



Test Report

No.: GZHL250300959301LD

Date: May 12, 2025

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ZHEJIANG YONGAN DELI INDUSTRY & TRADE CO.,LTD
RNO.19 WEITAI ROAD, ZHIYING TOWN, YONGKANG CITY, ZHEJIANG PROVINCE, CHINA

Sample Description : TELESCOPIC LADDER

Item No. : DLT212E(206E,208E,209E,210E,213E,214E)

As above test item and its relevant information regarding to the submission are provided and confirmed by the applicant. SGS is not liable to either the test item or its relevant information, in terms of the accuracy, suitability, reliability or/and integrity accordingly.

Sample Receiving Date : Mar 18, 2025

Test Performing Date : Mar 18, 2025 to May 12, 2025

Test Performed : Selected test(s) as requested by applicant

Test Result(s) : For further details, please refer to the following page(s)

Test Requested	Result
EN 131-6:2019	Pass
Decree 96-333	Pass

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Nova Kuang

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Part I--Test Conducted: Based on EN 131-6:2019 Ladders-Part 6:Telescopic ladders
1. Scope:

This European Standard specifies the general design features, requirements and test methods and defines terms for leaning and standing telescopic ladders.

Ladders with extension elements are not covered by this part of EN 131.

This part of the standard is intended to be used in conjunction with EN 131-1,EN 131-2,EN131-3 and if applicable EN 131-4.

2. Ladder Type: Telescopic ladder

3. Class: Non-Professional

4. Client claim maximum permissible load: 150Kg

5. Number of Tested Samples: 2 Pieces

6. Test Results: Details shown as following table

Table 1 Functional dimensions

Test Item	Test Method	Test Result
Leaning rung ladders	EN131-1:2015 +A1-2019 Clause 4.2	Pass
Standing rung ladders	EN131-1: 2015 +A1-2019 Clause 4.3	NA
Combination ladders	EN131-1: 2015 +A1-2019 Clause 4.4	NA
Leaning step ladders	EN131-1: 2015 +A1-2019 Clause 4.5	NA
Standing step ladders	EN131-1: 2015 +A1-2019 Clause 4.6	NA
Standing rung and step ladder	EN 131-1: 2015 +A1-2019 Clause 4.7	NA
L ₃ dimensions	EN131-6: 2019 Clause 4.2	NA
L ₆ dimensions	EN131-6: 2019 Clause 4.3	Pass



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Table 2: Requirements of EN 131-6:2019 Clause 5:

Test Item	Test Method	Test Principle & Requirements	Test Result
General requirements	EN131-6:2019 Clause 5.1	The drawings in this part of EN 131 are examples only and products do not need to correspond. However, dimensions are binding. For other requirements EN131-2:2010+A2:2017, Clause 4 apply.	Pass (See Annex 1)
Distance between rungs/steps	EN131-6:2019 Clause 5.2	When the ladder is in its position the rungs/steps allowed to stand on shall always be equally spaced in accordance with EN131-1:2015,4.1. 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 on top of the ladder. Manufacturer shall take all necessary precautions to prevent these distances been altered without manipulation and the use of tools.	Pass
Additional requirements for the top of leaning ladders	EN131-6:2019 Clause 5.3	The top of the ladder has to be designed in a way that a 2-point area of contact between the top of the ladder and a vertical plane can be assured.	Pass
Locking of the rung/step sections	EN131-6:2019 Clause 5.4	The ladder shall be designed in way that all extended rung/step sections are locked when the ladder is in the position of use. 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.	Pass
Design	EN131-6:2019 Clause 5.5	Screws and nuts shall be secured against loosening, for example by means of self-locking or mechanically locked safety mechanisms. It shall not be possible to separate rung/step sections without using tools. 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. 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 300mm is 1.5s if the movement is uniform. If only a distance device is used for protection against squeezing between the rung/steps this device shall be	Pass



