Technical Specification 14-1

Issue 1 2019

Portable leaning ladders
© 2019 Energy Networks Association

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise, without the prior written consent of Energy Networks Association. Specific enquiries concerning this document should be addressed to:

Operations Directorate
Energy Networks Association
4 More London Riverside
London
SE1 2AU

This document has been prepared for use by members of the Energy Networks Association to take account of the conditions which apply to them. Advice should be taken from an appropriately qualified engineer on the suitability of this document for any other purpose.

First published, 2019

Amendments since publication

<table>
<thead>
<tr>
<th>Issue</th>
<th>Date</th>
<th>Amendment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue 1</td>
<td>January, 2019</td>
<td>This is the first issue.</td>
</tr>
</tbody>
</table>
Contents

Foreword ................................................................................................................................ 5
Introduction ............................................................................................................................ 6
1 Scope .............................................................................................................................. 7
2 Normative references ....................................................................................................... 7
3 Terms and definitions ....................................................................................................... 7
4 Construction ..................................................................................................................... 7
   4.1 General Requirements ............................................................................................ 7
   4.2 Rope Lash and Cleat .............................................................................................. 8
   4.3 Safe Working Load ................................................................................................. 8
   4.4 Base Width ............................................................................................................. 8
   4.5 Rungs ..................................................................................................................... 8
   4.6 Extending Ladders ................................................................................................. 9
   4.7 Marking ................................................................................................................... 9
5 Testing ............................................................................................................................. 9
Bibliography ......................................................................................................................... 10

Figures

Figure 1 - Rope Lash and Cleat ........................................................................................... 8
Foreword

This Technical Specification (TS) is published by the Energy Networks Association (ENA) and comes into effect from the date of publication. It has been prepared under the authority of the ENA Engineering Policy and Standards Manager and has been approved for publication by the ENA Electricity Networks and Futures Group (ENFG). The approved abbreviated title of this engineering document is “ENA TS 14-1”.

This document is the first issue of ENA TS 14-1 and it replaces and supersedes ENA Technical Specification 13-1 Issue 1 1987.

This ENA TS is intended for use by manufacturers/suppliers of portable ladders and ENA Member Companies who wish to purchase portable ladders.

It is expected that the reader is familiar with the main normative Standards – BS EN 131 Parts 1-3 – and this ENA TS should be read in conjunction with them as it refers to specific clauses in the normative Standards.

Where the term “shall” or “must” is used in this document it means the requirement is mandatory. The term “should” is used to express a recommendation. The term “may” is used to express permission.

NOTE: Commentary, explanation and general informative material is presented in smaller type, and does not constitute a normative element.
Introduction

The previous ENA engineering document for portable ladders, TS 13-1, was originally issued in 1987 to cover requirements for glass fibre ladders. As there was no relevant British Standard for glass fibre ladders at that time, the document contained detailed requirements on construction, material and testing, referencing BS 2037 (now withdrawn) and an American National Standards Institute (ANSI) document.

First published in 1993, the main normative Standard for ladders in the UK is the BS EN 131 Series (Parts 1-7). ENA Member Companies generally now refer to BS EN 131 Series for their portable ladder specification. The relevant Parts of BS EN 131 for this ENA TS are:

- Part 1: Terms, types, functional sizes;
- Part 2: Requirements, testing, marking;

As professional users of ladders, ENA Member Companies have specific requirements for portable ladders which are beyond the requirements of BS EN 131 (BS EN 131-1 excludes ladders for 'specific professional use').

This ENA TS describes the amendments (clarification, addition, exclusion) which apply i.e. all requirements in BS EN 131 Parts 1-3 apply except where amended by this ENA TS.
1 Scope

This ENA TS defines specific requirements for portable leaning ladders which are in addition to those defined in BS EN 131 Parts 1-3.

Hook ladders primarily used for transmission line works are not included within this ENA TS.

2 Normative references

The following referenced documents, in whole or part, are indispensable for the application 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.

Standards publications

BS EN 131-1:2015, Ladders. Terms, types, functional sizes


BS EN 131-3:2018, Ladders. Marking and user instructions

3 Terms and definitions

For the purposes of this document, the terms and definitions stated in BS EN 131-1 Clause 3 apply with the following additions.

3.1 leaning ladder
ladder that requires another structure to support the ladder in the place of use (i.e. not free standing)

3.2 extending leaning ladder
leaning ladder consisting of multiple sections constructed so that the height can be varied in increments of one rung spacing by sliding the sections relative to each other

3.3 single section ladder
leaning ladder constructed as a single unit and intended for use as such

4 Construction

4.1 General Requirements

The requirements for ladders stipulated in BS EN 131 Parts 1-3 shall apply except where amended by the ENA TS, or otherwise specified by the purchaser.
4.2 Rope Lash and Cleat

The ladder shall be fitted with a rope lash to the second rung from the top. The rope shall be 8 mm minimum diameter with a rope cleat fitted to the inside of the opposite stile as shown in Figure 1.

![Diagram of ladder with rope lash and cleat](image)

NOTE: The diagram is for illustration purposes to depict the rope and cleat arrangement. The design of the rungs and stiles may vary.

**Figure 1 - Rope Lash and Cleat**

4.3 Safe Working Load

BS EN 131-2 Clause 4.1 and BS EN 131-3 Clause 6.3.3 shall be subject to the following amendments:

a) The maximum total load applicable shall be 1716 N (175 kg).

b) The ladder shall allow for double duty loading for the purpose of rescue.

4.4 Base Width

BS EN 131-1 Clause 4.2.1 shall be subject to the following amendment:

a) The base width \( b_2 \) shall be determined as,

   Minimum base width: \( b_2 = b_1 + (2t) \)

   Maximum base width: \( b_2 = b_1 + (2t) + 100 \) mm

   where \( t \) is the width of the stile.

4.5 Rungs

BS EN 131-1 Clause 4.7 shall be subject to the following amendments:

a) The top rung shall be of non-standard construction. Typical examples include pole bands.
b) When required by the purchaser, specified rungs (e.g. all or the top 3) shall be constructed from a non-conductive material or have a non-conductive coating applied. Testing may be performed as described in Section 5. The purchaser may also require the stiles to be non-conductive, and may require these to be tested in accordance with Section 5.

4.6 Extending Ladders

BS EN 131-1 Clause 4.2.4 shall be subject to the following amendment:

a) Each section shall have parallel stiles.

4.7 Marking

BS EN 131-3 Clause 6.2 shall be subject to the following amendments:

a) The increased maximum total load (175 kg) shall be stated

b) This ENA TS shall be mentioned as part of the general standards in addition to BS EN 131

5 Testing

BS EN 131-2 Clause 5.2 shall be subject to the following amendment:

a) The strength test load $F$ shall be 3150 N to account for the increase in maximum total load (175 kg).

b) When required by the purchaser, the non-conductive property of the rung(s) and stiles shall be tested in accordance with recognised methods. Typical tests may include applying 15 kV rms for 1 minute.
Bibliography

There are no relevant informative publications for this ENA TS.