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RAILWAY PERMANENT WAY MATERIAL
Part 12—GLUED INSULATION JOINT ASSEMBLIES

This Australian Standard was prepared by Committee CE/2, Railway Permanent Way Materials. It was approved on behalf of the Council of the Standards Association of Australia on 19 October 1987 and published on 1 December 1987.

The following interests are represented on Committee CE/2:

Bureau of Steel Manufacturers of Australia

Confederation of Australian Industry

Railways of Australia Committee

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AUSTRALIAN STANDARD

RAILWAY PERMANENT WAY MATERIAL

Part 12 GLUED INSULATION JOINT ASSEMBLIES

AS 1085.12—1987

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PREFACE

This Standard was prepared by the Association's Committee on Railway Permanent Way Materials. It is one of the AS 1085 series, which is being added to as the need for further Standards arises.

This Standard is based on the Railways of Australia specification for glued insulation joints.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

RAILWAY PERMANENT WAY MATERIAL— GLUED INSULATION JOINT ASSEMBLIES

1 SCOPE. This Standard specifies requirements for glued insulation joint assemblies (referred to in this Standard as 'insulated joint(s)') for steel rails as specified in AS 1085.1 or AS 1085.11.

NOTE: It is essential that the purchaser supply the manufacturer with certain information when enquiring about or ordering insulated joints to this Standard. Purchasing guidelines are given in Appendix A.

2 REFERENCED DOCUMENTS. The following Standards are referred to in this Standard:

AS 1050 Methods for the Analysis of Iron and Steel.

AS 1085 Railway Permanent Way Material.
AS 1085.1: Steel Rails.
AS 1085.2: Fishplates.
AS 1085.11: Head-hardened Rails.

AS 1213 Iron and Steel—Methods of Sampling.

AS 1252 High-strength Steel Bolts with Associated Nuts and Washers for Structural Engineering.

AS K1 Methods of Sampling and Analysis of Iron and Steel.

3 DEFINITIONS. For the purpose of this Standard, the definitions below apply.

3.1 Glued insulation joint assembly (insulated joint)—an assembly comprising two steel rails rigidly joined together with a pair of fishplates, insulation material, adhesive, steel bolts, nuts and washers (see Figure 1).

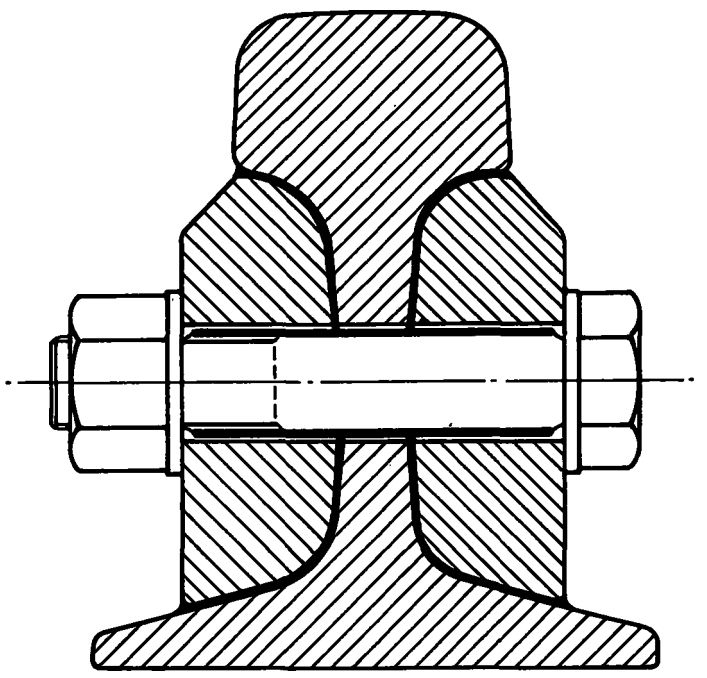

FIGURE 1. TYPICAL GLUED INSULATION JOINT ASSEMBLY

3.2 Rail end—end section of rail cut at right angles to the longitudinal axis.

3.3 Rail end post—insulating material profiled to the cross-section of the relevant rail.

3.4 Cut number—the number that is marked on both rail ends forming the insulated joint.

4 MATERIALS AND CONSTRUCTION.

4.1 Materials.

4.1.1 *Steel rails.* Steel rails shall comply with AS 1085.1 or AS 1085.11.

4.1.2 *Fishplates.* Fishplates shall be full fitting, bar type, of material not less than that specified in AS 1085.2.

4.1.3 *Insulation material.* The insulation material used for the ferrules, rail end posts and for fishplate separation shall not plastically deform when subjected to the loads specified in Table 1.

The length of ferrules shall be such that they extend to within 2 mm of the outer face of each fishplate of a tensioned insulated joint.

The rail insulating end post thickness shall be nominated by the purchaser with a tolerance of +1, −0 mm.

TABLE 1
MINIMUM JOINT LOADS

Rail size kg/m	Longitudinal load *t*	Vertical load *t*
31	60	10
41	80	12
50	95	20
53	100	20
60	115	20
66	125	25

4.1.4 *Adhesive.* The adhesive (or gluing material) shall comply with Clauses 5 and 6.

4.1.5 *Steel bolts, nuts and washers.* Steel bolts, nuts and washers shall comply with AS 1252. The minimum diameter of bolts shall be—

(a) for a rail size of 31 kg/m ..... 20 mm; and

(b) for all other rail sizes ..... 24 mm.

4.2 Construction.

4.2.1 *Drawings.* The manufacturer shall supply the following:

(a) Detailed assembly drawing of the insulated joint.

(b) Detailed drawings of all components of the insulated joint including material specifications or performance characteristics, as appropriate.

NOTE: It is also necessary that the purchaser supply the manufacturer with certain drawings—see Appendix A, Paragraph A2(g).