



Test Report 061405DM
M61
Electrically driven wheelchair

TEST CATEGORY:	
VERIFICATION	
PASSED	<input checked="" type="checkbox"/>
FAILED	<input type="checkbox"/>

Client:	IVCR International South Road Bridgend Industrial Estate Bridgend CF32 4BU +44 0 1656 664 321
Manufacturing location:	Invacare Corporation 1200 Taylor Street Elyria, Ohio, USA 44035
Test object:	Electrically powered wheelchair Model: M61 Maximum Rated User Capacity: 300 lbs (136 kg)
Test specifications:	EN 12184: 1999-03
Additional information:	Received Date: 2005/June/14 Test Finish Date: 2005/November/17 Location of test: Corporate Reliability Test Laboratory 38683 Taylor Parkway North Ridgeville, Ohio 44039 Test period: 2005/June/14 to 2005/November/17 Report Date: 2005/November/17 Project manager: Tom Tuckowski Requester: Dave Mahilo Performed by: Kevin Hankins

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Attachments: Risk Analysis Rev. D, Manual (English translation 10/5/05), TUV Certificate No. Z1 04 06 12941 098, Certificate Declaration No:HDAL-5HLSBF; Rev: 7.00, Information disclosure in manufacturer's specification sheets, Prints

Tested by: Kevin Hankins

Date: 2005/November/17

Signature: Kevin Hankins

Approved by: Dave Mahilo

Date: 11/22/05

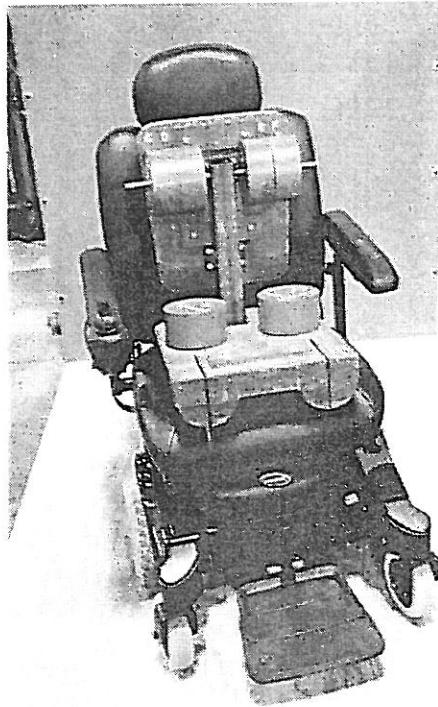
Signature: Dave Mahilo

Definitions:
N/A = Not Applicable

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Technical Data:



M61 Power Chair with Reference Loader Gage
From Invacare Test: 061505KH and This Test

Total length incl. footrests:	990 mm minimum, 1030 mm maximum
Total length without footrests:	875 mm
Width:	650 mm minimum, 770 mm maximum
Height:	1055 mm minimum, 1280 mm maximum
Stroke:	127 mm maximum
Seat width:	465 mm
Seat depth:	410 mm minimum, 460 mm maximum
Seat surface height at front edge:	470 mm minimum, 595 mm maximum
Brakes:	Motor type spring loaded disc brake
Drive wheels:	
-size	3.00-4
-tires	air-filled <input checked="" type="checkbox"/> / rubber <input checked="" type="checkbox"/> Air-filled tires are available. Non-air-filled tires were used for all testing because they are worst-case for all tests.
Steering wheels:	
-size	152 mm (6 inch)
-tires	air-filled <input type="checkbox"/> / rubber <input checked="" type="checkbox"/>



Power electronics:

Dynamic Controls Ltd.
Controller Model DK-PMB21, Invacare Part No. 1139643
Control Device Model DK-REMD11, Invacare Part No.1139644
Certificate Declaration No:HDAL-5HLSBF; Rev: 7.00
Declaration of Conformity to
European Community Medical Devices Directive, MDD 93/42/EEC
Conformance to EN12184:1999
Conformance to EN12182:1999

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Motor:

Permanent magnet 2-pole gearmotor

Stroke motor:

CCL permanent magnet 2-pole gearmotor

Batteries:

MK Battery Model MU-1, type: SLDA AGM
2 x (12 v, 27.6 Amp-Hour rating (5 hour rating))

Battery charger:

Off-board Charger
CTE Corporation Part# BAT-GC0812
Mains: 1.3 Amp 200 to 250 vac 50 Hz
Supply to Chair: 24 v DC 8 Amp
TUV Certificate No. Z1 04 06 12941 098
Conformance to EN 12184:1999



