UIAA 130

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Load Sharing Devices

Climbing and Mountaineering Equipment

International Climbing and Mountaineering Federation
UNION INTERNATIONALE DES ASSOCIATIONS D'ALPINISME

UIAA Safety Standard – 130 – Version 2.0

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Foreword

UIAA standards are the only 'globally recognized' standards for mountaineering equipment. In order to prevent multiplicity, the UIAA collaborates with its partner in standardization, CEN, and bases UIAA 130 on the European Standard EN 17961:2025.

The EN standards are derived from the original UIAA standards, the first of their kind. The UIAA publishes user-friendly pictorials for each standard. UIAA 130 imposes requirements in addition to those of EN 17961:2025.

The UIAA standards are reviewed at intervals to see whether they meet the latest technical requirements and revised if necessary.

The UIAA invites manufacturers of mountaineering and climbing equipment worldwide to become members of the UIAA Safety Commission as Safety Label Holders. Members can participate in discussions on standard requirements, test methods, and revisions thereof (see the "Regulations for existing and potential Safety Label Holders").

A complete list of UIAA standards for mountaineering and climbing equipment can be found on the UIAA website www.theuiaa.org/safety-standards/.

NOTE – Owing to copyright restrictions, this UIAA Standard does not reproduce the full requirements of the referenced standards. To ensure full compliance, those applying this standard must obtain official copies of these documents. They are available for purchase from the CEN website.

This standard has been created and updated based on scientific research coordinated and funded by UIAA, as a service to all mountaineers.

Copyright and Version Management

The versioning is V*x.y*, where:

- *x* Major revision of the document. Each change in requirement implies a main evolution.
- *y* Minor revision of the document. Editorial or non-technical updates.

For example, **V5.0** denotes the fifth major revision of the document.

Note that test reports comprising only the main issue, e.g., V5, are also accepted (instead of, e.g., V5.2) since the requirements are identical.

Normative References

The following documents are referenced in such a way that their content, in whole or in part, constitutes requirements of this standard. For dated references, only the edition cited applies. For undated references, the latest edition (including any amendments) applies.

EN 17961:2025, *Mountaineering equipment - Load sharing devices - Safety requirements and test methods*
EN 565:2017, *Mountaineering equipment - Tape - Safety requirements and test methods*
UIAA 103, *Tape*
ISO 7000:2019, *Graphical symbols for use on equipment - Registered symbols*

1 General Remarks on the UIAA Trademark and UIAA Label

1.1 The UIAA Trademark (see Clause 10) is copyright protected internationally. The UIAA Safety Label is only granted to items of mountaineering and climbing equipment upon approval of the prospective label holder's application by the UIAA.

1.2 The procedure to be followed by a manufacturer, when applying for a UIAA Safety Label, is laid down in the "Regulations for existing and potential Safety Label Holders" available at the UIAA website.

2 Scope

This standard specifies safety requirements and test methods for all types of load sharing devices commonly used in mountaineering (climbing and associated activities) and rescue.
This standard does not cover the specific requirements of devices intended for use in slackline applications.

3 Terms and definitions

3.1 Load Sharing Device (LSD)

Apparatus integrating at least 3 possible connections intended to distribute load.

Note: some types of LSD are known as 'rigging plates'

Figure 1: Examples of Load Sharing Devices (LSD).

3.2 3-way loading

Application of equal loading in three different directions

3.3 Weakest direction

Direction or method of loading which, as defined by the manufacturer, supports the lowest minimum strength defined by the manufacturer.

4 Design

4.1 It shall not be possible for an LSD to become detached unintentionally. If any part can be opened or removed, it shall be designed such that it can only be done after performing at least 3 separate, consecutive and deliberate manual actions or by the use of a tool.

4.2 Where an LSD includes more than one element and for an LSD with elements that can be adjusted, the design shall be such that those elements cannot appear to be positively locked together when they are incorrectly assembled or adjusted.

4.3 Where an LSD includes another function (connector, rope clamp, etc.) it shall also comply to the appropriate other applicable text/standard, if existing.

