



CENTRE FOR TESTING AND CERTIFICATION - MECH-TEST

Mechanical Laboratory

05-077 Warszawa-Wesoła, ul. Klonowa 22
tel.: +48 603 23-26-45, e-mail: cbc.mech.test@gmail.com, www.cbc.org.pl

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TEST REPORT NO. **CBC-001/2020**

Page 1 of 17

Subject of testing: *Manual lightweight wheelchair*

Classification according to
PN-EN ISO 9999:2017-02: 12 21 03

Type / Model: *ICON 60 Vario*

SN.: (01)059074678026
19(11)151205(21)0001
Art. Nr.: CWC090-40

Manufacturer: *REHASENSE Sp. z o.o.*
ul. Sulejowska 45 G,
97-300 Piotrków Trybunalski

Number of specimens: 1

Applicant: *A-Net s.c.*
93-469 Łódź,
ul. Łaskowice174

Kind of testing *Testing scope according to application of Client*
Mechanical testing for conformity with PN-EN 12183 : 2014;
PN-EN 12182:2012; ISO 7176-part 1, 3, 5, 7, 8, PN-EN 1021-1:2007

Test started: 17.12.2019

Test finished: 27.12.2019

Approved by:

DYREKTOR

mgr inż. Andrzej Tkaczyk

Special comments / enclosures:

- 1) Annex 1-3 – Identification of wheelchair elements

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Test results refer only to tested units.

Test results reported here are not applicable to the further modifications of the product affecting its structure, material or technology.

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CHARACTERISTIC OF MANUALLY PROPELLED WHEELCHAIR

Maximum load capacity: 120 kg

Overall mass of wheelchair: 9,735 kg

Description

Comments

		Description	Comments
Dimensions:	Length:	805 mm	
	Height (max.):	780 mm	
	Width:	554 mm	
Construction of frame:	Material:	Aluminum	
	Method of fastening frame elements:	Welding/rivets/bolts	
	Folding/unfolding:	Unfolding	
Drive wheels	Ø external:	530 mm	
	Ø pipe:	19 mm	
	Material:	Aluminum	
	Way of fastening to driven wheel:	Screws	
	Number of fastening points to driven wheel:	6	
Driving wheels	Material of ring of a wheel:	Aluminum	
	Dimension of tyre:	ø590mm, szer.22mm	24x1/25x540
	Pressure:	110PSI/7,5BAR	
	Way of fastening wheel to construction:	Quick connector	
	Vertical adjustment (number of fixing positions)	YES 3	
	Horizontal adjustment (number of fixing positions):	YES 6	
	Inclination angle adjustment:	NO	
	Inclination angle:	0,0°	
Castor wheels	Ø of wheel:	128 mm	
	Width:	27 mm	
	Material of ring of a wheel:	Aluminum	
	Material of fork:	Aluminum	
	Vertical adjustment (number of fixing positions)	YES 3	
	Horizontal adjustment (number of fixing positions):	NO	
	Adjustment of axis inclination angle:	YES	
Backrest	Folding/unfolding:	Folding	
	Backrest inclination adjustment	stepless:	YES
number of fixing positions		NO	
Tilt levers	Two singular:	NO	
	One lateral:	NO	
Push handles	Kind:	NO	
Parking brake	Left:	YES	
	Right:	YES	
	Kind:	Hand brake	
	Material of lever:	Plastic	
	Fastening to frame:	Using the clamp	
	Way of adjustment:	With screws and clamp stabilizing position of break towards tyre	
Upholstery	Material:	Nylon	
	Colour:	Black	
Wheel space in forward direction position:		363 mm	
Wheel space in backward direction position:		440 mm	

NOTE. Measurements were made in the wheelchair with factory regulations (photo)

Legrests	Common for both legs:	YES
	Separate for each leg:	NO
	Stationary:	YES
	Folding:	NO
	Vertical adjustment (number of fixing positions)	YES 4
	Horizontal adjustment (number of fixing positions):	NO
	Angle adjustment (number of fixing positions):	NO
	Material of legrest:	Aluminum
Accessories	Seat belt	NO
	Anti-overturn device:	NO
	Anterior pelvic support:	YES
	Service :	YES

PHOTO OF WHEELCHAIR



SN	ICON 60 Vario
 (0)105907467802619(1)151206(2)10001	2019-12-05 CWC090-40 40 cm 120 Kg Max 10° 40cm
	 REHASENSE Sp. z o.o. Sulejowska 45 G 97-300 Piotrków Tryb. Poland
	 5 907467 802619

TESTING

NORMATIVE REFERENCES

	Applied
PN-EN 12182:2012 Technical aids for disabled persons – General requirements and test methods	YES
PN-EN 12183:2014 Manually propelled wheelchairs – Requirements and test methods	YES
PN-EN 12184:2014 Electrically powered wheelchairs, scooters and their chargers – Requirements and test method	NO
ISO 7176-1:2014 Wheelchairs – Determination of static stability	YES
ISO 7176-2:2001 Wheelchairs – Determination of dynamic stability of electric wheelchairs	NO
ISO 7176-3:2012 Wheelchairs – Determination of efficiency of brakes	YES
ISO 7176-4:2008 Wheelchairs – Energy consumption of electric wheelchairs and scooters and determination of theoretical distance	NO
ISO 7176-5:2008 Wheelchairs – Determination of overall dimensions, mass and turning space	YES
ISO 7176-6:2001 Wheelchairs – Determination of maximum speed, acceleration and retardation of electric wheelchairs	NO
PN-ISO 7176-7:2001 Wheelchairs – Measurement of seating and wheel dimensions	YES
ISO 7176-8:2014 Wheelchairs – Requirements and test methods for static, impact and fatigue strengths	YES
ISO 7176-9:2009 Wheelchairs – Climatic test for electric wheelchairs	NO
ISO 7176-10:2008 Wheelchairs – Determination of obstacle-climbing ability of electric wheelchairs	NO
PN-ISO 7176-14:2001 Wheelchairs – Power and control systems for electric wheelchairs – Requirements and test methods	NO
PN-ISO 7176-15: 2002 Wheelchairs – Requirements for informative disclosure, documentation and labelling	NO
PN-EN 1021-1:2007 Furniture. Assessment of the ignitability of upholstered furniture. Ignition source: smouldering cigarette.	YES
PN-EN 1021-2:2014-12 Furniture. Assessment of the ignitability of upholstered furniture. Ignition source: math flame equivalent	NO
PN-ISO 7176-16:2001 equivalent: PN-90/P-04823 Wheelchairs. Resistance to ignition of upholstered parts – Requirements and test methods	NO
ISO 7176-16:2012 Wheelchairs. Resistance to ignition of upholstered parts – Requirements and test methods	NO
PN-ISO 7176-19:2007 Wheelchairs. Wheeled mobility devices for use in motor vehicles	NO

