



# VLP 138 Type Approval Certificate.

NIFO-1310.2 | Revision 01

<b>Title:</b> (Details of Item or System)	ArcelorMittal AS60 As-Rolled Rails			<b>T/A #</b>	VLP 138
<b>Type Approval Level:</b> (Full or Provisional)?	Full	<b>Date</b>	06/07/12	<b>Submitted for Approval By:</b>	V/Line Infrastructure

(Use in conjunction with NIPR-1310-Type Approval – Infrastructure).

## Executive Summary

### Background

The Regional Rail Link Project is proposing to introduce ArcelorMittal AS60kg as-rolled rails for plain line track on the V/line Passenger corridor. Type Approval is required to ensure compliance with the terms and conditions of the Regional Infrastructure Lease and V/Line Safety Management System for operation on the V/Line network.

This Type Approval application submitted by ArcelorMittal was reviewed by V/Line Infrastructure, is for the supply and shipping of ArcelorMittal AS60 rails.

Ronane International Pty Ltd is the exclusive agent in Australia and New Zealand region for the importation of ArcelorMittal steel, inclusive of steel rails. This Type Approval Certificate is solely with ArcelorMittal (steel rail manufacturer) and not with Ronane (agent).

### Precedents

ArcelorMittal has manufactured and supplied various types of rail sections and sizes across the world. They have extensive experience in providing rail sections and meeting a range of steel rail standards. Their rails supplied are used under different traffic loadings and conditions; ranging from hi-speed passenger services to heavy haul freight lines. Please refer to VLP 138 submission for list of sold rail sections and quantities.

ArcelorMittal's 60E1 rail, compliant to European Standard E13674-1, was tested by Institute of Railway Technology (Monash University) in February 2009, for the application under Australian standards and conditions. The sample was tested for mechanical properties and microstructure. Dimensional test was not a part of the assessment, however the rail was manufactured to comply with dimensional tolerances as outlined in E13674-1. 60E1 rail met composition, hardness, mechanical and microstructural properties based on AS1085.1.

At the time of this Certificate, ArcelorMittal AS60kg rails have not yet been supplied and prototyped for use within Australia.

### Benefits to V/Line

If the testing results of the rail (from the initial batch of supply) prove successful, ArcelorMittal will be qualified for the manufacture and supply of AS60 rail for V/Line and can potentially be used in other rail projects within V/Line.

### Supporting Documentation

The following supporting documents are provided:

- VLP 138: NIFO-1310.1 Type Approval Checklist
- VLP 138: SAFO-048 EWRM Report
- VLP 138: SAFO-081 Risk Register
- VLP 138: Manufacturer's Submission (not all documents are relevant for the manufacture and supply of AS60 rail);
  - ArcelorMittal Rail Catalogue.pdf
  - Intro\_letter\_Aug\_2010.pdf
  - ARCELORMITTAL RPS DEPARTMENT - MAY 2012.pdf
  - AM\_ENG CHANGE LETTER APR\_2011.pdf
  - SALES REFERENCES-2012.doc

- ANNEXE QUALIFICATION REPORT 2009.pdf
- ANNEXE QUALIFICATION REPORT 2011.pdf
- ITMA 2009.pdf
- ITMA RES. STR. 2011.pdf
- IRT FINAL Report Arcelor Mittal SC and MA rails.pdf
- AM VERIÑA PROCESS STEEL SHOP - RH.pdf
- ISO 9001-2008 Gijón 2010a.pdf
- LOGISTIC CAPABILITIES ARCELORMITTAL.pdf
- Flashbutt welding of Arcelor Mittal As-Rolled Rail.pdf
- ON LINE CONTROLS.pdf
- QUALITY MANUAL - ARCELORMITTAL SPAIN.pdf
- EN 13674-1 2003.pdf
- 20110110114456886.pdf
- ASU (1 JULIO 2013).pdf
- HOMOLOGATION DU RAIL VERIÑA.pdf
- SKMBT\_C35311060617310.pdf
- 4951\_001.pdf
- 110719 HPQ Zertifikat.pdf
- ArcelorMittal Terms & Conditions – 3.1 Guarantee.png
- VLP 138: ArcelorMittal / Ronane Clarifications (email responses dated: 22 May 2012 thru to 3 July 2012)
- VLP 138: Manufacturers FMECA Risk Analysis

### Recommendation

Based on V/Line's review of the information provided and upon the receipt of testing results from an approved testing laboratory in Australia by V/Line, the enclosed application is recommended for full type approval.

