

Ref	NR/SP/TRK/064
Issue	2
Date	December 2003

Assembly of BR MkIII 4- and 6-hole insulated joints (formerly RT/CE/S/064)

This temporary front sheet facilitates change to the new Network Rail Standards referencing nomenclature.

The Ref above will be formally allocated to this standard when it is next changed in the meantime the contents, date and issue number of this Network Rail Standard are UNCHANGED and with immediate effect it should be referred to as “(new ref) formerly (old ref)”.

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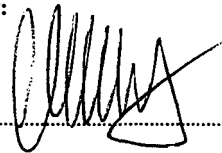
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Company Specification

Assembly of BR MkIII 4- and 6-hole insulated joints

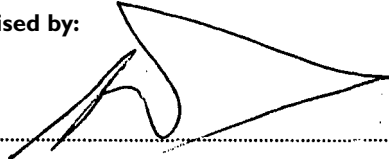
Endorsement & Authorisation

Endorsed by:



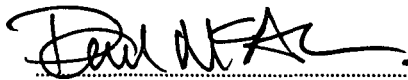
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Issue record

Issue	Date	Comments
1	Mar 1996	Supersedes GC/ES0130
2	Dec 2003	Removes lists of adhesives and fasteners, and instead states that these items must have been accepted by Network Rail or its predecessors for the purpose of assembling these joints. Extra electrical test (fishplate to pin or bolt) added.

Implementation and Compliance

The provisions of this specification are mandatory upon assemblers of BR MkIII 4- and 6-hole glued insulated rail joints and apply with effect from the issue date shown at the top of this page.

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1 Purpose

To set out the process for the assembly of BR MkIII glued insulated rail joints, so that when installed in Network Rail's infrastructure they are reliable and durable.

2 Scope

This specification covers the assembly, in a workshop environment, of BR MkIII glued insulated rail joints.

Note: The BR MkIII joint is designed for 113A (56E1) rail. The design is owned by Network Rail and is shown on Network Rail standard drawing RE/PW/268. The component parts are specified in [RT/CE/S/024](#). Equivalent joints have been designed by individual suppliers for 60E1 rail but these designs are not owned by Network Rail and the assembly instructions are provided by the suppliers; these instructions generally follow the principles of [RT/CE/S/064](#).

3 Reference Documentation

British Standard

BS1610 Materials testing machines and force verification equipment
Part 1: Grading of forces applied by materials testing machines when used in the compression mode

Network Rail Company Standards

[RT/CE/S/024](#) Component kits for BR MkIII 4- and 6-hole glued Insulated joints
[RT/CE/S/050](#) Process for cold expanding new fishbolt holes by the split sleeve method using FTI tooling and consumables
[RT/CE/S/061](#) Pearlitic Rails

Network Rail Standard Drawing

RE/PW/268 BS 113A BR MkIII glued insulated joint, 4- and 6-hole types

4 Materials

4.1 Fasteners

Fasteners shall have been accepted by Network Rail or its predecessors for the purpose of assembling BR MkIII glued insulated joints. They shall be of one of the following generic types:

- Non-shouldered multiple groove locking (MGL) pins, 1 1/8" diameter (or M27 or M29.5), with standard collars, as shown on Network Rail standard drawing RE/PW/268;
- Tension control bolts (TCBs) Grade S10T, 1 1/8" diameter.

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4.2 Other components

Rails shall be new 56E1 (113A) of 260 (Grade 'A') or 350HT steel conforming to [RT/CE/S/061](#). The other component parts of the joint shall comply with the requirements of [RT/CE/S/024](#).

4.3 Adhesive

Adhesives shall have been accepted by Network Rail or its predecessors for the purpose of assembling BR MkIII glued insulated joints.

They shall be stored in accordance with the manufacturer's recommendations. Life-expired materials shall not be used.

As a guide, for kits of loose components 2kg of mixed adhesive are required for a 6-hole joint and 1.5kg for a 4-hole joint. If part-encapsulated kits are used then 0.7kg is required for a 6-hole and 0.5kg for a 4-hole joint.

5 Preparation of Components

5.1 Rails

5.1.1 Cutting

The joint shall be formed at the point of cutting a single rail. The rail shall be cut by disc or saw and the cut shall be square within $\pm 2\text{mm}$ in any direction across the section. Both pieces of rail shall be marked so that they are clearly identified as a matched pair.

5.1.2 Fishbolt holes

All brand marks within fishplate limits shall be dressed off flush with the rail surface.

The fishbolt holes shall be drilled and cold expanded in accordance with [RT/CE/S/050](#) at the positions specified on Network Rail standard drawing RE/PW/268.

After drilling and cold expansion any burrs shall be removed.

5.1.3 Storage

The rails shall be either:

- stored in a dry, well ventilated place at a temperature between 15C and 25C, with space for air circulation between individual rails, for at least 6 hours before making up a joint, or