

TEST REPORT FOR
Fuze T50
(Modified extra wide seating)
MANUAL WHEELCHAIR

TEST DOCUMENTS
AS3695:1992, AS3696-1:2008, AS3696-3:2008, AS3696-5:1989, AS3696-8:1998,
ISO7176-7:1996

LABORATORY REFERENCE
491430

15th December 2010



This document is issued in accordance with NATA's accreditation requirements. This document shall not be reproduced, except in full.

TEST REPORT

This report may NOT be reproduced in part without written laboratory authorisation. The NovitaTech Test Laboratory has no control over the selection of test samples. Any extension of the findings of this report to cover production items must be based on the production being truly represented by the sample(s).

Job no: 491430

PRODUCT

Name and Model No

Fuze T50
(Design evaluation sample)

Serial no(s) of test sample
Not marked

Maximum user mass
450 lb (204 kg)

Documents used in testing
AS3695:1992, AS3696-1:2008, AS3696-3:2008, AS3696-5:1989, AS3696-8:1998, ISO7176-7:1996



SUPPLIER

Name
PDG Product Design Group Inc.

Address
103-318 East Kent Ave. South
Vancouver, BC V5X 4N6, Canada.

Telephone:

Fax:

Contact person: Janusz Krawczynski

Order No.:

Order Date:

TESTING AUTHORITY

NOVITA CHILDREN'S SERVICES - NOVITATECH TEST LABORATORY
Days Rd., Regency Park, South Australia, S.A., 5010
Telephone: 08 8243 8262, 08 8243 8232

fax: 08 8243 8208

Testing supervisor: Wayne Wurfel
Senior Test Technician
(NATA signatory)

Checked: Wayne Wurfel
(NATA signatory)

Dates of testing period:
December 2010

Date of issue of this report:
15th December 2010

Chair type:**Frame:**

Size	Adult (Modified extra wide seating)
Frame	Rigid
Tilt	Yes
Recline	No
Anti tips	Yes
Push handles	Yes
Footrests	Swing away, fold-up and removable
Armrests	Removable, height adjustable.
Headrest	No

Seating:

Backrest	
Width	500
Height	450
Description	Sling type
Seat	
Width	500
Depth	500
Description	Rigid aluminium plate

Wheels:

Castor	Front	Rear
Width	30 mm	NA
Diameter	200 mm	NA
Description	Semi solid rubber tyre	NA
Drive Wheel		
Width	30 mm	
Diameter	610 mm	
Description	Semi solid rubber tyre	

Electrical:

Charger	NA
Controller	NA

Other features Design validation of modified Fuze T50 MWC with extra wide seating

Note: Other descriptive dimensions etc may be included in part 5 and 7 of the test report

AS3695:1992, AS3696.5:1989 – OVERALL DIMENSIONS, MASS AND TURNING SPACE

Overall dimensions (Clause 5 of AS3696.3)					
Dimensions, to the nearest 10mm	Measured value	Reference in clause of AS3696.5	Dimensions, to the nearest 10mm	Measured value	Reference in clause of AS3696.5
Dimensions ready for occupation		5.1	Folded dimensions		5.2
Length, mm	1090	5.1.1	Min. folded length, mm	800	5.2.1
Length (no footrest or support), mm	880	5.1.2	Min. folded width, mm	730	5.2.2
Width, mm	800	5.1.3	Min. folded height, mm	630	5.2.3
Overall height, mm	1040	5.1.4	Min folded volume, cu.m.	0.37	5.2.4

AS3695:1992, ISO 7176.7:1996 – SEATING AND WHEEL DIMENSIONS, CLAUSE 4.6 - DIMENSIONS

Dimensions (Clause 4.6 of ISO DIS 7176.7)					
Dimension	Measured values Min/Max	Reference dimension in ISO DIS 7176.7	Dimension	Measured values Min/Max	Reference dimension in ISO DIS 7176.7
Seat plane angle, °	3 ~ 48°	1	effective seat depth, mm	500 mm	2
Max. seat width, mm	500 mm	3	Seat surface height, front edge, mm	470 mm	5
backrest angle, °	6 ~ 51°	6	Backrest height, mm	500 mm	7

The size of RLG: **Adult**

Remarks:

