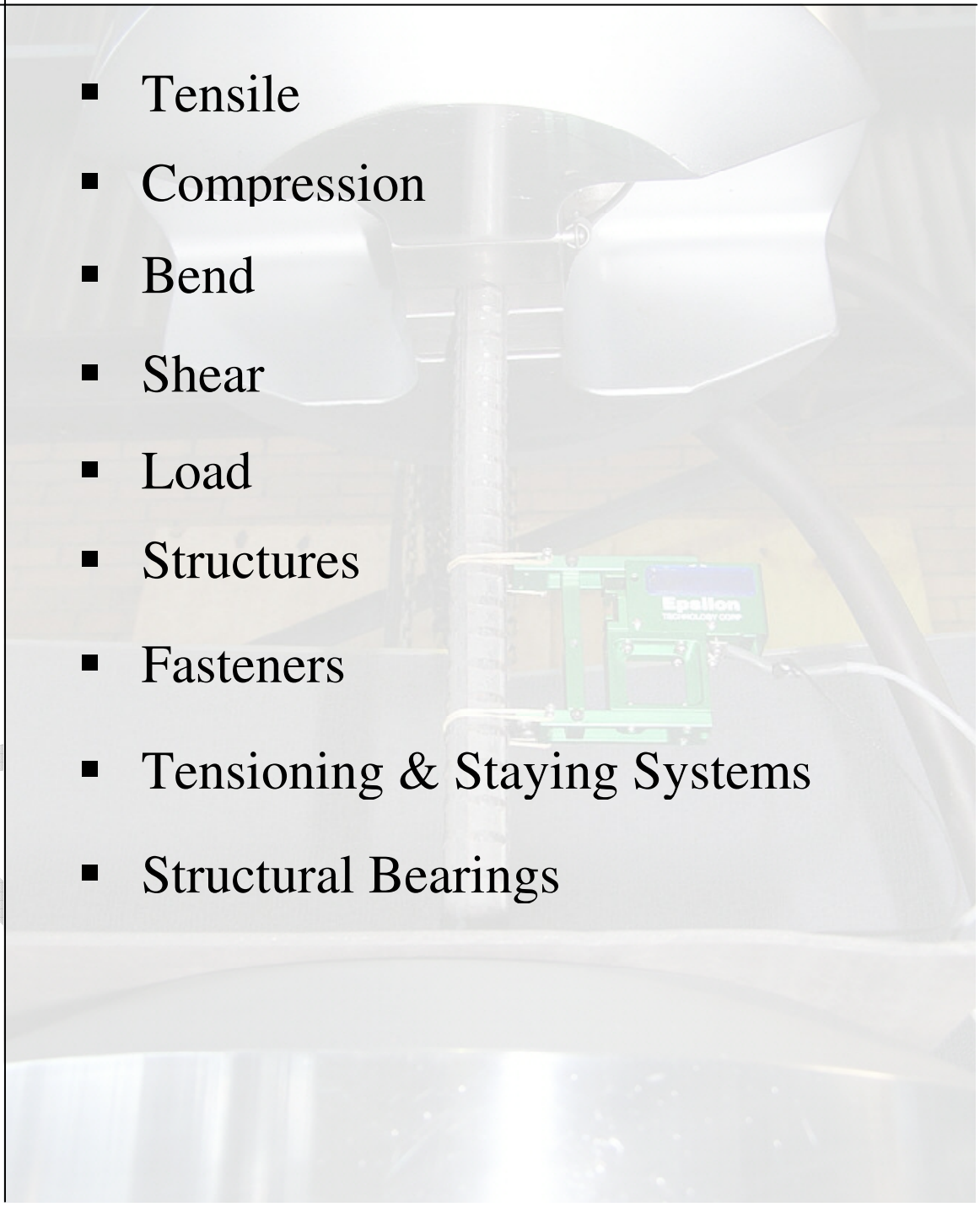
Melbourne Testing Services

# Mechanical Testing



- Tensile
- Compression
- Bend
- Shear
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- Structures
- Fasteners
- Tensioning & Staying Systems
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NATA
ACCREDITED FOR TECHNICAL COMPETENCE

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IN CONFIDENCE TO THE CLIENT

REPORT NO: MT-07/288-C

# LOAD TESTING OF LOAD BEARING SCAFFOLD COMPONENTS

CLIENT: **SYNERGY METALS**
C-143 PH-7 INDUSTRIAL AREA
MOHALI (PUNJAB) INDIA

DATE OF TESTING: AUGUST 29TH TO AUGUST 30TH 2007

DATE OF REPORT: SEPTEMBER 5TH 2007

**TEST SYNOPSIS:**

Load bearing scaffold components were delivered to the Melbourne Testing Services (MTS) laboratory for load testing. The test items, as shown in Figure 1, were constructed from a steel angle iron and tubular sections.

At the request of the client load bearing scaffold components including Transoms, Two Board Hop-ups and Single Board Stage Brackets were to be load tested to determine if they could withstand a sustained application of load. Testing was to be conducted in accordance with the requirements of AS 1576.3-1995 SCAFFOLDING PART 3; PREFABRICATED AND TUBE-AND-COUPLER SCAFFOLDING.