4.4 Where stitching is used to provide safety and strength (e.g. in joints) it shall be possible to inspect it and at least 50% of the stitching shall contrast with the textile element in colour or surface appearance.

4.5 All edges of an LSD shall be free of burrs and sharp edges.

The internal edges of the hole(s) shall be rounded with a radius larger than 0,2 mm or have a chamfer larger than 0,2 mm $\times$ 45° (as per Fig. 2.a).

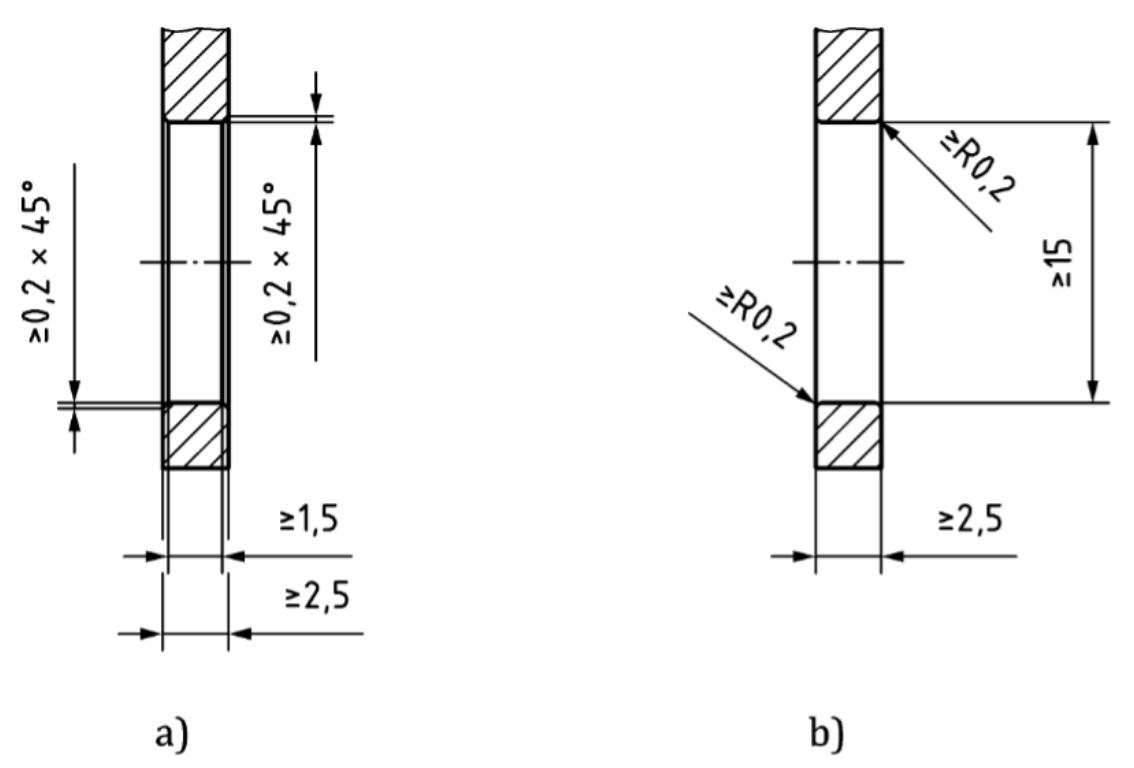


Figure 2: Attachment point eye dimensions

The hole(s) shall permit the insertion of a pin having a diameter of at least 15 mm (as per Fig. 2.b) unless designated for specific connections.

4.6 Where the manufacturer recommends direct attachment between a textile component (e.g. a rope or a sling) and the LSD, then the cross-sectional profile of any metallic load bearing surface shall conform to Fig. 3.

