Grounding & Return Current



Used for industries as: Cathodic Protection of Pipelines and other Steel Structures





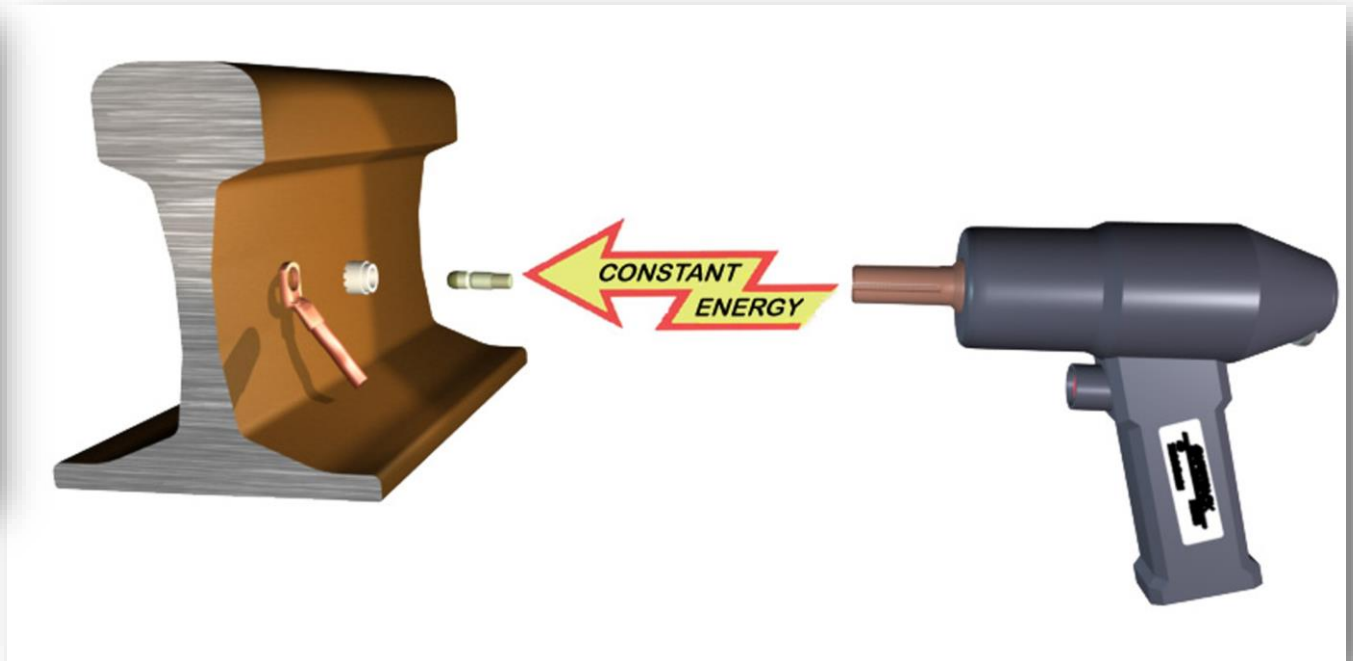
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Used for industries as:
Grounding and Energy



PinBrazing

Patented electronic and battery powered cable bonding system



Why PinBrazing?

A railway track is exposed to extreme conditions, such as vibration, heavily loaded trains and large temperature differences.

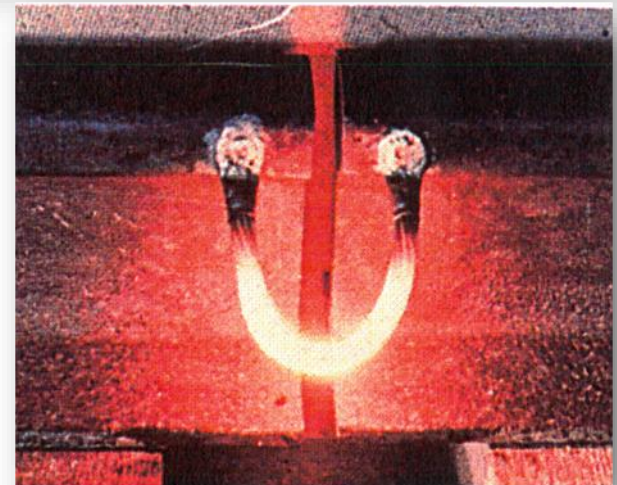
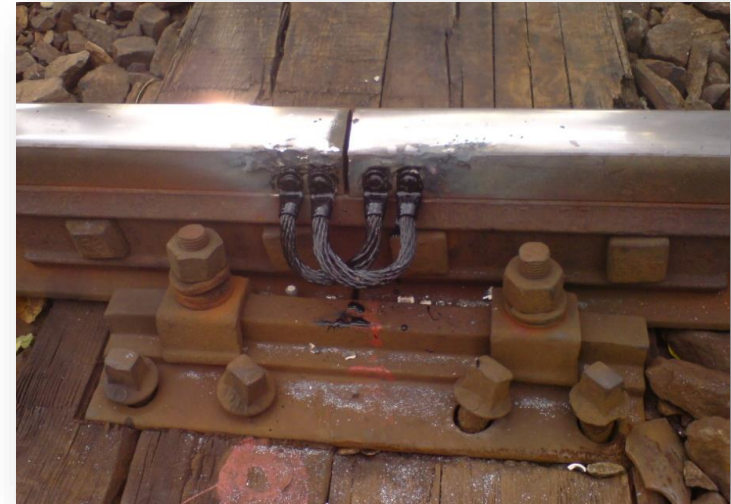
Therefore you want to make as little impact on the rail as possible when connecting the cables.

Since the previously existing methods for connecting cables (welding, drilling, soldering) did not meet all the requirements the Railways had for reliability and ease of use, the PinBrazing method were developed.