RESULT OF MECHANICAL TESTS ACCORDING TO PN-EN 12182

Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments
4.1	4.8, 5.2, 5.4.2, 5.5, 6, 8.2.1, 9.4, 10, 22, 24 i EN 1441	Risk analysis	--	N/T	
4.2	V/I	Expected characteristics and technical documentation	Conf.	Pos.	
4.3	EN ISO 14155	Clinic assessment	--	N/T	
4.4	V/I	Technical support which can be dismantled	Conf.	Pos.	
4.5	V/I	Single use connections	Conf.	Pos.	
4.6	V/I	Boundary values of user weight	Conf.	Pos.	
4.7	V/I	Immobilising means	Conf.	Pos.	
4.8	V/I, C5	Suitability of the product for people with cognitive impairment	--	N/T	
		The presence of the description in the manufacturer's documentation	--	N/T	
Materials					
5.1	EN 60601-1-9	Recycling	--	N/T	
5.2	V/I, B 5.2	Flammability (PN-EN 1021-1:2007)	Conf.	Pos.	
5.2.2	V/I	Upholstered parts, mattresses, bed bases and bedding	--	N/A	
5.2.3	V/I, EN 1021	Upholstered parts	--	N/A	
5.2.4	V/I, EN 597	Mattresses and bed bases	--	N/A	
5.2.5	V/I, EN ISO 12952	Bedding	--	N/A	

Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments	
5.2.6	V/I. EN 60695-11-10	Moulded parts	--	N/T		
5.3	EN ISO 10993-1 Annex. D	Biological conformity and toxicity	--	N/T		
5.4	V/I	Contaminants and residues	--	N/A		
5.5	V/I, B.5.5.1	Microbiological infections and contamination	Cleaning	Conf.	Pos.	Comments in service manual
	V/I, B.5.5.1		Disinfection	--	N/A	
	V/I, EN ISO 22442-1 B.5.5.2		Animal tissue	--	N/A	
5.6	EN ISO 9227	Resistance to corrosion	--	N/T		
6		Emitted sound and vibration				
6.1	EN ISO 3746 B6	Noise and vibration	--	N/A		
6.2	EN ISO 3746	Sound levels and frequencies of audible warning devices	--	N/A		
6.3	EN ISO 3746	Feedback	--	N/A		
7	EN 60601-1-2 7.2, 7.3, 7.4	Electromagnetic compatibility	--	N/A		
8		Electrical safety	--	N/A		
9	V/I	Overflow, spillage, leakage, and ingress of liquids	--	N/A		
10	V/I. Measur.	Surface temperature	--	N/A	$t \leq 41^{\circ}\text{C}$ ■ requirement does not concern heat of direct solar radiation – PN-EN 12182, clause 10a ■ requirement concerns only persons with insensitiveness of skin (who do not feel heat) - PN-EN 12182, clause 10d	
11	V/I	Sterility	--	N/A		
12	V/I. Measur.	Safety of moving parts	Conf.	Pos.	Comments in service manual	
13	V/I. Measur.	Prevention of traps for parts of the human body	Conf.	Pos.	Comments in service manual	
14	V/I	Folding and adjusting mechanisms	Conf.	Pos.	Comments in service manual	
15	V/I. Measur.	Carrying handles	Conf.	Pos.	Comments in service manual	
16	V/I. Measur.	Assistive products which support or suspend users	Conf.	Pos.	were tested by ISO 7176-8:2014	
17	V/I. Measur.	Portable and mobile assistive products	Conf.	Pos.	were tested by ISO 7176-8:2014	
18	V/I, B 18	Surfaces, corners, edges and protruding parts	Conf.	Pos.		
19	B 19	Hand held assistive products	--	N/A		
20	B 20	Small Parts	Conf.	Pos.	Comments in service manual	
21	V/I. Measur. EN 60601-1	Stability	--	N/R.	were tested by ISO 7176-1:2014	
22	B 22, V/I	Forces in soft tissues of the human body	Conf.	Pos.		
23	V/I. EN 614-1	Ergonomic principles	--	N/T	The requirements relate to the design process	

TEST RESULTS ACCORDING TO PN-EN 12183:2014

7 WHEELCHAIR PERFORMANCE

Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments
7.1.1	ISO 7176-1	Static stability	--	N/R.	Anti-tip supports required at static stability backwards less than 10°
7.2.1	PN-ISO 7176-8	Static, impact and fatigue strength	Conf.	Pos.	

Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments	
7.3.1	7.3.3	Tilting fatigue strength	Conf.	Pos.	20 000 of cycles with full loading of wheelchair	
7.4	PN-ISO 7176-19	Wheelchairs for use as seats in motor vehicles	--	N/T		
7.5	PN-EN 12182	Surface temperature	--	N/A	$t \leq 41^{\circ}\text{C}$ requirement does not concern heat of direct solar radiation - PN-EN 12182, clause 10a requirement concerns only persons with insensitiveness of skin (who do not feel heat) - PN-EN 12182, clause 10d	
8 COMPONENT PROPERTIES						
8.1.1	8.1.2 V/I	Foot supports, lower leg supports and arm supports				
		Foot supports	Possibility to position the occupant's feet at the required height	Conf.	Pos.	
			Presence of the technical means to prevent the occupant's feet from sliding	Conf.	Pos.	
		Foot supports, lower leg support assemblies and arm supports	a) Incorporate a means to locate it securely in any intended operating position	Conf.	Pos.	
			b) Be adjustable in increments not exceeding 25mm	Conf.	Pos.	
			c) Be accessible and operable by the occupant or an assistant or both in accordance with the manufacturer's intended use of the wheelchair	Conf.	Pos.	
			d) Be within the reach space shown in Figure 1	Conf.	Pos.	
			e) Be operable without the use of tools	Conf.	Pos.	
f) Means to prevent the occupant's feet from sliding into the gap shall be provided, or	Conf.		Pos.			
g) The gap between the footrests $\leq 35\text{mm}$ or $\geq 100\text{mm}$ for adults and $\leq 25\text{mm}$ or $\geq 45\text{mm}$ for children	Conf.	Pos.	0 mm			
8.2	V/I Measur.	Component mass				
		Presence of the handling devices (e.g. handles) in components of mass greater than 10 kg, or	N/O	--	Required for wheelchairs intended to be dismantled for storage or transportation	
		Information indicating the points where components can be lifted and describing how they shall be handled during disassembly, lifting, carrying and assembly available	Conf.	Pos.	mass of the heaviest parts 6,85 kg	
8.3	V/I	Pneumatic tyres				
		Presence of the same type of valve connection on all tyres	Conf.	Pos.	2 x front + 2 x rear	
		Valves should be readily accessible when using the intended inflating tool.	Conf.	Pos.		
		Presence of the marking of the tyres or the rims with the maximum pressure in kPa, bar or PSI	Conf.	Pos.		
8.4	V/I	Anterior pelvic support				
8.5.1	EN 1021-1 EN 1021-2	Resistance to ignition of upholstered composition parts			required no progressive smouldering ignition or flaming ignition	
8.5.2		Resistance to ignition of foam materials				
8.5.3		Resistance to ignition of other parts				
9 PROPULSION AND BRAKING SYSTEM						
9.1.1.a	V/I	1. Accessibility and possibility to be operated		Conf.	Pos.	
	V/I	2. Location of brake operation mechanism in the region of access by the occupants (fig.1)		--	N/A If the wheelchair is intended to be operated and driven only by user	
	V/I	3. Location of brake operation mechanism in the region of access by an assistant (fig.2)		Conf.	Pos. If the wheelchair is intended to be operated and driven only by an assistant	
	9.1.2	4. Engaging and disengaging force		50/50N Conf.	Pos. requirements on force - see table 1	
9.1.1.b		1. For wheelchairs with a maximum occupant mass not greater than 150kg, the force applied to each lever to hold the loaded wheelchair stationary on the maximum slope specified by the manufacturer for parking brake use shall not exceed 60N		--	N/A	

Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments
9.1.1.b		2. For wheelchairs with a maximum occupant mass greater than 150kg, the force applied to each lever to hold the loaded wheelchair stationary on the maximum slope specified by the manufacturer for parking brake use should not exceed 60N	--	N/A	
		3. The handgrip width of such brake levers when no force is applied, measured 15mm from the end of the brake lever, shall not be greater than 100mm and should not be greater than 80mm (fig. 4)	--	N/A	≤ 100 mm recommended ≤ 80 mm
9.2		Braking functions			
9.2.1	9.2.2 ISO7176-3	a. Engaging and disengaging force	50/50N Conf	Pos.	requirements on force – see table 1
		b. Possibility of adjustment and/or replacement of brake	Conf.	Pos.	
		c. No components that protrude above the level of the unoccupied seat when brake is engaged in the wheelchair fitted with movable or removable arm supports	--	N/A	
		d. No deformation, free play or loss of adjustment that adversely affects the function of the wheelchair	Conf.	Pos.	60 000 cycles
		e. Fatigue strength of parking brake	Conf.	Pos.	60 000 cycles f ≤ 0,5 Hz
9.3.1	Measur.	Pushing force	25 N	N/R. (30kg)	40N(m≤100kg) 60N(100<m≤150kg) 70N(150<m≤200kg) 80N(200<m≤250kg)
10.1		Operations intended to be carried out by the occupant and/or assistant	Conf.	Pos.	
10.2		Controls intended for operation by the occupant	Conf.	Pos.	
10.3		Controls intended for operation by an assistant	--	N/A	
10.4		Push handles and handgrips			
		Location of handles	--	N/A	according to Fig. 6
		Dimensions of handles	--	N/A	length ≥ 75 mm, Ø ≥ 20mm and ≤ 50mm
		Width of grip (length of grip region)	--	N/A	≤ 100 mm recommended ≤ 80 mm
10.5.1	10.5.2	Operating forces	Conf.	Pos.	requirements on force – see table 1
10.6.1	10.6.2	Seating adjustments for tilt and recline systems	--	N/A	required warning and/or mechanism precluding seating adjustment while the occupant is seating
		Accessibility of controls for seating adjustment operated by the occupant	--	N/A	
11	EN 12184	Electrical systems – Electrically powered ancillary equipment	--	N/A	
12		Information supplied by the manufacturer			
		Information and marking conforming EN 12182 available	--	N/T	
		Information and marking conforming ISO7176-15 available	--	N/T	
	12.2	Pre-sale information available	--	N/T	
	12.3	User information available	--	N/T	
	12.4	Service information available	--	N/T	
EN 12182 cl.24.1	V/I	General			
24.2		Instructions for use			
24.2.1	V/I	Pre-sale Information			
		a) information on how to obtain the user information in a format appropriate for use by people with visual, reading or cognitive disabilities	--	N/T	
		b) all information shall as far as possible be available in Pictogram	--	N/T	
		c) a description of the intended use and the intended environment	--	N/T	
		d) maintenance instructions, if applicable	--	N/T	
		e) if an assistive product is intended to be cleaned, a description of the method and suitable cleaning materials, including precautions needed to avoid corrosion, if applicable;	--	N/T	
		f) if an assistive product is intended to be disinfected, a description of the method and suitable materials, including any precautions needed to avoid corrosion, if applicable	--	N/T	

Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments
		g) the overall dimensions (width, length and height) of the assistive product, expressed in millimetres, and its mass, expressed in kilograms, when it is ready for use and, if applicable, when it is folded or dismantled	--	N/T	
		h) the mass expressed in kilograms if the assistive product can be dismantled or has any removable parts that has a mass which is heavier than 10 kg	--	N/T	
		i) if the assistive product is supposed to be used in combination with other products, the manufacturer shall state to which products, and how this can be done in a safe way;	--	N/T	
		j) warning about dangerous combinations of devices (e.g. cushions for the prevention of decubitus ulcers often only work on correct seat surface) and combinations of flame resistant and non-flame resistant material;	--	N/T	
		k) a list of accessories, detachable parts and materials that the manufacturer has determined as being intended for use with the assistive product	--	N/T	
		l) if a programmable controller is fitted, information on the method of programming, the competence required to carry out the programming and the effects on performance	--	N/T	
		m) operator control adjustments	--	N/T	
		n) whether and how the assistive product can be folded or dismantled to assist in storage or transport	--	N/T	
		o) instructions regarding transport of the assistive product (e.g. in a car or aeroplane)	--	N/T	
		p) measured sound power level	--	N/T	
12182 24.2.2	V/I	User information			
		User information shall be provided by the manufacturer with each assistive product. Information shall contain all pre-sale warnings and informations and the following as applicable for each assistive product	--	N/T	
		a) the location and the type of identification number/word on the assistive product shall be given for the unique identification number of the assistive product	--	N/T	
		b) the intended user	--	N/T	
		c) any adjustment or settings required before the assistive product can be used and information on how adjustments or settings affect the assistive product	--	N/T	
		d) information on adjustment possibilities and the competence required to carry out these adjustments	--	N/T	
		e) instructions on operation of all controls	--	N/T	
		f) the battery type and nominal voltage	--	N/T	
		g) instructions for battery maintenance	--	N/T	
		h) instructions for operating the battery charger, including warnings regarding any potential safety hazards (e.g. a possibility of gas accumulating in the charging area);	--	N/T	
		i) instructions on dismantling and re-assembly of the assistive product or any removable parts;	--	N/T	
		j) the positions of points where the component parts can be gripped for safe moving and handling and/or a method for handling during dismantling, assembly or carrying;	--	N/T	
		k) a warning if surface temperatures can increase / decrease when exposed to external sources of heat or cold (e.g. sunlight, outdoor environment);	--	N/T	
		l) a warning if the assistive product might disturb the operation of devices in its environment that emit electromagnetic fields (e.g. alarm systems of shops, automatic doors, etc.);	--	N/T	
		m) a warning if the performance of the assistive product can be influenced by electromagnetic fields {e.g. those emitted by portable telephones, electricity generators or high power sources};	--	N/T	
		n) if the intended purpose of an assistive product cannot be met without a hazard {e.g. holes, V-shaped opening}, a warning and instructions on how to operate the assistive product safely;	--	N/T	

Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments
		o) if the intended purpose of an assistive product cannot be met without a hazard due to moving parts such as squeezing, a warning and instructions on how to operate the assistive product safely;	--	N/T	
		p) the level of resistance to ignition of materials and assemblies	--	N/T	
		q) information on the recycling of used batteries and other parts of the assistive product;	--	N/T	
		r) expected lifetime of the assistive product.	--	N/T	
		- It is recommended to include instructions on how to solve simple problems for the ease of use.	--	N/T	
12182 24.2.3	V/I	Service information			
		The service information shall contain all the pre-sale information, user information and instructions necessary for the maintenance, adjustment and repair of the assistive product and for the replacement of parts.	--	N/T	
		The service information shall contain all the pre-sale information and the user information.	--	N/T	
		The service information shall be sufficiently detailed concerning preventive inspection, maintenance and calibration, including the frequency of such maintenance.	--	N/T	
		The service information shall provide information for the safe performance of such routine maintenance necessary to ensure the continued safe use of the assistive product.	--	N/T	
		Additionally, the service information shall identify the parts on which preventive inspection and maintenance shall be performed by service personnel, including the periods to be applied and details about the actual performance of such maintenance.	--	N/T	
12182 24.2.3	V/I	Labelling			
		year of production for the product	--	N/T	
		Detachable parts of an assistive product with a mass of more than 10 kilograms shall be marked with the actual mass on the part.	--	N/T	
		Symbols for use in the labelling of medical devices shall be in accordance with EN 980	--	N/T	
12182 25	V/I	Packaging			
12183 12.2	V/I	Contents of pre-sale documentation :			
		a) information on how to obtain the user information in a format appropriate for use by visually impaired people	--	N/T	
		b) description of the intended occupant of the wheelchair	--	N/T	
		c) the intended operator (occupant, assistant or both),	--	N/T	
		d) a description of the intended use and the intended environment	--	N/T	
		e) overall dimensions (mm), mass (kg)	--	N/T	
		f) a clear statement that the wheelchair is larger than the recommended dimensions	--	N/T	
		g) reversing width (mm)	--	N/T	
		h) maximum safe slope (°)	--	N/T	
		i) standard options available for the wheelchair	--	N/T	
		j) type of tyres that can be used on the wheelchair	--	N/T	
		k) operator adjustments	--	N/T	
		l) mass of the heaviest part (kg)	--	N/T	
		m) whether the removal of parts or accessories intended by the manufacturer to be removed without the use of tools will have adverse or beneficial effects on the wheelchair	--	N/T	
		n) information on whether or not the wheelchair is intended to be used as a seat in a motor vehicle and how the standard options covered in g) will affect this	--	N/T	
		o) if the manufacturer specifies that the wheelchair is intended for use as a seat in a motor vehicle, the method of attaching wheelchair tiedown and occupant restraints, and recommendations about suitable tiedown and restraint systems	--	N/T	

Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments
12183 12.3		User information contents			
		- All pre-sale information contents and:			
		a) unique identification number of the wheelchair and information on the location of it	--	N/T	
		b) Adjustments before use of the wheelchair and warning of their impact on the wheelchair's stability	--	N/T	
		c) information on any adjustments and who is competent do carry out them	--	N/T	
		d) instructions on operation of all controls, including brakes	--	N/T	
		e) recommended pressure in tyres in kPa or bar	--	N/T	
		f) dealing with tyre punctures	--	N/T	
		g) warning that surface temperature can increase when the wheelchair is exposed to solar radiation	--	N/T	
		h) warning of trapping hazard	--	N/T	
		i) level of resistance to ignition of materials and assemblies	--	N/T	
		j) instruction on engaging and disengaging the drive system (if applicable)	--	N/T	
		k) instructions on whether and how the wheelchair can be folded to assist in storage or transport	--	N/T	
		l) instruction on dismantling and re-assembly of the wheelchair or removable parts	--	N/T	
		m) instructions regarding transport of the wheelchair when it is unoccupied (e.g. in a car or aeroplane)	--	N/T	
		n) masses of parts that can be removed, carried, moved	--	N/T	
		o) points where the component parts can be gripped for safe removing, moving parts during dismantling, assembly or carrying	--	N/T	
		p) if the manufacturer specifies that the wheelchair is intended for use as a seat in a motor vehicle, the method of attaching wheelchair tiedown and occupant restraints, and recommendations about suitable tiedown and restraint systems	--	N/T	
		q) if the manufacturer specifies that the wheelchair is not intended for use in the motor vehicle, a warning to that effect, together with the symbol shown in Figure 7	--	N/T	
		r) instructions on how to obtain and fit the optional anterior pelvic support (8.4) if it is not supplied with the wheelchair	--	N/T	
		s) the positions of points intended to carry additional loads	--	N/T	
		t) instructions for preparing the wheelchair for long-term storage (e.g. longer than four months) and for preparing it for use afterward	--	N/T	
		u) information on the recycling of the wheelchair	--	N/T	
		v) Warning if seating or wheels can be set outside safe limit	--	N/T	
		w) if the overall width or overall length of the wheelchair when it is ready for use exceed the applicable values recommended in A.1.1, a warning concerning access to emergency escape routes	--	N/T	
		x) if the characteristics of the wheelchair exceed the limits specified in Annex M of the Technical Specification for Interoperability relating to Accessibility for Persons with Reduced Mobility (PRM-TSI), a statement to that effect (Annex C)	--	N/T	
		y) information on how to find out about product safety notices and product recalls, for example by ensuring the supplier has up-to-date contact details	--	N/T	
		z) the expected service life of the wheelchair	--	N/T	
		aa) the name and address of the manufacturer	--	N/T	
		bb) the name and address of the authorized representative, where the manufacturer does not have a registered place of business in the European Union	--	N/T	
12.4	V/I	Service information contents			
		All pre-sale information contents and			
		All user information contents and			
		instructions necessary for the maintenance	--	N/T	
		instructions necessary for the adjustment	--	N/T	
		instructions necessary for the repair	--	N/T	
		instructions necessary for the replacement of parts	--	N/T	
12.5	V/I	Labelling (on the wheelchair):			
		a) Of the device for disengagement of the drive system (brakes) including:			
		position: engaged, disengaged	--	N/T	
		a warning that the drive system should be re-engaged before an occupant is left unattended or attempts to operate the wheelchair	--	N/T	

Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments
		b) Position of attachment points for wheelchair tie-down and occupant restraint systems if the wheelchair is intended to be used as a seat in a motor vehicle	--	N/T	
		c) A warning that the wheelchair is not intended to be used as a seat in a motor vehicle if it is not intended to be used as a seat in a motor vehicle	--	N/T	

TEST RESULTS according to ISO 7176-1

Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments
PN-EN 12183	10.	Static stability of wheelchair facing up to the slope (backwards) – factory regulations *)	16°	N/R	When static stability backwards is below 10° anti-overturn supports are required
	8.	Static stability of wheelchair positioned backwards up to the slope - factory regulations *)	16°	N/R	
	12.	Static stability of wheelchair positioned sideward up to the slope	14°	N/R	

*) Measurements were made in the wheelchair with factory regulations (photo)

TEST RESULTS according to PN-ISO 7176-2

Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments
4.	7.1.	Stability during start and stop when wheelchair drives forwards up to the slope Force required to operate hand (or foot) steering mechanism	-	N/A	Testing relates electrically powered wheelchairs
4.	7.2.	Stability of braking during drive forwards and backwards down the slope	-	N/A	
4.	7.3.	Stability during turning	-	N/A	

TEST RESULTS according to PN-ISO 7176-3

Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments	
PN-EN 12183 9.2 Tab. 1	7.2 V/I Measur.	Parking brake	Effectiveness of parking brake of wheelchair positioned forwards down the slope	Conf. 10° wheelchair slides down	Pos.	No rotation or wheel spin when wheelchair is on inclined plane of 7° slope (requirements of PN-EN 12183 cl. 14 Tab. 1)
			Effectiveness of parking brake of wheelchair positioned backwards down the slope	Conf. 10° wheelchair slides down	Pos.	
			Measurement of force acting on brake lever	50/50 N Conf.	Pos.	

NOTE: Measurements were made in the wheelchair with factory regulations (photo)

Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments	
7.3	V/I Measur.	Service brake	Braking distance during drive with maximum speed forwards on horizontal plane	-	N/A	Testing relates electrically powered wheelchairs
7.3	V/I Measur.		Braking distance during drive backwards on horizontal plane	-	N/A	Testing relates electrically powered wheelchairs
7.3	V/I Measur.		Braking distance of wheelchair during drive forwards on slope of 5°	-	N/A	Testing relates electrically powered wheelchairs
7.3	V/I Measur.	Resistance of braking system to increased temperature caused by long braking during drive forwards on horizontal plane	-	N/A	Testing relates electrically powered wheelchairs	
7.5	V/I Measur.	Emergency brake	Braking distance of wheelchair during drive with maximum speed forwards on horizontal slope	-	N/A	Testing relates electrically powered wheelchairs

7.3	V/I Measur.	Automatic brake	Braking distance of wheelchair during drive with maximum speed forwards on horizontal slope	-	N/A	Testing relates electrically powered wheelchairs.
7.3	V/I Measur.		Braking distance of wheelchair during drive with maximum speed forwards on slope of 5°	-	N/A	Testing relates electrically powered wheelchairs

