

Test Report

On Behalf of

Zhejiang Mingfeng Industry & Trade Co., Ltd.

TELESCOPIC LADDER

**Model: MFLT-3.8M, MFLF-3.2M, MFLF-2.6M, MFLF-2.5M-A,
MFLF-1.9M-A, MFLT-6.2M-J, MFLT-5M-J, MFLT-4.4M-J,
MFLT-5M, MFLT-4.4M**

Prepared For : Zhejiang Mingfeng Industry & Trade Co., Ltd.

**No. 53, Lingshan Road, New City Area Pan'an,
Zhejiang, China**

Prepared By : Eport (Shenzhen) Electronics Co., Ltd.

**Rm 5-508, Haibin City Plaza, 46 Section, Baoan
District, Shenzhen, P.R.C**

Date of Test : November 01-08, 2022

Date of Report : November 08-09, 2022

Report Number : EPTC-MF-U2210805

Test Report BS EN 131-6:2019 Part 6: Telescopic ladders	
Testing laboratory	Eport (Shenzhen) Electronics Co., Ltd.
Address	Rm 5-508, Haibin City Plaza, 46 Section, Baoan District, Shenzhen, P.R.C
Testing location	Eport (Shenzhen) Electronics Co., Ltd. Rm 5-508, Haibin City Plaza, 46 Section, Baoan District, Shenzhen, P.R.C
Applicant	Zhejiang Mingfeng Industry & Trade Co., Ltd.
Address	No. 53, Lingshan Road, New City Area Pan'an, Zhejiang, China
Standard	BS EN 131-6: 2019
Result	Comply with: BS EN 131-6: 2019
Procedure deviation	N.A.
Non-standard	N.A.
Type of verdict object	TELESCOPIC LADDER
Model/type reference	MFLT-3.8M, MFLF-3.2M, MFLF-2.6M, MFLF-2.5M-A, MFLF-1.9M-A, MFLT-6.2M-J, MFLT-5M-J, MFLT-4.4M-J, MFLT-5M, MFLT-4.4M
Manufacturer	Zhejiang Mingfeng Industry & Trade Co., Ltd.
Address	No. 53, Lingshan Road, New City Area Pan'an, Zhejiang, China
Material	Aluminum

Possible case verdicts :	
Case does not apply to the verdict object :	N (.A.)
Verdict object does meet the requirement:	P(ass)
Verdict object does not meet the requirement ... :	F(ail)
Name and address of the testing laboratory: <u>Eport (Shenzhen) Electronics Co., Ltd.</u> <u>Rm 5-508, Haibin City Plaza, 46 Section, Baoan</u> <u>District, Shenzhen, P.R.C</u>	
Reported by : <u>Mark Zhang</u> Signature <u>Mark Zhang / Project Engineer</u> Name and Title <u>November 09, 2022</u> Date  Approved by : <u>Eliza Chen</u> Signature <u>Eliza Chen / Manager</u> Name and Title <u>November 09, 2022</u> Date	

General remarks:	
"(see remark #)" refers to a remark appended to the report. "(see appended table)" refers to a table appended to the report. Throughout this report a comma is used as the decimal separator. The test results presented in this report relate only to the object tested. This report shall not be reproduced except in full without the written approval of the testing laboratory. Attached with: A. 1 page of photo documentation <u>Remark 1:</u> 1. Use the model MFLT-3.8M does all test, All models are the same material and load capacity (max.150kg) <u>Remark 1:</u> Copy of marking plate see appendix 2	