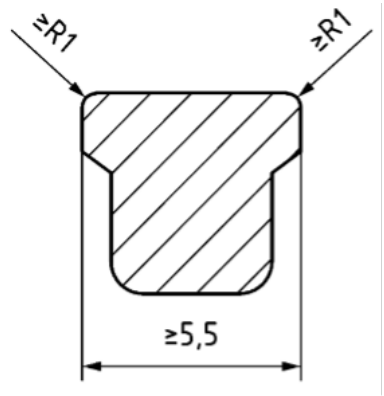


Figure 3: Cross-sectional profile example

5 Stability of tape

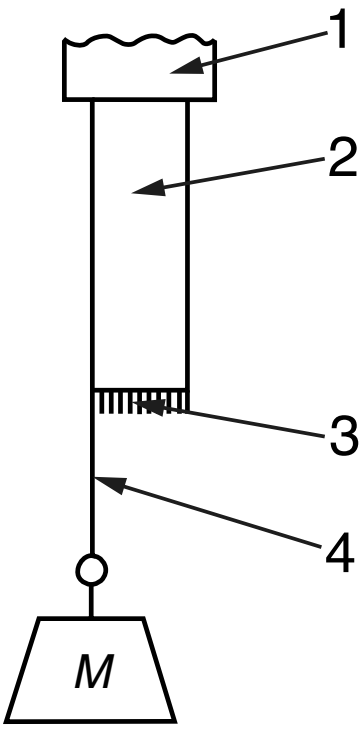
5.1 Requirement

If the LSD is made of woven tape not conforming to UIAA 103, the weft yarn of the tape shall not be released from the tape sample.

5.2 Test method

5.2.1 Preparation

Cut a sample of at least 200 mm length of tape without the influence of heat. Extract the weft yarn on the ends to allow the attachment of a test mass of (150 ± 5) g (see Fig. 4).



Key

1	clamp
2	tape
3	warp yarns
4	weft yarns
M	(150 ± 5) g

Figure 4: Test Method for tape stability

5.2.2 Test

Fix test sample in a vertical orientation. Apply, without shock, the mass to the weft yarn of the lower side for (60 ± 50) s. The mass shall stay in a stable position, then release the mass and check whether the weft yarn has not unraveled. Repeat the test on the weft yarn of the other end of the tape.

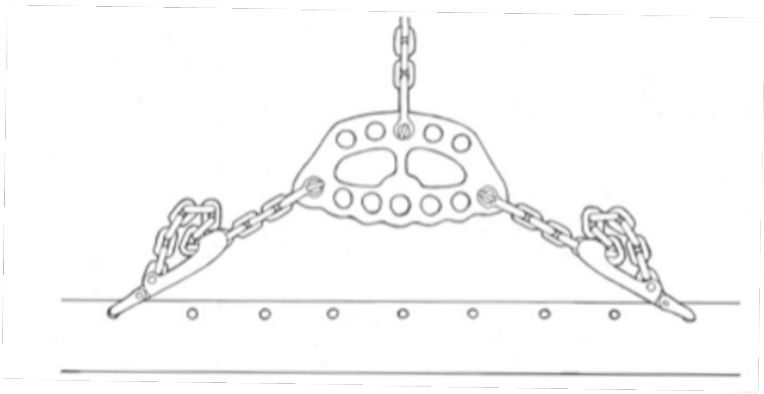
6 Static tests

6.1 Requirement

The UIAA test lab shall take into account the documentation supplied by the manufacturer (instructions for use for authorized loading situations and for strength values claimed by the manufacturer, risk analysis, technical documentation, etc.) in order to determine the weakest configuration(s) to test.

When tested in accordance with 6.2 the LSD shall withstand the strength value marked on the LSD but not less than 20 kN for an all-metal LSD and not less than 22 kN for an LSD with non-metallic structural elements. The LSD shall not release the load.

After the test, permanent deformation of any part of the LSD shall not affect the safety of the user (e.g. possibility to detach connectors from the LSD, possibility of rotation of a swivel, etc.)



5a: to achieve 3-way loading configuration

5b: to achieve a 2-way loading configuration on one hole

Figure 5: Examples of configurations of loading tests

6.2 Test method

Note: most designs can be tested by assessing the weakest axis, but special designs require other axis tests.