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Test Item	Test Method	Test Principle & Requirements	Test Result
		located at least 80mm from the manufacturers recommended position of the user's hands during collapse of the ladder.	
Base width b2	EN131-6:2019 Clause 5.6	The minimum permanently available base width b2 for leaning ladders with a length l1 of 3 000 mm or more shall be derived from: $b2 = b4 + 0,1 \times l1$ Where b4 is the outside width of the stiles at the bottom of the ladder excluding any rung/step brackets	Pass

Table 3: Testings of EN 131-6:2019 Clause 6:

Test Item	Test Method	Test Principle & Requirements	Test Result
Testing			
Drop test	EN131-6:2019 Clause 6.2	Place the extended ladder in vertical position. Let the ladder fall in the direction of use from vertical to horizontal position by its own weight. Repeat the test with ladder rotated 180° about the longitudinal axis. Bring the ladder back to storage position.	Pass
Strength test of stiles	EN131-6:2019 Clause 6.3	Where the test ladder includes a base stabilizer bar than clearance under both stiles of the ladder of a minimum 10mm shall be maintained throughout the test. Requirements: No rupturing of parts shall be observed; The release function and/or locking indicator shall work correctly ; The locking mechanism shall work correctly; There shall be no relative movement between the brackets and the rungs/steps; 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.	Pass
Bending test of the stiles	EN131-6:2019 Clause 6.4	The stiles of the telescopic ladders shall be tested to and comply with the requirements of EN 131-2:2010+A2:2017, 5.3.	Pass
Lateral deflection test of the ladder	EN131-6:2019 Clause 6.5	The stiles of the telescopic ladders shall be tested to and comply with the requirements of EN 131-2:2010+A2:2017,5.4.	Pass
Bottom stile ends test	EN131-6:2019 Clause 6.6	The bottom ends of the stile of the telescopic ladders shall be tested to and comply with the requirements of EN 131-2:2010+A2:2017,5.5.	NA
Vertical load on rung, steps and platforms			
Rungs and steps	EN131-6:2019 Clause 6.7.2	The maximum permanent 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.	Pass
Platform	EN131-	The maximum permanent after removal of the test-load	NA



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Test Item	Test Method	Test Principle & Requirements	Test Result
	6:2019 Clause 6.7.3	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.	
Rungs/steps strength test – unlocked position	EN131-6:2019 Clause 6.7.4	After the load has been removed the ladder shall be put in storage position. Extend the ladder again. Requirements: — no rupturing of parts shall be observed; — the release function and/or locking indicator shall work correctly; — the locking mechanism shall work correctly; — there shall be no relative movement between the brackets and the rungs/steps; — 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.	Pass
Torsion test of rungs/steps	EN131-6:2019 Clause 6.7.5	The rungs/steps of the telescopic ladders shall be tested to and comply with the requirements of EN131-2:2010+A2:2017, 5.7.	Pass
Pull out test of rung/step	EN131-6:2019 Clause 6.7.6	After the test the telescopic ladder and the locking mechanism shall function in all sections normally and in accordance with the manufacturer's instructions.	Pass
Test of opening restraints and hinges of standing ladders	EN131-6:2019 Clause 6.8	The test according to EN 131-2:2010+A2:2017, 5.8 is also applicable for telescopic ladders when the design is allowing the ladder to stand free.	NA
Base slip test for leaning ladders	EN131-6:2019 Clause 6.9	Telescopic ladder shall be tested to and comply with the requirements of EN 131-2:2010+A2:2017, 5.18.	Pass
Test of locking mechanism			
Cyclic test of locking mechanism	EN131-6:2019 Clause 6.10.1	Requirements: — the rung/step locking mechanism shall work in a proper way during and after the test; — if there is visible damage on a rung after the cyclic test, test 6.7.2 (rungs/steps) — the protection system against squeezing shall work in a correct way; — if there is visible damage on a rung after the cyclic test, test 6.7.2 (rungs/steps strength test – locked position) shall be performed again on that rung. No lubricants shall be added before, or during, the test.	Pass
Static test of locking mechanism	EN131-6:2019 Clause 6.10.2	After removal of the test load, 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.	Pass