V/Line fully type approved ArcelorMittal AS60 as-rolled rail (un-drilled) for the use of only plain track.

### Scope of this Approval / Full Item Description

This approval covers the manufacture and supply of ArcelorMittal AS60 as-rolled rail compliant with the terms and conditions of the Regional Infrastructure Lease and V/Line Safety Management System for operation on the V/Line network based on the information contained in:

- Application provided via email from Lawrie Cheal, Ronane, 29<sup>th</sup> March 2012;
- Supporting information and clarifications provided via emails from Lawrie Cheal, 22<sup>th</sup> May 2012 – 3<sup>rd</sup> June 2012.

The rails are approved for use only in plain line tracks (Class 1 to Class 5 and sidings) and not in other track applications (ie within turnouts). The arrival of initial batch of rail supply in Australia shall undergo statistical sampling selection by V/Line representative for validation test. Testing will be carried in Australia prior to track installation by nominated laboratory or equivalent approved by V/Line. Initial laboratory testing of rails shall be of rail purchaser's expense.

Both statistical sampling and testing procedures shall comply with AS1085.1-2002. If testing results prove successful, ArcelorMittal will not be subject to further laboratory tests, however Mill Test certification will continue to mandate for each future supply of rails.

ArcelorMittal rail is warranted for 5 years against manufacturing defects. Any detected flaws during the 5 year warranty will be investigated.

The rails are to be manufactured, handled, commissioned and used in accordance with the manufacturer's requirements for a railway environment and V/Line's requirements as follows.

**Qualifications / Conditions**

**Full Type Approval** will be granted following:



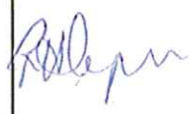


- Arrival of initial batch of rail in Australia will be selected by V/Line representative for statistical sample testing by a nominated laboratory or equivalent approved by V/Line. All results shall comply with AS1085.1-2002. A copy of testing report shall be provided to V/Line Engineering Manager (Track and Civil) for type approval record prior to field installation.
- Laboratory testing of rails (at the rail purchaser's expense) shall include:
  - Material Properties (Tensile strength test, surface hardness test, chemical composition test);
  - Internal Soundness (Sulphur print test, ultrasonic test, hydrogen-induced cracks);
  - External Finish (Visual inspection, eddy current test);
  - Residual stress (Web saw method or strain gauge method or crack arrest method);
  - Dimensional test
- Mill Test reports to be provided for each supply of rails. All results shall comply with AS1085.1-2002.
- The purchaser of rails shall carry out both eddy current testing and ultrasonic testing (in accordance with AS 1085.1-2002) of rails prior to site delivery. All testing reports must be provided to Principal upon site delivery;
- Tools and Equipment register to be updated;
- Update asset details in Maximo.
- Project manager shall be responsible for the record of stock location (spare and reject rails) to ensure reject rails are not mix with spare rails.



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## Authorisation

		Sign	Date	Comments
Recommend	Infrastructure GM (Andrew Last)		22/08/12	
Recommend	Network Services GM (Tony Henwood)		29/8/12	
Recommend	Systems & Safeworking Mgr. (Rupert Capper)		7/9/12	
Approved	V/Line CEO (Rob Barnett)		11/9/12	

## Applicant's Acknowledgement

(Applicant is to sign and return to the designated V/Line Type Approval Facilitator – Tina Yip).

Applicant's Name	Business Name & Title.	Sign	Date	Comments
Mark Finnane	Ronane International Pty Ltd General Manager		12/9/12	