BS 5975:2008+A1:2011

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Code of practice for temporary works procedures and the permissible stress design of falsework

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Contents

List of tables

Summary of pages
This document comprises a front cover, an inside front cover, pages i to viii, pages 1 to 216, an inside back cover and a back cover.

Foreword

Publishing information

This British Standard is published by BSI and came into effect on 31 December 2008. It was prepared by Subcommittee B/514/26, *Falsework* on behalf of Technical Committee B/514, *Access and support equipment*. A list of organizations represented on this committee can be obtained on request to its secretary.

Supersession

This British Standard supersedes BS 5975:2008, which is withdrawn.

Information about this document

The start and finish of text introduced or altered by Amendment No. 1 is indicated in the text by tags [A1] ⟨A1⟩.

A report on falsework by the Joint Committee of the Institution of Structural Engineers and the Concrete Society [1] was published in 1971, following a number of significant collapses and an apparent lack of authoritative guidance.

A further significant collapse of falsework (over the river Loddon, near Reading) occurred in October 1972, resulting directly in the publication of the Bragg Report [2] in 1973/74.

This code of practice was first published in 1982. It reflected the recommendations of the Bragg Report [2] and used, as the main reference document during the drafting stages, the report on falsework by the Joint Committee of the Institution of Structural Engineers and the Concrete Society [1].

It is believed that when first published, no previous standard or code referring to falsework was known to exist anywhere in the world.

The standard drew together all those aspects that need to be considered when preparing a falsework design using permissible stress methods, and in so doing included recommendations for materials, design and work on site. Because the success of falsework is closely tied up with its management, this code described procedures as well as technical aspects. The standard provided guidance on the accuracy of construction required in order to be able to adopt the recommended design approaches.

Recommendations were given on the actions that ought to be taken and possible ways of allocating the duties to individuals. The Bragg Report [2] recommended that the duty of ensuring that all the relevant procedures and checks are carried out be given to one individual in the construction organisation, such an individual being known as the "temporary works co-ordinator". BS 5975:1982 endorsed such action, but adopted the narrower term "falsework co-ordinator", because the procedures section of the code did not consider the other activities covered by the general term temporary works, such as scaffolding and excavations. This edition, incorporating procedures for all temporary works, has reverted to the term "temporary works co-ordinator". A full description of the duties of the temporary works co-ordinator is included. [A1] This standard re-emphasizes the Bragg Report [2] recommendations that the temporary works co-ordinator be an individual employed by the construction organization now known as the principal contractor, or

on projects which are not notifiable under CDM 2007 [8], the main contractor. This principle is similarly preferred for the appointment of any temporary works supervisor. 〈A1〉

A second edition of the standard was published in 1996.

The European standard on falsework, BS EN 12812:2004 was published in 2004 and exists in parallel with this standard. It specifies performance requirements for the design of falsework in accordance with one of three classes: A, B1 and B2. Limit state design methods are specified for design classes B1 and B2. It does not provide guidance for the structural design of Class A.

BS EN 12812:2004 does not provide guidance on procedures necessary for the successful management of work on site. The recommendations of the Advisory Committee on Falsework (the Bragg Report [2]) in respect of the falsework co-ordinator have not been included in it.

The foreword of this standard was amended in 2004, immediately following the publication BS EN 12812:2004.

〈A1〉 Subsequent to the publication of BS EN 12812:2008, the drafting committee has taken the opportunity to update the majority of this standard, retaining the principles of permissible stress design. The principal changes introduced by this amendment are as follows.

- The term temporary works co-ordinator (TWC) has been adopted to reflect the need for procedural controls of all temporary works and to recognize that the majority of contractors already control temporary works in this manner.
- Compliance with the Construction (Design and Management) Regulations 2007 (COM) [3], [8] has been incorporated, particularly in respect to the interface between the design of permanent works and the design of temporary works.
- This amendment to BS 5975 introduces wind loading to BS EN 1991-1-4:2005+A1 and the UK National Annex (NA). The background information in PD 6688-1-4:2009 has also informed this revision.
- Information on the wind load on formwork attached to falsework, together with the effects of shielding of falsework members in unclad structures, has been retained from the previous edition of this code.
- The section for the design of falsework has been substantially rewritten to bring it up-to-date with current practice and materials. it now defines the conditions for top restrained and free standing falsework and the dependency of the former on the stability of the permanent works and plate action of the formwork.

Although the wind code BS EN 1991-1-4:2005+A1 is widely applicable, its application in accordance with NA to BS EN 1991-1-4:2005+A1 restricts its use to the UK. For other locations covered by BS EN 1991-1-4:2005+A1, refer to the relevant National Annex. For locations outside of those covered by BS EN 1991-1-4:2005+A1 local design codes are to be used to calculate the peak velocity pressure.

Users of this standard are reminded that it might be necessary for them to appraise third parties with whom they are in contractual relations of certain provisions in the code. 〈A1〉

Use of this document

As a code of practice, this British Standard takes the form of guidance and recommendations. It should not be quoted as if it were a specification and particular care should be taken to ensure that claims of compliance are not misleading.

Any user claiming compliance with this British Standard is expected to be able to justify any course of action that deviates from its recommendations.

Presentational conventions

The provisions in this standard are presented in roman (i.e. upright) type. Its recommendations are expressed in sentences in which the principal auxiliary verb is "should".

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

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

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Section 1: General

1 Scope

This British Standard gives recommendations and guidance on the procedural controls to be applied to all aspects of temporary works in the construction industry. It also includes guidance on design, specification, construction, use and dismantling of falsework. This standard gives guidance on permissible stress design of falsework. This guidance is also applicable to the design of what is termed class A falsework[1)] in BS EN 12812:2004, the design of which is specifically excluded from BS EN 12812:2004.

Section 2 gives recommendations for the procedures required to ensure that temporary works are conceived, designed, specified, constructed, used and dismantled all in a safe and controlled manner.

Section 3 covers the design of temporary works and in particular the design of falsework and relevant formwork. In addition Section 3 covers: materials including material factors; loads and load factors; design of falsework, including both proprietary equipment and traditional scaffolding solutions; wind loading (reference to temporary and permanent stability) and reference to other British Standards for the design of structural steelwork, reinforced concrete and excavation support.

The structural design element in this standard is additional information necessary for the structural design of falsework. It can be used in conjunction with existing structural standards.

2 Normative references

The following referenced documents 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.

BS 449-2:1969*, Specification for the use of structural steel in building – Part 2: Metric units*

BS 648*, Schedule of weights of building materials*

BS 1139-1*, Metal scaffolding – Part 1: Tubes – Specification for tubes used in scaffolding (superseded)*

BS 1881-115*, Testing concrete – Part 115: Specification for compression testing machines for concrete*

BS 1881-116*, Testing concrete – Part 116: Method for determination of compressive strength of concrete cubes*

BS 1881-117*, Testing concrete – Part 117: Method for determination of tensile splitting strength*

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1) According to BS EN 12812, design class A is only to be adopted where:
   a) slabs have a cross-sectional area not exceeding 0.3 m^2 per metre width of slab;
   b) beams have a cross-sectional area not exceeding 0.5 m^2;
   c) the clear span of beams and slabs does not exceed 6.0 m;
   d) the height to the underside of the permanent structure does not exceed 3.5 m.