Item	Requirement Fulfilled
<p>1 Scope EN 12184:1999 Clause 1.</p> <p>This present European standard specifies requirements and test procedures for electrically powered wheelchairs and scooters with a maximum speed not exceeding 15 km/h intended to carry one person whose mass does not exceed 100 kg, including the following classifications from EN ISO 9999:1998:</p> <p>Classification no. / title:</p> <p>12 21 21 Powered attendant-controlled wheelchairs 12 21 24 Electric-motor-driven wheelchairs with manual steering 12 21 27 Electric-motor-driven wheelchairs with powered steering</p>	<p>The M61 Electric Wheelchair is designed with a maximum rated speed of 6.8 km/h (4.25 mph) and maximum rated user capacity of 136 kg (300 lbs).</p> <p>Invacare Tests 050205JT.1 061505KH</p> <p>Front Wheels Load = 40kg Mid Wheels Load = 131kg Rear Wheels Load = 63kg Total Mass = 234kg Unladen Mass = 98kg Max User Mass = 136kg</p>
<p>2 Normative References</p> <p>See EN 12184:1999 Clause 2.</p>	
<p>3 Definitions</p> <p>See EN 12184:1999 Clause 3.</p>	
<p>4 Test equipment</p> <p>See EN 12184:1999 Clause 4.</p>	
<p>5 Type classes EN 12184:1999 Clause 5</p> <p>Electrically powered wheelchairs shall be classified in one or more of the following three classes, dependant upon their intended use.</p> <p>Class A: Compact, maneuverable wheelchairs not necessarily capable of negotiating outdoor obstacles.</p> <p>Class B: Wheelchairs sufficiently compact and maneuverable for some indoor environments and capable of negotiating some outdoor obstacles.</p> <p>Class C: Wheelchairs, usually large in size, not necessarily intended for use indoors but capable of travelling over longer distances and negotiating outdoor obstacles.</p>	<p>Class A <input checked="" type="checkbox"/></p> <p>Class B <input type="checkbox"/></p> <p>Class C <input type="checkbox"/></p>

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Item	Requirement Fulfilled
<p>6 General Requirements</p> <p>The wheelchair shall conform to the requirements of EN 12182:1999 for:</p> <p>a. Risk analysis 12182:1999 4.1</p> <p> a1. EN 1441:1997 Risk Analysis</p> <p> a2. 12182:1999 5.2 Biocompatibility and toxicity</p> <p> a3. 12182:1999 5.4.2 Animal tissues</p> <p> a4. 12182:1999 5.5 Resistance to corrosion</p> <p> a5. 12182:1999 6 Noise and vibration</p> <p> a6. 12182:1999 8.2.1 Battery housings</p> <p> a7. 12182:1999 9.4 Ingress of Liquids includes 12182:1999 8.1 Electrical safety</p> <p> a8. 12182:1999 10 Surface temperature</p> <p> a9. 12182:1999 22 Ergonomic principles</p> <p> a10. 12182:1999 24 Packaging</p> <p>b. 12182:1999 4.2 Intended performance and technical documentation</p> <p>c. 12182:1999 4.3 Clinical evaluation</p> <p>d. 12182:1999 4.4 Aids that can be dismantled</p> <p>e. 12182:1999 4.5 Single use fasteners</p> <p>f. 12182:1999 5.2 Biocompatibility and toxicity</p> <p>g. 12182:1999 5.3 Contaminants and residues</p> <p>h. 12182:1999 5.4 Infection and microbiological contamination</p> <p>i. 12182:1999 9 Overflow, spillage, leakage, and ingress of liquids</p> <p>j. 12184:1999 12 Safety of moving parts</p> <p>k. 12184:1999 13 Prevention of traps for parts of the human body</p> <p>l. 12184:1999 14 Folding and adjusting mechanisms</p> <p>m. 12184:1999 18 Surfaces, corners and edges</p>	<p>Product Risk Analysis: Pronto M61 Part No.: 1127273 Rev. D, attached.</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> (EN 1441 was obsoleted by) ISO 14971</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/></p> <p>Battery Charger TUV Certificate No. Z1 04 06 12941 098, Conformance to EN 12184:1999</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/></p> <p>Invacare Test 071405KH.1 Passed includes 7176-14 Forces to operate controls.</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>See Clause 8 below.</p> <p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/></p> <p>Non-sterile product. May be cleaned.</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>No liquid storage other than batteries.</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p>
<p>7 Design Requirements EN 12184:1999</p>	
<p>7.1 Footrest and legrests</p>	
<p>7.1.1 Requirements for footrests and legrests</p>	
<p>The wheelchair shall be capable of being fitted with a means for preventing the user's feet from sliding backwards.</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/> Heels strap or footrest lip are provided.</p>
<p>If footrests and legrests can be adjusted or moved from one position to another they shall have provision to locate them securely in any operating position.</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p>
<p>If the layout of footrests and legrests can be adjusted they shall have increment adjustments not exceeding 25 mm.</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p>



Item	Requirement Fulfilled
<p>If the wheelchair is fitted with a separate footrest for each foot:</p> <p>a) the gap between the footrests shall not exceed 35 mm for wheelchairs intended for adults; 25 mm for wheelchairs intended for children; when tested as specified in 7.1.2;</p> <p>or</p> <p>b) the footrests shall be fitted with means for preventing the user's feet from sliding into the gap.</p>	<p style="text-align: center; font-size: 2em; opacity: 0.5;">COPY</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> b. Heels strap (separate footrests are optional).</p>
<p>7.2 Requirements for pneumatic tires</p> <p>If the wheelchair is fitted with pneumatic tires, they shall have identical valve connections.</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Air-filled tires are available. Non-air-filled tires were used for all testing because they are worst-case for all tests.</p>
<p>7.3 Requirements for fitting a seat belt</p> <p>The wheelchairs shall have provision for a seat belt to be fitted.</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p>
<p>7.4 Requirements for armrests and backrests</p> <p>If armrests and backrests can be adjusted or moved from one position to another they shall have provision to locate them securely in any intended operating position.</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p>
<p>7.5 Requirements for wheelchairs designed for use as seats in motor vehicles</p> <p>If the manufacturer claims the wheelchair is intended for use as a seat in a motor vehicle, the manufacturer's information shall identify the wheelchair tiedown and occupant restraint systems (WTORS) that are suitable and the attachment points on the wheelchair.</p>	<p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p>