None. WW. End of remarks -----

AS3695:1992, AS3696.8:1998 – STATIC, IMPACT AND FATIGUE TESTS

List of failures (AS3695, Clause 6.4)

Mode	Failure description
a	Components of the wheelchair are fractured or have visible cracks (except cracks in surface finishes)
b	Any nut, bolt, screw, locking pin, adjustable component or similar item become detached after having been tightened, adjusted or refitted once. (Footrests may be adjusted after each of the two footrest impact tests)
d	Parts intended to be removable, folding or adjustable do not operate as described by the manufacturer
f	Handgrips are displaced
g	Any multiposition or adjustable component is displaced from the present position (except as permitted in (b))
h	Deformation, free play or loss of adjustment of any component or assembly, that adversely affects the function of the wheelchair

Test method for static strength	Actual force, (N)	Specification according to a table of AS3696.8			Mode of failure (see list of failures above)	Reference in AS3696.8
		Table	Force, for 100kg user mass, (N)	Force, for user mass 204 kg, (N)		
Armrest resistance to downward forces (NO DUMMY)	3110N	2	760	3106 (Both)	NA	8.4
Footrest resistance to downward forces (NO DUMMY)	2040 N	3	1000	2040	NA	8.5
Tipping levers downwards load (DUMMY FITTED)	NA	4	1000	NA	NA	8.6
Handgrips (DUMMY FITTED)	Not fitted	5	750	750	NA	8.7
Armrests resistance to upward forces (DUMMY FITTED)	1000N	6	895	1000	NA	8.8
Footrest resistance to upward forces (DUMMY FITTED)	835N	7	440 each	829	NA	8.9
Push handle resistance to upward load (DUMMY FITTED)	1000N	8	880 each	1000 each	NA	8.10

Remarks:

Static tests conducted before fatigue tests (as per standards requirements). WW. End of remarks -----

Test method for impact strength	Mode of failure (see list of failures above)	Reference in AS3696.8
Backrest resistance to impact (DUMMY THIGHS ONLY FITTED)	Not tested	9.3
Handrim resistance to impact (DUMMY FITTED)	None	9.4
Castors (DUMMY FITTED)	None	9.5
Footrests resistance to lateral impact (DUMMY FITTED)	None	9.6.3
Footrests resistance to longitudinal impact (DUMMY FITTED)	None	9.6.4
Front structure resistance to frontal impact (DUMMY FITTED)	NA	9.7.2
Front structure resistance to offset impact (DUMMY FITTED)	NA	9.7.3

Remarks:

Impact tests conducted before fatigue tests (as per standards requirements WW. End of remarks -----

Test method for fatigue strength	Actual number of cycles	Specification according to a table of AS3696.8, number of cycles	Mode of failure (see list of failures above)	Reference in AS3696.8
Two drum test	200,000	200,000	None (See note)	10.4
Drop test	6,666	6,666	None	10.5

Remarks:

Two drum fatigue test terminated at 84,350 cycles due to right hand front castor tyre failure (See photos below) Splitting and delamination of tyre surface material. Left hand front tyre inspected for similar damage. Tyre showed evidence of ballooning side wall and increased plasticity of rubber compound. Failure of this tyre eminent if testing continued.
Replacement front castors fitted to continue product testing. No further failure of wheels during 2 drum test.



WW. End of remarks -----

The sample submitted for this test satisfies the relevant requirements of AS3696.8-1998 and AS3695-1992 (except the methods indicated in this report as "not tested" and/or tested with deviations) for user mass 204 kg.

Yes

NOTES

- 1U₉₅ Uncertainty of measurements where not specified: linear ±1mm, angular +- 30', force, mass ±1%, temperature ±1°C, cycles ±1 count. This means the true measurement is within the stated tolerances at least ninety five times in one hundred
- 2 All testing was carried out in a controlled environment laboratory using methods set out in the Standards documents, all deviations and additions to the Standards' methods are noted in remarks.
- 3 All instruments either carried valid calibration certificates throughout the test period or were checked against traceable Standards before and after use.
- 4 The NovitaTech Test Laboratory has no control over the selection of test samples. Any extension of the findings of this report to cover production items must be based on production being truly represented by the sample(s).
- 5 Any non-conformances are indicated in red.

END OF REPORT