Test Report No. *582302993*

Testing, examination and assessment of a variable tread and angle T&F staircase and landing beams

Private & Confidential

Report No: SW-T&F-BS EN 12811testing-28 November 2005 (This report contains 6 pages)

Client: Central Scaffold Services Ltd

Items tested: Variable tread and angle T&F staircase and landing beams

Specification: Compliance of load (distributed and point loads) and deflection requirements of BS EN 12811-1 2003 "Temporary works equipment – Part 1: Scaffolds – Performance requirements and general design". Clauses 6.1.3 Load classes, 6.2.4 Access routes and 6.3.1 Elastic deflection of platform units

Results: See Summary of results

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Issue date: 3 January 2006

INTRODUCTION

At the request of Central Scaffold Services Ltd, the T&F (Tube and Fitting) Staircase detailed below, was tested and assessed against the requirements of BS EN 12811-1 2003, clauses 6.1.3 Load classes, 6.2.4 Access routes and 6.3.1 Elastic deflection of platform units, as indicated on the following pages of this report.

The results detailed in this Report apply to the staircase tested and to the specific clause tests carried out.

Date of tests: 28 November 2005

TEST ITEMS

Variable tread and angle T&F staircase, comprising seven 812mm clear span treads, adjustable bottom base, top hooks and landing support beams.

MEASUREMENTS AND RESULTS

Load and deflection measurements for treads, stair flight and landing were recorded as follows.

Vertical height from floor to top of landing was 1,505mm

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(4) Stair Flight "UDL"

Class	Load (KN/m2)	Tread Area (m2)	Tread Load (Kgf)	Span (mm)	MAX. Allowable deflection (mm)	Average Actual deflection (mm)	NEAR side dial gauge deflection (mm)	OPPOSITE side dial gauge deflection (mm)	Result
1	1.0	0.195	20	1,751	17.5	2.27	2.38	2.15	Pass
3	2.0	0.195	40	1,751	17.5	4.89	5.49	4.29	Pass
4	3.0	0.195	60	1,751	17.5	7.08	8.05	6.11	Pass
4	4.0	0.195	80	1,751	17.5	9.37	10.39	8.34	Pass
5	5.0	0.195	100	1,751	17.5	11.42	12.25	10.59	Pass
			residual deflection				0.01	0.08	

(5) Landing & beam "UDL"

Class	Load (KN/m2)	Landing Area (m2)	Load (Kgf)	Beam Span (mm)	MAX. Allowable deflection (mm)	Average Actual deflection (mm)	Centre of half beam engaging stair flight (deflection - mm)	Centre of beam away from stair flight (deflection - mm)	Result
1	1.1	2.63	290	2,048	20.5	0.28	0.0	0.55	Pass
3	2.2	2.63	580	2,048	20.5	0.79	0.05	1.52	Pass
4	3.2	2.63	870	2,048	20.5	1.24	0.15	2.32	Pass
4	4.3	2.63	1160	2,048	20.5	1.74	0.20	3.28	Pass
5	5.4	2.63	1460	2,048	20.5	2.35	0.35	4.34	Pass
			residual deflection				0.13	0.00	

Appendix B Load and deflection measurements

(1) Tread "UDL"

Class	Load (KN/m2)	Tread Area (m2)	Tread Load (Kgf)	Span (mm)	MAX. Allowable deflection (mm)	Average Actual deflection (mm)	CENTRAL dial gauge deflection (mm)	NEAR side dial gauge deflection (mm)	OPPOSITE side dial gauge deflection (mm)	Result
1	1.0	0.195	20	812	8.1	0.56	0.77	0.47	0.44	Pass
3	2.0	0.195	40	812	8.1	1.13	1.58	0.92	0.89	Pass
4	3.0	0.195	60	812	8.1	1.68	2.28	1.51	1.24	Pass
4	4.0	0.195	80	812	8.1	2.19	2.96	1.96	1.64	Pass
5	5.0	0.195	100	812	8.1	2.68	3.63	2.46	1.95	Pass
			residual deflection				0.59	0.05	0.00	

(2) Tread "Concentrated Load" (200x200mm) but applied over 152.4 x 240 mm.

Class	Load (KN)	Tread Load (Kgf)	Span (mm)	MAX. Allowable deflection (mm)	Average Actual deflection (mm)	CENTRAL dial gauge deflection (mm)	NEAR side dial gauge deflection (mm)	OPPOSITE side dial gauge deflection (mm)	Result
6	1.5	155	812	8.1	4.34	5.83	3.51	3.68	Pass

(3) Tread "Concentrated Load" (500x500mm) but applied over 152.4 x 240 mm.

Class	Load (KN)	Tread Load (Kgf)	Span (mm)	MAX. Allowable deflection (mm)	Average Actual deflection (mm)	CENTRAL dial gauge deflection (mm)	NEAR side dial gauge deflection (mm)	OPPOSITE side dial gauge deflection (mm)	Result
3	1.5	155	812	8.1	4.34	5.83	3.51	3.68	Pass
3	2.0	205	812	8.1	6.21	7.48	5.81	5.34	Pass
6	3.0	305	812	8.1	7.93	9.14	7.06	7.58	Pass