



## Certificate of Type Approval for a product or system

<b>Discipline</b>	Track Engineering
<b>Reference</b>	<b>TR16/2006</b>
<b>Manufacturer</b>	Sekisui Chemical Co. Ltd.
<b>Supplier</b>	Delkor Rail Pty Ltd 74 Harley crescent, Condell Park, NSW 2200
<b>Place of Manufacture</b>	Sekisui Chemical Co. Ltd. Tokyo Head Office 2-3-17 Toranomon, Minato-ku, Tokyo 105-8450 Japan
<b>Product/System description</b>	<b>FFU (Fiber Reinforced Foamed Urethane) Synthetic Sleepers and bearers</b>
<b>Use approved for</b>	Selection of FFU as an alternative to natural timber sleepers and bearers for TfNSW Rail Infrastructure in compliance with ESC 230 – Sleepers and Track Support

### Conditions

1. All Type Approval Certifications will be subject to review within a period not exceeding 5 years
2. The Place of Manufacture shall hold current International Quality System Certification
3. The supplier or manufacturer must advise ASA, TfNSW of any changes made to the product or system that may alter its identification, performance characteristics, form, fit, function, processes required for correct usage or place of manufacture to enable review and revision of this approval
4. FFU sleepers/bearers can be used as direct replacement for timber sleepers (including half sleepers), bearers but excluding transoms
5. Technical Maintenance Plan information shall refer to the Material Safety Data Sheet for the management of FFU materials.

### Approval

#### Signature

#### Name

John Paff

#### Title

Lead Engineer - Track

#### Date

20<sup>th</sup> September 2016



## Schedule of Certifications

Title	Registration Number	Valid till	Issuing Authority	Status
ISO 14001 Environmental Management System Certificate Sekisui Chemical Co. Ltd, Shiga-Ritto Plant	JQA-EM0240	29 <sup>th</sup> October 2016	JQA – Japan Quality Assurance Organization	Seen, Issued 30 <sup>th</sup> October 1998
ISO 9001 Quality Management System Certificate Sekisui Chemical Co. Ltd, Shiga-Ritto Plant	JQA-1817	24 <sup>th</sup> July 2017	JQA – Japan Quality Assurance Organization	Seen, Issued 25 <sup>th</sup> July 1997
ISO 9001 Quality Management System Certificate Delkor Rail Pty Ltd	QRC23882	14 <sup>th</sup> September 2018	SAI Global	Seen, Issued 1 <sup>st</sup> February 2016

## Supporting Documentation

Title	Issuing Authority	Author	Report Number	Status
090123-11FFU_ Sleeper Installation Manual	Sekisui Chemical Co. Ltd.	Unknown	Unknown	Final
Classification Report for reaction to fire in compliance with DIN EN 13501 – 1:2010	MPA Braunschweig	Dr Ing G. Blume	K-3522/798/11-MPA BS	Final
Report on Fire Technical Test in compliance with DIN EN ISO 5659-2 and classification of toxicity of smoke gases according to DIN 5510-2:2009-05	DMT GmBH &Co. KG	Mr. Puschel	20613024b(20613836b) GS-BS/PUS	Final
MSDS & Fire Self Extinguishing Test	Sekisui	Unknown	Unknown	Final
Flammability Report	Sekisui	Unknown	Unknown	Final
Technical Brief – Review of alternative FFU Bearers	Railcorp	Unknown	Unknown	Final
Risk Assessment	Sydney Trains	Unknown	Unknown	Final
Confirmation re FFU TMP requirements ( email)	Sydney Trains	Mina Hanna	N/A	Final