



# DS40 Main Stage Deck & PA Wings

## General Information.....

Daytona's Alistage deck is manufactured from Aluminium Alloy grade 6005T6. The material has a 0.2% proof stress of 225MN/m<sup>2</sup>. The sections are extruded and comply with BSEN755-2.

The decking frame is constructed through the TIG welding process and is carried out in accordance with specifications laid out in BS3019: part 1: Specification for TIG welding of Aluminium by welders certified to BS:EN:287-2. Approval testing of welders for fusion - part 2: Aluminium and it's Alloys.

The decks are made from 18mm Finnish plywood which is phenolic resin cross bonded using weather resistant glueing according to EN 314-2/class 3 (DIN 68705 Teil 3: BFU 100: BS6566 part 8: The surface is a brown phenolic resin impregnated multi-layer laminate with hot pressed high friction pattern.

There are a total of 27 fully adjustable Alistage legs to ground, with triangulation where required. All legs have wooden pads to ground.

## Dimensions.....

Main stage deck: 8m wide x 5m deep.

PA wings: 2m wide x 1.2m deep (these are attached to the main deck).

Height from ground to deck: 1.1m

## Loadings.....

Overall: 7.5kN/m<sup>2</sup> which is approximately equivalent to 750kg/m<sup>2</sup>.

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The Third Edition of Temporary Demountable Structures published by The Institution of Structural Engineers states, in section 10.3.1, that stages should be designed to accept a minimum vertical static load of  $5\text{kN/m}^2$  with a simultaneous notional horizontal load applied in any one direction at the stage surface. Table 12 in Section 9 defines three categories of use the most onerous being Category 3 which requires the notional horizontal load to be 10% of the applied vertical load.

Tests witnessed by Lloyd's Register, have been carried out on a  $1.22 \times 2.44\text{m}$  stage deck (test 1) and a  $1.22 \times 1.22\text{m}$  stage deck (test 2) at  $400\text{mm}$  high (the longest stage leg without knee brace supports), and  $1200\text{mm}$  (the longest stage leg with knee brace supports). In witness of these tests certificate number SOU520348/1/A1 has been issued by Lloyd's Register.

The following calculations show the conversion of the applied loads from the above tests from  $\text{kg}$  into  $\text{kN/m}^2$ .

### Test 1

Stage Deck size	$1.22 \times 2.44\text{m}$	
Stage Deck area	$(1.22 \times 2.44\text{m})$	$= 2.9768\text{m}^2$
Total Applied vertical load	$3035\text{kg}$	$= (3035\text{kg} \times 9.81\text{m/s}^2)$
		$= 29773\text{N}$
		$= 29.773\text{kN}$
Applied vertical load per $\text{m}^2$		$= \frac{29.773\text{kN}}{2.9768\text{m}^2}$
<b>Applied vertical load</b>		<b><math>= 10\text{kN/m}^2</math></b>

Simultaneous to the vertical load, a horizontal load of 10% of the vertical load ( $304\text{kg}$ ) was applied in both the long and short planes, this equates to  $2.98\text{kN}$  and simulates a live load.

### Test 2

Stage Deck size	$1.22 \times 1.22\text{m}$	
Stage Deck area	$(1.22 \times 1.22\text{m})$	$= 1.4884\text{m}^2$
Total Applied vertical load	$1518\text{kg}$	$= (1518\text{kg} \times 9.81\text{m/s}^2)$
		$= 14891\text{N}$
		$= 14.891\text{kN}$
Applied vertical load per $\text{m}^2$		$= \frac{14.891\text{kN}}{1.4884\text{m}^2}$
<b>Applied vertical load</b>		<b><math>= 10\text{kN/m}^2</math></b>

Simultaneous to the vertical load, a horizontal load of 10% of the vertical load ( $153\text{kg}$ ) was applied in both planes, this equates to  $1.5\text{kN}$  and simulates a live load.



Project: STAGING UNIT LOAD TESTS Certificate No.: SOU520348/1/A1  
Client: ALISCAFF LTD Office: CRAWLEY  
TOTTENHAM LONDON N17 ORJ Date: 19.7.95  
Client's Order No.: Order Status: COMPLETE  
Inspection dates First: 4.7.95 Final: 4.7.95

This certificate is issued to **ALISCAFF LIMITED** following attendance at their **TOTTENHAM** works by the undersigned Surveyor on the date shown during which **Load Tests** on the undernoted items were witnessed and found to be satisfactory.

**TEST 1** 2440mm x 1220mm Stage Deck (Part No.7460) on 1200mm legs (Part No. 7511)  
Vertical loading of 3035 Kgs simultaneous with horizontal loading of 304 Kgs in both long and short planes  
Repeated with stage on 400mm legs (Part No.7465).

**TEST 2** 1220mm x 1220mm Stage Deck (Part No. 7462) on 1200mm legs (Part No. 7511)  
Vertical loading of 1518 Kgs simultaneous with horizontal loading of 153 Kgs in both planes.  
Repeated with stage on 400mm legs (Part No.7465).

Testing was generally in accordance with the **GUIDE TO HEALTH SAFETY AND WELFARE AT POP CONCERTS AND SIMILAR EVENTS & BS6399 Pt.1 1984.**

All items were inspected on completion of testing at each stage. No permanent set deflections were evident after the loadings' and the equipment was found to be sound and workmanship satisfactory.

I A G MORTIMER  
Surveyor to Lloyd's Register

NOTICE - This certificate is subject to the terms and conditions overleaf, which form part of this certificate.  
FORM 1123 (07/93) Lloyd's Register of Shipping, registered office: 71 Fenchurch Street, London EC3M 4BS

