

საქართველოს სტანდარტი

სსკ: 91.220

დროებითი სამუშაოების მოწყობილობა - ნაწილი 4: ხარაჩოებისათვის დაცვის
ვენტილატორები - ტექნიკური მოთხოვნები და პროდუქტის დიზაინი

საინფორმაციო მონაცემები

1 მიღებულია და დაშვებულია სამოქმედოდ: სსიპ-საქართველოს სტანდარტებისა და მეტროლოგიის ეროვნული სააგენტოს გენერალური დირექტორის 22/12/2020 წლის № 119 განკარგულებით

2 მიღებულია „თავფურცლის“ თარგმნის მეთოდით: სტანდარტიზაციის ევროპული კომიტეტის სტანდარტი ენ 12811-4:2013 „დროებითი სამუშაოების მოწყობილობა - ნაწილი 4: ხარაჩოებისათვის დაცვის ვენტილატორები - ტექნიკური მოთხოვნები და პროდუქტის დიზაინი“

3 პირველად

4 რეგისტრირებულია: სსიპ-საქართველოს სტანდარტებისა და მეტროლოგიის ეროვნული სააგენტოს რეესტრში: 22/12/2020 წლის №268-1.3-019432

წინამდებარე სტანდარტის ნებისმიერი ფორმით გავრცელება სააგენტოს ნებართვის გარეშე აკრძალულია

ICS 91.220

English Version

Temporary works equipment - Part 4: Protection fans for scaffolds - Performance requirements and product design

Équipements temporaires de chantiers - Partie 4: Pare-
gravats pour échafaudages - Exigences de performance et
conception du produit

Temporäre Konstruktionen für Bauwerke - Teil 4:
Schutzdächer für Arbeitsgerüste - Leistungsanforderungen,
Entwurf, Konstruktion und Bemessung des Produkts

This European Standard was approved by CEN on 28 September 2013.

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Foreword

This document (EN 12811-4:2013) 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of an identical text or by endorsement, at the latest by May 2014, and conflicting national standards shall be withdrawn at the latest by May 2014.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This European Standard is part of a series of standards EN 12811, *Temporary works equipment*, which consists of the following parts:

- *Part 1: Scaffolds — Performance requirements and general design;*
- *Part 2: Information on materials;*
- *Part 3: Load testing;*
- *Part 4: Protection fans for scaffolds — Performance requirements and product design.*

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

Each year, many objects fall from a height and strike people. Often, this leads to serious injury, because the impact is on the head. This statistic does not take into account the many near misses.

The dangers associated with falling objects has been recognized by the European Commission, which dealt with the matter by writing an amendment to the Work Equipment Directive (89/655/EEC) that deals exclusively with work at height (2001/45/EEC) and requires the prevention of objects falling off scaffolds.

Usually the provision for preventing such dangerous occurrences takes the form of a “toe-board” attached to the edge of the platform. However, toe-boards according to EN 12811-1 should be at least 150 mm high and statistics indicate that they are not always effective. Therefore, additional protection is often specified, by local by-laws, especially for scaffolds erected above areas where members of the public cannot be prevented from entering, for example in city and town centres.

One way of satisfying these local regulations is to provide a protection fan attached to the main scaffold at some distance below the working platform.

Because these protection fans are required to arrest the fall of substantial objects such as bricks, blocks, scaffold boards and the like, they could be considered as a necessary safety-critical accessory for scaffolds. This, coupled with the fact that they have to arrest the fall of significant objects, i.e. subjected to significant dynamic loads, puts them in the category of complex structures. Yet, in many European countries, there are no rules to govern the design and installation of protection fans.

Across much of Europe, protection fans are:

- erected in configurations that are not verified; and
- attached arbitrarily to scaffolds.

That is to say, the information related to protection fans, such as it is, is very basic. Under the suite of standards drawn up by CEN TC 53, Temporary works equipment has had its design formalized across Europe. The current situation is that un-designed and unverified components are being attached to scaffolds. Therefore, it is necessary to formalize the design and erection of protection fans.