

Technical Specification

T0431 Flash butt welding of rails

Issue: A1

Issue date: April 2012
Review date: April 2015

MAYOR OF LONDON

AVA Documents
Document Sharing Hub



Contents

1	Purpose	3
2	Scope	3
3	Requirements	3
3.1	General	3
3.2	Information supplied by customer	4
3.3	Procedure and machine approval	4
3.4	Production welding	5
3.5	Rejection of welds	7
4	Competence	7
5	References	7
5.1	References	7
5.2	Abbreviations	8
5.3	Technical content manager	8
5.4	Document history	8

1 Purpose

- 1.1 This specification sets out the requirements for flash butt welded rail joints for installation in the LU infrastructure.

2 Scope

- 2.1 This specification covers the requirements for flash butt welding in the following situations:
- a) Depot, to form welded rail strings using the following rail types:
 - I. 56E1 rail in grades R220, R260 and R350HT;
 - II. 95RBH rail in grades R220, R260 and R350HT;
 - III. Section 75 conductor rail.
 - b) Mobile (i.e. on-site), using the following rail types:
 - I. 56E1 rail in grades R220, R260 and R350HT;
 - II. 95RBH rail in grades R220, R260 and R350HT;
 - III. Section 75 conductor rail.
 - c) Welding of leg-ends to cast crossings, using 56E1 rail in grade R260.

Notes:

- 1. The rail grades listed above are defined in EN 13674-1; other grades may be introduced following current trials
- 2. Although grade R220 is included in the scope of this specification, it is unlikely that there will be a need to weld it in a depot situation as it is no longer purchased;
- 3. The conductor rail listed above is defined in BS 7865;
- 4. The requirements in this specification regarding Section 75 conductor rail may be applied to Section 65 conductor rail in the event that that rail is to be welded.

- 2.2 This specification covers the entire flash butt welding process, i.e.
- a) approval of welding contractor or organisation;
 - b) procedure and machine approval;
 - c) approval of other profiles and grades following procedure and machine approval;
 - d) production welding;
 - e) production weld testing and acceptance criteria;
 - f) weld identification and records.

3 Requirements

3.1 General

- 3.1.1 Except where modified by this specification, flash butt welding shall comply with EN 14587-1 (depot welding), EN 14587-2 (mobile welding) or EN 14587-3 (leg-ends on cast crossings). Where the provisions of these ENs are to be followed they are not repeated in this specification.
- 3.1.2 In the event that a mobile flash butt welding machine is used as a “depot” for creating welded rail strings remotely from a fixed depot, the provisions of EN 14587-1, except as modified by this specification, shall apply.
- 3.1.2 Individual rails and welded rail strings shall be handled in a manner which causes no damage or permanent distortion to them.