



BRITISH  
STEEL

BS SC = 20 56E1

Zinoco®

Coating removal and repair

BUILDING STRONGER FUTURES

# Zinoco<sup>®</sup> coating removal

Zinoco<sup>®</sup> is more durable than previous coatings



After extensive trials with various different types of abrasives, for the most efficient coating removal in terms of total time and cost, we recommend the following product...

- Norton (Saint-Gobain) Abrasives X-treme PRO R928 flap disc 40 grit fitted to an angle grinder
- Has a special coated ceramic abrasive which reduces heat generated during removal and prevents melting of the Zinc alloy
- Other 40 grit flap discs can be used, but melted Zinc can quickly clog up the disc and 3-4 disc changes per rail end may be the result

## X-TREME PRO R928 **+++++**

- X-Treme Pro R928 pink high performance flap discs, with polycotton cloth backing and ceramic grain, provide an improved cut rate and product life compared to both premium zirconium discs and ceramic products in the market, thanks to its high density configuration
- These discs also feature an additional supersize layer for cooler cutting, reducing heat generation during use for better part quality first and every time
- X-Treme Pro R928 is ideal for fast grinding when used at medium pressure on stainless steel or harder metals



FIBRE GLASS BACKED	SIZE (mm)	GRIT	PK QTY	ART NO.	PRICE EACH
		115 x 22	10	7807 Z 23630	3.00
		60	10	7807 Z 23632	3.00
		80	10	7807 Z 23633	3.00
		120	10	7807 Z 23634	3.00
	125 x 22	40	10	7807 Z 23652	4.00

Standard hard grinding discs **MUST NOT** be used

- They will melt the coating and therefore clog quickly
- They smear the coating rather than remove it

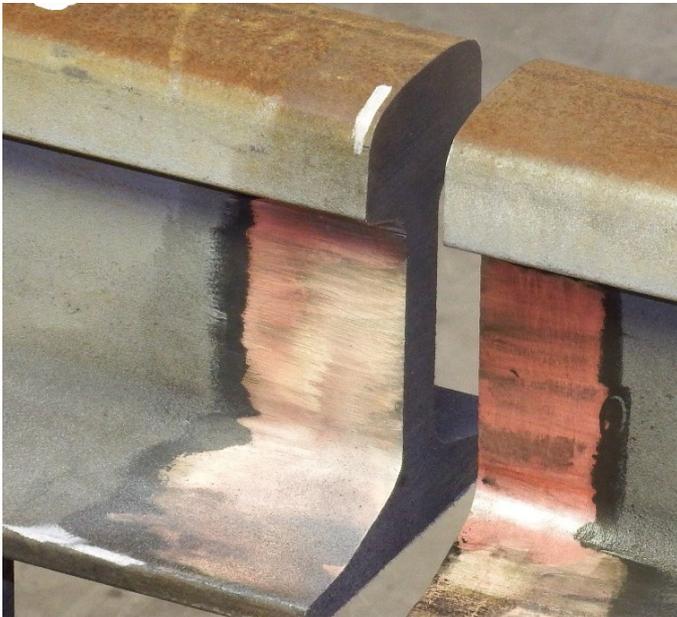
Coating removal at the rail ends is **essential** for sound welds

# Zinoco<sup>®</sup> removal



## For aluminothermic welding

- Coating **must** be removed for a minimum of 50mm each end of rails before welding
  - Avoid coating entrapment in weld – weakens weld
- New rails are supplied with the ends already uncoated
  - Coating removal only required for cut-backs / defect removal etc



## For depot/mobile flash butt welding

- Coating removal **is not** required from electrode and clamp contact areas (foot/web)
  - Good electrical contact is retained
  - Coating does not lead to slippage of clamps
- Coating removal **is** required from rail ends
  - Distance depends upon equipment
  - New rails supplied with 300mm uncoated ends unless specified otherwise
  - Depending on type of weld stripping, longer removal lengths may be required. Advice is available upon request

# Zinoco<sup>®</sup> removal



Care should be taken to ensure area to be welded is free from coating

- Copper sulphate solution can be used to verify effective coating removal (see overleaf)
- A mirror is often useful for under foot areas