BS EN 131-6			
Clause	Requirement – Test	Result - Remark	Verdict
5.	Requirements		P
5.1	General requirements	See EN 131-1	P
	The drawings in this part of EN131 are examples only and products do not need to correspond. However, dimensions are binding.		P
5.2	Distance between rungs/steps		P
	When the ladder is in its position of use the rungs/steps allowed to stand on shall always be equally spaced in accordance with EN 131-1:2015, 4.1.		P
	In the position of use the construction shall not allow different distances between the rungs/steps with a tolerance of ± 2 mm in the ascendable part of the ladder and ensure that the rung/step sections that are not extended shall be stacked at the top of the ladder.		P
	Manufacturer shall take all necessary precautions to prevent these distances been altered without manipulation and the use of tools.		P
5.3	Additional requirements for the top of leaning ladders		P
	The top of the ladder shall be designed in a way that a 2-point area of contact between the top of the ladder and a vertical plane can be ensured.		P
5.4	Locking of the rung/step sections		P
	The ladder shall be designed in way that all extended rung/step sections are locked when the ladder is in the position of use.		P
	Every rung/step section shall have a locking mechanism for each stile. With the ladder in position of use it shall be clearly visible to the user that all of the locking mechanisms are locked or unlocked.		P
5.5	Design		P
	Screws and nuts shall be secured against loosening, for example by means of self- locking or mechanically locked safety mechanisms.		P
	It shall not be possible to separate rung/step sections without using tools.		P
	The unlocking and sliding in of the ladder shall be possible in a safe way. The ladder shall be designed in a way that squeezing between the rungs/steps is avoided when the ladder is used in accordance to the user instructions.		P

BS EN 131-6			
Clause	Requirement – Test	Result - Remark	Verdict
	Protection against squeezing can be ensured by a breaking function that reduces any impact load on the user's hands when the ladder is collapsed according to the manufacturer's instruction. If a permanent breaking function is used a typical time for collapsing a section of 300 mm is 1,5 s if the movement is uniform.		P
	If only a distance device is used for protection against squeezing between the rung/steps this device shall be located at least 80 mm from the manufacturers recommended position of the user's hands during collapse of the ladder.		P
5.6	Base width b_2		P

6.	Testing		P
6.1	General		P
	Telescopic ladders shall be tested to and comply with the requirements defined in EN 131-6. For all tests, unless otherwise stated in the particular test, the following tolerances apply:		-
	- ± 1 mm for longitudinal measurements;		P
	- ± 5 mm for the measurement of the distance between the supports and the overhanging length;		P
	- $\pm 1^\circ$ for the measurement of angles;		P
	- ± 1 % for static forces and torque.		P
	Tests shall be performed at a temperature between 15 °C and 25 °C.		P
	Where the ascendable side cannot be determined by the construction of the product, or where it is a multiple part combination ladder, the ladder shall be tested twice regarding 6.3 and 6.4. Conduct strength test and bending test on one side then rotate the ladder 180 ° about the longitudinal axis and repeat 6.3 and 6.4. The second test can be carried out on a new ladder.		N
	Inspect the ladder before testing to confirm condition and operation of all parts by fully extending the ladder.		P
6.2	Ladder preconditioning		P
6.2.1	General		-

BS EN 131-6			
Clause	Requirement – Test	Result - Remark	Verdict
	Ladders for testing shall be preconditioned according to 6.2.2.		P
	After preconditioning the following requirement shall be met:		-
	— no rupturing of parts shall be observed;		P
	— the release function and/or locking indicator shall work correctly;		P
	— the locking mechanism shall work correctly;		P
	— there shall be no relative movement between the connectors and the rungs/steps;		P
	— permanent deformation is only acceptable providing the ladder remains fully functional and it does not impair the fitness for use, or safety, of the ladder;		P
	— the complete ladder shall be fit for use;		P
	— the protection system against squeezing or entrapment shall be fully functional.		P
	The ladder shall pass all the test from test block A, see Annex A		P
6.2.2	Drop test		P
6.3	Strength test of stiles		P
	The test load F according to Table 1 shall then be moved and applied to the highest rung or tread where it's allowed to stand on according to manufacturer's instruction and at a point 50 mm from the inside of one stile and distributed over a 100 mm of the length of the rung or tread for a period of 1 min. Care should be taken to apply the load smoothly.		P
	Where the test ladder includes a base stabilizer bar then clearance under both stiles of the ladder of a minimum 10 mm shall be maintained throughout the test.		P
	On completion of the test remove the load and inspect the ladder.		P
	Requirements:		P
	— no rupturing of parts shall be observed;		P
	— the release function and/or locking indicator shall work correctly;		P
	— the locking mechanism shall work correctly;		P
	— there shall be no relative movement between the brackets and the rungs/steps;		P
	— permanent deformation is only acceptable providing the ladder remains fully functional and it does not impair the fitness for use, or safety, of the ladder.		P