Item	Requirement Fulfilled
<p>7.6 Requirement for braking systems</p> <p>The wheelchair shall be fitted with a braking system that includes the following:</p> <p>a) a service brake, which operates independently of tire wear and inflation pressure and operation of which is possible by the user and/or the attendant;</p> <p>b) an automatic brake, which operates independently of tire wear and inflation pressure and is operated by putting the speed control input device set for zero speed;</p> <p>c) a parking brake, which can be operated independently of tire wear and inflation pressure and when there is no battery power and/or motor drive is disconnected (i.e. in freewheel mode) and which can be operated by the user and/or attendant.</p> <p>NOTE: These braking functions may be combined in one device and/or operated by reconnection of the motor drive system.</p> <p>d) if the wheelchair has no service brake operational when in free-wheel mode, parking brakes shall be operable during motion.</p> <p>If parking brakes are subject to wear from any friction surfaces, tires, etc, they shall have provision for adjustment for any wear that have taken place to the point of replacement as recommended in the manufacturer's documentation and for any wear occurring during the tests specified in 8.2.2.</p>	<p style="text-align: center; font-size: 2em; opacity: 0.5;">COPY</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> The means to re-engage each gearbox is achieved by re-engaging the freewheel lever.</p> <p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> The means to re-engage each gearbox is achieved by re-engaging the freewheel lever.</p> <p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p>
<p>7.7 Requirement for component weight</p> <p>If the wheelchair is intended to be dismantled for ease of carrying:</p> <p>a) any component that has a mass greater than 10 kg, shall be provided with suitable handling devices (e.g. handles):</p> <p>or</p> <p>b) the user manual shall indicate the points where the component part can be lifted safely and/or a method for handling during assembly.</p>	<p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p>



Item	Requirement Fulfilled
<p>7.8 Requirements for battery enclosures</p> <p>If batteries are used for the wheelchair propulsion</p> <p>a) they shall be accessible without tools for inspection, service and replacement operations as recommended by the manufacturer;</p> <p>and</p> <p>b) all battery enclosures shall be ventilated at the highest point by an opening or openings which total not less than 100 mm² in area.</p> <p>NOTE: The openings are to permit escape of gas.</p>	<p style="font-size: 2em; text-align: center;">COPY</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p>
<p>7.9 Battery containers</p> <p>7.9.1 Resistance to corrosion</p> <p>Battery containers shall be resistant to corrosion caused by battery gases and acid.</p> <p>7.9.2 Resistance to leakage from battery containers</p> <p>If the wheelchair is fitted with batteries containing liquid electrolytes, the battery containers shall not leak when tested according to 7.9.3.</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/></p> <p>The M61 wheelchair is fitted with batteries containing non-liquid electrolyte.</p>
<p>7.10 Audible warning device</p> <p>The wheelchair shall be equipped with an audible warning device.</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/></p> <p>Conformance to EN12184:1999 Conformance to EN12182:1999 Declaration No:HDAL-5HLSBF; Rev: 7.00</p>



Item	Requirement Fulfilled
<p>8 Performance requirements</p> <p>8.1 Static impact and fatigue strength</p> <p>The wheelchair shall comply with the requirements specified in ISO 7176-8:1998. The wheelchair shall be tested as specified in ISO 7176-8:1998.</p> <p>Wheelchairs of Type Class A (see 5) are excluded from the Drop Test, ISO 7176-8:1998 Clause 10.5.</p> <p>Further requirements and tests beyond those specified in ISO 7176-8:1998 are considered to be necessary and may be considered for a future development of this standard. These include the following:</p> <ul style="list-style-type: none"> - Impact strength of anti-tip levers; - Impact strength of curb climbers; - Fatigue strength of brake mechanisms, other than manually operated brakes; - Strength of steering mechanisms (e.g. manual handle bar steering systems for scooters). 	<p style="text-align: center; font-size: 2em; opacity: 0.5;">COPY</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/></p> <p>Invacare Tests to ANSI/RESNA WC Vol. -1998 Section 8 in part or in whole: 062005KH Passed. 7176-8 Static and Impact Strengths 061605TM.1 Passed. 10.4 Drum with 300 lbm user mass 10.5 Drop with 300 lbm user mass 050205JT.1 Passed. 10.4 Drum with 300 lbm user mass 10.5 Drop with 300 lbm user mass 111804JM.2 Passed. 10.4 Drum with 300 lbm user mass 10.5 Drop with 300 lbm user mass</p> <p>Class: A</p>
<p>8.2 Parking brake performance and strength</p> <p>8.2.1 Requirements for parking brakes</p>	<p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/></p> <p>See Remark in 7.6</p>
<p>8.3 Control input devices</p> <p>8.3.1 Requirement for fatigue strength of joystick and lever operated control input devices</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/></p> <p>Conformance to EN12184:1999 Conformance to EN12182:1999 Declaration No:HDAL-5HLSBF; Rev: 7.00</p>
<p>8.4 Performance of driving characteristics</p> <p>The wheelchair shall meet the driving performance requirements specified in Table 2 for the Type Class(es) of use for which the wheelchair is intended.</p> <p>Requirements for ability to climb maximum safe slope</p> <p>The wheelchair shall be capable of climbing at a minimum speed of 2 km/h</p> <ul style="list-style-type: none"> - the appropriate maximum safe slope specified in Table 2; or - any greater maximum safe slope claimed by the manufacturer, whichever is the greater. <p>The wheelchair passes the test specified in 8.4.2.2 if it achieves or exceeds a speed of 2 km/h after traveling 5 m up the specified maximum safe slope.</p>	<p>Class: A</p>



