



**SLOVENSKI STANDARD**  
**oSIST prEN 131-6:2018**

**01-januar-2018**

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**Lestve - 6. del: Teleskopske lestve**

Ladders - Part 6: Telescopic ladders

Leitern - Teil 6: Teleskopleitern

Échelles - Partie 6 : Échelles télescopiques

**Ta slovenski standard je istoveten z: prEN 131-6**

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## Ladders - Part 6: Telescopic ladders

Échelles - Partie 6 : Échelles télescopiques

Leitern - Teil 6: Teleskopleitern

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 93.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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**prEN 131-6:2017 (E)****European foreword**

This document (prEN 131-6:2017) has been prepared by Technical Committee CEN/TC 93 “Ladders”, the secretariat of which is held by DIN.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 131-6:2015.

In comparison with the previous edition, the following technical modifications have been made:

- a) strength test in position of use;
- b) durability test for the complete ladder added;
- c) asymmetrical bending test added;
- d) requirements specified in more detail and aligned with the EN 131 series.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This European Standard is one of a series about ladders. The other standards of this series are listed in Clause 2 and in the Bibliography.

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## 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, EN 131-3 and if applicable EN 131-4.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 131-1, *Ladders - Part 1: Terms, types, functional sizes*

EN 131-2:2010+A2:2017, *Ladders — Part 2: Requirements, testing, marking*

EN 131-3:2007, *Ladders - Part 3: User Instructions*

EN 131-4, *Ladders - Part 4: Single or multiple hinge-joint ladders*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 131-1 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

### 3.1

#### **telescopic ladder**

ladder consisting of three or more rung/step sections with telescopic stiles

### 3.2

#### **hinge-joint telescopic ladder**

ladder including one or more hinge-joint devices with at least one predetermined lockable position

### 3.3

#### **rung/step section**

section of ladder that consists of one rung/step connected to two telescopic stiles

### 3.4

#### **rung/step bracket**

part that attaches the rung/step to the stile

### 3.5

#### **rung/step section locking mechanism**

mechanism that locks a rung/step section

**prEN 131-6:2017 (E)****3.6****locking indicator**

mechanism or part that indicates that one rung/step section or part of one rung/step section is locked/unlocked

**3.7****locking pin**

part that locks each rung/step section and that is engaged when the locking mechanism is locked

**3.8****protection against squeezing**

mechanism or part that minimizes the risk of squeezing when the ladder is shortened

**3.9****release function**

function which releases the locking mechanism

**3.10****base section**

section starting from the lower end of the ladder

**3.11****ascendable part**

part of the ascending leg consisting only of fully extended rung/step sections

**3.12****storage position**

position where none of the rung/step sections are extended

**3.13****locking mechanism**

system that retains the rungs in the desired position of use

**4 Functional dimensions****4.1 General dimensions**

Dimensions are given in EN 131-1.

**4.2 Specific dimensions**

For leaning telescopic ladders dimension  $l_3$  is not applicable providing  $l_6$  is fulfilled. If  $l_6$  is not fulfilled  $l_3$  shall be greater than  $0,5 l_5$  and less than  $l_5 + 15$  mm measured along a line in the middle of the stiles.

**4.3 Top rung clearance  $l_6$** 

The dimension  $l_6$  is the horizontal clearance between the top rung and any obstruction (specifically the wall) when the ladder is in its position of use.

The dimension  $l_6$  is the horizontal distance between the top rung and the wall when measured with the ladder in its position of use at any angle between  $65^\circ$  and  $75^\circ$  (see Figure 1). This shall not be less than 35 mm and not more than 300 mm. The minimum clearance between the top rung and any obstruction shall be 35 mm in any case.

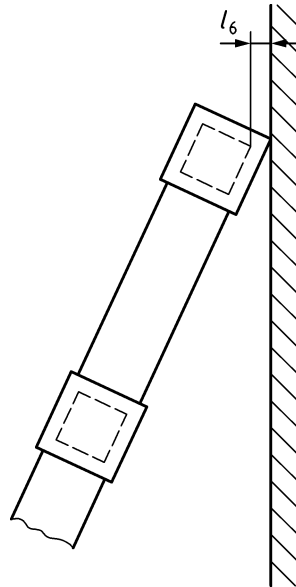


Figure 1 — Top rung clearance  $l_6$

#### 4.4 Outside width $b_4$

The dimension  $b_4$  is the outside width measured to the outside of the stiles at its widest part at the bottom of the ladder, see Figure 2.

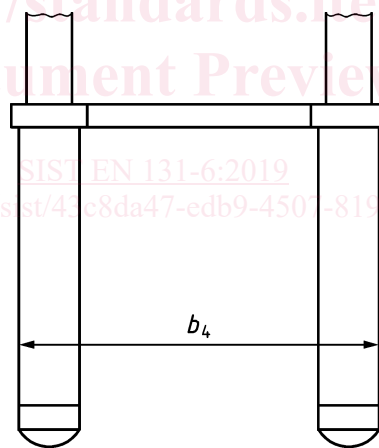


Figure 2 — Outside width  $b_4$

## 5 Requirements

### 5.1 General requirements

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 EN 131-2:2010+A2:2017, Clause 4 requirements apply.

**prEN 131-6:2017 (E)****5.2 Distance between rungs/steps**

When the ladder is in used position the rungs/steps allowed to stand on shall always be equally spaced in accordance with EN 131-1.

In the position of use the construction shall not allow different distances between the rungs/steps with a tolerance of  $\pm 2$  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.

**5.3 Additional requirements for the top of leaning ladders**

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.

**5.4 Locking of the rung/step sections**

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.

NOTE Visible indication can for example be a coloured area of a visible locking pin.

**5.5 Design**

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 300 mm is 1,5 s if the movement is uniform.

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.

**5.6 Base width  $b_2$** 

The minimum permanently available base width  $b_2$  for leaning ladders shall be derived from:

$$b_2 = b_4 + 0,1 \times l_1$$

Where  $b_4$  is the outside width of the stiles at the bottom of the ladder excluding any brackets, see 4.4.