

Safety nets

Part 1. Safety requirements, test methods

The European Standard EN 1263-1 : 1997 has the status of a British Standard

ICS 13.340.99

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- British Constructional Steelwork Association Ltd.
- Construction Health and Safety Group
- Cordage Manufacturers' Institute
- English Net Manufacturers' Association
- Health and Safety Executive
- Made-Up Textiles Association
- National Association of Scaffolding Contractors
- National Federation of Roofing Contractors
- Suspended Access Equipment Manufacturers' Association
- Co-opted Members

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National foreword

This Part of BS EN 1263 has been prepared by Subcommittee B/514/27, and is the English language version of EN 1263-1 : 1997 *Safety nets — Part 1: Safety requirements, test methods*, published by the European Committee for Standardization (CEN), and supersedes BS 3913 : 1982, which is withdrawn.

This British Standard, together with BS EN 1263-2 *Safety nets Part 2: Safety requirements for the erection of safety nets*, will partially supersede BS 8093 : 1991.

This British Standard covers the manufacture of safety nets for use in construction and assembly work as devices to catch falling persons and objects. The safety nets can be used as side protection or horizontally as full-arrest devices in open line construction on roofs or on working scaffolds.

Attention is drawn to the fact that these materials tend to have a limited life due to mechanical damage and their sensitivity to exposure to UV light requires that they should be periodically examined and tested. They should be withdrawn from service once the examinations or tests indicate that the net is no longer strong enough.

EN 1263-1 was produced as a result of international discussion in which the UK took an active part.

Cross-references

Publication referred to	Corresponding British Standard
EN 919 : 1995	BS EN 919 : 1995 <i>Fibre ropes for general service. Determination of certain physical and mechanical properties</i>
EN 10002-2 : 1992	BS EN 10002 <i>Tensile testing of metallic materials</i> BS EN 10002-2 : 1992 <i>Verification of the force measuring system of the tensile testing machine</i>
EN 45001 : 1989	BS 7501 : 1989 <i>General criteria for the operation of testing laboratories</i>
EN ISO 9001 : 1994	BS EN ISO 9001 : 1994 <i>Quality systems. Model for quality assurance in design, development, production, installation and servicing</i>
EN ISO 9002 : 1994	BS EN ISO 9002 : 1994 <i>Quality systems. Model for quality assurance in production, installation and servicing</i>
ISO 4892-1 : 1994	BS 2782 <i>Methods of testing plastics</i> BS 2782 : Part 5 <i>Optical and colour properties, weathering</i> BS 2782 : Method 540D : 1995 <i>Methods of exposure to laboratory light sources. General guidance</i>

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the EN title page, pages 2 to 24, an inside back cover and a back cover.

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English version

Safety nets — Part 1: Safety requirements, test methods

Filets de sécurité —
Partie 1: Exigences de sécurité,
méthodes d'essai

Schutznetze —
Teil 1: Sicherheitstechnische Anforderungen,
Prüfverfahren

This European Standard was approved by CEN on 1997-02-15. 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.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

This European Standard has been prepared by Technical Committee CEN/TC 53, Temporary works equipment, the Secretariat of which is held by DIN. This European Standard is one of a series of standards as listed below:

EN 1263-1	<i>Safety nets — Part 1: Safety requirements, test methods</i>
EN 1263-2	<i>Safety nets — Part 2: Safety requirements for the erection of safety nets</i>

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by September 1997, and conflicting national standards shall be withdrawn at the latest by September 1997.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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Introduction

Safety nets for use in construction and assembly work, e.g. as devices to catch falling persons or objects during the construction of halls and bridges, in open line construction as side protection, as anti-fall devices or devices to catch falling persons or objects on working scaffolds, as side protection for safety scaffolds at roofs and in tunnelling can be chosen as a technically suitable and economic solution to catch persons falling from a height. They serve to cover large sections below the area of a hall roof.

In contrast to being secured by a rope the mobility of persons working above the covered area remains fully guaranteed during all working and transporting procedures. Moreover, the use of safety nets has the advantage to softly catch persons falling from a height by large plastic deformations of the net.