Item				Requirement Fulfilled				
		Minimum Type Class		Maximum safe slope claimed by Invacare is 9 degrees. N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Invacare Test 070505KH Passed.				
		A	B					C
Maximum safe slope		3°	6°					10°
Dynamic Stability: ISO 7176-2				Class: A N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Invacare Tests: 121404JM 012505JM N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> See above N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> See above N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> See above N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> See above N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> See above				
Dynamic Stability		Minimum slope Type Class						
		A	B					C
starting forwards uphill *		3°	6°					10°
stopping forwards uphill *		3°	6°					10°
stopping forwards downhill *		3°	6°					10°
stopping backwards downhill *		3°	6°					10°
turning on horizontal **		No tipping beyond balance point shall occur.						
* Limiting stability is any visible lifting of all uphill wheels ** Test does not apply to manually steered wheelchairs Lateral dynamic stability while turning in circles, ISO 7176-2:2001 10.3 was measured to be 0 m during this Test. This wheelchair turns on its own axis and is stable while doing so.								
Static stability: ISO/FDIS 7176-1:1997								Note: Using 7176-1:1999. 1997 Rev unavailable.
	Type Class	Min. Slope		N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Invacare Tests: 121404JM 012505JM N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> See above N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> See above				
All Directions	A	6°						
All Directions	B	9°						
All Directions	C	15°						
Forward				N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Invacare Tests: 121404JM 012505JM N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> See above				
a) Front wheels unlocked								
b) Front wheels locked				N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> See above				
Rear				N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> See above				
c) Front wheels unlocked								

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Item		Requirement Fulfilled	
d) Front wheels locked		N/A <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/>
Sideways		See above	
e) left		N/A <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/>
f) right		N/A <input type="checkbox"/>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/>
Stability direction		Actual Tipping angle, degrees	
		Least stable	Most stable
Forward	Front wheels locked	18	21
	Front wheels unlocked	18	23
Rear	Rear wheels locked	14	15
	Rear wheels unlocked	>25	>25
Sideways	Left	20	24
	Right	20	24
8.4.1 EN 12184 Table 2, continued			
Brake effectiveness ISO 7176-3:2003		Class: A	
Parking Brake Requirement: A: 6 degrees, B: 9 degrees.		N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> See Remark in 7.6	
Automatic Brake Requirement: A: 6 degrees, B: 9 degrees.		N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> ANSI/RESNA WC/Vol.2-1998 Section 3 has no requirement for brakes.	
Speed ISO 7176-6 with ANSI/RESNAWC/Vol.2-1998 Section 6 Clause 10 (settings specified by the manufacturer).		Class: A (All Classes same Requirements)	
a) forwards horizontal: 15 km/h max measured: 6.4 km/h		N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Invacare Test 081605KH Passed.	
b) reverse horizontal: Maximum allowed is equal to 70% of max fwd speed of the wheelchair or 5 km/h, whichever is lower. measured: 2.9 km/h		N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Invacare Test 081605KH Passed.	
Obstacle climbing ability ISO 7176-10		N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/>	
Class A: 15 mm min measured: 60 mm		Invacare Test 071405KH.4 Passed. The M61 power chair climbed a 60 mm high obstacle with & without 0.5 m run-up. For disclosure only, the M61 power chair descended from a 60 mm high obstacle without tipping and had a measured ground clearance of 60 mm.	