PinBrazing

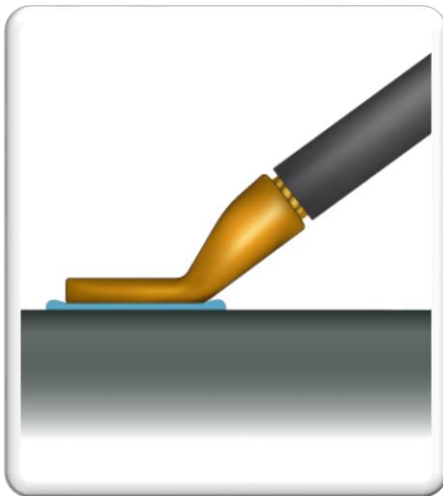
- The easy and safe way of connecting cables.
- Low temperature.
Melting point of solder material is about 650°C(1200°F)
- A current surge cannot melt the PinBrazed connection



Pinbrazing Advantages

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- Brazing method!



Not welding!



- Does not melt or mix the steel and copper, the only melting material is the brazing material

- Fast installation, cpl. railbond in 1-2 minutes
- All weather system! Rain, snow...no problem!
- Easy to use and learn...anyone can do it!
- Safe for the operator, only 36 V
- No risk for steam explosions
- Safe for the work piece
- Patented automated process

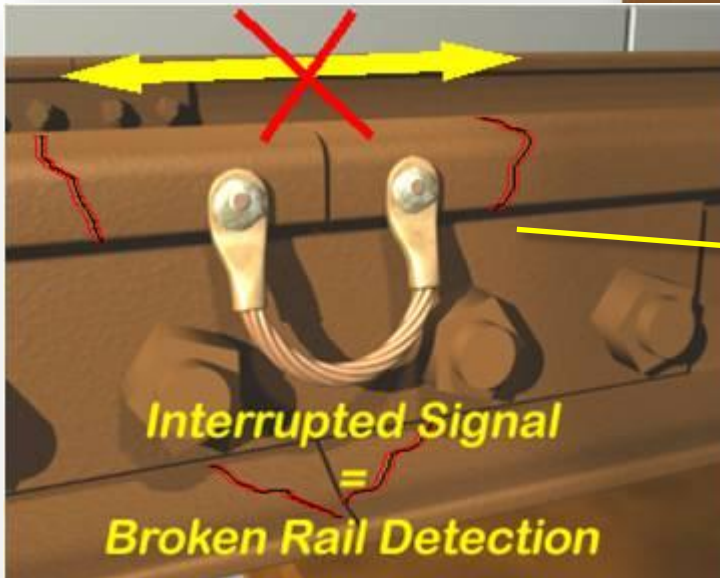
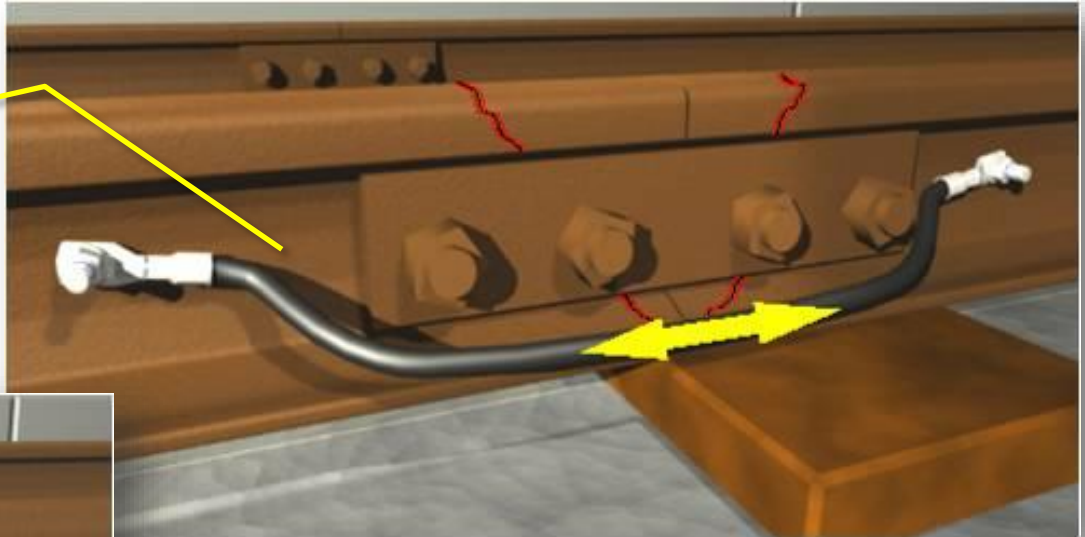


Important! **Broken Rail Detection Feature**

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A drilled connection will continue to give a clear signal even if the rail is broken

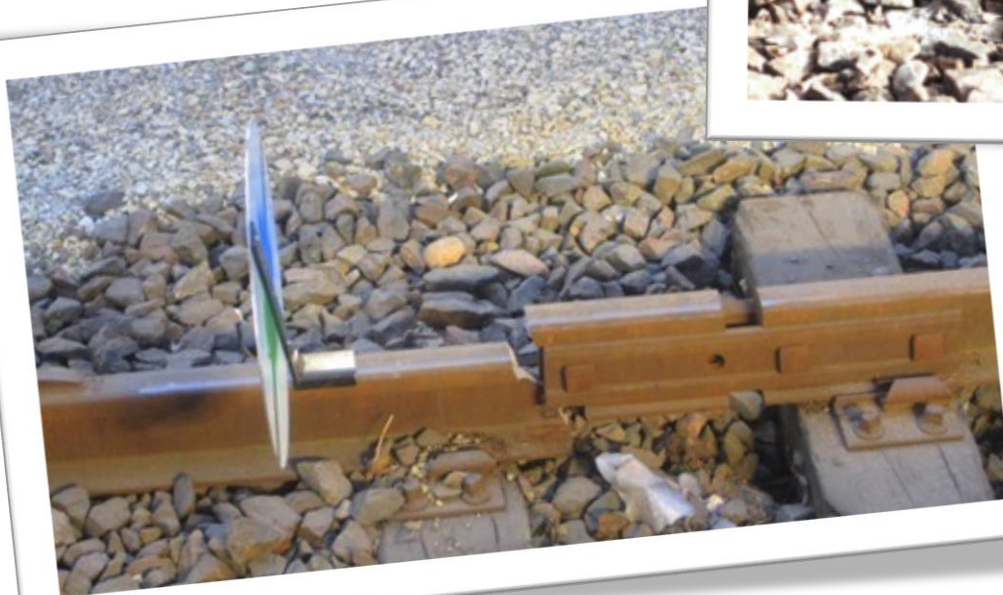
(Broken rails often occur from drilled holes)



A PinBrazed Rail Bond on the head of the rail will give an interrupted signal if the rail is broken in the joint

An accident can be prevented!

