Temporary works equipment - Part 1: Scaffolds - Performance requirements and general design

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EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 12811-1:2004 sisaldab rahvusvahelise standardi ingliskeelset teksti. Käesolev dokument on jõustatud 27.04.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 12811-1:2004 consists of the English text of the international standard . This document is endorsed on 27.04.2004 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This European Standard specifies performance requirements and methods of structural and general design for access and working scaffolds, referred to from hereon as working scaffolds. Requirements given are for scaffold structures, which rely on the adjacent structures for stability. In general these requirements also apply to other types of working scaffolds. Normal requirements are set down, but there is also provision for special cases.	**Scope:** This European Standard specifies performance requirements and methods of structural and general design for access and working scaffolds, referred to from hereon as working scaffolds. Requirements given are for scaffold structures, which rely on the adjacent structures for stability. In general these requirements also apply to other types of working scaffolds. Normal requirements are set down, but there is also provision for special cases.

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Equipements temporaires de chantiers - Partie 1: Echafaudages - Exigences de performance et étude, en général

Temporäre Konstruktionen für Bauwerke - Teil 1: Arbeitsgerüste - Leistungsanforderungen, Entwurf, Konstruktion und Bemessung

This European Standard was approved by CEN on 4 September 2003.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Foreword

This document (EN 12811-1:2003) has been prepared by Technical Committee CEN/TC 53 “Temporary works equipment”, the secretariat of which is held by DIN.

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 June 2004, and conflicting national standards shall be withdrawn at the latest by June 2004.

This European Standard is one of the package of standards listed below:

- EN 12810-1, Façade scaffolds made of prefabricated components - Part 1: Product specifications
- EN 12810-2, Façade scaffolds made of prefabricated components- Part 2: Particular methods of structural design
- EN 12811-1, Temporary works equipment – Part 1:– Scaffolds – Performance requirements and general design
- prEN 12811-2, Temporary works equipment.– Part 2: Information on materials
- EN 12811-3, Temporary works equipment – Part 3: Load testing

Annexes A and D are informative. Annexes B and C are normative.

This document includes a bibliography.

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

Introduction

The purpose of a working scaffold is to provide a safe place of work with safe access suitable for the work being done. This European Standard sets out performance requirements for working scaffolds. These are substantially independent of the materials of which the scaffold is made. The standard is intended to be used as the basis for enquiry and design.

As a number of options are given to suit different applications, a choice has to be made between the various alternatives within this European Standard. All other requirements could be in an associated job specification.

Based on these requirements, a set of rules can be drawn up for a particular type of equipment. These may be standard for general use, or specially prepared for a particular job.

This European Standard includes rules for structural design, which are of particular relevance to scaffolds made of certain materials.

For materials this standard refers only to valid EN standards. However a large stock of equipment made of materials conforming to standards no longer valid is in use. This standard does not cover the use of this equipment.

Because the dimensions of the working scaffold depend on the type of work and the method of execution, the corresponding national legal rules should be taken into account.

1 Scope

This European Standard specifies performance requirements and methods of structural and general design for access and working scaffolds, referred to from hereon as working scaffolds. Requirements given are for scaffold structures, which rely on the adjacent structures for stability. In general these requirements also apply to other types of working scaffolds. Normal requirements are set down, but there is also provision for special cases.

This European Standard also specifies structural design rules when certain materials are used and general rules for prefabricated equipment.

The standard excludes:

- platforms suspended by ropes, whether fixed or movable;
- horizontally movable platforms including Mobile Access Towers (MAT);
- power-operated platforms;
- scaffolds used as protection for roof work;
- temporary roofs.

NOTE 1 Most working scaffolds are formed from prefabricated components or from tubes and couplers. Some examples of working scaffolds are façade scaffolds, static towers and birdcage scaffolds, but details are not given for all of these.

NOTE 2 Falsework and shoring may be made of the structural components described in this standard, but are not working scaffolds.

NOTE 3 Particular requirements for façade scaffolds made of prefabricated components are specified in EN 12810 -1 and EN 12810-2.

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 apply (including amendments).

EN 74: 1988, *Couplers, loose spigots and base-plates for use in working scaffolds and falsework made of steel tubes – Requirements and test procedures.*

prEN 74-1, *Couplers, spigots and baseplates for use in falsework and scaffolds – Part 1: Couplers for tubes – Requirements and test methods.*

EN 338, *Structural timber – Strength classes.*

EN 12810-1:2003, *Façade scaffolds made of prefabricated elements – Part 1: Product specifications.*

EN 12810-2, *Façade scaffolds made of prefabricated elements – Part 2: Methods of particular design and assessment.*

prEN 12811-2: *Temporary works equipment – Part 2:Information on materials.*

EN 12811-3: *Temporary works equipment – Part 3:Load testing.*

prEN 12812:1997, *Falsework - Performance requirements and general design.*

ENV 1990, *Eurocode 1: Basis of structural design.*

ENV 1991-2-4, *Eurocode 1: Basis of design and actions on structures – Part 2-4: Wind actions.*

ENV 1993-1-1:1992, *Eurocode 3: Design of steel structures – Part 1-1: General rules and rules for buildings.*

ENV 1995-1-1, *Eurocode 5: Design of timber structures – Part 1-1: General rules and rules for buildings.*

ENV 1999-1-1:1998, *Eurocode 9: Design of aluminium structures – Part 1-1: Common rules.*

3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply (see also Figure 1):

3.1
anchorage
means inserted in, or attached to, the structure for attaching a tie member

NOTE The effect of an anchorage may be achieved by the tie being connected to a part of the structure primarily intended for other purposes, see 3.23.

3.2
base jack
base plate, which has a means of vertical adjustment

3.3
base plate
plate used for spreading the load in a standard over a greater area

3.4
birdcage scaffold
scaffold structure comprising a grid of standards and a decked area usually intended for working or storage

3.5
bracing in horizontal plane
assembly of components which provides shear stiffness in the horizontal planes, e.g. by decking components, frames, framed panels, diagonal braces and rigid connections between transoms and ledgers or other items used for horizontal bracing

3.6
bracing in vertical plane
assembly of components which provides shear stiffness in the vertical planes, e.g. by closed frames with or without corner bracing, open frames, ladder frames with access openings, rigid or semi-rigid connections between horizontals and the vertical components, diagonal bracing, or other items used for vertical bracing

3.7
cladding
material normally intended to provide weather and dust protection, typically sheeting or netting

3.8
coupler
device used to connect two tubes

3.9
design
conception and calculation to produce a scheme for erection