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Item	Requirement Fulfilled
Turn-around width between limiting walls ISO 7176-5 Class A: 1300 mm max Measured: 495 mm	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Invacare Test 061505KH Passed.
Minimum turning radius ISO 7176-5 Class A: 1000 mm max Measured: 495 mm	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Invacare Test 061505KH Passed.
Range ISO 7176-4 Class A: 15 km min. measured: 20.47 km	Class: A N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Invacare Test 050205JT.1.
Deceleration ISO 7176-6 Requirement: Maximum value of deceleration peak lasting more than 0.03 s = 4 m/s ² Measured: 0.5 m/s ² Stopping distance ISO 7176-6 Requirement: Maximum horizontal stopping distance = 1.2 m (EN 12184:1999 Table 3 for 4.25 m/hr = 6.84 km/hr) Measured: 0.8 m	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Invacare Test 081605KH Passed. N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Invacare Test 081605KH Passed.
8.5 Surface temperature EN12182 Surfaces which can come into constant direct contact with the user's skin during normal use and including at least those within the envelope illustrated in Figure C.1 shall not exceed 41° C as measured by the method specified in EN 12182:1997, Surface temperature.	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Maximum ambient operating temperature = 50 degrees C per 7176-9:2001. Product Risk Analysis: Pronto M61 Part No.: 1127273 Rev. D, attached.
8.6 Noise When the wheelchair is tested as specified in EN 12184:1999 8.6.2, the sound pressure level shall not exceed: - Class A: 65 dB(A) - Class B and C: 75 dB(A)	Class: A N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Invacare Test 063005KH Passed.

COPY



Item	Requirement Fulfilled
<p>8.7 Environmental protection</p> <p>8.7.1 Operating and storage temperature The wheelchair shall comply with the operating and storage temperature requirements of ISO 7176-9:2001.</p> <p>8.7.2 Water resistance</p> <p>When tested as specified in EN 12184:1999 8.7.2.2 the wheelchair shall perform as follows:</p> <p>a) immediately after application of the water and switching on the controller no unexpected movements shall occur;</p> <p>b) the steering, driving and braking functions of the wheelchair shall operate as specified by the manufacturer after intervals of</p> <p>i) 5 min +/- 1 min;</p> <p>ii) 60 min +/- 5 min; and</p> <p>iii) 24 h +/- 30 min, after applying water.</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/></p> <p>Invacare Test 071405KH.2 Passed.</p> <p style="font-size: 48px; opacity: 0.5; transform: rotate(-15deg); text-align: center;">COPY</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/></p> <p>Invacare Test 071405KH.2 Passed</p>
<p>8.8 Resistance to ignition</p> <p>If the wheelchair is equipped with upholstered parts it shall conform to the ignition requirements of ISO 7176-16:1997.</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/></p> <p>Invacare Test 060105.B by Omega Point Laboratories Passed.</p>
<p>9. Electrical requirements</p>	
<p>9.1 General requirements</p> <p>The wheelchair shall conform to the requirements of ISO 7176-14:1997.</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/></p> <p>Invacare Test 071405KH.1 Passed.</p> <p>Load the wheelchair using 300 lbm user mass. Use ANSI/RESNA WC/Vol.2-1998 Section 6 Clause 10 (settings specified by the manufacturer).</p>



Item	Requirement Fulfilled
<p style="text-align: center; font-size: 2em; opacity: 0.5;">COPY</p> <p>Wheelchairs which include battery chargers that cannot be removed without the use of tools and/or are permanently connected to the wheelchair battery shall conform to the electrical requirements of IEC 60601-1 and the requirements of ISO7176-14:1997.</p> <p>NOTE: ISO 7176-14:1997 excludes wheelchairs with on board battery chargers from its scope. The combination of the above clauses from this standard and the requirements of IEC 60601-1 provide a suitable combination of requirements.</p>	<p>Exceptions to ISO 7176-14:1997 called by EN 12184:1999 sub-Clause 9.1: - ISO 7176-14:1997 subclause 6.11 specifies a battery set. Use a variable voltage d.c. power supply instead. - ISO 7176-14:1997 specifies 5+0 degrees for the inclined plane for subclauses 6.13, 6.15, and 6.17. Use any angle between 1 and 11 degrees.</p> <p>Invacare Tests to ANSI/RESNA WC Vol. -1998 Section 14 in part or in whole: 111804JM.1 Passed</p> <p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Off-board charger. Wheelchair does not include any battery charger that cannot be removed without the use of tools and/or are permanently connected to the wheelchair battery.</p>
<p>9.2 Requirement for controller switch</p> <p>Provision shall be made for the user to switch the controller on and off.</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Conformance to EN12184:1999 Conformance to EN12182:1999 Declaration No:HDAL-5HLSBF; Rev: 7.00</p>
<p>9.3 Requirement for power indicator</p> <p>The wheelchair shall be fitted with a device to indicate to the user when power is turned on so that the wheelchair is ready to drive. This indication shall conform to the requirements of IEC 60073.</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Conformance to EN12184:1999 Conformance to EN12182:1999 Declaration No:HDAL-5HLSBF; Rev: 7.00</p>