Prior to testing the identification details of each item were recorded as follows:

*1.2m Transom:* *P/N SMM-11-00, Mass 9.4kg*

*Two Board Hop-up Bracket:* *P/N SMM-14-00, Mass 6.5kg*

*Single Board Stage Bracket:* *P/N SMM-12-00, Mass 2.4kg*

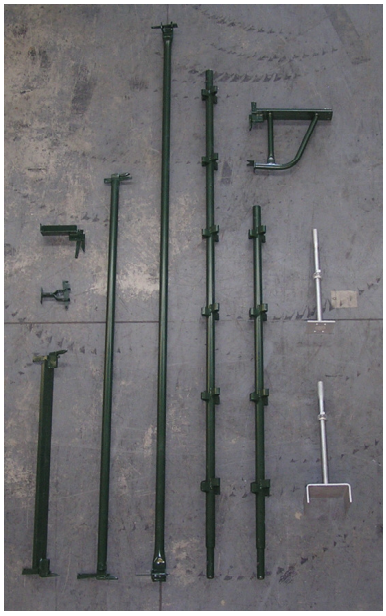

**FIG.1.**
**SCAFFOLD COMPONENTS**

**TEST PROCEDURE:**

The tests were conducted on Thursday August 29th and Friday August 30th 2007 by, Rod Wilkie, Mechanical Testing Engineer. Testing was conducted by applying a factored test load consisting of combined dead and live loads as required by AS 1576.3 Appendix C. In each case the applied load was maintained for 15 minutes prior to terminating the test. In each case deflection of the test item was recorded while under load and at completion of the test.

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**TEST PREPARATION:**

Prior to testing the mass of each item was accurately recorded for the determination of the dead loads (G). Weighing was conducted using a calibrated balance and the mass of the items as provided on Page 1 was recorded.

**CALCULATION OF TEST LOADS:**

Test loads for each item were calculated in accordance with AS/NZS 1576.1 and AS/NZS 1576.3 Appendix B. Dead loads "G" were calculated from the mass of the items and assuming a nominal plank mass of 12.5kg. A live load "Q" of 6.6 kN, corresponding to a heavy duty scaffold was adopted for the transom and two board hop-up tests.

A light duty live load of 2.2kN was adopted for the single board stage bracket loading.

***Load Calculations (G & Q)***

**Transom Test**

Dead Load G: 0.71kN
Live Load Q: 6.6kN

**Hop-up Test**

Dead Load G: 0.31kN
Live Load Q: 6.6kN

**Stage Bracket Test**

Dead Load G: 0.15kN
Live Load Q: 2.2kN

***Calculated Test Loads***

**Transom Test**
**14.6kN**
**Hop-up Test**
**13.8kN**
**Stage Bracket Test**
**4.7kN**

**FIG.2.**
**TRANSOM TEST SETUP**

**FIG.3.**
**HOP-UP TEST SETUP**

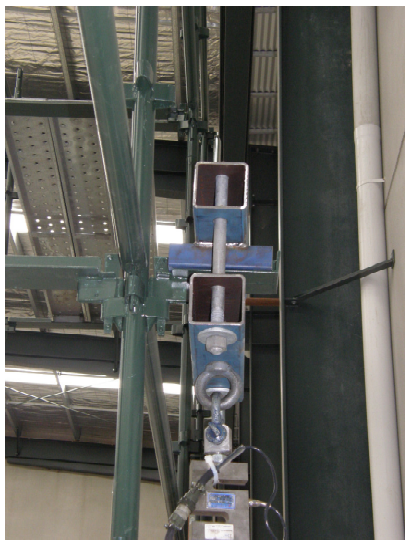

**FIG.4.**
**STAGE BRACKET TEST SETUP**

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ABN: 71353261540

**TEST OBSERVATIONS:**

Test observations for each of the scaffold components are provided as follows:

**#1** ***1.2m Transom:***

- Recorded deflection at test load: 14mm
- Residual deflection after testing: 4mm
- No visible sign of failure observed either during or at completion of testing.
- The SMM-11-00 transom passed the load test.

**#2** ***Two Board Hop-up:***

- Recorded deflection at test load: 34mm
- Residual deflection after testing: 5mm
- No visible sign of failure observed either during or at completion of testing.
- The SMM-14-00 hop-up passed the load test.

**#3** ***Single Board Stage Bracket:***

- Recorded deflection at test load: 10mm
- Residual deflection after testing: 6mm
- No visible sign of failure observed either during or at completion of testing.
- The SMM-12-00 single board stage bracket passed the load test.

**SUMMARY:**

In all three cases the load bearing scaffold components were deemed to have passed the load test in accordance with APPENDIX C of AS 1576.3-1995.



Notes:

1) Melbourne Testing Services Pty Ltd shall not be liable for loss, cost, damages or expenses incurred by the client or any other person or company, resulting from the use of any information or interpretation given in this report. In no case shall Melbourne Testing Services Pty Ltd be liable for consequential damages including, but not limited to, lost profit, damages for failure to meet deadlines and lost production arising from this report. This document shall not be reproduced except in full and relates only to the items tested.
2) This report only indicates compliance of the scaffold components in their state at the time of testing. It should not be taken as a statement that all similar scaffold components in all states of repair, would also be found to comply.
3) It remains the responsibility of the client to ensure that the samples tested are representative of the entire product batch.
4) This report only covers the structural integrity of the scaffold components as specifically required by AS 1576.3-1995 Appendix C.
5) MTS shall take no responsibility for the compliance of the scaffold components tested and reported herein where the requirements are not in accordance with AS 1576.3-1995 Appendix C.

RODNEY WILKIE
**AUTHORISED SIGNATORY** **DATE: 05/09/07**