



CENTRE FOR TESTING AND CERTIFICATION - MECH-TEST

Mechanical Laboratory

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TEST REPORT NO. **CBC-093/2020**

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Subject of testing:	<i>Assistive products for walking manipulated by one arm</i>	Classification according to	PN-EN ISO 9999:2017-02 :	12 03 12
Type / Model:	<i>Forearm crutch</i>	Item nr.:	315021	
Manufacturer:	<i>MOBILEX A/S Grønlandsvej 5 DK – 8660 Skanderborg</i>	Number of specimens:	2	
Applicant:	<i>A-Net s.c. ul. Łaskowice174 93-469 Łódź,</i>			
Kind of testing	<i>Mechanical testing for conformity with PN-EN ISO 11334-1:2007</i>			
Test started:	<i>11.08.2020</i>			
Test finished:	<i>20.08.2020</i>			

Approved by:

DYREKTOR

mgr inż. Andrzej Tkaczyk

Special comments / enclosures:

Annex 1: Information supplied by the manufacturer

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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 his structure, material or technology

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CHARACTERISTIC OF ELBOW CRUTCH

Name : *Forearm crutch*

Maximum permissible user mass: *150 kg*

Mass of elbow crutch: *524 g*

Description		Comments	PHOTO OF PRODUCT	
Dimensions of elbow crutch:	Overall height of product:	min.	941 mm	
		max.	1216 mm	
	Leg section length (l):	min.	723 mm	
		max.	998 mm	
		number of fixing positions	12	
	Arm section length (a):	min.	208 mm	
		max.		
		number of fixing positions	--	
	Handgrip length (h):		104 mm	
	Handgrip width:		34,5 mm	
	Cuff internal width (y):		74 mm	
	Cuff internal depth (x):		85 mm	
Cuff internal height (z):		85 mm		
Support angle (α):		16,5°	According to figure 1	
Grip angle (β):		98° - 101°	According to figure 1	
Tip diameter:		Ø 44mm		
Material:	Leg section :	Tubes – aluminum alloy Ø22 mm, Ø19,0 mm		
	Handgrip :	Plastic	Black colour	
	Arm section:	Plastic	Black colour	
	Cuff:	Plastic	Black colour	
	Tip:	Rubber	Gray colour	
Reflective elements	back	Not included		
	front	Included		



Forearm crutch
 Item nr. 315021
 Max. load 150 kg
 Adj. height 93 - 122 cm





Serial nr.

Produced

Mobilex A/S
 Grønlandsvej 5
 DK-8660 Skanderborg
 Tel. +45 8793 2220
 www.mobilex.dk



RESULT OF TESTS ACCORDING TO PN-EN ISO 11334-1:2007

Requirement s according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Test result	Opinion	Comments		
1	2	3	4	5	6		
	Measur.	Dimensions of product	Overall height of product (min.)	941 mm	N/R		
	Measur.		Overall height of product (max.)	1216 mm	N/R		
	Measur.		Leg section length ($l_{min.}$)	723 mm	N/R		
	Measur.		Leg section length ($l_{max.}$)	998 mm	N/R		
	Measur.		Arm section length (a)	208 mm	N/R		
	Measur.		Handgrip length (h)	104 mm	N/R		
	Measur.		Handgrip width (5)	34,5 mm	N/R		
	Measur.		Cuff internal depth (x)	85 mm	N/R		
	Measur.		Cuff internal with (y)	74 mm	N/R		
	Measur.		Cuff internal height (z)	85 mm	N/R		
	Measur.		Support angle α	16,5°	N/R		
	Measur.		Grip angle β	98° - 101°	N/R		
	Measur.		Tip diameter	Ø 44 mm	N/R		
	Measur.		Mass of product	524 g	524 g		
4.1	V/I		Cuff	Securely fixing of cuff	Conf.		Pos.
	V/I	Internal cuff dimensions		Conf.	Pos.		
	Measur.	Position of internal cuff surface towards its support line		Conf.	Pos.		
	Measur.	Relation of internal cuff depth to its internal width		Conf. (y)- cuff internal width 74 mm (x)- cuff internal depth 85 mm	Pos.	Required internal depth of cuff more than half of its internal width	
	Measur.	Cuff internal height (z)		(z) 85 mm Conf.	Pos.	Required internal height of cuff ≥ 40 mm	
	5.4	Withdrawal test		--	N/A	Required withdrawal force not more than 120N	
4.2	V/I	Handgrip	Securely fixing of handgrip	Conf.	Pos.		
	Measur.		Handgrip resistance to sliding of hand when crutch is in use	Conf.	Pos.		
	V/I		Handgrip width :	34,5 mm Conf.	Pos.	Handgrip width required ≥ 25 mm $i \leq 50$ mm	
	Measur.		Ease of clearing	Conf.	Pos.		
4.3	5.3	Leg section and tip	Construction, tip characteristics	Conf.	Pos.		
	V/I		Tip diameter	Ø 44 mm Conf.	Pos.	Tip diameter required ≥ 35 mm	
4.4	V/I	Adjusting devices	Fastness to loosening of height adjustment elements	Conf.	Pos.		
	V/I		Maximum extension of the height adjustment, marked on the adjusting members	Conf.	Pos.		
	V/I		Possibility of adjustment elements operation without use of tools	Conf.	Pos.		
4.5	V/I	Materials	Conf.	Pos.	manufacturer's declaration		

