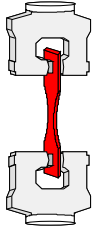


## Mechanical Testing

- Tensile
- Compression
- Bend
- Shear
- Load
- Structures
- Fasteners
- Tensioning & Staying Systems
- Structural Bearings





IN CONFIDENCE TO THE CLIENT

REPORT NO: MT-07/402

**TESTING OF AN ALUMINIUM SCAFFOLD PLANK TO AS 6001-1999**

CLIENT: **NOEL RANKIN**  
DRILLMATE  
17 GATWICK ROAD  
BAYSWATER VIC 3153

DATE OF TEST: OCTOBER 22<sup>ND</sup> 2007

DATE OF REPORT: OCTOBER 31<sup>ST</sup> 2007

**SYNOPSIS:**

Scaffolds planks were delivered to the Melbourne Testing Services (MTS) laboratory for testing. The scaffold planks, as shown in Figure 1, were to be tested for stiffness and strength as required by AS 1577-1993 SCAFFOLD PLANKS and in accordance with AS 6001-1999 WORKING PLATFORMS FOR HOUSING CONSTRUCTION.

In accordance with the client's instructions single planks were to be tested at the nominated maximum span of 3.0 metres to confirm that the Working Load Limit (WLL) could be applied without violating the deflection criteria as specified in AS 6001. Double planks clamped at mid-span were also tested over a span of 3.8 metres to confirm that the nominated WLL could be achieved in accordance with AS 6001-1999 Clause 3.1.

Upon arrival at the laboratory the planks were identified and the following details were recorded:

- Manufacturer: *Drillmate "Oz-Plank"*
- Plank Dimensions: *4.0m long x 225mm wide x 50.2mm deep*
- Aluminium Alloy Type: *6063-T6*

**CONFORMANCE TESTING:**

At the request of the client, testing was required to verify the planks performance in "Stiffness and Strength" as required by AS 1577-1993 SCAFFOLD PLANKS and AS 6001-1999 WORKING PLATFORMS FOR HOUSING CONSTRUCTION. Two tests were to be conducted as per the following AS 1577-1993 procedures:

2.2.1 Stiffness Test

2.2.2 Strength Test



**FIG.1.**  
**SCAFFOLD TEST PLANK**

RODNEY WILKIE  
AUTHORISED SIGNATORY

DATE: OCTOBER 31<sup>ST</sup> 2007

### **SINGLE PLANK STIFFNESS TEST**

Stiffness testing was conducted at 10.00am on the 22/10/07 and in accordance with AS 1577 Appendix A. The plank was supported on two tubular rollers and at a span of 3.0 metres. A test load ( $F_t$ ) of **2.11kN  $\approx$  215kg**, was applied to the plank for a period of 15 minutes. The corresponding mid-span deflection was recorded to be 37.0mm. This deflection was less than the maximum allowable of 37.5mm. There was no sign of failure or permanent deformation in the plank at completion of the test. The plank passed the stiffness test.

### **SINGLE PLANK STRENGTH TEST**

Strength testing was conducted at 11.00am on the 22/10/07 and in accordance with AS 1577 Appendix B. The plank was supported on two tubular rollers and at a span of 3.0 metres (See Fig.2). A test load ( $F_t$ ) of **4.22kN  $\approx$  430kg**, was applied to the plank for a period of 15 minutes. The residual deflection at 100N was recorded to be zero mm.

The plank was then reloaded to **4.64kN  $\approx$  473kg** with the deflection recorded to be 77mm while under load. Visual inspection of the plank while under test load revealed some minor buckling in the top flange however, the plank did not collapse or fail therefore the plank passed the strength test.



**FIG.2.  
STRENGTH TEST**



**FIG.3  
DOUBLE PLANK TESTING**

### **DOUBLE PLANK 3.8M STIFFNESS TEST**

Stiffness testing was conducted on a double plank assembly, clamped together near the mid-span cross-section and with a support span of 3.8m (See Fig.3). Testing was conducted by applying a test load of **2.35kN  $\approx$  240kg** to the edge of one plank for 15 minutes in accordance with AS 1577 Appendix A and AS 6001. The mid-span deflection while under test load was recorded to be 47.0mm, less than the maximum permissible mid-span deflection of 47.5mm as required by AS 6001-1999, therefore the planks passed the test.

### **DOUBLE PLANK 3.8M STRENGTH TEST**

Strength testing was also conducted on the double plank assembly by applying load in the middle of the two planks. The test load of **4.71kN  $\approx$  480kg** was applied for 15 minutes. Upon release of the load the residual deflection was recorded to be zero therefore the plank passed the test.

The planks were then reloaded to **5.18kN  $\approx$  528kg** and visual inspection of the planks while under test load did not reveal any sign of failure or permanent deformation therefore the planks passed the strength test.

### **SUMMARY OF RESULTS**

*Single Plank 3.0m Span*                      **2.11kN  $\approx$  215kg Complies with AS 6001-1991 Clause 3.1**

*Clamped Double Plank 3.8m Span*    **2.35kN  $\approx$  240kg Complies with AS 6001-1991 Clause 3.1**

#### Notes:

- 1) This report only indicates compliance of the scaffold plank in its state at the time of testing. It should not be taken as a statement that all similar scaffold planks in all states of repair, would also be found to comply.
- 2) It remains the responsibility of the client to ensure that the samples tested are representative of the entire product batch.
- 3) MTS shall take no responsibility for the conformance and performance of scaffold planks other than the plank tested and described herein.
- 4) This report only covers the structural stiffness and strength of the scaffold planks and is specific to the requirements of AS 6001-1999 Section 3.
- 5) All testing was conducted at Melbourne Testing Services Laboratory, unit 1/15 Pickering Road, MULGRAVE Vic 3170 by Rodney Wilkie (Test Engineer).

**RODNEY WILKIE  
AUTHORISED SIGNATORY**

**DATE: OCTOBER 31<sup>ST</sup> 2007**