

MAIN CONTENTS OF THE EN 131 STANDARD FOR PORTABLE LADDERS

Customer information



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INTRODUCTION

Standards are recognised rules for technology and contain specifications for manufacturing and testing products. European Standard EN 131 applies to ladders.

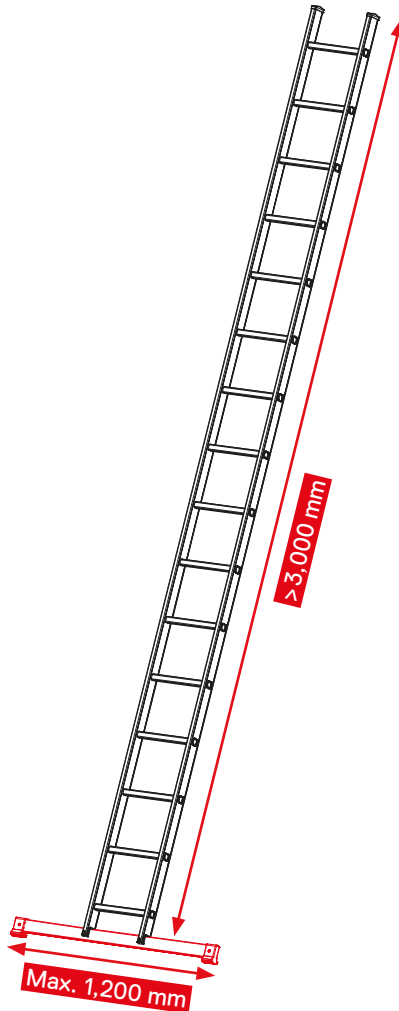
This standard consists of multiple parts, which regulate various ladder requirements.

	Part 1	Part 2	Part 3
Contents	Designation, types, functional dimensions	Requirements, testing, labelling	User information
Latest version	02/2016	04/2017	01/2018

	Part 4	Part 6	Part 7
Contents	Hinged ladders	Telescopic ladders	Platform stairways
Latest version	06/2020	05/2019	09/2013

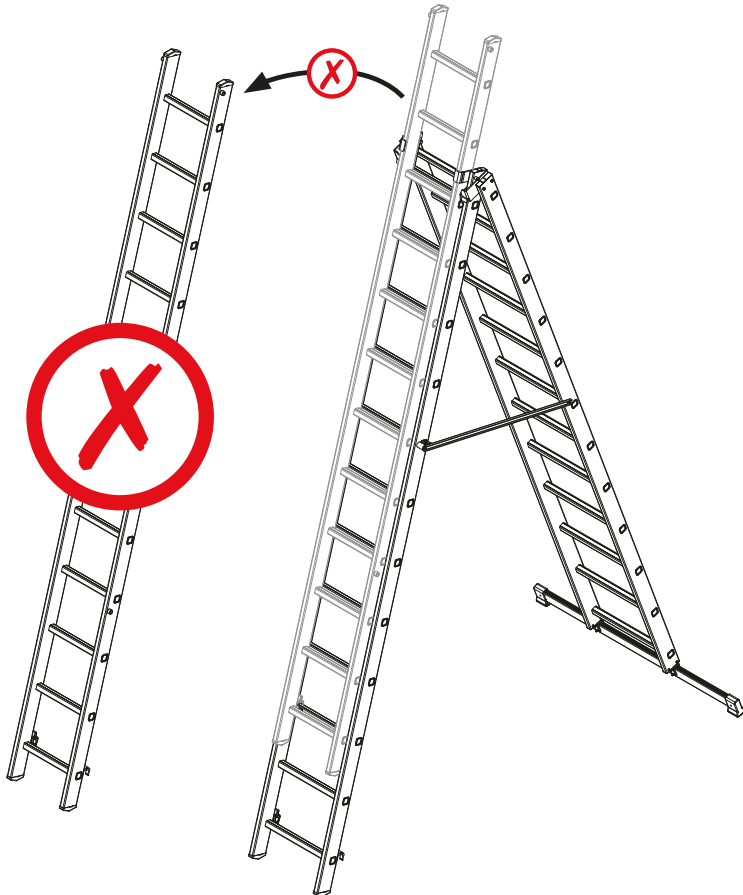
Widened stand for leaning ladders:

- > All ladders that can be used as leaning ladders and are longer than 3,000 mm when extended must be furnished with a widened stand (e.g. in the form of a cross-beam).
- > The length of the stabiliser (cross-beam) depends on the ladder length, but is limited to a maximum of 1,200 mm.