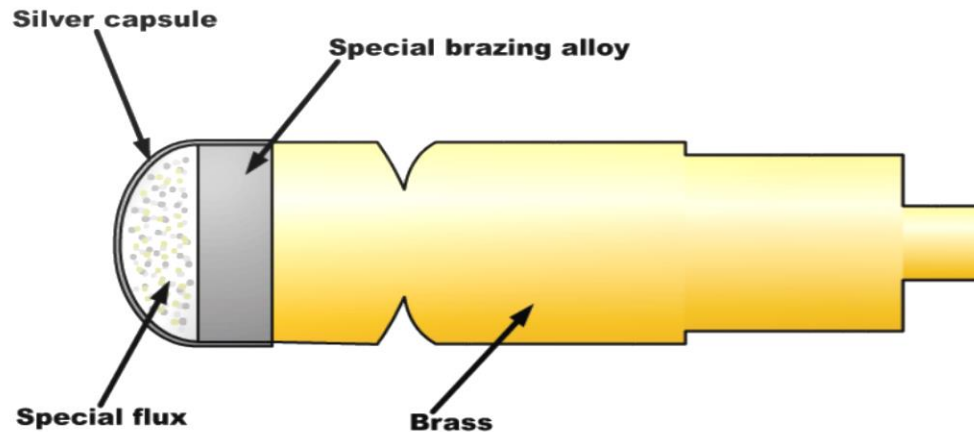
Devistating results of broken rails due to drilled holes in the web of the rail.



Pinbrazing Advantages

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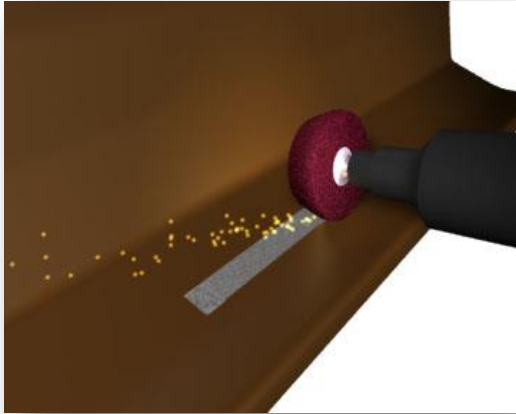
Brazing pin



Melting temperature 1200° F / 650° C

The 2-minute PinBrazing Process

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Preparation

1. Connect cables to the PinBrazing unit
2. Set PinType on unit
3. Grind for the ground magnet and the brazing area with the included grinding machine

The 2 minute PinBrazing Process

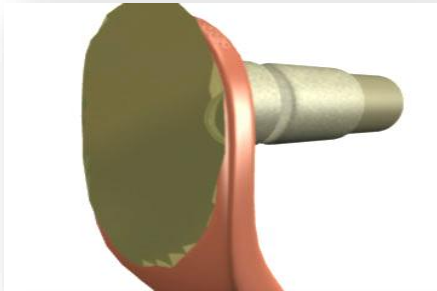
Safely connecting the world ...



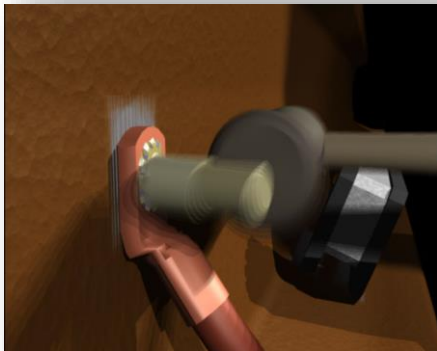
4. Pull the trigger on the automatic brazing gun (Patent)
5. The brazing pin lifts up the correct level from the surface and the brazing starts
6. The capsule of the brazing pin is opened
7. A special fluz powder cleans the surface

The 2 minute PinBrazing Process

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8. The silver based soldering material melts and create a molecular binding

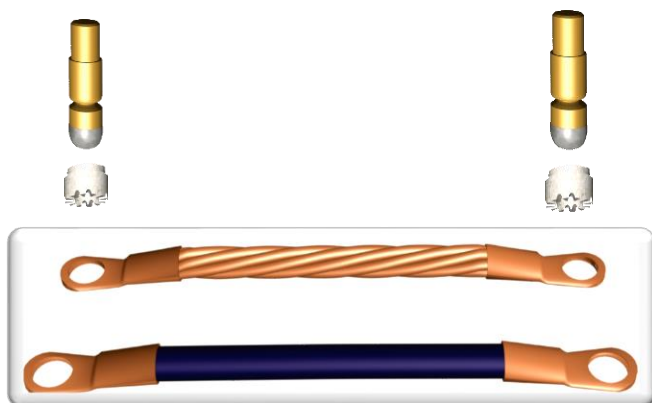


9. The process stops automatically by the patented electronic when the right energy output has reached

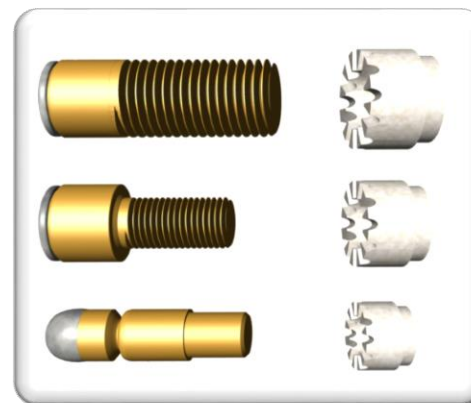


10. Knock off the control shaft on the brazing pin with a hammer

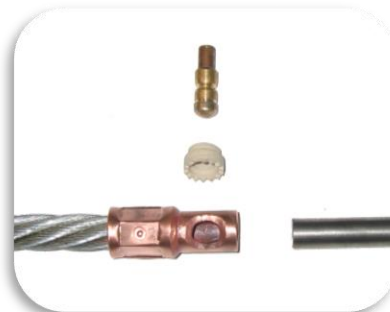
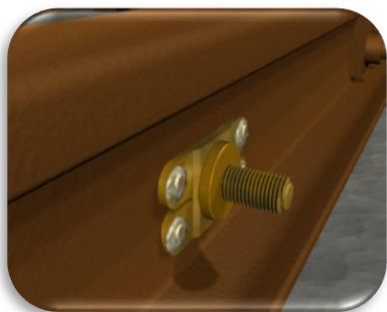
11. The connection is completed