Item	Requirement Fulfilled
<p>9.4 Requirements for circuit protection</p> <p>Circuits connected to batteries in the wheelchair shall be protected against excessive current.</p> <p>The following functions of the wheelchair shall not be affected by the operation of the means of protection of any other circuit:</p> <ul style="list-style-type: none"> - driving, braking and steering; - lighting, direction Indicators and hazard warning flashers. 	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Invacare Test 071405KH.1 Passed.</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Conformance to EN12184:1999 Conformance to EN12182:1999 Declaration No:HDAL-5HLSBF; Rev: 7.00</p> <p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> No such components.</p>
<p>9.5 Requirements for disengagement of automatic brakes</p> <p>It shall not be possible to drive the wheelchair with its own motor drive system if the automatic brakes are disengaged.</p> <p>NOTE: This requirement overrides part of 7.2 of ISO 7176-14:1997, concerning requirements for non-powered mobility.</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> The spring-loaded brake on each motor is always engaged unless wheelchair is commanded to drive. Conformance to EN12184:1999 Conformance to EN12182:1999 Declaration No:HDAL-5HLSBF; Rev: 7.00</p>
<p>9.6 Requirements for connections to batteries</p> <p>Intermediate connections to batteries connected in series shall not be used to supply power.</p> <p>Connections to battery terminals shall be insulated when batteries are enclosed in a battery container.</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Invacare Test 071405KH.1 Passed.</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Invacare Test 071405KH.1 Passed.</p>
<p>9.7 Requirements for battery chargers</p> <p>Battery chargers for wheelchairs and scooters shall conform to the requirements of clause 9 of ISO 7176-14:1997, together with the following provisions:</p> <ul style="list-style-type: none"> a) Battery chargers shall indicate when charging is in progress and when charging is complete; b) Battery chargers shall have the capability of charging batteries discharged to 70% of their nominal voltage; c) Trickle charging current shall not exceed 500 mA (NOTE: Some chargers may provide a pulsed trickle 	<p>Off-board charger: CTE Corporation Part# BAT-GC0812 Mains: 1.3 Amp 200 to 250 vac 50 Hz Supply to Chair: 24 v DC 8 Amp TUV Certificate No. Z1 04 06 12941 098 Conformance to EN 12184:1999</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p>

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Item	Requirement Fulfilled
<p>charge where the peak current exceeds 500 mA but the average current measured over one pulse period is less than 500 mA);</p> <p>d) Battery chargers shall operate without the need for intervention or supervision apart from connecting and turning on at the start of charging and disconnecting at the end of charging.</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p>
<p>9.8 Electromagnetic Compatibility (EMC) EN 12184:1999 Clause 9.8</p> <p style="text-align: center; font-size: 2em; opacity: 0.5;">COPY</p> <p>Electromagnetic emission while driving EN 12184:1999 Clause 9.8.1</p> <p>Electromagnetic immunity, standby (not driving) EN 12184:1999 Clause 9.8.2 a</p> <p>Electromagnetic immunity while driving EN 12184:1999 Clause 9.8.2 b</p> <p>Electrostatic discharge (ESD), Human Body EN 12184:1999 Clause 9.8.3.2.1</p> <p>Electrostatic discharge (ESD), Charged Frame EN 12184:1999 Clause 9.8.3.2.2</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/></p> <p>Invacare Test 071405KH Passed Performed EN 12184:1999 pertaining to EN 12184:1999 clause 9 sub-clause 9.8. Exceptions: 9.8.2.2 electromagnetic immunity: IEC 61000-4-3:2002 allows use of GTEM, in which the lowest points of the wheels are not constrained to be at a height of 0.8 m. 9.8.2.2 electromagnetic immunity: Test at the higher level required by ANSI/RESNA WC Vol. 2-1998 Section 21: 20 v/m (vs EN 12184:1999 10 v/m).</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p>



Item	Requirement Fulfilled
10 Information to be supplied by the manufacturer	
<p>10.1 General</p> <p>The wheelchair shall be provided with the documentation and labelling that conform to the requirements in EN 1041:1998 and ISO 7176-15:1996.</p> <p>EN 1041:1998:</p> <p>4.1.1 Information supplied by the manufacturer and intended for direct visual recognition shall be legible when viewed under an illumination of 215 lx using normal vision, corrected if necessary, at a distance which takes into account the specifics and size of the individual medical device.</p> <p>NOTE 1 The information presented should be understandable by the intended user and/or other persons, where appropriate. NOTE 2 If there is insufficient space on the container or the device, the relevant information may be given on an insert, accompanying document or on the next layer of packaging, as applicable. The recognition of certain markings on small or specialized devices may require the use of methods other than visual, for example, electronic</p> <p>4.1.2 Any symbols used in the information supplied by the manufacturer with the medical devices shall either:</p> <ul style="list-style-type: none"> a) conform to those specified in harmonized standards, or b) in areas for which no harmonized standards exist, have their meanings explained in the information supplied by the manufacturer with the device. <p>NOTE Examples of harmonized standards are EN 980 and EN 60601.</p> <p>4.1.3 Any identification colors used in the information supplied by the manufacturer with the medical devices shall either:</p> <ul style="list-style-type: none"> a) conform to those specified in relevant harmonized standards, e.g. medical gas cylinders; or b) where no harmonized standard exists, be described together with their meanings in the information supplied by the manufacturer with the device. <p>NOTE Reference to standards which include color coding is given in EN 1041:1998 Annex A.</p> <p>4.1.4 The information supplied by the manufacturer shall not be presented in such a manner that it obscures other essential information. NOTE The information supplied by the manufacturer should</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/></p> <p>See attached Information disclosure in manufacturer's specification sheets.</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p style="text-align: center; font-size: 2em; opacity: 0.5;">COPY</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p>



