



Technologies in Structural Engineering P/L
A NATA Accredited Laboratory, Number 14700
28 Gordon Street Penrith NSW 2750
PO Box 763 Penrith NSW 2751 Australia
ACN 091-139-749 ABN 78-091-139-749
Tel: +61(2)4725-5801 Fax: +61(2)4722 5773

Transtage Staging Equipment
1/364 Park Road
Regents Park, NSW 2143

19 May 2016

Re: Load Capacity of Transtage All-Terrain Staging Platforms

Dear Sir,

A series of tests on five Transtage All-Terrain staging units measuring 2000x1000x380 mm in height were undertaken for your company in May 2015. The tests involved the application of either a vertical point load, or a vertical uniformly distributed load to the central 1000x1000 mm part of each unit, on the horizontal surface of each unit up to a maximum deflection of 180 mm. The results are summarised below.

Loading Condition	Transtage 2000x1000x380 mm aluminium and plywood stage unit Mean Load Capacity
Central point load capacity	32.7 kN
Edge point load capacity	19.3 kN
Uniformly distributed load capacity	51.3 kN

The vertical load capacities listed above were based on the peak load capacity of the staging units which occurred after substantial non-linearity on the load-deflection response. The ductility of the units was excellent, with a total central deformation at failure of about 150 mm. It has been assumed that no dynamic or lateral loads are applied to the units concurrent to the vertical uniformly distributed load. Given the non-linear deformation characteristics at advanced loads, it is suggested that a material performance reduction factor of 2.0 be applied on short-term crowd loading of the units, thus it can be estimated that the design point load capacity of each unit is 16 kN for a central load and 9.5 kN for an edge load. The capacity under a distributed load is about 2.5 kPa.

Yours faithfully,

Dr. Stefan Bernard BE, PhD, Director, TSE P/L