Highly flexible Connectors, Rail bonds, Jumper bonds, Extension bonds etc



Assortment of Brazing pins of different size and shape



PinBrazing

- Microprocessor controlled
- Constant Energy Control System. Patent
- Li-Ion Battery. Nano-technology. Patent
- High capacity - 50 brazings per charge
- Quickly charged - 2h
- Long life-span
- Maintenance free
- Environmental friendly - Electric
- Low Weight - 9,8 kg
- No waste of brazing pins





PinBrazing

S30 X/C

- Brazing Capacity: 40-60 per charge
- Constant Energy Control System. Patent
- Automatic Brazing Gun included. Patent
- Grinder included
- Grounding Device included
- System Voltage: 36V DC
- Weight: 25 kg

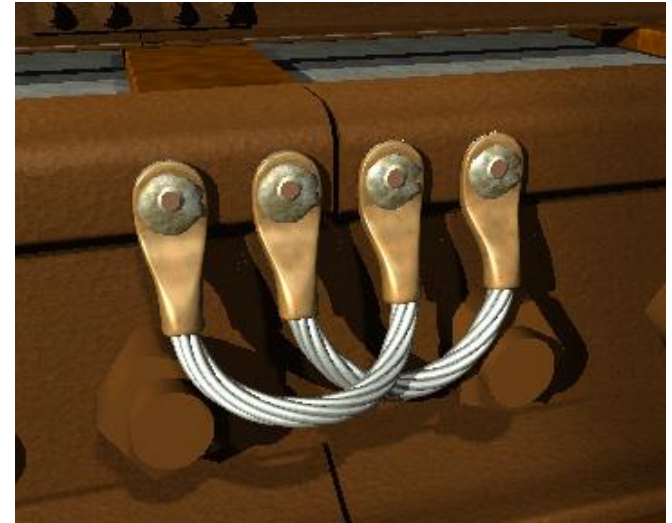


S101

- Brazing Capacity: 60-100 per charge
- Recharged in 8-10h
- Constant Energy Control System. Patent
- Automatic Brazing Gun included. Patent
- Grinder included
- Grounding Device included
- System Voltage: 36V DC
- Weight: 50 kg

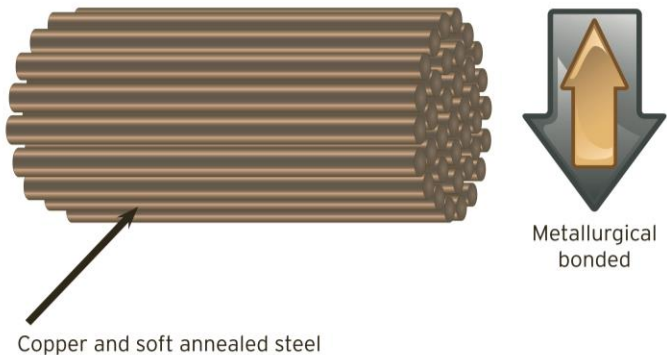
PinBrazing

- Can be used with theft deterrent cables
- RailBonds available in:
 - Copper
 - Annealed Galvanized Steel
 - **SafeCable**© Cu/Steel Mix



SAFECABLE

The Theft Deterrent Cable | Den stöldförebyggande kabeln



The unique SafeCable is made of soft annealed steel and copper wires to withstand vibrations in the rail and to make it as flexible as possible. The steel and copper are metallurgical bonded together. The electrical conductivity is 55% of the same size of a copper cable.

The cable is magnetic which means that thieves who checks with magnets for copper avoid stealing the cable but if they anyway try to cut it they find it hard to cut and a great disappointment waiting for them at the recycling companies. The cable has no scrap value!

Railbonds for PinBrazing can be made in different lengths and models with this cable.

- No scrap value
- 55% electrical conductivity
- Magnetic



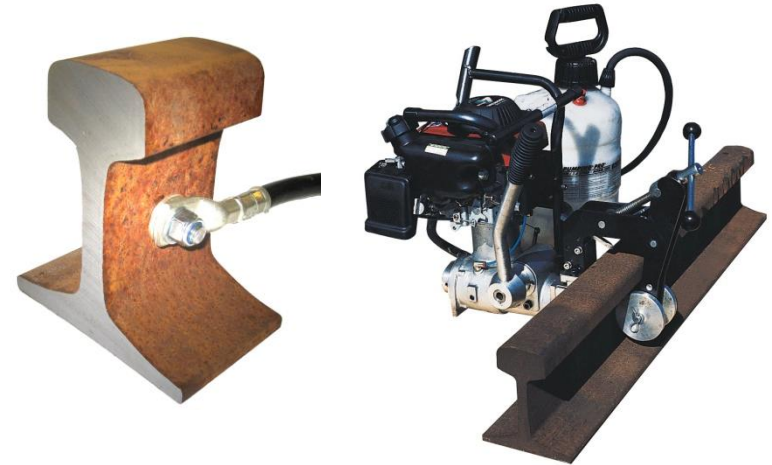
Den unika SafeCable-kabeln är gjord av mjukglödgad stålwire och koppar för att motstå vibrationer i rälen och för att vara så flexibel som möjligt. Stålet och kopparn är molekylärt sammanbundet. Den elektriska ledningsförmågan är mer än 55% av motsvarande kopparkabel.