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Test Item	Test Method	Test Principle & Requirements	Test Result
Cyclic test of hinge joints	EN131-6:2019 Clause 6.10.3	After the test the following requirements shall be fulfilled. -no rupturing of parts shall be observed. -the release function and /or locking indicator shall work correctly; -the locking mechanism shall work; -there shall be no relative movement between the brackets and the rungs/steps. Permanent deformation or wear is only acceptable providing the ladder remains fully functional and it does not impair the fitness for use, or safety, of the ladder.	NA
Feet /End cap pull test	EN131-6:2019 Clause 6.11	The feet and upper end caps of telescopic ladders shall be tested to and comply with the requirements of EN 131-2:2010+A2:2017,5.11.	Pass
Asymmetrical bending test	EN131-6:2019 Clause 6.12	Telescopic ladders shall be tested to and comply with the requirements of EN 131-2:2010+A2:2017,5.21.	Pass
Test methods for plastic ladders	EN131-6:2019 Clause 6.13	Test methods for plastic ladders shall be tested in accordance with EN131-2:2010+A2:2017, 5.16.	NA
Test methods for plastic rung/step brackets	EN131-6:2019 Clause 6.14	If a rung/step bracket consists of plastic material EN131-2:2010+A2:2017, 5.16.2.2 is applicable. The acceptance criteria before and after the ageing test shall be ≤20% of the results obtained at the time of the shock test according to EN 131-2:2010+A2:2017,5.16.1.4.	Pass (See Annex 2)
Durability	EN131-6:2019 Clause 6.15	Telescopic ladders that can be used as free standing ladders shall be tested to and comply with the requirements of EN 131-2:2010+A2:2017,5.17.	NA
Opening and closing cycle test	EN131-6:2019 Clause 6.16	After the 4000 cycles the following requirement shall be met: -No rupturing of parts shall be observed; - The release function and/or locking indicator shall work correctly; - The locking mechanism shall work correctly; - There shall be no relative movement between the connectors and the rungs/steps. - 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; — the complete ladder shall be fit for use; — the protection system against squeezing or entrapment shall be fully functional, according to 5,5; — the ladder shall fulfill all the test from block A, see Annex A.	Pass



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Table 4: Testings of EN 131-6:2019 Clause 7:

Test Item	Test Method	Test Principle & Requirements	Test Result
Marking and User Instruction			
General	EN131-6:2019 Clause 7.1	<p>User instructions in accordance with EN 131-3:2018 shall be provided.</p> <p>Marking and user instruction shall be durable. The durability shall be checked by inspection and by rubbing the marking/user instruction lightly:</p> <ul style="list-style-type: none"> — first for 15 s with a cloth soaked in water; — 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>	Pass (See remark 1)
Marking	EN131-6:2019 Clause 7.2	<p>Marking shall be compliant to EN 131-3:2018. In addition to EN 131-3:2018 also the following requirements apply:</p> <ul style="list-style-type: none"> - The handling 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; - 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>	Pass (See remark 1)
User instruction	EN131-6:2019 Clause 7.3	<p>User instruction</p> <p>It shall be stated in the user instruction:</p> <ul style="list-style-type: none"> — that in the leaning ladder position the user shall not climb beyond the 4th fully accessible rung from the top. — that the ladder shall be inspected after delivery and before every use to confirm condition and operation of all parts; — that before using the ladder it shall be checked that all locking mechanisms are working properly. If the mechanism is not working properly, do not use the ladder; — where the user shall put the hands when bringing the ladder from extended to storage position. <p>User instructions not covered by the above have to be in accordance with EN 131-3.</p>	Pass (See remark 1)



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Annex 1 (SGS Ref. No.: GZIN2503001850ML01_EN)

Tensile Test:

Test Method: EN ISO 6892-1:2019

Test item	Specimen type	Elongation after fracture, A_{50mm} (%)
Result-Leg	Rectangular specimen	11.0
Result-Beam	Rectangular specimen	13.0

Annex 2 (SGS Ref. No.: GZMR250300839601)

Summary of Results:

No.	Test Item	Test Method	Result	Conclusion
1	Ageing Test	EN 131-2:2010+A2:2017 Section 5.16.1.3 & EN ISO 4892-2:2013/Amd.1:2021 Cycle 1 and client's requirement	See result	/
2	Tensile Test	EN 131-2:2010+A2:2017 Section 5.16.2.2 & EN ISO 527-2:2012	See result	Pass

Note: Pass : Meet the requirements;
Fail : Does not meet the requirements;
/ : Not Apply to the judgment.



