

Track – Arc Weld Repair

Scope Includes: Plain line rails, switch & crossing components, manual metal-arc (MMA) Semi automatic – Fluxed cored arc welding (FCAW)
Excludes: Esab Railtec BV1000 fully automatic welding equipment

Preparation

Tools, equipment and plant items required but not limited to:

- Welding equipment as defined in the relevant Network Rail standard
- Any tools and equipment that are defined in the relevant Network Rail standard

Work planning considerations:

- Weather conditions
- A thorough inspection of the rail and/or switch (053 inspection) & crossing (054 inspection) is carried out to establish the repair/s required

Method

1. Specifics on each task within the procedure are documented in the Network Rail standard NR/SP/TRK/0132 and manufacturers instructions.
2. It is essential that all grease and lubricants are removed from the proposed repair area.
3. All loose debris and combustible materials are removed prior to welding
4. Identify rail/crossing grade, and examine rail/S&C component(s) for defects that would prevent repair being carried out successfully.
5. Use non destructive testing (NDT) as required.
6. Excavate area to be repaired by grinding and confirm removal of defect(s) by NDT.
7. Carry out appropriate welding activity.
8. Profile finished weld to existing rail/switch/crossing profile (grinding).
9. Inspect finished weld (visually) for defects and carry out final weld check by NDT.
10. Check for rail alignment and level (where appropriate).
11. Check track is fit to allow safe passage of trains.
12. Record all relevant weld repair details on the relevant welders work return form.
13. The weld repair shall be marked / identified.
14. Upon completion of the work all welding debris materials are to be removed from site.

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References

Supports Ellipse Standard job

- 009151 S&C – Crossing Repair – Metal Arc
- 009152 S&C – Switch Tip Repair – Metal Arc
- 009153 S&C – Rail Head Repair – Semi Auto
- At present there are no Ellipse codes for FCAW and MMA

If applicable refer to the following associated documents:

- NR/SP/TRK/001 Inspection and Maintenance of Permanent Way
- NR/SP/TRK/0132 Maintenance Arc Welding of Rails, Switches and Crossing
- NR/SP/TRK/053 Inspection and repair procedures to reduce the risk of derailment at switches
- NR/SP/TRK/054 Inspection of Cast Crossings and Cast Vees in the track
- NR/PRC/MTC/TK0081 Management of rail welding.
- NR/L3/TRK/002/C06 Track – Grind Rails
- TEF 3001 – TEF 3009 Welding Forms

- Risk Control Sheets:
- NR/L3/MTC/0002/TK000 Generic Track Risks
- NR/L3/MTC/0002/TK602 Electric Arc Welding