Kabeln är magnetisk vilket gör att tjuvar som kontrollerar med magneter efter koppar undviker att stjäla kabeln. Försöker ändå tjuvarna att klippa den upptäcker de att den är mycket svårklippt och på återvinningsföretagen väntar ytterligare en besvikelse. Den saknar skrotvärde!

Förbindningar för Pinnlödning kan göras i olika längder och modeller med denna kabel.

- Saknar skrotvärde
- 55% av kopparns ledningsförmåga
- Magnetisk

SafePlug® Patented Drilled Electrical Rail Web Connections



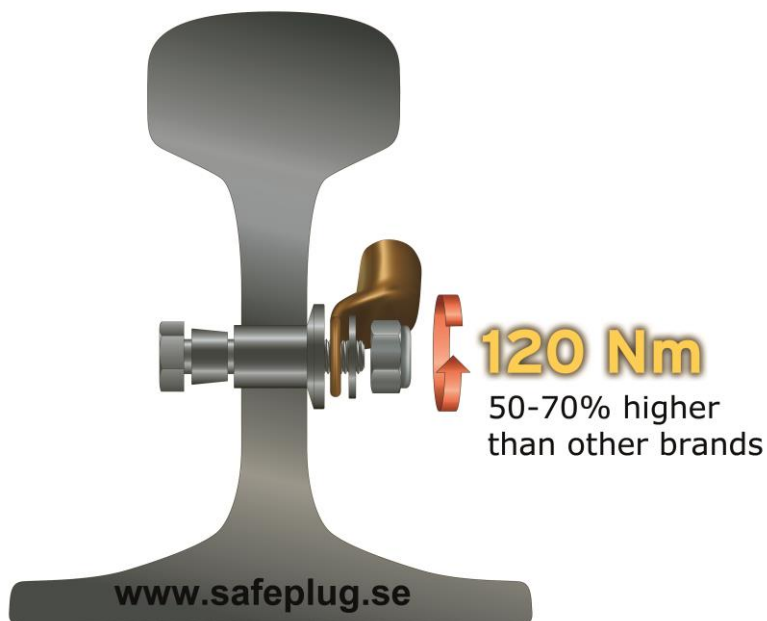
The unique SafePlug® is developed especially to ensure superior electrical contact to the rail in harsh climates and vibration-intensive environment.

The patented extra cone shaped copper bushing ensure a high contact pressure even when the temperature changes in the rail is very high.

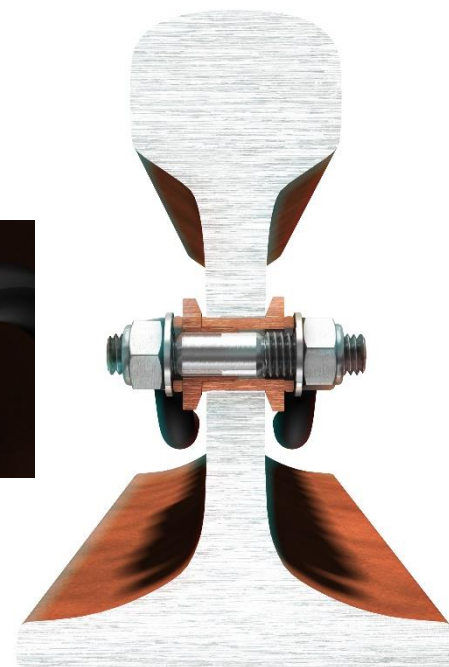
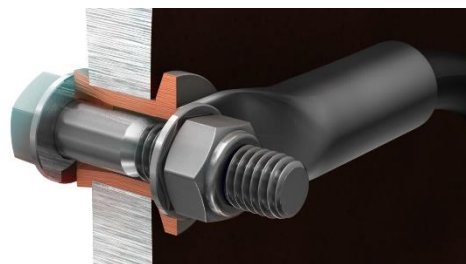
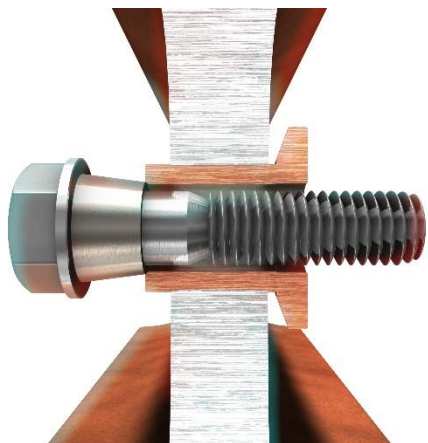
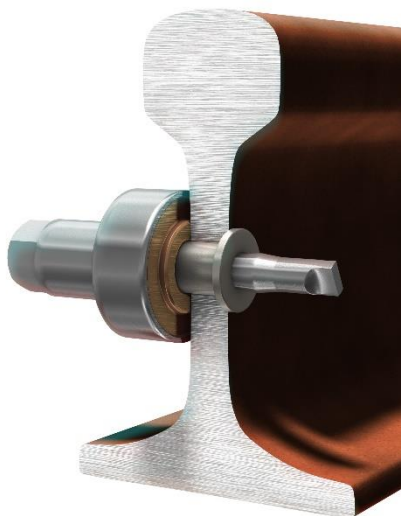
SafePlug®

High Torque

Choosing the High Torque version of SafePlug® one can maximize the contact pressure thanks to the unique Swedish Steel that is both acid proof stainless steel AND high strength 10.9 classified.