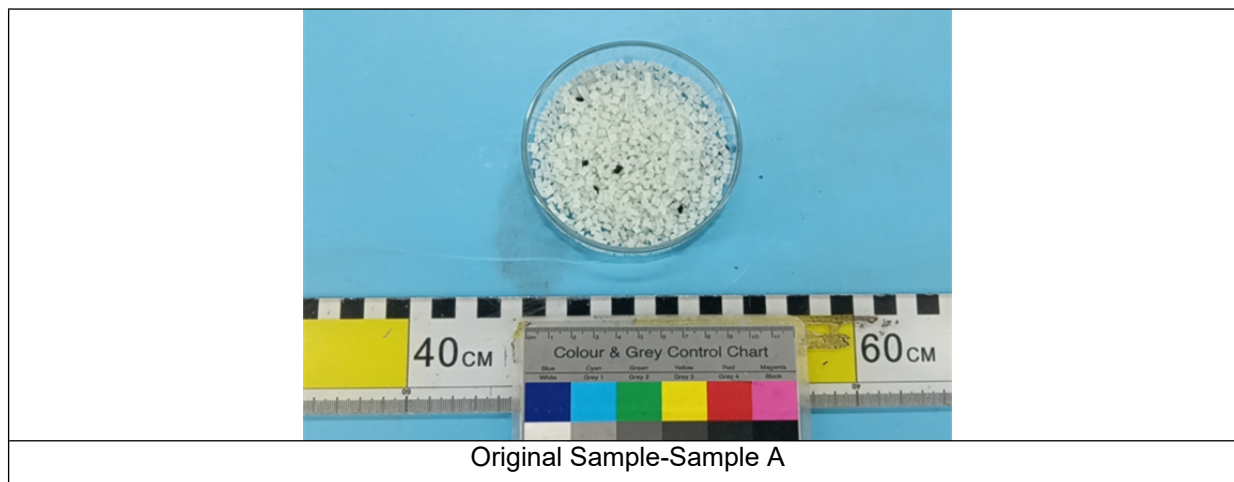
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Original Sample Photo:



1. Test Item: Ageing Test

Sample Description: Plastic particle

Test Method: EN 131-2:2010+A2:2017 Section 5.16.1.3 & EN ISO 4892-2:2013/Amd.1:2021 Cycle 1 and client's requirement

Client's requirement: (50±10)%RH

Test Condition:

Exposure cycle:

Irradiance: (0.51±0.02)W/(m²·nm)@340nm

102 min light at (65±3)°C BST, (38±3)°C CT, (50±10)%RH

18 min light and water spray

Filter: Boro/Boro

Exposure period: 500h

Test Result:

Test Item	Result
Ageing Test	See test item 2

Note: Test specimens were injection molded.