Tested configurations (including angles used for ≥ 3 ways of loading if applicable) shall be included in the UIAA laboratory test report.

Install the LSD in the test apparatus, attached as described in the instructions and information supplied by the manufacturer.

Use pins of 10 mm $\pm$ 0,1 mm and with a mean roughness value R_a not exceeding 0,8 µm and a peak-to-valley height R_{max} not exceeding 6,3 µm.

If the LSD includes non-metallic structural elements, determine the loading speed v as a function of the free length l of the test sample laid out flat, using:

$$v = l \times (0{,}5 \pm 0{,}1)\,\text{min}^{-1}$$

where v is the loading speed in mm min^{-1} and l is the free length in mm.

If the LSD has only metallic load-bearing elements, the rate of loading shall be from 20 mm min^{-1} to 50 mm min^{-1}.

Maintain the force applied for 3 min (+0,1 / 0) and check that the requirements are met.

If relevant, repeat the procedure for each configuration identified above.

A new sample may be used for each test.

7 Marking

The LSD shall be clearly and indelibly marked with the following data:

(a) Name of the manufacturer or its authorized representative.

(b) Identification of the model if several models are marketed by the same manufacturer.

(c) Month/Year of fabrication for an LSD including non metallic structural elements.

(d) One strength value, which corresponds to the weakest direction of use, claimed by the manufacturer, marked in 'kN' (whole number).

Note: If the device also conforms to another applicable text (e.g. connector standard, etc.), the strength value shall be clearly identified with its use as an LSD.

(e) Graphical symbol (see figure 5), which instructs the user to read the information supplied by the manufacturer.

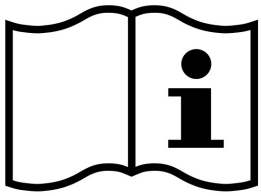


Figure 6: Operator's manual (according to ISO 7000, Symbol No. 1641)

8 Information to be by the manufacturer

The "information to be supplied" shall be given in standard English and, if required, in the official language(s) of the country in which the product is made available on the market. As an alternative to a printed form, the information may be provided via an electronic or other data storage format link (e.g., a QR code) allowing the downloading of the information. The information link shall be preceded or surmounted by an icon showing an open booklet; the information link and icon may be directly printed on the product in a clearly visible and accessible place and contain at least the following:

(a) The name of the manufacturer or its representative

(b) The meaning of any markings on the product

(c) The weakest direction and its related strength value

(d) How to use the product (e.g. installation, connection to an anchor point. . .). If the manufacturer shows example of load sharing with angles, information about the resulting forces

(e) Hazards related to factors and situations that could affect the performances of the product (e.g. sharp edges, knots . . .)

(f) How to choose and install other components for use in the system (e.g. connectors, directly attached textile component . . .)

(g) How to maintain/service the product, on the effects of chemical reagents and how to disinfect the product without adverse effect

(h) The lifespan of the product and/or how to assess it

(i) If applicable, influence of wet and icy conditions

(j) Influence of storage and ageing due to use

9 Demonstrating that Requirements are met

The safety requirements shall be satisfied by either

(a) test report from a UIAA-approved test laboratory, or

(b) test report from a test laboratory acceptable to an EU Notified Body.

10 Attachment of the UIAA Safety Label

10.1 Safety Label Marking

10.2 For any model of mountaineering equipment, which has been granted the UIAA Safety Label, the UIAA Trademark (see Figure 7) or the four letters "UIAA" shall be marked clearly and indelibly on each item sold in accordance with the branding guidelines specified in the "Regulations for existing and potential Safety Label Holders".

Figure 7: UIAA Trademark or the four letters “UIAA” word mark.

10.3 Other

In addition, the UIAA Trademark or the four letters ”UIAA” may be included in the instructions for use and/or on a swing ticket as well as in catalogs and other publications of the manufacturer. In the last case, the illustration and/or the text shall clearly apply only to the equipment which has been granted the UIAA Safety Label.

Revision History

V2.0 — September 2025

Updated to EN 17961:2025