BS EN 131-6			
Clause	Requirement – Test	Result - Remark	Verdict
6.4	Bending test of the stiles	Comply with the requirements of EN 131-2:2010+A2:2017, 5.3.	P
6.5	Lateral deflection test of the ladder	Comply with the requirements of EN 131-2:2010+A2:2017, 5.4.	P
6.6	Bottom stile ends test	Comply with the requirements of EN 131-2:2010+A2:2017, 5.5.	P
6.7	Vertical load on rungs, steps and platforms		P
6.7.1	General		-
	The ladder shall be erected in the position of use at the maximum angle allowed by the manufacturer's instructions. A pre-load F of 200 N shall be applied for the duration of one minute. The position of the rung/step/platform after removal of the pre-load is the origin for measurement. The ladders shall not be moved/replaced after this measurement.		P
6.7.2	Rungs and steps		P
	In the position of use of the ladder a test load F of 2 600 N (see Figure 4) shall be applied vertically on the mid-point of the weakest rung or step of any design evenly distributed over a width of 100 mm and a depth equal to the rung/step and for the duration of one min.		P
	The maximum permanent deformation after removal of the test-load shall be less than or equal to 0,5 % of the inner width of the longest rung/step of each type measured underneath the tested rung/step.		P
6.7.3	Platform	No such platform	N
	The platform shall be tested at two positions, in the centre and at a corner of the front edge (see Figure 5).		N
	With the ladder positioned as in use, a test load F of 2 600 N, uniformly distributed over an area of 100 mm × 100 mm shall be applied for the duration of one min.		N
	The maximum permanent deformation after removal of each test load shall be less than or equal to 0,5 % of the inner width of the tested platform measured from above the platform parallel to the rungs/steps at the point where the load has been applied. The requirement after the second test shall be that no permanent deformation greater than 0,5 % of the inner width of the tested platform is visible at the connection between platform and stile measured from the underside.		N
6.7.4	Rungs/steps strength test – unlocked position	No rupturing of parts observed	P

BS EN 131-6			
Clause	Requirement – Test	Result - Remark	Verdict
	Erect the ladder in its position of use at the maximum extension. Ladders shall be erected at 75 ° with the top resting against a smooth vertical surface and with the base of the ladder blocked to prevent it slipping.		P
	Standing ladders shall be erected according to the manufacturer's instructions.		P
	Rungs/steps that can be used in two directions, e.g. hinge joint ladders, shall be tested in both directions. Standing ladders shall be tested on both ascendable and non-ascendable sides. Ladders that can be used as standing or leaning ladders shall be tested in both configurations.		P
	A vertical test load F of 2 600 N shall be applied for the duration of 1 min on the upper most rung/step section allowed to be used according to the user manual as close as possible to the stile over a width of 100 mm while it shall be taken care that an applying by jerks is avoided (see Figure 6).		P
	Before applying the load, unlock the rung/step locking mechanism of this rung/step section on the same side where the load is applied.		P
	After the load has been removed the ladder shall be put in storage position. Extend the ladder again.		P
	Requirements:		-
	— no rupturing of parts shall be observed;		P
	— the release function and/or locking indicator shall work correctly;		P
	— the locking mechanism shall work correctly;		P
	— there shall be no relative movement between the brackets and the rungs/steps;		P
	— permanent deformation is only acceptable providing the ladder remains fully functional and it does not impair the fitness for use, or safety, of the ladder.		P
6.7.5	Torsion test of rungs/steps	Comply with the requirements of EN 131-2:2010+A2:2017, 5.7.	P
6.7.6	Pull out test of rung/step		P
6.8	Test of opening restraints and hinges of standing telescopic ladders		N
6.9	Base slip test for leaning ladders	Comply with the requirements of EN 131-2:2010+A2:2017, 5.18.	P
6.10	Test of locking mechanism		P