Attention should be paid to the fact that the ageing sensitivity of safety nets due to exposure to UV requires that they are exposed to light to a limited time only and then be withdrawn from service. For the evaluation of the ageing behaviour short-time tests have been carried out which apply to the most commonly used materials polyamide and polypropylene. The specifications of the limit values of breaking energy are based on drop tests with articulated dummies and test spheres. After having been subjected to respective loading by persons or objects falling from height the safety nets should be replaced, if appropriate.

1 Scope

This European Standard is applicable to safety nets and their accessories for use in construction, scaffolding, falsework and assembly work and specifies safety requirements and test methods. This standard is not applicable to the installation of safety nets. For a European Standard covering the installation of safety nets see prEN 1263-2 : 1995.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

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|------------|--|
| EN 919 | <i>Fibre ropes for general service – Determination of certain physical and mechanical properties</i> |
| EN 10002-2 | <i>Metallic materials – Tensile testing – Part 2: Verification of the force measuring system of the tensile testing machines</i> |

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| EN 45001 | <i>General criteria for the operation of testing laboratories</i> |
| EN ISO 9001 | <i>Quality systems – Model for quality assurance in design/development, production, installation and servicing (ISO 9001)</i> |
| EN ISO 9002 | <i>Quality systems – Model for quality assurance in production, installation and servicing (ISO 9002)</i> |
| ISO 554 | <i>Standard atmospheres for conditioning and/or testing – Specifications</i> |
| ISO 4892-1 | <i>Plastics – Methods of exposure to laboratory light sources – Part 1: General guidance</i> |

3 Definitions

For the purposes of this standard the following definitions apply.

3.1 net

A connection of meshes.

3.2 safety net

A net supported by a border rope, other supporting elements or a combination of these designed to catch persons falling from a height.

3.3 mesh rope

The rope from which the meshes of a net are manufactured.

3.4 border rope

A rope which passes through each mesh at the edges of a net and determines the dimensions of the safety net.

3.5 tie rope

A rope used for securing the border rope to a suitable support.

3.6 coupling rope

A rope that joins several safety nets together.

3.7 test rope

A separate length of mesh rope or of meshes which is worked into the safety net to determine any deterioration due to ageing and which can be removed without impairing the reliability of the net.

3.8 supporting framework

A structure to which nets are attached and which contributes to the absorption of kinetic energy.

4 Types

4.1 Nets

Four types of net shall be classified. They shall have the following maximum mesh widths (l_M , see figure 6) and the following minimum breaking energies (E_A and E_B):

type A1:	$E_A = 2,3 \text{ kJ}$;	$l_M = 60 \text{ mm}$
type A2:	$E_A = 2,3 \text{ kJ}$;	$l_M = 100 \text{ mm}$
type B1:	$E_B = 4,4 \text{ kJ}$;	$l_M = 60 \text{ mm}$
type B2:	$E_B = 4,4 \text{ kJ}$;	$l_M = 100 \text{ mm}$

4.2 Safety nets

Four types of safety net shall be distinguished:

- Type S: Safety net with border rope (see figure 1)
- Type T: Safety net attached to consoles for horizontal use (see figure 2)
- Type U: Safety net attached to supporting framework for vertical use (see figure 3)
- Type V: Safety net with border rope attached to a support type gallow (see figure 4)

4.3 Ropes

Five types of rope shall be classified as follows:

- Rope type K: a rope without ends and with a tensile strength of at least 30,0 kN (border rope, see figure 5a);
- Rope type L: a rope with a loop and with a tensile strength of at least 30,0 kN (tie rope, see figure 5b);
- Rope type M: a rope without a loop and with a tensile strength of at least 30,0 kN (tie rope, see figure 5c);
- Rope type N: a rope with a loop and with a tensile strength of at least 7,5 kN (coupling rope, see figure 5d);
- Rope type O: a rope without a loop and with a tensile strength of at least 7,5 kN (coupling rope, see figure 5e).

