PD 6705-2:2020

BSI Standards Publication

Structural use of steel and aluminium

Part 2: Execution of steel bridges conforming to BS EN 1090-2 – Guide

Publishing and copyright information

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Summary of pages

This document comprises a front cover, and inside front cover, pages i to iv, pages 1 to 64, an inside back cover and a back cover.

Foreword

Publishing information

This part of PD 6705 is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 June 2020. It was prepared by Subcommittee B/525/10, *Bridges*, under the authority of Technical Committee B/525, *Building and civil engineering structures*. A list of organizations represented on these committees can be obtained on request to their secretary.

Supersession

PD 6705-2:2020 supersedes PD 6705-2:2010+A1:2013, which is withdrawn.

Relationship with other publications

This Published Document gives guidance on the use of BS EN 1090-2:2018 for the execution of steel bridges in the UK.

BS EN 1993 requires compliance with BS EN 1090 as the key reference standard for fabrication and erection which is necessary for the design assumptions in BS EN 1993 to be valid.

Information about this document

The guidance given in this Published Document consists of non-contradictory complementary information (NCCI) to enable the user to apply BS EN 1090-2:2018 in a safe and economical manner, with particular reference to the following:

- selection of options where they are defined in BS EN 1090-2:2018;
- selection of service categories in terms of quantified performance requirements, for use in choosing execution requirements, where applicable; and
- additional information where permitted in BS EN 1090-2:2018.

This revision takes account of changes to BS EN 1090-2 made in the 2018 revision and comments arising from its application in the drafting and use of specifications based on BS EN 1090-2:2008+A1:2011.

This publication can be withdrawn, revised, partially superseded or superseded. Information regarding the status of this publication can be found in the Standards Catalogue on the BSI website at bsigroup.com/standards, or by contacting the Customer Services team.

Where websites and webpages have been cited, they are provided for ease of reference and are correct at the time of publication. The location of a webpage or website, or its contents, cannot be guaranteed.

Use of this document

As a guide, this Publish Document takes the form of guidance and recommendations. It should not be quoted as if it were a specification or a code of practice.

This publication is not to be regarded as a British Standard.

Presentational conventions

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

The word “may” is used in the text to express permissibility, e.g. as an alternative to the primary recommendation of the clause. The word “can” is used to express possibility, e.g. a consequence of an action or an event.

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 Published Document cannot confer immunity from legal obligations.

1 Scope

This part of PD 6705 gives guidance on the use of BS EN 1090-2:2018 for the execution of all types of steel bridges designed to BS EN 1993.

NOTE As BS EN 1090-2:2018 contains many clauses which have multiple options or requires additional information, guidance is given in this Published Document to ensure that technically sound choices are made.

This part of PD 6705 specifies appropriate controls on management systems, procedure approval, personnel qualification, process selection, quality of materials and workmanship, inspection, testing and recording.

This part of PD 6705 is applicable to the same scope of application as BS EN 1090-2:2018 with the following exceptions:

a) resistance welding; and

b) matters not related to structural integrity, e.g. visual appearance.

The recommendations given in this Published Document are only applicable when the design requirements and recommendations in the following documents have been adopted, where relevant:

- BS EN 1990, *Eurocode – Basis of structural design*;
- BS EN 1991, *Eurocode 1 – Actions on structures*;
- BS EN 1993-2, *Eurocode 3 – Design of steel structures – Part 2: Steel bridges*;
- BS EN 1994-2, *Eurocode 4 – Design of composite steel and concrete structures – Part 2: General rules and rules for bridges*; and
- any UK National Annexes and Published Documents referenced normatively or informatively in the above standards.

This Published Document is prepared for personnel involved in the regulation, design, procurement, fabrication, erection and certification of steel bridges when BS EN 1090-2:2018 is used as the basis for specifying the execution.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies[1)]. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS EN 1090-2:2018, *Execution of steel structures and aluminium structures – Part 2: Technical requirements for steel structures*

BS EN 1593, *Non-destructive testing – Leak testing – Bubble emission techniques*

BS EN 1990, *Eurocode 0 – Basis of structural design*

BS EN 1991, *Eurocode 1 – Actions on structures*

BS EN 1993, *Eurocode 3 – Design of steel structures*

BS EN 1993-1-9, *Eurocode 3 – Design of steel structures – Part 1-9: Fatigue*

BS EN 1993-2, *Eurocode 3 – Design of steel structures – Part 2: Steel bridges*

BS EN 1994-2, *Eurocode 4 – Design of composite steel and concrete structures – Part 2: General rules and rules for bridges*

[1)] Documents that are referred to solely in an informative manner are listed in the Bibliography.

BS EN 10025-1:2004, *Hot rolled products of structural steels – Part 1: General technical delivery conditions*

BS EN 10025-5:2004, *Hot rolled products of structural steels – Part 5: Technical delivery conditions for structural steels with improved atmospheric corrosion resistance*

BS EN 10025-6, *Hot rolled products of structural steels – Part 6: Technical delivery conditions for flat products of high yield strength structural steels in the quenched and tempered condition*

BS EN 10088-1, *Stainless Steels – Part 1: List of stainless steels*

BS EN 10160, *Ultrasonic testing of steel flat product of thickness equal or greater than 6 mm (reflection method)*

BS EN 10163-2, *Delivery requirements for surface condition of hot-rolled steel plates, wide flats and sections – Part 2: Plate and wide flats*

BS EN 10163-3, *Delivery requirements for surface condition of hot-rolled steel plates, wide flats and sections – Part 3: Sections*

BS EN 14399, *High-strength structural bolting assemblies for preloading*

BS EN 14399-3, *High-strength structural bolting assemblies for preloading – Part 3: System HR – Hexagon bolt and nut assemblies*

BS EN ISO 3834-2, *Quality requirements for fusion welding of metallic materials – Part 2: Comprehensive quality requirements*

BS EN ISO 5817, *Welding – Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) – Quality levels for imperfections*

BS EN ISO 6520-1, *Welding and allied processes – Classification of geometric imperfections in metallic materials – Part 1: Fusion welding*

BS EN ISO 14555:2017, *Welding – Arc stud welding of metallic materials*

BS EN ISO 15613, *Specification and qualification of welding procedures for metallic materials – Qualification based on pre-production welding test*

BS EN ISO 15614-1, *Specification and qualification of welding procedures for metallic materials – Welding procedure test – Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys*

BS EN ISO 23277, *Non-destructive testing of welds – Penetrant testing – Acceptance levels*

BS EN ISO 23278, *Non-destructive testing of welds – Magnetic particle testing – Acceptance levels*

PD 6695-1-9, *Recommendations for the design of structures to BS EN 1993-1-9*

PD 6695-1-10, *Recommendations for the design of structures to BS EN 1993-1-10*

PD 6702-1, *Structural use of aluminium – Part 1: Recommendations for the design of aluminium structures to BS EN 1999*

PD 6705-3, *Structural use of steel and aluminium – Part 3: Recommendations for the execution of aluminium structures to BS EN 1090-3*

ISO 10721-1, *Steel structures – Part 1: Materials and design*

ISO 10721-2, *Steel structures – Part 2: Fabrication and erection*