During coating removal the following PPE should be worn by operators in the vicinity of coating removal operations:

- Dust mask to EN149: FFP2S or FFP3S
- Eye protection (goggles)
- Gloves (suitable for hand tool being used)
- Hearing protection (if applicable for hand tool usage)

**Standard welding processes can be used after coating removal from rail ends**

# Zinoco<sup>®</sup> removal – coating removal test

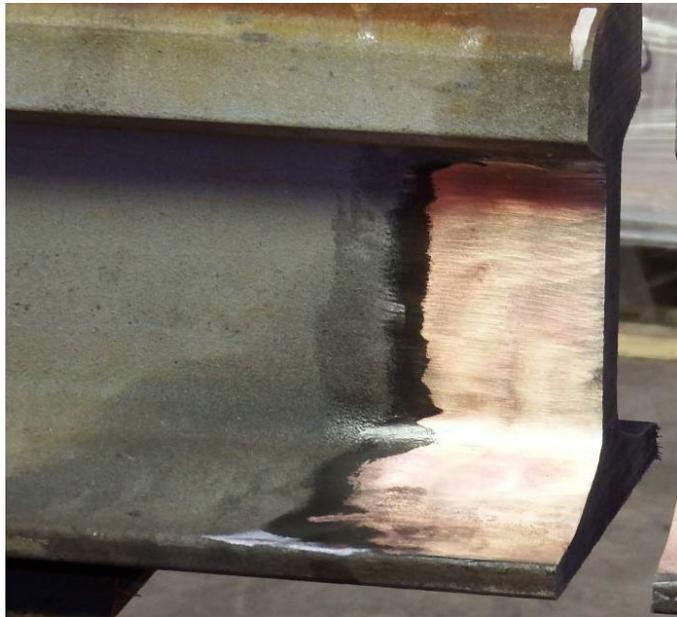


Complete coating removal is **essential** to ensure sound welds

- To verify spread/spray copper sulphate solution (blue) onto cleaned area

✓ Copper colour indicates effective coating removal

✗ **Black indicates incomplete removal – repeat cleaning and re-test**

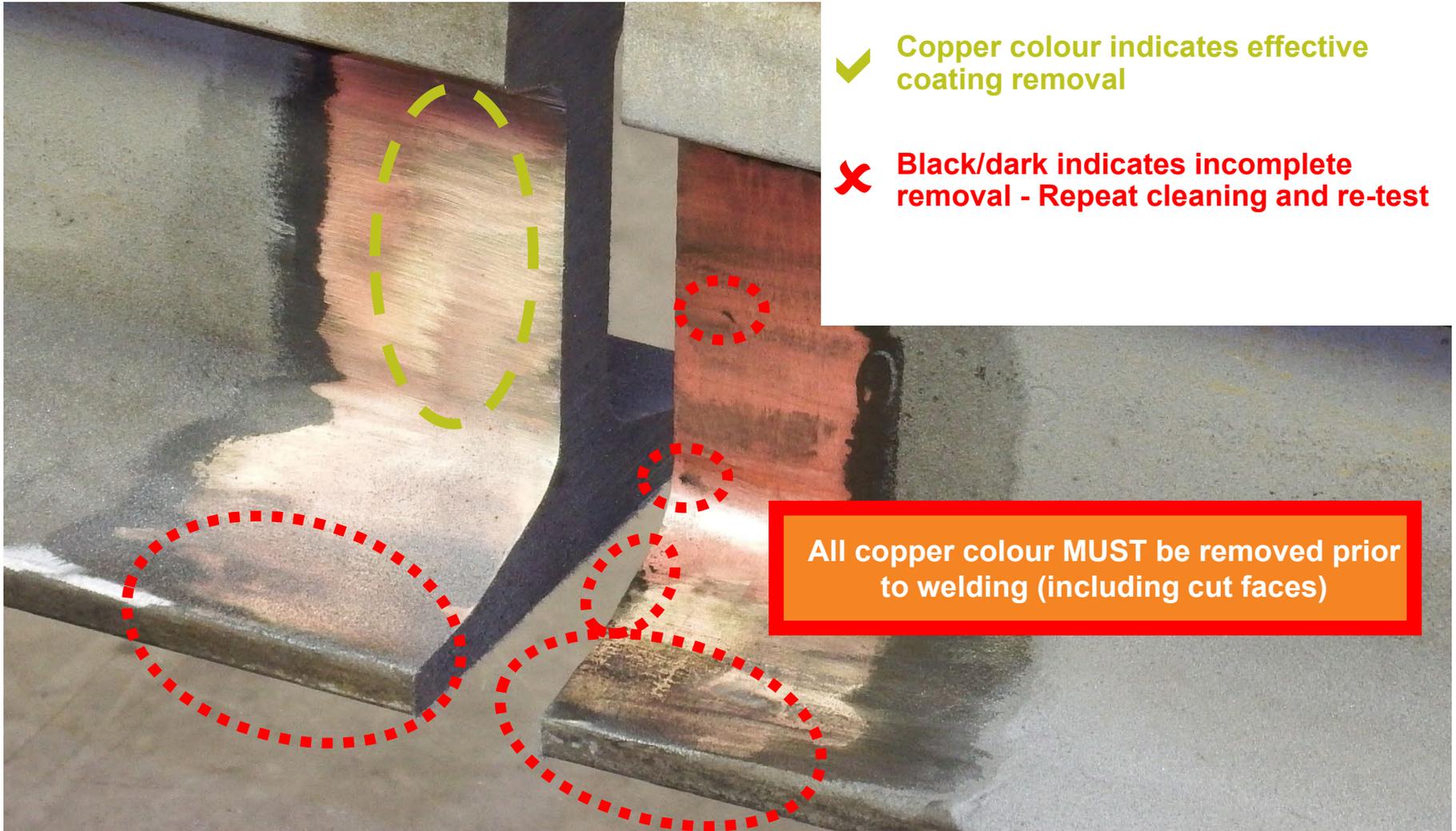


Once all cleaned area is showing copper colour, all coating has been removed

**Copper colour must be removed via abrasive disc prior to welding**

**After testing, all copper colour must be removed prior to welding**

# Zinoco<sup>®</sup> removal – coating removal test



# Zinoco<sup>®</sup> coating repair – “touch-up”

- Procedure is identical to that for our previous Railcote<sup>®</sup> product
- Touch-up kits are available (Part number RCTUK1 / PADS No. 057/060010)
- After welding, the coating should be re-instated as soon as practicable
- Any oil/grease contamination should be removed with solvent e.g. acetone, using a stiff brush
- Any loose dust/spatter should be removed by brushing/scraping



Contents of Railcote<sup>®</sup> “touch-up” repair kit