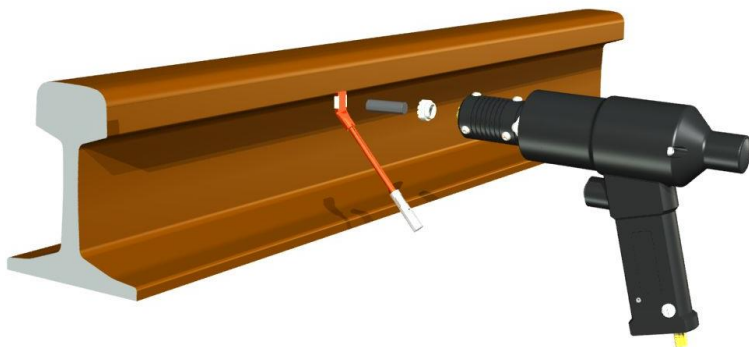


SafePlug[®]



SafeBond®

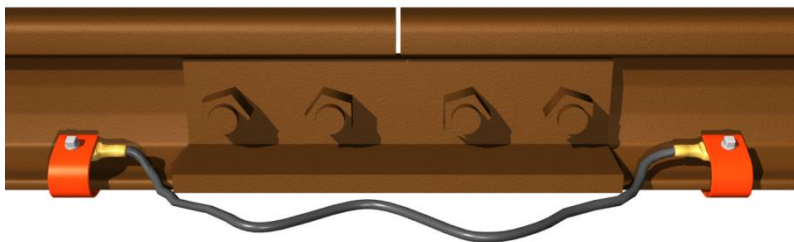
The Method developed for the most head hardened rail in the world



Approved and used since 2001 by:



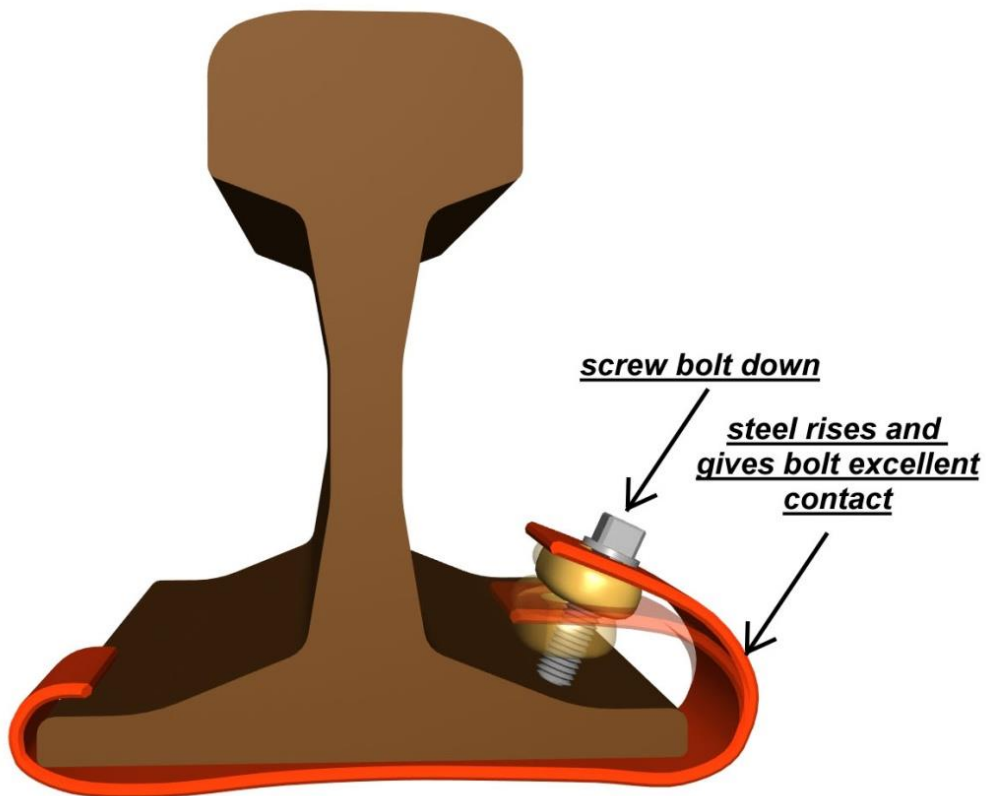
TCOD & Temporary Bonds



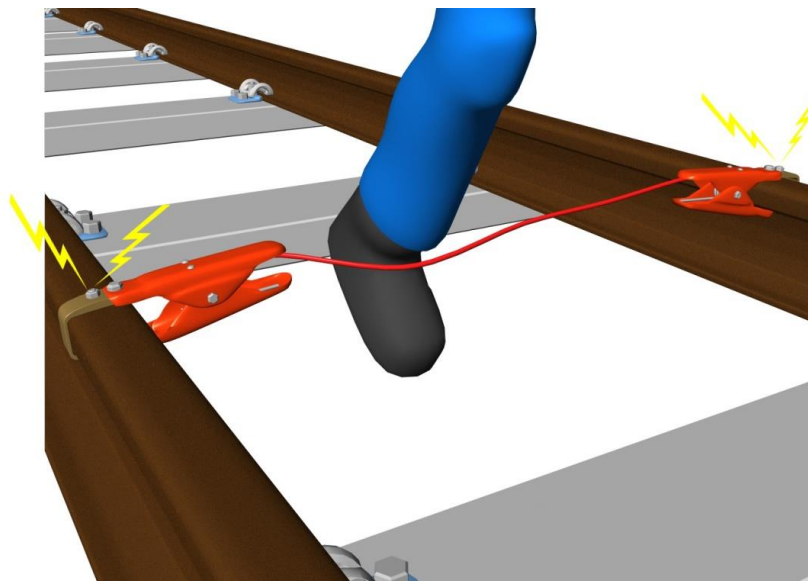
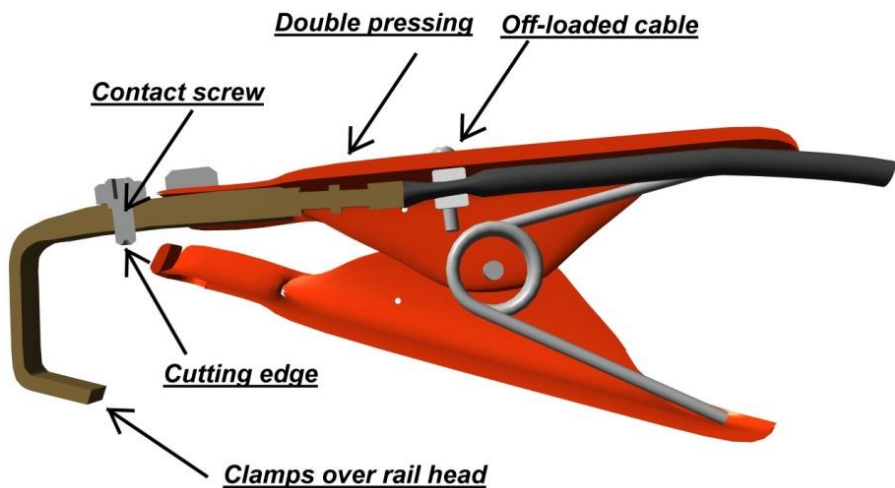
Used and approved by:



