

NEW EQUIPMENT AND SYSTEM APPROVAL CERTIFICATE

Certificate No. NESA-T100

Approval date 7 December 2016

Approved by Review Panel

Report no. 14/31697

This certificate is issued to

Supplier PNG Forest Products Ltd
PO Box 88
Bulolo 423
Papua New Guinea

In respect of

Manufacturer PNG Forest Products Ltd
PO Box 88
Bulolo 423
Papua New Guinea

Product description PNGFP engineered bridgework deck panel "NiuDeck" and short span bridge "NiuBridge"

Item identification NiuDeck
NiuBridge

Application Network wide

Relevant Standards ARTC CoP Section 9
Relevant Australian Standards

**Conditions of
Approval**

1. Not to be used for piling
2. Not to be used as bridge transoms or track sleepers.
3. Design and manufacture of bridge deck panels must be undertaken by the manufacturer.
4. All rail bridge deck panels must be weather proofed with Catonic Rapid Set (CRS) chip seal by the manufacturer.
5. All road bridge deck panels must have deck wearing surface and weather proofed with CRS / asphaltic concrete surface by installation contract.
6. Installation and maintenance must be carried out as per manufacturer's instructions, PPE sheet and MSDS sheet.
7. The manufacturer shall report any change to the product's design or manufacture to the ARTC Standards section. This includes any change to the product's quality and process controls.
8. Risk control to be completed as per risk assessment requirement:
 - Supplier to provide detailed installation instructions with

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the product that explains the cutting/scaring actions that can or should not be performed with the product.

- Installer to create checking and verification procedures at handover on site that no cutting/scaring has taken place and if so, what remedial action is required.
- Design the installation/application to accommodate rivet heads where necessary as a specific EWP design.
- Supplier to provide an installation and handling guide with the supply of the produce with specific reference to screws and their locations and any cutting issues/warnings
- Installer to develop and carry out a special series of checks of the fasteners close after installation on site.
- Supplier to review the existing inspection regimes for hardwood and, if required, develop any special inspection methodologies and regimes to suit.

Any subsequent change to the design, materials or manufacturing process is not covered by this approval. The manufacturer should notify ARTC of any modification or changes in order to obtain a valid certificate.

Note/Comments**Issue date****Expiry date** N/A**Issued by****John Furness****ARTC Manager Standards**

**NEW EQUIPMENT AND SYSTEM
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- Risk Assessment – Boral Engineered wood product (EWP) “Bridgewood” dated August 2009.

Test Report/Certificate

- PNG Forest Products – Full scale testing of modular composite timber bridge deck – Research report No. RES2013-652.1 – March 2014.
- PNG Certificate for testing of Niudeck product – December 2013.
- PNG Forest Group – Composite timber bridge deck – Property evaluation – June 2014.
- EWPAAsawn timber mechanical properties 9-464 – September 2013.
- Development of ply based engineered wood products for road and rail bridge applications: Transom connection tests – Report: Res 07/189-2 - May 2009.
- Development of ply based engineered wood products for road and rail bridge applications: Beam and transom tests - Report: Res 07/189-1 - May 2008.
- Development of ply based engineered wood products for road and rail bridge applications: Bridgewood shear tests – Report: Res 07/189-3 - March 2008.
- Full scale testing of a Bridgewood / Level beam composite deck module for road bridge applications: Serviceability and ultimate load tests - Report: RES 07/189 - 3 – October 2008.
- Fire resistance report by EWPAAs.

Manuals

- “Niudeck” and “Niubridge” installation guidelines.
- “Niudeck” and “Niubridge” installation guidelines (2).
- Niudeck construction manual – 2014.

Quality control

- Letter regarding quality systems (in lieu of certification to ISO 9001).

Other

- Bridgewood, Niubridge and Niudeck – Performance comparison against Boral Bridgewood Products – July 2014.
- Osborne Lane structural design certificate BR130220 – September 2013.
- Boral Bridgewood – Review for ARTC - September 2008.