TEST RESULTS according to ISO 7176-4

Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments
PN-EN 12184 Tabl. 2	7	Theoretical energy range	-	N/A	Testing relates electrically powered wheelchairs

TEST RESULTS according to PN-ISO 7176-5

Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments
8.2	Overall length of wheelchair with legrest and footrest	805 mm	N/R.	
8.3	Overall width	554 mm	N/R.	
8.4	Height of grips above the ground	--	N/A.	
8.5	Minimum length of folded wheelchair	810 mm	N/R.	
8.6	Minimum overall width of folded wheelchair	495 mm	N/R.	
8.7	Minimum height of folded wheelchair	425 mm	N/R.	
8.8	Castor wheels lift height in the wheelchair with anti-overturn device	--	N/A.	
8.9	Mass	9,735 kg	N/R.	
8.10	Mass of the heaviest parts	6,85 kg	N/R.	
8.11	Pivot width (fig. 9)	940 mm	N/R.	
8.12	Width of U-turn limited by spacing of walls	950 mm	N/R.	
8.13	Diameter of the rotation (fig. C3)	1200 mm	N/R.	
8.14	Ground clearance (fig. 5)	280 mm	N/R.	
8.15	Required width of angled corridor (fig. 15)	700 mm	N/R.	
8.16	Required doorway entry depth (fig. 14)	950 mm	N/R.	
8.17	Required corridor width for side opening (fig. 13)	800 mm	N/R.	

According to PN-EN 12183 Annex.B and PN-ISO 7193 recommended max overall dimensions: length: 1200mm, width: 700mm, height: 1200mm

TEST RESULTS according to PN-ISO 7176-6

Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments
7.1.	Maximum speed during drive forwards	-	N/A	Testing relates electrically powered wheelchairs.
7.2.	Maximum speed during drive backwards	-	N/A	
8.1.	Maximum acceleration	-	N/A	
8.2.	Maximum deceleration	-	N/A	

TEST RESULTS according to PN-ISO 7176-7

Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments
7.3.2.	Angle of seat plane	12,5°	N/R.	
7.3.3.	Effective depth of seat	400 mm	N/R.	
7.3.4.	Width of seat	370 mm	N/R.	
7.3.5.	Effective width of seat	412 mm	N/R.	
7.3.6.	Height of front edge of seat plane	540 mm	N/R.	
7.3.7.	Angle of backrest	10,0°	N/R.	
7.3.8.	Height of backrest	340 mm	N/R.	
7.3.9.	Width of backrest	350 mm	N/R.	
7.3.10.	Moving forward of headrest	--	N/A.	
7.3.11.	Height of headrest over the seat	--	N/A.	
7.3.12.	Distance of footrest from seat	428-473 mm	N/R.	
7.3.13.	Clearance of footrest	38-83 mm	N/R.	
7.3.14.	Length of footrest	120 mm	N/R.	
7.3.15.	Angle of footrest	85°	N/R.	
7.3.16.	Angle of legrest	84°	N/R.	
7.3.17.	Height of armrests	--	N/A.	

7.3.18.	Moving forward of armrests	--	N/A.
7.3.19.	Length of armrests	--	N/A.
7.3.20.	Width of armrests	--	N/A.
7.3.21.	Angle of armrests	--	N/A.
7.3.22.	Distance between armrests	--	N/A.
7.3.23.	Position of the front of armrests	--	N/A.
7.3.24.	Diameter of drive wheel	530 mm	N/R.
7.3.25.	Diameter of driving wheel	590 mm	N/R.
7.3.26.	Displacement of wheel axis horizontally	60 mm	N/R.
7.3.27.	Displacement of wheel axis vertically	145 mm	N/R.
7.3.28.	Diameter of castor/front wheel	128 mm	N/R.

NOTE 1: Measurements were made in the wheelchair with factory regulations (photo)
(refer to ISO 7176-5, PN-ISO 7176-7)

NOTE 2: Measurements were made burdening the wheelchair with dummy RLG – refers to PN-ISO 7176-7

TEST RESULTS according to ISO 7176-8

Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments
4.	8.4.	Armrest – resistance to forces acting downwards	--	N/A	
4.	8.5.	Footrests - resistance to forces acting upwards	Conf.	Pos.	loading 1177 N
4.	8.6.	Anti-tip levers	--	N/A	
4.	8.7.	Grips	--	N/A	
4.	8.8.	Armrest – forces acting upwards	--	N/A	
4.	8.9.	Footrest – forces acting upwards	Conf.	Pos.	loading 957 N
4.	8.10.	Handle grips for pushing – load acting upwards	--	N/A	
4.	8.11.	Scooter steering handles: Resistance to forward forces	--	N/A	
4.	8.12.	Scooter steering handles: Resistance to rearward forces	--	N/A	
4.	8.13.	Scooter steering handles: Resistance to downward forces	--	N/A	
4.	8.14.	Scooter steering handles: Resistance to upward forces	--	N/A	
4.	9.3.	Backrest – impact strength	Conf.	Pos.	25kg pendulum impact
4.	9.4.	Driving wheel – impact strength	Conf.	Pos.	10kg pendulum impact
4.	9.5.	Castor/front wheel – impact strength	Conf.	Pos.	10kg pendulum impact
4.	9.6.3.	Footrest – side impact	Conf.	Pos.	10kg pendulum impact
4.	9.6.4.	Footrest – in-line impact	Conf.	Pos.	10kg pendulum impact
4.	9.7.1.	Upward impacts on anti-tip devices	--	N/A	10kg pendulum impact
4.	9.7.2.	Forward or rearward impacts on anti-tip devices	--	N/A	10kg pendulum impact
4.	9.7.3.	Lateral impacts on anti-tip devices	--	N/A	10kg pendulum impact
4.	10.3.2.	Testing of manually propelled wheelchair on two-drum machine	Conf.	Pos.	200 000 of cycles with full loading of wheelchair (120kg)
4.	10.3.3.	Measurement of initial current for electrically powered wheelchair	-	N/A	
4.	10.3.4.	Testing of electrically powered wheelchair on two-drum machine	-	N/A	
4.	10.4.	Drop testing	Conf.	Pos.	6666 drops of wheelchair with full loading (120kg) from height of 50mm
4.	10.5.	Fatigue test of manually operated parking brakes	Conf.	Pos.	60 000 cycles