Item	Requirement Fulfilled
not be presented in such a manner that it may be confused with other essential information.	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
4.1.5 Any units of measurement units shall be expressed in SI units as specified in ISO 31, or other legal units. NOTE 1 Attention is drawn to Council Directive 80/181/EEC as amended, see EN 1041:1998 Annex A, and to ISO 1000 which gives further guidance on the application of SI units. NOTE 2 This requirement does not preclude the additional use of other units as allowed by harmonized standards.	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
4.1.6 As far as is practicable and appropriate, the information needed to use the device safely shall be set out on the device itself and/or on the packaging for each unit, or, where appropriate, on the sales packaging. If individual packaging of each unit is not practicable, the information shall be set out in the leaflet supplied with the device(s).	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
4.1.7 User adjustable controls shall have their function clearly specified.	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
4.1.8 Any detachable component, intended by the manufacturer to be used separately from the original device, shall be identified by its batch code, or by other appropriate means.	N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
4.1.9 The address of the manufacturer shall be provided in sufficient detail to enable contact to be established NOTE Specific legal requirements apply to devices imported into the European Union, see EN 1041:1998 Annex C, 13.3a).	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
4.1.10 Any date shall be expressed in the format YYYY-MM-DD, or YYYY-MM, or YYYY, in accordance with EN 28601. NOTE The choice of format will be determined by the requirements of the relevant Directive(s) and the specific nature of the device itself.	N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>

COPY



Item	Requirement Fulfilled
<p>e) maintenance instructions accompanied by annotated illustrations, and the following information:</p> <p>i) details of any maintenance, including:</p> <ul style="list-style-type: none"> - any service, maintenance and/or fault-finding for which the manufacturer intends the user to be responsible, - information about the type of tools or equipment needed to repair and service the wheelchair, - frequency of maintenance, - a list of materials necessary, including any part numbers and procurement information, - identification of circumstances in which an operation should be undertaken by the manufacturer, distributor or service agent, <p>ii) instructions on methods of cleaning,</p> <p>iii) for parts that the manufacturer intends to be readily replaced, the following:</p> <ul style="list-style-type: none"> - ordering information, - instructions for access removal, - replacement and testing, and - annotated illustrations of the parts (including tires and batteries) and their location, <p>iv) information on how to perform potentially hazardous maintenance operations, such as battery servicing and tire inflation;</p> <p>f) instructions for carrying out performance checks;</p> <p>g) description of wheelchair repair procedures as follows:</p> <p>i) identification of parts that are intended to be repaired by the user</p> <p>ii) identification of parts that have to be serviced by the manufacturer or an authorized service facility in order to maintain warranties and serviceability,</p> <p>iii) identification of any parts that can be removed and sent to the manufacturer/distributor or other party for repair,</p> <p>iv) identification of circumstances in which the manufacturer, distributor or service agent should undertake the repair,</p> <p>v) a list of authorized service facilities (If this information is not known, a clearly marked space for this information to be added by the supplier should be provided.),</p> <p>vi) information on whether or not any replacement units are available,</p> <p>vii) packing and shipping instructions when necessary.</p>	<p style="text-align: center; font-size: 2em; font-weight: bold; opacity: 0.5;">COPY</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/></p> <p>Manual directs user to qualified Dealer.</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/></p> <p>Manual directs user to qualified Dealer.</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>Manual directs user to qualified Dealer:</p> <p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/></p> <p>Manual directs user to qualified Dealer.</p> <p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p>



Item	Requirement Fulfilled
10.2 User Manual	<div style="font-size: 48px; opacity: 0.5; transform: rotate(-15deg);">COPY</div>
In addition to the requirements of 10.1, the manufacturer shall state in the user manual the following:	
<ul style="list-style-type: none"> The wheelchair classification (Type Classes A, B or C); 	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
<ul style="list-style-type: none"> The maximum safe slope; 	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
<ul style="list-style-type: none"> The maximum climbing ability when on a slope facing upwards; 	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
<ul style="list-style-type: none"> The maximum obstacle climbing ability; 	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
<ul style="list-style-type: none"> The battery type, capacity, size, max current and connector configurations; 	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
<ul style="list-style-type: none"> The charger specification; 	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
<ul style="list-style-type: none"> A warning that any transportation on a slope may be dangerous, if the automatic brakes are disengaged; 	N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Spring-loaded brake on each motor is always engaged unless wheelchair is commanded to drive.
<ul style="list-style-type: none"> A warning that the driving performance of the wheelchair can be influenced by electromagnetic fields such as emitted by portable telephones and other emitting devices; NOTE: The manufacturer is recommended to indicate that the power source of the wheelchair should be turned off when using such equipment; 	N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/>
<ul style="list-style-type: none"> A warning that the wheelchair itself can disturb the performance of electromagnetic fields such as emitted by alarm systems of shops; 	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
<ul style="list-style-type: none"> A warning of risks in connection with the disposal of batteries if they are damaged, e.g. leaking; 	N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Non-liquid electrolyte.
<ul style="list-style-type: none"> A recommendation for the recycling of used batteries; 	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
<ul style="list-style-type: none"> The method of seat belt attachment; 	N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> This wheelchair contains a seat positioning strap only.
<ul style="list-style-type: none"> The method of attaching anti-tip devices, if they are supplied; 	N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
<ul style="list-style-type: none"> if a curb-climbing device is needed, the type of device recommended and instructions for its use; 	N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
<ul style="list-style-type: none"> if the manufacturer claims the wheelchair is designed for use as seat in motor vehicles, the method of attaching wheelchair tie down and occupant restraints and 	N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>



