

**NEW EQUIPMENT & SYSTEM APPROVAL PROFORMA**

Ref: 08-08-11-125

Note: the prompts given below are only a guide to the information required for approval. Dependent on the type of equipment or system that requires approval delete any section that is not applicable or include additional information if necessary. Mandatory fields are marked with an asterisk (\*).

**1 Equipment or System to be approved \***

**BORAL ENGINEERED BRIDGEWOOD DECK PANEL**

**2 Originator \***

Name: PETER ROBINSON

Company: BORAL PLYWOOD

**3 Introduction \***

BORAL PLYWOOD HAS DEVELOPED A PLY BASED ENGINEERED WOOD PRODUCT (EWP) 'BRIDGEWOOD' FOR USE ON RAIL BRIDGES, USING HIGH GRADE VENEERS TO PRODUCE SPECIALIST PLYWOOD PRODUCT.

OVER THE PAST 2 YEARS BORAL PLYWOOD IN CORRABORATION WITH INSTITUTE OF PUBLIC WORKS ENGINEERING AUSTRALIA, ARTC AND UNIVERSITY OF TECHNOLOGY SYDNEY DEVELOPED ENGINEERED WOOD PRODUCT ALTERNATIVE TO THE TRADITIONAL HARDWOOD USED IN THE CONSTRUCTION OF BRIDGES.

BRIDGEWOOD DECKING FOR ROAD BRIDGES HAS BEEN AVAILABLE FOR OVER 20 YEARS WITH THE PRODUCT'S LONGEVITY PROVING ITSELF OVER THIS TIME.

INDIVIDUAL VENEERS ARE NOW TREATED TO ENHANCE THE PRODUCT'S DURABILITY (50+ YEARS) - H4 TREATMENT.

THE DECK PANELS NEVER GOT USED IN RAIL BRIDGES BECAUSE THE PANELS WERE TREATED PRVIOUSLY TO H3 ENVELOPE PRESERVATION LEVEL. NOW INDIVIDUAL VENEERS OF A PANEL IS UNDERGO H4 TREATMENT THUS THE DURABILITY OF PRODUCT IS NOT AFFECTED BY CUTTING OR DRILLED HOLES.

**4 Determination of Need \***

- TO REPLACE EXISTING TIMBER TRANSOMS AND BALLAST DECKS
- ALTERNATIVE PRODUCT TO CONCRETE OR STEEL ELEMENTS.
- LIGHTER IN MASS THAN CONCRETE.
- ECONOMIC BENEFITS OVER OTHER MATERIALS.
- WORKABILITY IS MUCH EASIER; CUT & DRILL TO SUIT SITE CONSTRAINTS.

**5 Significant Change or Not (as determined by the Manager Standards) \***

This change in equipment or system is assessed as SIGNIFICANT

**6 Review Panel (as determined by the Manager Standards) \***

- John Furness - Manager Standards
- Tim Calver - Senior Engineer
- Peter Prasad - National Bridges & Structures Engineer

**7 Safety**

THE DECK IS MANUFACTURED TO A TIGHT SET OF DESIGN PARAMETERS INCLUDING TO KEY STANDARDS AS/NZS 2269 PLYWOOD STRUCTURAL AND AS/NZS 1604.3 PRESERVATIVE TREATMENT. ADHERENCE TO THESE STANDARDS IS CONTROLLED AND MONITORED BY ISO 9001 QUALITY SYSTEM.

THE AUSTRALIAN FORESTRY STANDARD AND PROGRAMME FOR THE ENDORSEMENT OF FOREST CERTIFICATION SCHEME PROVIDE THIRD PARTY CERTIFICATION FOR TIMBER PRODUCTS AS DERIVED FROM SUSTAINABLY MANAGED FORESTS. CHAIN OF CUSTODY CERTIFICATION ALLOWS THE TRACKING OF FOREST AND WOOD PRODUCTS FROM THEIR ORIGIN IN A CERTIFIED FOREST TO THEIR END USE BY CUSTOMERS.

RAIL BRIDGE COMPONENTS WILL BE DESIGNED TO MEET REQUIREMENTS OF STANDARD AS5100.2 RAILWAY LOADING.

PRESERVITATIVE TREATMENT METHOD IS BY VENEER TO HAZARD CLASS H4 AS DETAILED IN AS/NZS 1604.3.