NOTE: For cl. 9.3 – angle $\theta = 30^\circ$, for cl. 9.4 – angle $\theta = 45^\circ$, for cl. 9.5, 9.6.3, 9.6.4 – angle $\theta = 49^\circ$

TEST RESULTS according to ISO 7176 –9

Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments
8	7.3	Water resistance	-	N/A	Testing concerns electrically powered wheelchairs

TEST RESULTS according to PN-ISO 7176 –10

Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments
PN-EN 12184:2014 Tab. 1	7.1.	Ability to overcome obstacle during drive forwards	--	N/A	Testing concerns electrically powered wheelchairs
	7.2.	Ability to overcome obstacle during drive backwards	--	N/A	Testing concerns electrically powered wheelchairs

TEST RESULTS according to PN-ISO 7176 –14

NOTE. Testing concerns electrically propeller wheelchairs – performed by Electrotechnical Laboratory

TEST RESULTS according to PN-ISO 7176 -15

Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments
7.3		Content of service manual			
7.3.a	V/I	Data concerning guarantee	--	N/T	
7.3.b	V/I	General characteristics:			
		- description of wheelchair with photos or drawings and description of utilization	--	N/T	
		- description of user with maximum mass stated	--	N/T	
		- description of environment of intended utilization	--	N/T	
		- value of recommended pressure in pneumatic tyres	--	N/T	
7.3.c	V/I	When wheelchair is sold in elements for individual assembly			
		- list of components	--	N/T	
		- information on tools necessary to fold wheelchair	--	N/T	
		- instruction of bringing lacking or damaged parts	--	N/T	
		- assembly, installation and disassembly instruction of parts delivered by manufacturer	--	N/T	
		- instructions for preparing wheelchair to storage, transport	--	N/T	
7.3.d	V/I	Service manual of wheelchair			
		- use of wheelchair on surfaces where user moves	--	N/T	
		- get on and get off wheelchair	--	N/T	
		- illustrations explaining these instructions	--	N/T	
		- Descriptions of feasible improper use of wheelchair	--	N/T	
7.3.e	V/I	Maintenance instruction			
		• Details of maintenance:			
		- service, maintenance/detection of damages, for which user is responsible	--	N/T	
		- tools necessary for repair and service of wheelchair	--	N/T	
		- maintenance frequency	--	N/T	
		- list of parts (with numbers) and way of its purchase	--	N/T	
		- conditions when manufacturer, supplier takes action	--	N/T	
		• Ways of cleaning	--	N/T	
		• Elements intended to easy replacement:			
		- information on orders	--	N/T	
		- instruction of disassembly	--	N/T	
		- information on replacement and testing of parts	--	N/T	
		- illustration of parts and their placement	--	N/T	
		• Ways of performance dangerous activities	--	N/T	
7.3.f	V/I	Performing of parameters control	--	N/T	
7.3.g	V/I	Repair of wheelchair			
		- Identification of parts to be repaired by user	--	N/T	
		- Identification of parts operated by manufacturer or service to maintain guarantee	--	N/T	
		- Identification of parts removable and sent to manufacturer/service	--	N/T	
		- Conditions under which manufacturer/service is obliged to perform repair	--	N/T	
		- List of authorized service workshops	--	N/T	
		- Information if spare parts can be purchased	--	N/T	
		- Way of package and transport, if necessary	--	N/T	
Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments
		Content of specification sheets of manufacturer			
Annex A	V/I	Manufacturer	--	N/T	
Annex A	V/I	Address	--	N/T	
Annex A	V/I	Model	--	N/T	
Annex A	V/I	Maximum mass of user	--	N/T	
Annex A	V/I	Overall length with legrest	--	N/T	
Annex A	V/I	Overall width	--	N/T	
Annex A	V/I	Length after assembly	--	N/T	
Annex A	V/I	Width after assembly	--	N/T	
Annex A	V/I	Height after assembly	--	N/T	
Annex A	V/I	Total mass	--	N/T	

Annex A	V/I	Mass of the heaviest part	--	N/T
Annex A	V/I	Static stability downhill	--	N/T
Annex A	V/I	Static stability uphill	--	N/T
Annex A	V/I	Side static stability	--	N/T
Annex A	V/I	Energy range	--	N/T
Annex A	V/I	Dynamic stability uphill	--	N/T
Annex A	V/I	Determination of obstacles	--	N/T
Annex A	V/I	Maximum speed forward	--	N/T
Annex A	V/I	Minimum braking distance at maximum speed	--	N/T
Annex A	V/I	Seat plane angle	--	N/T
Annex A	V/I	Effective depth of seat	--	N/T
Annex A	V/I	Effective width of seat	--	N/T
Annex A	V/I	Height of seat to front edge	--	N/T
Annex A	V/I	Backrest angle	--	N/T
Annex A	V/I	Height of backrest	--	N/T
Annex A	V/I	Distance of seat from footrest	--	N/T
Annex A	V/I	Angle between seat plane and legs	--	N/T
Annex A	V/I	Height of armrest from seat	--	N/T
Annex A	V/I	Distance of front part of armrest from rear rest	--	N/T
Annex A	V/I	Diameter of drive wheel	--	N/T
Annex A	V/I	Position of wheel axis horizontally	--	N/T
Annex A	V/I	Width of turning	--	N/T

TEST RESULTS according to PN-EN 1021-1:2007

Following test results refer only to inflammability of material compound in special test conditions. They are not intended as criteria for assessment of full potential inflammability risk of ready wheelchair.