TRAFIKVERKET



Shunting Devices



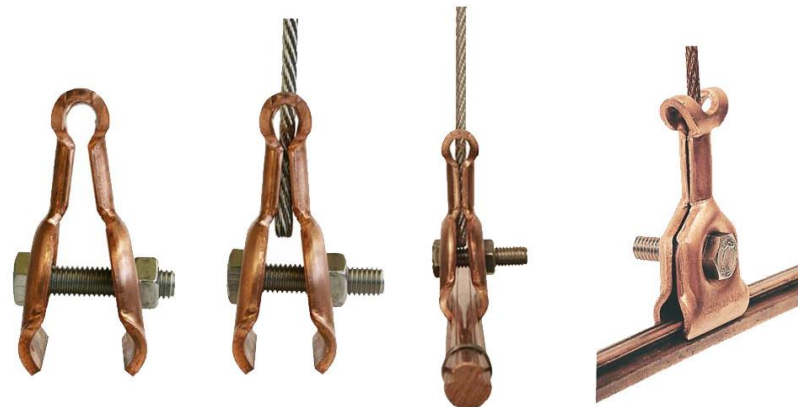
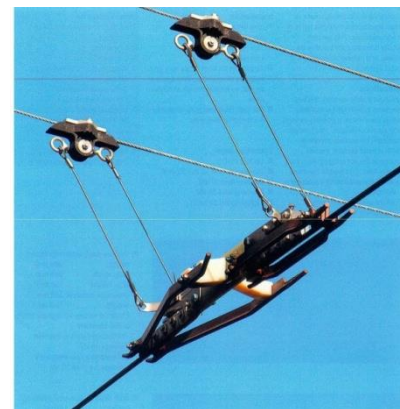
Catenary Systems