**8 Performance and Suitability**

THE FOLLOWING ENCLOSED REPORTS VERIFY THE PERFORMACE AND SUITABILITY OF THE DECK PANELS:

<ul style="list-style-type: none"> <li>BORAL BRIDGEWOOD – REVIEW FOR ARTC dated 15<sup>TH</sup> SEPTEMBER 2008.</li> <li>DEVELOPMENT OF PLY BASED ENGINEERED WOOD PRODUCTS FOR ROAD AND RAIL BRIDGE APPLICATIONS: BEAM AND TRANSOM TESTS – REPORT: Res 07/189-1 dated MAY 2008.</li> <li>DEVELOPMENT OF PLY BASED ENGINEERED WOOD PRODUCTS FOR ROAD AND RAIL BRIDGE APPLICATIONS: TRANSOM CONNECTION TESTS – REPORT: Res 07/189-2 dated MAY 2008.</li> <li>DEVELOPMENT OF PLY BASED ENGINEERED WOOD PRODUCTS FOR ROAD AND RAIL BRIDGE APPLICATIONS: BRIDGEWOOD SHEAR TESTS - REPORT: Res 07/189-3 dated MARCH 2008.</li> </ul>							
(i)	<b>Use in other rail networks</b>	NEW ZEALAND RAILWAYS					
(ii)	<b>Use in the ARTC network</b>	NOT CURRENTLY USED ON ARTC RAIL BRIDGES TO CARRY RAIL LOADS					
(iii)	<b>Issues arising from usage of the equipment/system</b>	NIL. RISK ASSESSMENT DETERMINED IT IS ACCEPTABLE FOR RAIL BRIDGE USE.					
(iv)	<b>Changes required to infrastructure or systems for use of the equipment</b>	NIL					
9	<b>Reliability</b>	SUPPLIER ISSUES A 50 YEAR WARRANT ON BORAL BRIDGEWOOD PRODUCT, INCLUSIVE OF TREATMENT AND PLY BOND.					
10	<b>Maintainability</b>	INSPECTION AND MAINTENANCE AS PER EXISTING TIMBER BRIDGE DECKS WITHOUT REQUIREMENT FOR BORING.					
11	<b>Approval *</b>	APPROVAL IS SOUGHT TO USE BORAL ENGINEERED BRIDGEWOOD PRODUCT ON ARTC RAIL BRIDGES.					
12	<b>Conditions of Approval *</b>	NIL					
<b>&lt;&lt;NOTE: Review Panel may add additional Conditions of Approval&gt;&gt;</b>							
13	<b>Does the Originator accept the additional Conditions of Approval as set by the Review Panel:</b>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	N/A	<input type="checkbox"/>
14	<b>Sign off</b>	<b>ARTC office use only</b>					
	<b>Review Panel:</b>						
	John Furness	_____	Date:	_____			
	Tim Calver	_____	Date:	_____			
	Peter Prasad	_____	Date:	_____			

**ATTACHMENTS:**

- RISK ASSESSMENT – BORAL ENGINEERED WOOD PRODUCT (EWP) "BRIDGEWOOD" dated AUGUST 2009.
- BORAL BRIDGEWOOD – REVIEW FOR ARTC dated 15<sup>TH</sup> SEPTEMBER 2008.
- DEVELOPMENT OF PLY BASED ENGINEERED WOOD PRODUCTS FOR ROAD AND RAIL BRIDGE APPLICATIONS: BEAM AND TRANSOM TESTS – REPORT: Res 07/189-1 dated MAY 2008.
- DEVELOPMENT OF PLY BASED ENGINEERED WOOD PRODUCTS FOR ROAD AND RAIL BRIDGE APPLICATIONS: TRANSOM CONNECTION TESTS – REPORT: Res 07/189-2 dated MAY 2008.
- DEVELOPMENT OF PLY BASED ENGINEERED WOOD PRODUCTS FOR ROAD AND RAIL BRIDGE APPLICATIONS: BRIDGEWOOD SHEAR TESTS - REPORT: Res 07/189-3 dated MARCH 2008.

**08-08-11-125 Boral Plywood dormant sign off**

**Reason:**

Supplier confirmed Boral no longer manufacture any plywood products any more.  
Existing structures remain as product is performing satisfactorily.

Conformation emails from supplier attached.

**Sign off:**

Name: John Furness

Position: Manager Standards

Signature: 

Date: 21/12/2016

Additional sign off for significant type approval:

Name: ~~Rob Baker~~ **Rob Bath**

Position: Acting General Manager Technical Standards

Signature: 

Date: 3/1/2017

Attachments:

- Supplier's Confirmation: boral

No new items to be purchased.  
Existing item in track approved.