Identification data, characteristics, description of the sample of durable covering:	Upholstery made of durable, strengthened nylon in black colour				
Manufacturer of durable covering:	No data				
Identification data, characteristics, description of the sample of foam material/filling:	Foam material, white colour (25 mm)				
Manufacturer of foam material/filling:	No data				
Test method:	smouldering cigarette				
Requirements concerning cigarette	without filter, length. (68±2)mm, Ø (8±0,5)mm, mass (0,95±0,1)g, speed of smouldering (8±2)min/40mm				
parameters of used cigarette	Marlboro Menthol, length of a cigarette without filter – 59mm, Ø – 7,9mm, weight of cigarette – 0,82g, mass of filter – 0,2g, speed of smouldering – 7min/40mm				
Conditioning of sample:	Temperature:	Measurement	21°C	Requirements	23°C ± 2°C
	Relative humidity of air:		50%		50% ± 5%
	Time:		24 h		24 h
Conditioning of cigarette:	Temperature:		21°C		23°C ± 2°C
	Relative humidity of air:		50%		50% ± 5%
	Time:		24 h		24 h
Test conditions:	Temperature:	21°C	10°C – 30°C		
	Relative humidity of air:	40%	15% - 80%		
Time of smouldering cigarette:	17 min.	17 min.	18 min.		
More important effects noted during testing:	Cigarette 1	Cigarette 2	Cigarette 3		
Smouldering criteria	Dangerously spreading out combustion (3.1.a)	NO	NO	NO	
	Destruction of tested assembly (3.1.b)	NO	NO	NO	
	Smouldering to limit of sample (3.1.c)	NO	NO	NO	
	Smouldering at whole thickness (3.1.c)	NO	NO	NO	
	Smouldering over 1 hour (3.1.d)	NO	NO	NO	
	Presence of active smouldering in final testing (3.1.e)	NO	NO	NO	
Combustion criteria	Occurrence of flames (3.2)	NO	NO	NO	
Scope of failure of horizontal part of upholstery arrangement in mm:	Length:	53	51	52	
	Width:	12	11	11	
	Depth:	3	3	3	
Scope of failure of vertical part of upholstery arrangement in mm:	Length:	53	51	52	
	Width:	13	12	13	
	Depth:	2	2	2	
Testing performed by:	Andrzej Tkaczyk				
Date and time of starting test:	10.01.2020, 11 ⁰⁰				

Requirements according to PN-EN 12183	Test method according to PN-EN 1021-1	Checked characteristics/assemblies/parameters		Test result	Opinion	Comments
7.10.1	4 9	Resistance to ignition of upholstered composite parts	Ignition of progressive smouldering type (3.1.a, 3.1.b, 3.1.c, 3.1.d, 3.1.e)	Conf.	Pos.	no progressive smouldering
7.10.1	4 9		Flame ignition (3.2)	Conf.	Pos.	no progressive smouldering
7.10.2	4 9	Resistance to ignition of foam materials	Ignition of progressive smouldering type (3.1.a, 3.1.b, 3.1.c, 3.1.d, 3.1.e)	Conf.	Pos.	no progressive burning by fire
7.10.2	4 9		Flame ignition (3.2)	Conf.	Pos.	no progressive burning by fire

Pos. – positive; Neg – negative; N/T – not tested; N/A – not applicable; N/R – not required, N/O – not occurred, V/I – visual inspection, Conf. – conformed.

NOTE 1: During visual inspection before testing any visible defects that can have an effect on test results were not stated.

NOTE 2: Sample/object for testing was delivered to the Laboratory by the Orderer.

NOTE 3: Test dummy of mass 120 kg and person of required mass were used for testing.

NOTE 4: Environment temperature for testing - 19°C.

Final assessment			
PN-EN 12182:2012	Pos.	PN-ISO 7176-7:2001	Tested*
PN-EN 12183:2014	Pos.	ISO 7176-8:2014	Pos.
PN-EN 12184:2014	N/A	ISO 7176-9:2009	N/A
ISO 7176-1:2014	Tested*	ISO 7176-10:2008	N/A
ISO 7176-2:2001	N/A	PN-ISO 7176-14:2001	N/A
ISO 7176-3:2012	Pos.	PN-ISO 7176-15: 2002	N/T
ISO 7176-4:2008	N/A	ISO 7176-16: 2012	N/T
ISO 7176-5:2008	Tested*	PN-EN 1021-1:2007	Pos.
ISO 7176-6:2001	N/A	PN-ISO 7176-19:2007	N/T

*) The standard does not specify requirements towards tested parameters of product

Note: Conformity assessment of product according to standard requirements refer to the scope of mechanical tests ordered by client, excluding testing of material biocompatibility with human body according to PN-EN ISO 10993-1:2010

MARKING VERIFICATION

Name of product: *Manual lightweight wheelchair**ICON 60 Vario*Applicant: *REHASENSE Sp. z o.o.
ul. Sulejowska 45 G,
97-300 Piotrków Trybunalski*

Requirement according to PN-ISO 7176-15:2002		Durable marking on wheelchair
8.1.a	Name and address of manufacturer	N/T
8.1.b	Identification of model and serial number	N/T
8.1.c	Year of production	N/T
8.1.d	Information on likely driver constraints	N/T
8.1.e	Maximum mass of user	N/T
8.2	Marking of dimension on tyres	N/T
Requirement according to PN-EN 12183:2014		Durable marking on wheelchair
12.5	Labelling of the device for disengagement of the drive system (brakes)	N/T
	Labelling of brake positions: engaged, disengaged	N/T
	A warning that the drive system should be engaged before an occupant is left unattended or attempts to operate the wheelchair	N/T
	Position of attachment points for wheelchair tie-down and occupant restraint systems if the wheelchair is intended to be used as a seat in a motor vehicle	N/T
	A warning that the wheelchair is not intended to be used as a seat in a motor vehicle if it is not intended to be used as a seat in a motor vehicle	N/T
B.2.9	Warnings on anti-tilt device about necessity to inform user if anti-tilt device is mounted	N/T
CE marking		N/T

N/A – not applicable

- END -

ANNEX 1 TO TEST REPORT No. CBC-001/2020

Identification of wheelchair elements



ANNEX 2 TO TEST REPORT No. CBC-001/2020

Identification of wheelchair elements



ANNEX 3 TO TEST REPORT No. CBC-001/2020

Identification of wheelchair elements