Flexible gliding hanger for lowered catenary cables

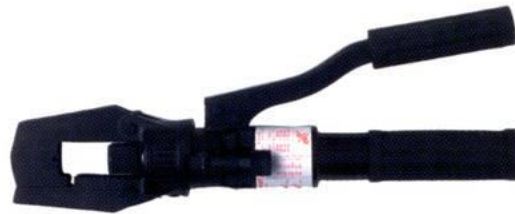


Hanger without Thimble



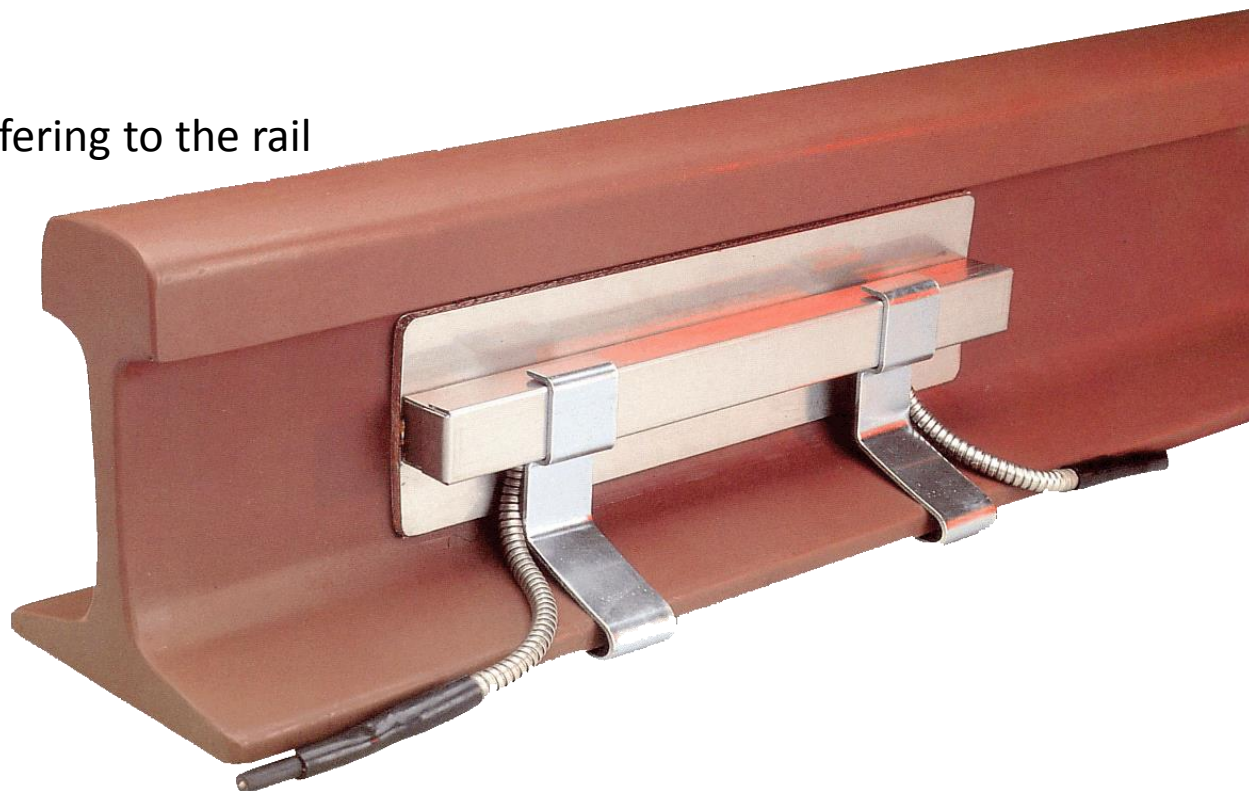
Cable Crimping System

High quality systems for electrical connections



Rail Heating – RWH/RWHN

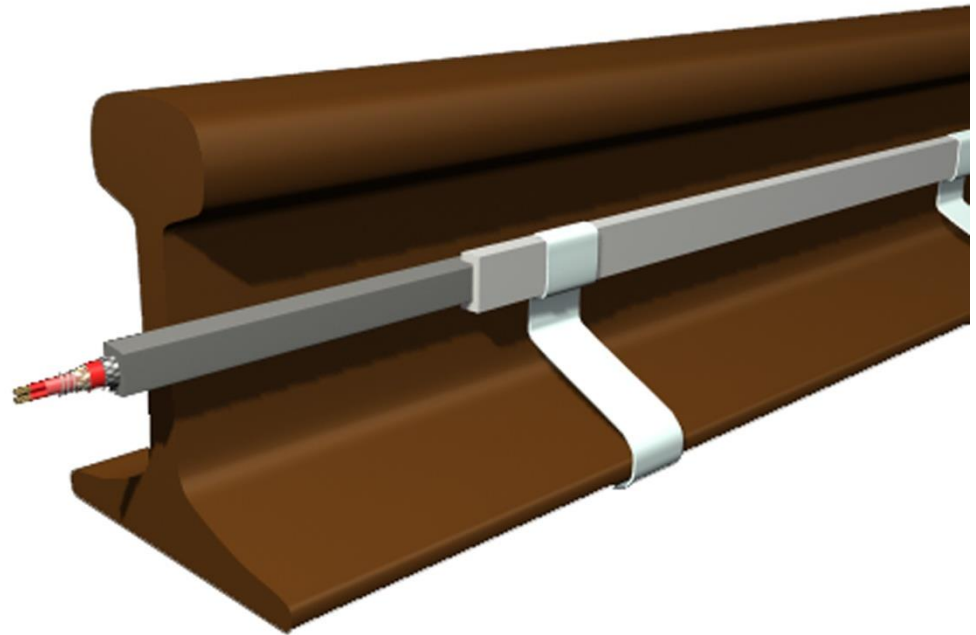
- 800Watt per meter
- Optimum heat transferring to the rail
- Fast start up time



Rail Heating – RDC

Used for:

- 3rd rail
- Switch points



Gas Bottle Heaters

- Empty the complete gas bottle
- Increased welding quality
- Save money
- Less bottles to carry with you

Rail Heating – HEATY



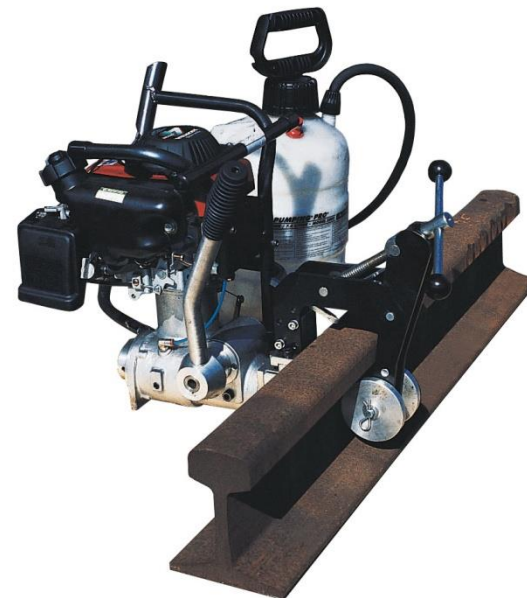
- Even heat distribution
- Use only propane
- Fast heating
- No heating by hand



Welding



Rail Tools



Work Tents – For Rail Industry



Rail Vehicles



Rail Instruments



Heavy Duty Switch Brooms



Safety Equipment



Lightings





TRAFIKVERKET



- Trafikverket (Swedish Rail Adm.)
- VR (Finnish Rail Adm.)
- Network Rail (British Rail)
- CN (Canadian National Railway)
- CP (Canadian Pacific Rail)
- BNSF (Burlington Northern Rail, USA)

- *-SL Bansystem AB, Stockholm underground (Metro)*
- *-Strukton Railinfra*
- *-Gothenburg Tramway*
- *-Norrköpings spårvägar AB*
- *-Carillion rail*
- *-Balfour Beatty Rail*
- *-Adtranz, Sweden*
- *-ABB Signal, Sweden*
- *-Siemens, Sweden*

- *-Helsinki Metro, Finland*
- *-London Underground, UK*
- *-Tyne and Wear Metro, UK*
- *-Russian Railways, Russia*
- *-Austrian State Railways, ÖBB, Austria*
- *-Greece State Railways, Greece*
- *-Oslo Sporveier AS, Tramway, Norway*
- *-Algerian Railways, Algeria*
- *-AZD Praha, Czech Republic*
- *-Banestyrelsen, Denmark, for use on the tunnel/bridge between Denmark and Sweden*
- *-Lithuanian railway, Lithuania*



- *-Corrosion Control Services[B] Pvt Ltd, India*
- *-PSL Ltd, India*
- *-Petunia Co. Iran*
- *-Kaviyan Gostar Co. (KGC), Iran*
- *-BITCO, Kuwait*
- *-RWNA, Malaysia*
- *-Bechtel, UAE*
- *-ADCO, UAE*
- *-JORDAN Petroleum Refinery Co, Jordan*
- *-Iget-Industrie, France*
- *-Mekorot Water Co Israel*
- *-Pipeline Integrity Management Ltd, Israel*

- *-Euramco Ltd, UK*
- *-Cathtect (Pty) Ltd. South Africa*
- *-Hesco, Russia*
- *-Gaskomplekt OAO Beltransgaz, Belarus*
- *-Giprospezgas, Russia*
- *-Corrpol, Poland*
- *-Toyo engineering, Japan*
- *-SAVCOR ART OY, Finland*
- *-Oy Osmos Tech, Finland*
- *-Bijl Industrial Supply BIS, Netherlands*
- *-Eesti Gaas, Estonia*



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