


Test Report	Customer Reference	CS1142T	
iQDRM4217001	Date	15/06/2015	

ISO 7176-19:2008: Wheeled mobility devices for use as seats in motor vehicles

Prepared For


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Approvals

Test Engineer  Kevin Grimshaw

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1.1 Test Sample

Description	Part Number	Revision	Batch no
Front Tie down	Q8-6200-SC		
Rear Tiedown	Q8-6200-SC		
Occupant Restraint (lap belt)	Q8-6326-A1-T		
Occupant Restraint (shoulder belt)	Q8-6326-A1-T		
Track (lower)	FE753*		
Track (upper)	FE750*		
Anchorage	NA		
Fixing Kit	NA		
Wheel Chair	Drive medical CS1142T		

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2.1 Test Sample Setup

Description	Measurement	Limit	
REAR TO REAR DISTANCE	385	300	810
REAR TIE-DOWN BELT LENGTHS	500	495	533
REAR TIE-DOWN ANGLE	35	30	45
FRONT TO REAR DISTANCE	1295	1283	1308
FRONT TO FRONT DISTANCE	685	300	810
FRONT TIE-DOWN BELT LENGTH	625	-	-
FRONT TIE-DOWN ANGLE	47		
DISTANCE TO CENTRE OF ATD SHOULDER TO D RING (X)	300	285	315
DISTANCE FROM CENTRE OF ATD TO D-RING (Y)	290	285	315
HEIGHT OF D RING ABOVE ATD SHOULDER (Z)	165	158	188
DISTANCE OF CENTRE OF ATD SHOULDER TO ANCHORAGE (X)	470	-	-
DISTANCE FROM ATD CENTRE TO ANCHORAGE (Y)	420	Approx 450	-
HEIGHT OF ANCHORAGE FROM FLOOR (Z)	1555	Approx 1400	-
HEIGHT ADJUSTER CL-CL	395	-	-
h point initial	495/495	-	-

2.2 Pre-Test Images



2.3 Equipment

Description	Serial Number	Cal. Date	Cal. Due
Surrogate Wheel Chair PN SA000003	00001	na	na
Humanetics H3 50th Male ATD @ 78.6Kg	DL 0299	29/10/2014	28/10/2015
Phantom Miro R320s @ 1000fps	na	na	na
Accelerometer (50g)	A087596	13/04/2015	12/04/2016
Scales	AE9AQ183	15/10/2014	15/10/2015
Digital inclinometer	210455159	na	na


2.4 Comments

- Excursions are measured by post processing of high speed video using calibrated image analysis software and are accurate to +/- 5mm
- Rear restraint lateral distance limit assumes inside dimension of securement points

Chair Mass 15 Kg
 ATD tethered? Yes (see comments)

Additional Comments

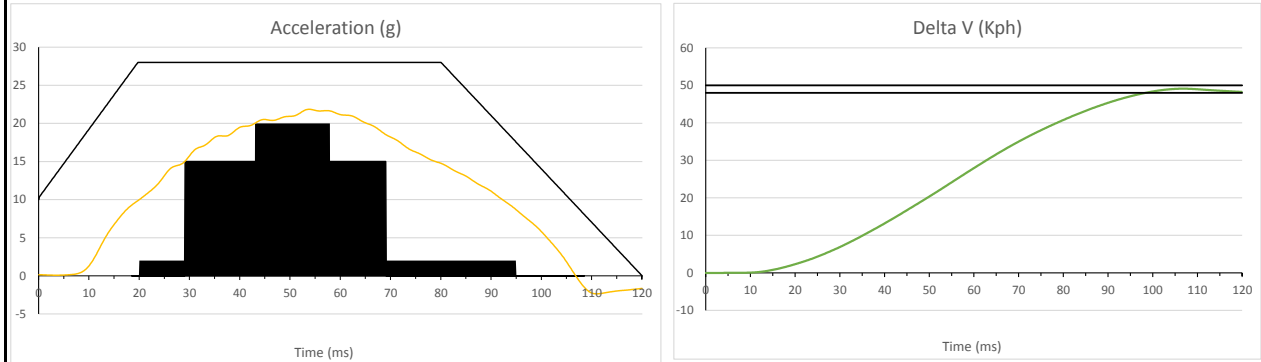
- ATD lap/torso tethered to prevent damage in event of tiedown or chair failure

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3.1 Results - Pulse

	Measurement	Limit	
		Lower	Upper
Peak Acceleration (g)	21.85	20	28
Delta V (Kph)	49.11	48	50
Pulse Duration (ms)	104.00	75	120
Duration above 15g (ms)	49.80	40	-
Duration above 20g (ms)	22.30	15	-



3.2 Results - Excursions

	Measurement	Limit
Head Forward (mm)	516	650
Head Rearward (mm)	449	450
Knee (mm)	290	375
Chair (mm)	54	200
Knee to Chair Ratio	5.4	1.1

3.3 Post-Test Images



3.4 Post Test Observations

	Observation	Requirement	Comment#
ATD remained in chair	Yes	Yes	-
Wheelchair remained upright on sled	Yes	Yes	-
Failure of securement points	No	No	-
Component over 100g became separated	No	No	-
Component with radius less than 2mm became detached	No	No	-
Load carrying components show signs of failure	No	No	-
Locking Mechanisms show no signs of failure	No	No	-
Removal of ATD does not require tools	Yes	Yes	-
Removal of Wheelchair does not require tools	Yes	Yes	-
Post Test H-Point Delta (%)	2.02	20	
Wheelchair causes partial or complete failure of WTORS webbing	No	No	

3.5 Disposition

PASS

Conforms to ISO 7176-19:2008: Wheeled mobility devices for use as seats in motor vehicles