Item	Requirement Fulfilled
recommendations about suitable tie down and restraint systems;	N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
<ul style="list-style-type: none"> if a wheelchair is fitted with special driving/braking adjustment devices, the recommended settings of these devices; 	N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
<ul style="list-style-type: none"> if a programmable controller is fitted, the method of programming the controller, who should carry out the programming and what effect it has on driving performance; 	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Manual refers to Electronics Manual.
<ul style="list-style-type: none"> a warnings if the wheelchair is capable of climbing slopes steeper than the maximum safe slope and on the risks when driving and manoeuvring forward and, especially, backward on these slopes; 	N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> No claim of capability of climbing slopes steeper than the maximum safe slope.
<ul style="list-style-type: none"> a warning that the wheelchair may interfere with kerbs when mounting or dismounting if anti-tip devices are fitted; 	N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
<ul style="list-style-type: none"> a warning if driving characteristics can be adjusted outside safe limits specified in Table 2 and 3 (EN 12184:1999 page 30-31 and 32); 	N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
<ul style="list-style-type: none"> a warnings if instability can arise during turning, e.g. for manually steered wheelchairs; 	N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
<ul style="list-style-type: none"> wheelchairs of class C with a turning radius exceeding 1.500 mm shall bear a warning that it may be difficult to turn in front of lifts or building entrances, since they contradict standards for buildings. 	N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Not Class C. Turning radius not exceeding 1.5mm.
10.3 Labeling	
In addition to the requirements of 10.1, the manufacturer shall apply the following labeling:	
<ul style="list-style-type: none"> devices for disengagement of the automatic brakes shall be marked clearly, showing engaged and disengaged positions and marked with a warning, that caution must be taken on slopes; 	N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> Spring-loaded brake on each motor is always engaged unless wheelchair is commanded to drive.
<ul style="list-style-type: none"> the information and connection details specified in clause 9 of ISO 7176-14:1997 shall be displayed on the front of the battery charger. 	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> TUV Certificate No. Z1 04 06 12941 098 Conformance to EN 12184:1999



Item	Requirement Fulfilled
<p>10.4 Specification sheet</p> <p>In addition to the information specified in ISO 7176-15, manufacturers shall disclose the following information in their specification sheets:</p> <ul style="list-style-type: none"> the maximum height of kerb which the wheelchair can descend; the maximum height of obstacle which will pass underneath the wheelchair; the turning space. 	<p>See attached Information disclosure in manufacturer's specification sheets.</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p>
<p>Requirements for protection against single fault EN 12184:1999 A.4.4</p> <p>The wheelchair should not move after a single fault has occurred in the drive circuit and the joystick has returned to its neutral position.</p> <p>Additional requirements from TUV PPP 03/96:</p> <p><u>Controller Single Fault</u></p> <p>The wheelchair shall at least conform to the principle of "Dead Man" stopped by a protection system independent from the controller when a Single Fault occurs in safety-relevant components of the electronic controller for driving and steering. This means that the wheelchair shall stop safely when the joystick is released.</p> <p>If no complete exclusion of errors in the independent protection system is possible, it shall be possible that its function can be tested prior to starting a drive.</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p style="text-align: center; font-size: 2em; opacity: 0.5;">COPY</p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p>
<p>The test shall start automatically when the main switch is switched on or the user shall perform the test at least once a day without any problems.</p> <p>The test handling shall differ from the controller handling so that mis-operations are avoided.</p> <p>If a safety-relevant error is recognized during the test, it shall not be possible to start the drive mode.</p>	<p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p> <p>N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/></p>



Item	Requirement Fulfilled
If an automatic test of the controller and the steering is performed when the wheelchair is switched on, it must not be possible to start the drive mode, if a safety-relevant error was recognized.	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
The operating instructions shall contain clear reference to the performance of this test.	N/A <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Remark <input checked="" type="checkbox"/> This test is totally automated.
Errors which occur in the protection system being independent from the controller during the drive mode shall not influence safe road performance. They should be displayed; however, they should not cause an immediate switching off.	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
Actuating of operating elements shall not lead to unintended malfunctions, which cause dangers (not Single Fault), when the wheelchair is in normal mode.	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
If operating elements of additional drives e.g. seat adjustment are released, the movement shall automatically stop (not Single Fault).	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
The controller shall work completely, even if the battery is completely discharged.	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>
If the battery is not completely discharged, no malfunctions of the controller shall occur.	N/A <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Remark <input type="checkbox"/>

COPY



14 Other

Test equipment calibration on-file.

COPY