Blocking removable ladder sections:

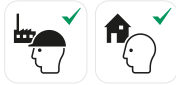
- > For extension ladders or combination ladders for which the upper ladder section could be removed and used separately, this section must (insofar as it is longer than 3,000 mm) either be secured against removal or likewise be furnished with a widened stand, which, however, must not impair safe usage.
- > This primarily concerns extension ladders with more than 2×10 rungs as well as three-section combination ladders with more than 3×10 rungs.



Two different ladder classes:

> According to the current version of the standard, ladders are categorised into two classes:

> ladders for professional use (Pro)



> ladders for non-professional use (Personal)



> The ladders have to be tested according to different test requirements, depending on their class.

Durability test for step ladders

> Test procedure:

> One stile of the ladder is placed on a block 20 mm tall and the ladder is secured against slipping away. Then the top rung, step or platform as well as a rung or step in the middle of the ladder are loaded in alternation with a test load of 1,500 N (approx. 153 kg).

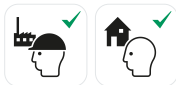
> Tested ladder types:

> step ladders

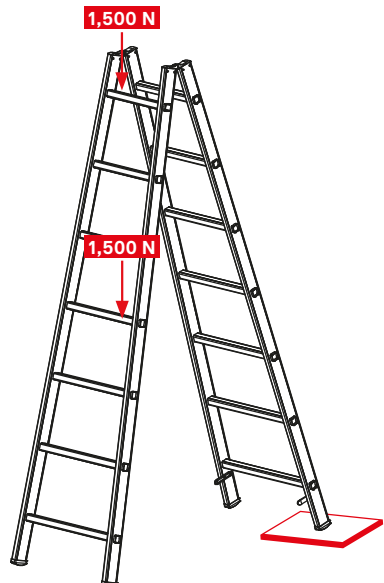
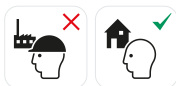
> all types of ladders that can be used as step ladders

> Cycles:

> 50,000 load cycles for ladders for professional use

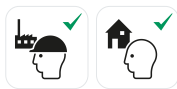


> 10,000 load cycles for ladders for non-professional use

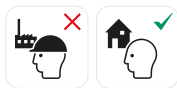


Strength test for leaning and step ladders

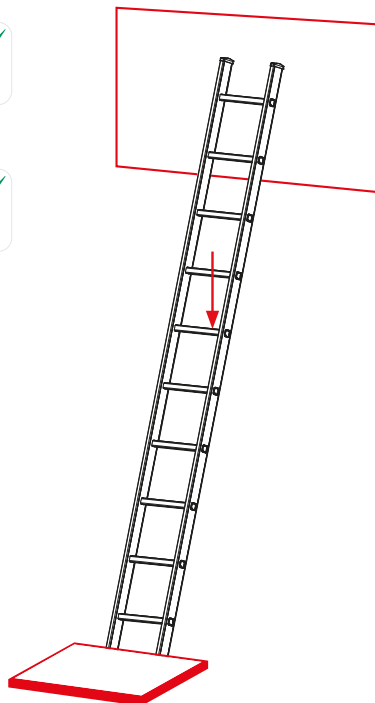
- > Test procedure:
 - > This test is carried out in the ladder's position of usage. It must withstand the test loads without failing for one minute, and after that the ladder must not be broken or have any visible cracks. Permanent deformations, however, are permitted.
- > Tested ladder types:
 - > step ladders
 - > all types of ladders that can be used as step ladders
 - > leaning ladders
 - > all types of ladders that can be used in the leaning position
- > Test loads:
 - > Ladders for professional use (Pro): 2,700 N
 - > Ladders for non-professional use (Personal): 2,250 N