BS EN 131-6			
Clause	Requirement – Test	Result - Remark	Verdict
6.10.1	Cyclic test of locking mechanism	Apply a vertical load of 750 N on each stile for the duration of 3 s to 5 s, repeated 4 000 times, the rung/step locking mechanism work in a proper way during and after the test	P
6.10.2	Static test of locking mechanism		P
6.10.3	Cyclic test of hinge joints		N
6.11	Feet/End cap pull test	Comply with the requirements of EN 131-2:2010+A2:2017, 5.11.	P
6.12	Asymmetrical bending test	Comply with the requirements of EN 131-2:2010+A2:2017, 5.21.	P
6.13	Test methods for plastic ladders	Comply with the requirements of EN 131-2:2010+A2:2017, 5.16.	N
6.14	Test methods for plastic rung/step brackets	Be aluminium – alloy	N
6.15	Durability	Comply with the requirements of EN 131-2:2010+A2:2017, 5.17.	P
6.16	Opening and closing cycle test		P

7.	Marking and user instructions		P
7.1	General		-
	User instructions in accordance with EN 131-3:2018 shall be provided.		P
	Marking and user instruction shall be durable. The durability shall be checked by inspection and by rubbing the marking/user instruction lightly:		-
	— first for 15 s with a cloth soaked in water;		P
	— then for 15 s with a cloth soaked in petroleum spirit, e.g. n-Hexan.		P
	There shall be no reduction of legibility at the conclusion of the test. Adhesive labels, where used, shall not have worked loose or become curled at the edges.		P
7.2	Marking		P
	Marking shall be compliant to EN 131-3:2018. In addition to EN 131-3:2018 also the following requirements apply:		-

BS EN 131-6			
Clause	Requirement – Test	Result - Remark	Verdict
	— the handling of the locking/unlocking function shall be explained on the ladder (by text or symbol). If a symbol is used it shall be explained in the user instruction;		P
	— it shall be explained to the user what the ascendable side of the ladder is by marking;		P
	— it shall be stated in the user instruction and marking on a ladder that for a telescopic ladder in the leaning ladder position the user shall not climb beyond the 4th fully accessible rung from the top or do not stand on the last meter.		P
7.3	User instruction		P
	It shall be stated in the user instruction:		-
	— that in the leaning ladder position the user shall not climb beyond the 4th fully accessible rung from the top;		P
	— that the ladder shall be inspected after delivery and before every use to confirm condition and operation of all parts.		P
	User instructions not covered by the above shall be in accordance with EN 131-3.		P
7.4	List of items to be inspected		P
	All checkpoints according to EN 131-3:2018, Annex A shall be mentioned when applicable. Furthermore the following checkpoints shall be added:		-
	— Check if the locking indicators are working and if they are visible		P
	— Check the brackets on cracks and other failures, such as:		P
	— no rupturing of parts shall be observed;		P
	— there shall be no relative movement between the brackets and the rungs/steps.		P
7.5	Storage		P
	All points according to EN 131-3:2018, Annex B shall be mentioned when applicable. The following points shall be added:		P
	— Storage shall be in closed and upright position.		P

Appendix 1

The whole views of 'TELESCOPIC LADDER'



Appendix 2

The product marking label view of 'TELESCOPIC LADDER'

Model: MFLT-3.8M

Marking label

TELESCOPIC LADDER

Model No: MFLT-3.8M

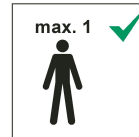
Standard: BS EN 131-6

Max Load: 150Kg

Zhejiang Mingfeng Industry & Trade Co., Ltd.

Made in China

Manufacture date: November 2022



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