# Zinoco<sup>®</sup> coating repair – “touch-up”



*Example of the “touch-up” procedure applied to an aluminothermic weld*

## Touch-up procedure is identical to Railcote<sup>®</sup>

- Coating should be **thoroughly stirred** (it will settle in storage)
- No welding or grinding operations should be carried out within, or adjacent to, any areas being where coating applications are being carried out as the solvent is flammable
- Using a brush apply the first coat using a stippling action to ensure all weld porosity is coated (no thinning is required)
- Dependant on environment conditions a second coat can be applied 1 hour later
  - Residual warmth from welding speeds drying process significantly
  - Too hot too touch – too hot to apply coating
- A short pile roller can be used on smooth areas to speed application

# Zinoco<sup>®</sup> coating repair – “touch-up”



*Example of the “touch-up” procedure applied to an aluminothermic weld*

- Site environmental conditions will dictate the number of coating applications required
  - **A minimum of 3 coats are recommended to achieve a minimum coating thickness of 120µm**
- Coating should be carried out a minimum of 30 mins before rainfall is anticipated

## PPE requirements

- No compulsory respiratory protection required in normal “well ventilated” sites
  - Users sensitised to solvents may use an activated charcoal facemask or other approved facemask suitable for solvents if required
- Protective gloves and glasses are supplied as part of the “touch-up” kit to prevent contact with skin and eyes