2,700 N

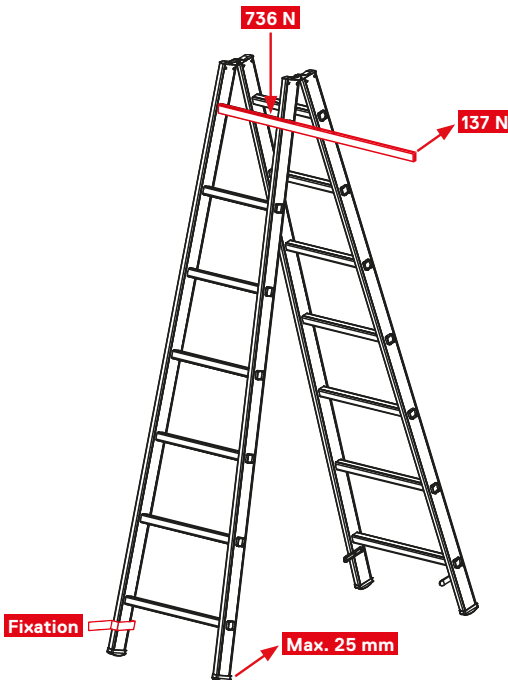


2,250 N



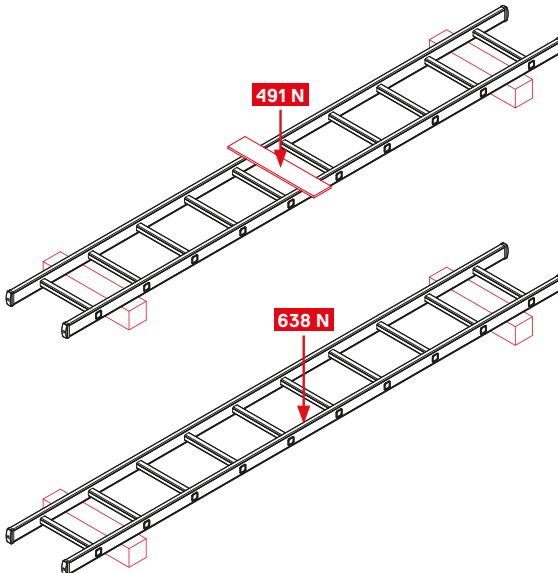
Torsion test for step ladders

- > Test procedure:
 - > To test the torsional strength of step ladders, a steel bar is attached to the top rung, step or platform, and protrudes 500 mm past the stile on one side. The stile on the opposite side of the ladder is secured, and the ladder is loaded with 736 N (approx. 75 kg). Then a test load of 137 N (approx. 14 kg) is applied to the end of the bar, pulling opposite the secured side. During this test, the ladder foot that is not secured is allowed to move a maximum of 25 mm from its original position.
- > Tested ladder types:
 - > step ladders
 - > all types of ladders that can be used as step ladders
- > Test loads:
 - > In the torsion test, the same test loads are used for the 'professional' and 'non-professional' ladder classes.



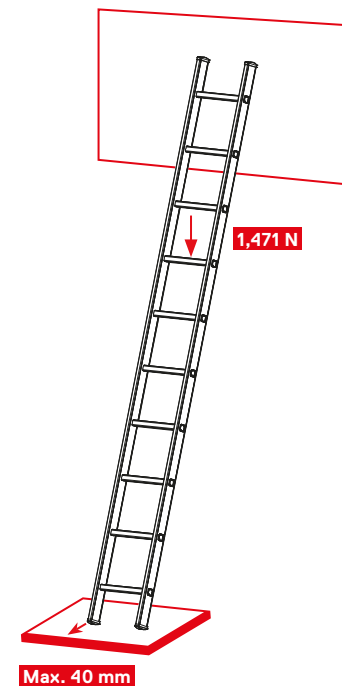
Torsion test for leaning ladders

- > Test procedure:
 - > This test is for testing the torsional strength of leaning ladders. For this purpose, a ladder is placed on two blocks and both stiles are loaded for half a minute with 491 N (approx. 50 kg). The resulting deflection is measured and taken as the reference value for the second part of the test.
 - > In the second part of the test, a stile is loaded in the middle with 638 N (approx. 65 kg) and then the deflection of the stiles is measured again. The difference of deflection between the first and second measurement must not exceed a specified limit value.
- > Tested ladder types:
 - > leaning ladders
 - > all types of ladders that can be used in the leaning position
- > Test loads:
 - > In the torsion test, the same test loads are used for the 'professional' and 'non-professional' ladder classes.



