



Certificate of Type Approval for a product or system

Discipline	Track Engineering
Reference	TR15/1003
Manufacturer	NorFast Inc.
Supplier	Martinus Rail, 2/2 Ethell Road, Kirrawee, NSW, 2232
Place of Manufacture	Australia
Product/System description	NorFast Hercules Insulated Rail Joint 700 Series
Use approved for	All Main Line and Siding locations

Conditions

This Type Approval Certification will be valid for a period of 12 months, subject to further performance review.

- The following steps are to be followed during installation to ensure the rail insulation is effective:
 1. The joint shall be placed midway between sleepers to give e clips maximum opportunity to fit
 2. Ensure the sleeper bay is clear of debris and heaped ballast to prevent the possibility of a short-circuit
 3. The rail joint shall be closed up, with no gap around the insulated material
 4. Low profile e clips shall be installed (where possible), with each clip being clear of the insulated joint bolts by at least 15 mm, in case the rail moves longitudinally
 5. If the required clearance cannot be achieved with the e clip installed, the clip shall be left off, and the shoulder shall be tagged with the note "Do not use clip"
 6. A minimum of two clips must be installed (see Fig. 4, ESC 220 Version 4.8, Section 4.4.3.1)
 7. Adjacent sleepers / bearers, and other rails on the same bearer, must be firmly fastened
 8. If converting from a 600 series joint, ensure matching rail ends by profile grinding if required
- The exact location and as-built condition of the installed rail joint are to be recorded. These records, and the design information, shall be provided to the relevant Rail Infrastructure Manager.
- After installation, the joint shall be photographed from four perspectives; Sydney, Country, Up and Down, from approximately 2 m, clearly showing the location of all clips and shoulders relative to the joint. These photos shall be provided to the relevant Rail Infrastructure Manager.
- During regular maintenance inspections, particular attention shall be paid to the joint itself, the rail ends, plates, fastenings and any pumping of the track. Any accumulated debris shall be removed to ensure that no short circuit can occur. If any geometry defects are observed, or the integrity of the joint itself is suspected (e.g. loose bolts), the relevant RIM must be informed.
- Prior to the expiry date of this document, a thorough examination of all installation locations is to be undertaken. Particular attention shall be paid to the following parameters over the joint: track geometry, dip angle and vibration. The joint displaying the worst wear conditions shall be removed from the track and stripped apart for examination. Particular attention shall be paid to the condition of the bushes.

Approval

Signature	
Name	David Cooper
Title	A/Lead Engineer – Track Engineering
Date	9 th June 2015



Schedule of Certifications

Title	Registration Number	Valid till	Issuing Authority	Status
Quality Management System ISO 9001:2008 Certification	QEC29920	14 Jan 2016	SAI Global	Seen, Issued 17 January 2013

Supporting Documentation

Title	Issuing Authority	Author	Report Number	Status
Analysis and Testing of NorFast NIJ-720 Insulated Joint	Applied Rail Research Technologies	none stated	AR-Nor 02/09	October 2009
Installation Guide for "Hercules" Glued Insulated Rail Joint NIJ- 721 (60kg rail)	Martinus Rail	James Porteous	-	Version 2.2 October 2012
Set of 6 Mechanical Drawings NIJ 700 Series for AS60kg Rail NIJ-721	Martinus Rail	C Lusseni N Burdass N Dean T Martinus	NIJ-721	Sheet 1: Original Sheet 2: Rev 1.1 Sheet 3: Rev 1.0 Sheet 4: Rev 1.2 Sheet 5: Rev 1.1 Sheet 6: Rev 1.0 All issued Mar 2010