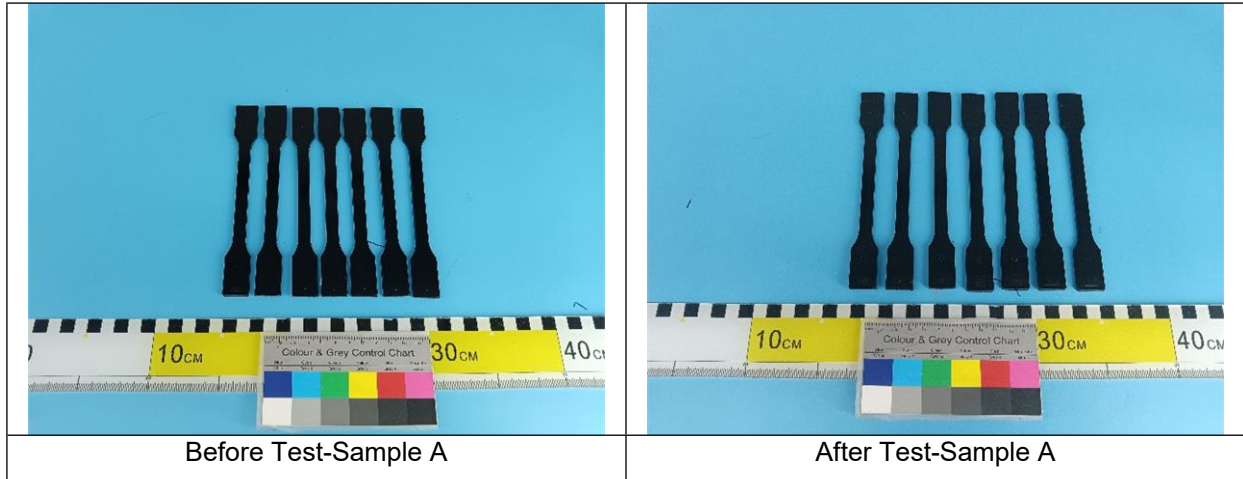
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Test Photo:



Equipment Information:

Equipment	Model	Equipment No.	Calibration date	Next Calibration date
Xenon Weathering Tester	Ci5000	GZMR-AG-E169	2024-05-21	2025-05-20

2.Test Item: Tensile Test

Sample Description: Plastic particle

Test Method: EN 131-2:2010+A2:2017 Section 5.16.2.2 & EN ISO 527-2:2012

Test Condition:

As received condition: $(23 \pm 2)^{\circ}\text{C}$, $(50 \pm 5)\% \text{RH}$, 48h

Light ageing condition: See test item 1 $\rightarrow (23 \pm 2)^{\circ}\text{C}$, $(50 \pm 5)\% \text{RH}$, 24h

Specimen type: 1A

Specimen thickness: 4.00mm

Testing speed: 5 mm/min

Gauge length: 75mm

Initial distance between grips: 115 mm

Lab Environmental Condition: $(23 \pm 2)^{\circ}\text{C}$, $(50 \pm 5)\% \text{RH}$



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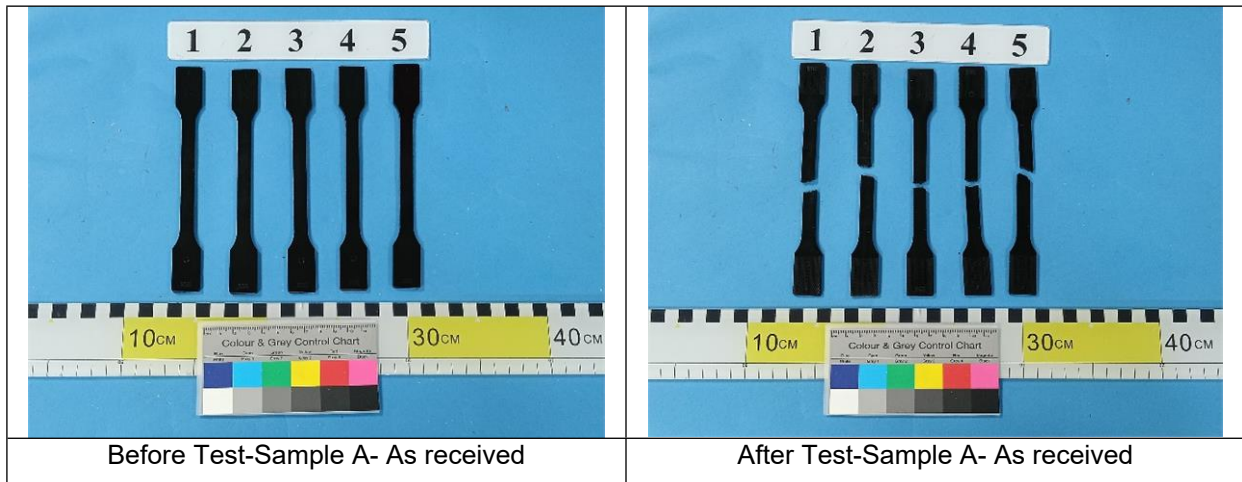
Test Result:

