BS 5892-3:2023

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Railway rolling stock materials

Part 3: Specification for monobloc wheels for traction and trailing stock

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Foreword

Publishing information

This part of BS 5892 is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 31 January 2023. It was prepared by Technical Committee RAE/3, *Railway Rolling Stock Products*. A list of organizations represented on this committee can be obtained on request to the committee manager.

Supersession

BS 5892-3:2023 supersedes BS 5892-3:1992+A2:2009, which is withdrawn.

Relationship with other publications

BS 5892, which covers railway rolling stock materials, is published in the following eight parts:

- Part 1: Specification for axles for traction and trailing stock;
- Part 2: Specification for forged and rolled wheel centres;
- Part 3: Specification for monobloc wheels for traction and trailing stock;
- Part 4: Specification for forged and rolled tyres;
- Part 5: Specification for steel bars for retaining rings for tyred wheels;
- Part 6: Specification for wheelsets for traction and trailing stock;
- Part 7: Specification for product and technical approval requirements for cast wheels; and
- Part 8: Railway applications – Wheelsets and bogies – Powered and non-powered wheelsets with inboard bearings – Product requirements.

Information about this document

This new edition of BS 5892-3 incorporates changes made necessary by the publication of BS EN 13262:2020. The additions include grain size change, micro cleanliness assessment on the wheel, a change in the ultrasonic evaluation method, and the addition of a magnetic particle inspection method. It does not represent a full review or revision of the standard, which will be undertaken in due course.

Product certification. Users of this British Standard are advised to consider the desirability of third-party certification of product conformity with this British Standard based on testing and continuing surveillance, which may be coupled with assessment of a supplier's quality systems against the appropriate part of BS 5750.

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Presentational conventions

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

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

Where words have alternative spellings, the preferred spelling of the *Shorter Oxford English Dictionary* is used (e.g. "organization" rather than "organisation").

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1 Scope

This part of BS 5892 specifies requirements for the manufacture, inspection and testing of rolled or forged monobloc wheels in the unmachined, finish machined or ready for assembly condition for traction and trailing stock. This Part of BS 5892 includes requirements for the dimensions, tolerances and surface finish that are to be adopted unless otherwise specified in the design drawing.

BS 5892-3 is not applicable to wheels to be fitted to axles designed to BS EN 13103 and BS EN 13104, the manufacture, inspection and testing of which are specified in BS EN 13261.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes provisions 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 1134-1, *Assessment of surface texture – Methods and instrumentation*

BS 6200, *Sampling and analysis of iron, steel and other ferrous metals*

BS EN 10002-1:2001, *Tensile testing of metallic materials – Method of test at ambient temperature*

BS EN 10045-1, *Charpy impact test on metallic materials – Test method (V- and U-notches)*

BS EN ISO 643:2019, *Steels – Micrographic determination of the apparent grain size*

BS EN ISO 6506-1, *Metallic materials – Brinell hardness test – Test method*

BS EN ISO 10012, *Measurement management systems - Requirements for measurement processes and measuring equipment*

ISO 4967:2013, *Steel – Determination of content of non-metallic inclusions – Micrographic method using standard diagrams*

3 Terms and definitions

For the purposes of this part of BS 5892, the following definitions apply.

3.1 unmachined

condition of a monobloc wheel in the forged and heat-treated condition having undergone no machining operation other than proof machining by the manufacturer

3.2 finish machined

condition of a monobloc wheel where all the machining operations have been carried out apart from those required for assembly onto the axle

3.3 ready for assembly

condition of a monobloc wheel that has received all machining operations required for assembly

3.4 normal speed

operational speed up to and including 200 km/h

3.5 high speed

operational speed greater than 200 km/h