Requirements according to clause	Test method according to clause	Checked characteristics/assemblies/parameters	Real value	Test result	Comments	
1	2	3	4	5	6	
4.6	5.5	Mechanical durability	Product element separation test (including handgrip)	Conf.	Pos.	loading 500N NOTE 1
	5.6		Static loading test	Conf.	Pos.	loading 1500N
	5.7		Fatigue strength of product	Conf.	Pos.	loading 825 N 1 000 000 cycles
	5.8		Low temperature falling test	Conf.	Pos.	
PN-EN 1041	V/I	Information supplied by the manufacturer	Conf.	Pos.		
6.2 6.3	V/I	Marking and labelling	Conf.	Pos.		
Test conditions:		Temperature of air	20°C	Temperature required 21°C +/-2°C		
		Relative humidity of air:	40%	N/R.		
Comments:						
All tests were performed at maximum height of product						
Two product of the same type and kind were tested: one was put to fatigue test and separation test, the other was put to static loading test and low temperature falling test.						
Sequence of tests: measurements, separation test, static loading test, fatigue test, stability test, low temperature falling test.						
During visual inspection before testing any visible defects that could have influence on test results were not stated.						

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: The elements of the elbow crutch are joined by gluing.

CONCLUSIONS:

*Test object **conforms** with requirements of PN-EN ISO 11334-1:2007 - „Assistive products for walking manipulated by one arm. Elbow crutches excluding testing of biological conformity of material with human body according to PN-EN ISO 10993-1:2010.*

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INFORMATION SUPPLIED BY THE MANUFACTURER

Name of product: *Forearm crutch*

Applicant: *MOBILEX A/S
Grønlandsvej 5
DK – 8660 Skanderborg*

Requirement according to PN-EN ISO 11334-1:2007		Included
6.2 Information of product		
6.2a	Maximum permissible user mass	<i>N/T</i>
6.2b	Manufacturer's name or trade name and address	<i>N/T</i>
6.2c	Manufacturer's model identification name and/or number	<i>N/T</i>
6.2d	Month and year of manufacture	<i>N/T</i>
6.2e	Maximum extension of the height adjustment, marked on the adjusting members	<i>N/T</i>
Information in documentation, on tag or on product		
6.3a	Maximum arm section length a_{max}	<i>N/T</i>
6.3b	Minimum arm section length a_{min}	<i>N/T</i>
6.3c	Maximum leg section length l_{max}	<i>N/T</i>
6.3d	Minimum leg section length. l_{min}	<i>N/T</i>
6.3e	Support angle α	<i>N/T</i>
6.3f	Cleaning instructions, including a description of the method and suitable cleaning agents and any precautions needed to avoid corrosion and/or ageing of the materials used in construction of the elbow crutch	<i>N/T</i>
6.3g	Instructions for assembly, adjustment of all kinds, folding and unfolding, if applicable	<i>N/T</i>
6.3h	Warnings and advice about precautions relating to safe distances between moving and stationary parts, if applicable (see EN 12182:2012, Clauses 12 and 13, for guidance)	<i>N/T</i>

N/A- not applicable, N/T – not tested