Test Item	Test Result		Requirement in EN 131-2:2010+A2:2017 Section 5.16.2.3	Conclusion
Tensile Strength	As received	189MPa	/	/
	After ageing	153MPa	/	/
	Attenuation rate	19.0%	$\leq 20\%$	Pass
Tensile Strain at Break	As received	3.0%	/	/
	After ageing	3.5%	/	/
	Attenuation rate	-16.7%	$\leq 20\%$	Pass

Note:

1. Test specimens were injection molded.
2. Attenuation rate,%= (Value as received-Value after ageing)/Value as received×100

Test Photo:

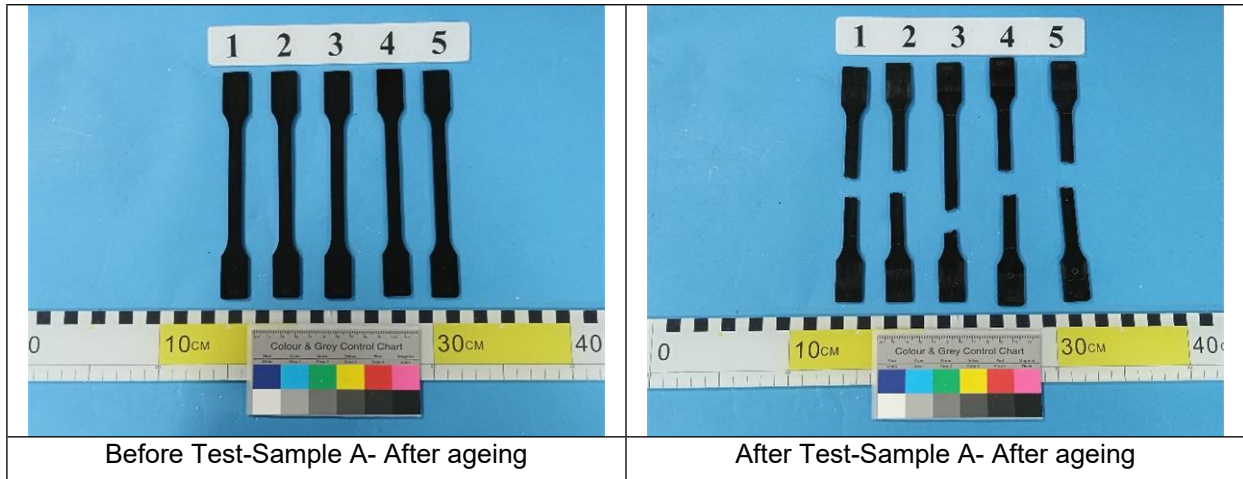


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Equipment Information:

Equipment	Model	Equipment No.	Calibration date	Next Calibration date
Automation Universal Testing Machine	Z020	GZMR-PL-E399	2025-03-20	2026-03-19

Appendix information: Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule ($w=0$) stated in ILAC-G8:09/2019.



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Part II--Test Conducted: Decree 96-333 relative to portable ladders, step ladders and step stools for consumers safety.
Test Results: Details shown as following table

Clause	Test item	Result
Article 2	Ladders, stepladders and running boards must meet the safety requirements defined in Annex I to this decree so as to ensure the safety of persons against the risk of physical damage resulting in particular from a fall, entrapment, crushing, strangulation or electrification under normal conditions of use or under other conditions reasonably foreseeable by the manufacturer.	Pass
Article 4	Must be visible, legible and indelible on ladders, stepladders and steps: 1. The maximum admissible load expressed in kilograms and written in very visible characters; 2. Information making it possible to identify the model and the manufacturing batch as well as the person responsible for their first placing on the market; 3. The information necessary for the proper use of the products provided for in Annex II and corresponding to the type of product concerned.	Pass