Testing the slip resistance of leaning ladders on the ground

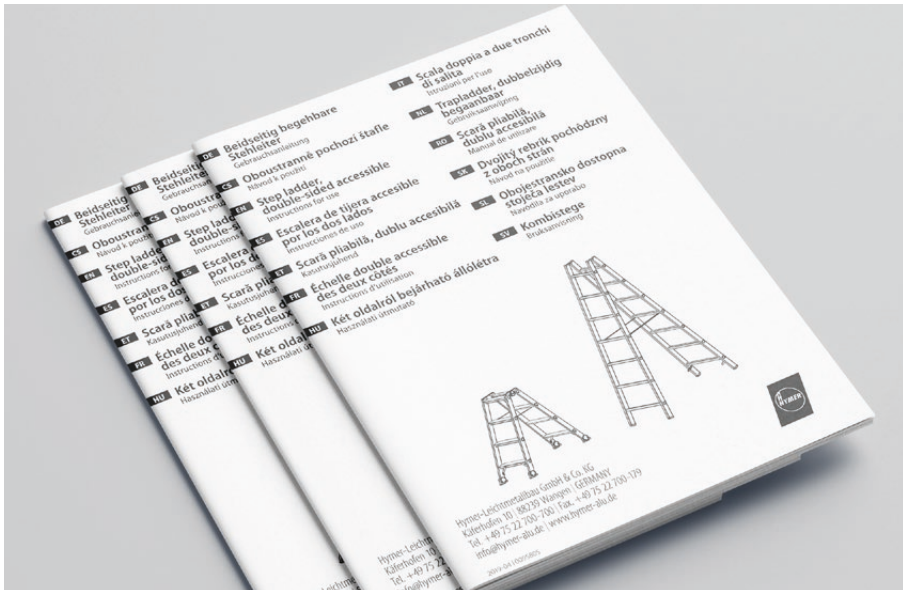
- > Test procedure:
 - > This test is for testing the slip resistance of the ladder feet or shoes. For this purpose, the ladder to be tested is placed on a glass plate and leaned against a defined test surface. Then a test load of 1,471 N (approx. 150 kg) is applied. The test procedure is to be repeated four times. After the test procedure, the ladder is allowed to have slipped out a maximum of 40 mm.
- > Tested ladder types:
 - > leaning ladders
 - > all types of ladders that can be used in the leaning position
- > Test loads:
 - > In the slip resistance test, the same test loads are used for the 'professional' and 'non-professional' ladder classes.



ESSENTIAL CONTENTS IN PART 3 OF EN 131

User information

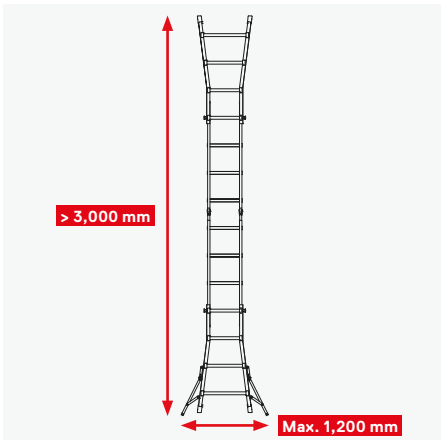
- Part 3 of EN 131 regulates the user instructions. This includes, among other things, the definition of the safety instructions in pictographic form, which must be applied to the ladder. Written operating instructions in the national language must be supplied with each ladder. These must explain the above-mentioned safety instructions and contain further information on installation, use, maintenance and storage.



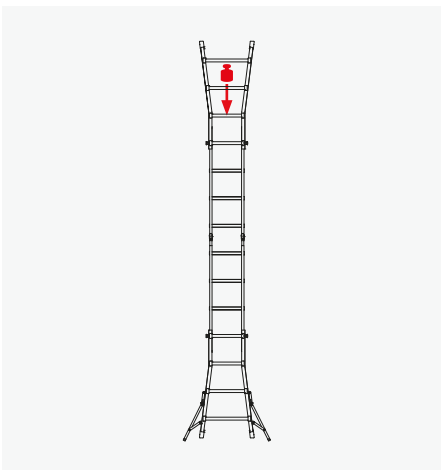
Specifications for hinged ladders



Multi-purpose ladders with 4x3 rungs that can be used as working platforms **must be supplied by the manufacturer with an appropriate platform.**



Hinged ladders such as height-adjustable combination ladders and multi-purpose ladders must comply with the specifications of part 1 of EN 131. Ladders which can be used as leaning ladders and are **longer than 3 m** in extended state must be equipped with a wider base. The length of the stabiliser (cross-beam) depends on the ladder length, but is **limited to a maximum of 1,200 mm.**



Articulated ladders must comply with the test specifications of part 2 of EN 131. The **strength test** prescribed therein is carried out in the use position of the ladder. For ladders with several pairs of hinges, the **test load must be applied above the uppermost pair of hinges.**



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