Clause	Test item	Result
Annex I	1. Resistance: the constituent materials must be chosen so that the product and its various components resist the mechanical and atmospheric constraints linked to use.	Pass
	2. Stability: the product must be constructed so as to be stable in all the recommended positions of use when installed in accordance with the instructions provided.	
	3. Risk of slipping: rungs, steps or platforms made of metal or plastic must be non-slip. The floor supports, with the exception of those made of wood, must be fitted with non-slip devices which must not be able to be removed unintentionally and the replacement of which must be possible in the event of wear.	
	4. Dimensional characteristics: the distance between the rungs or steps, which must be constant, the useful width, the depth of the degrees and the surface of the platform must be adapted or sufficient to allow correct and safe use.	
	5. Other construction features: Platform ladders, steps and stepladders: these products must be fitted with an effective railing;	



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Clause	Test item	Result
	<p>Sliding ladders:</p> <p>a) The recovery steps must be located in the same plane perpendicular to the uprights;</p> <p>b) The minimum overlap distance of the different planes must be such that it does not affect the strength and stability of the ladder;</p> <p>c) A device must prohibit the possibility of using the deployed ladder without sufficient overlap;</p> <p>d) For ladders with manual deployment, a device must prevent any involuntary deployment or folding in use;</p> <p>e) For ladders with mechanism, the stop devices must engage securely. In the event of the line being broken or broken, the upper planes must not be able to descend by more than one rung.</p> <p>Double ladders:</p> <p>a) They must be equipped with a safety device against the spreading of the plans permanently fixed and automatically functional during their implementation;</p> <p>b) When they are steps or platforms, these elements must be horizontal in the position of use. In addition, the platform must not tip over if the user walks on its front edge.</p>	
Annex II	<p>The information necessary for proper use of the ladder, stepladder or step is affixed to the product itself, in the form of sentences written in French or easily understandable pictograms for users;</p> <p>They concern:</p> <p>1. The need to install the product on a flat and stable floor, and with an adequate support surface;</p> <p>2. The angle of inclination of the ladder if its method of construction does not require it;</p> <p>3. The prohibition on using the product in a group, unless its manufacturer is able to prove that it was designed and built to support the load corresponding to a number of people who can use the ladder simultaneously, this number then being indicated;</p> <p>4. Risks of contact with overhead power lines (ladders of more than five meters deployed);</p> <p>5. The ban on using the product as a gateway;</p> <p>6. The direction of installation;</p> <p>7. The usable plan (s);</p>	Pass



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Clause	Test item	Result
	8. Verification:	
	- the opening angle between planes;	
	- setting up or switching on security systems;	
	9. The usage limit (for example "Do not climb the last x bars";	
	10. Maintenance conditions.	

The current avis published in Official journal of November 10th, 2019 concerns the same subject. It contains in annex 1 the list of the standard that can be used in application of the article 3 of the French decree 96-333 and in annex 2 the list of the standards to satisfy point3 of article 4.

Annex 1

NF EN 131-1+A1 (September 2019)	Ladders - Part 1: Terms, types, functional sizes
NF EN 131-2+A2 (March 2017)	Ladders - Part 2: Requirements, testing, marking
NF EN 131-4 (August 2007)	Ladders - Part 4: Single or multiple hinge-joint ladders
NF EN 131-6 (February 2019)	Ladders - Part 6: Telescopic ladders
NF EN 14183 (June 2004)	Step stools

Annex 2

NF EN 131-3 (January 2018)	Ladders - Part 3: Marking and user instructions
NF EN 131-4 (August 2007)	Ladders - Part 4: Single and multiple hinged ladders
NF EN 131-6 (February 2019)	Ladders - Part 6: Telescopic ladders
NF EN 14183 (June 2004)	Step stools

Remark:

1. Only the soft copy of Marking and User instructions were assessed.
2. NA - Not applicable.



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Sample Photo(s):



Sample as received

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End of Report



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