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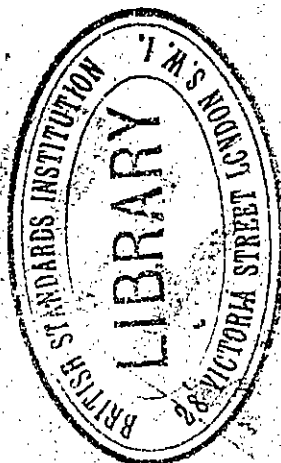
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BRITISH STANDARD 1452:1948

*Superseded by 1956
issue.*

GREY IRON CASTINGS



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BRITISH STANDARDS INSTITUTION

Incorporated by Royal Charter

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THIS BRITISH STANDARD, having been approved by the Iron and Steel Industry Standards Committee and endorsed by the chairman of the Engineering Divisional Council, was published under the authority of the General Council as a British Standard on 18th June, 1948.

The Institution desires to call attention to the fact that this British Standard does not purport to include all the necessary provisions of a contract.

In order to keep abreast of progress in the industries concerned, the British Standards are subject to periodical review. Suggestions for improvements will be recorded and in due course brought to the notice of the committees charged with the revision of the standards to which they refer.

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Users wishing to be kept informed of any alteration to this standard should notify Sales Department of the Institution, giving the number and title of the standard.

ISE/35

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The Iron and Steel Industry Standards Committee under which this British Standard was prepared consists of representatives from the following Government departments and scientific and industrial organizations :—

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- Alloy Steels Association
- Association of Consulting Engineers
- *British Cast Iron Research Association
- British Constructional Steelwork Association
- *British Electrical and Allied Manufacturers' Association
- British Engineers' Association
- *British Iron and Steel Federation
- British Ironfounders' Association
- *British Railways
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- National Physical Laboratory
- Shipbuilding Employers' Federation
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The Government departments and scientific and industrial organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard :—

- British Chemical Plant Manufacturers' Association
- British Corporation Register of Shipping and Aircraft
- British Cycle and Motor Cycle Manufacturers' and Traders' Union Ltd.
- British Malleable Tube Fittings Association
- Council of Iron Foundry Associations
- Institution of Engineering Inspection.
- Institution of Production Engineers
- Ministry of Transport
- N.E. Coast Institute of Engineers and Shipbuilders
- Society of Motor Manufacturers and Traders Ltd.
- Other user interests

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BRITISH STANDARD SPECIFICATION FOR

GREY IRON CASTINGS

FOREWORD

The preparation of this British Standard, authorized by the Iron and Steel Industry Standards Committee, was undertaken in view of the demand for the higher grades of cast iron now being produced. It constitutes a revision and combination of B.S. 321 : 1938, 'General grey iron castings' and B.S. 786 : 1938, 'High duty iron castings,' together with amendment CF (ISE) 7943 : 1941, and these documents are accordingly rendered obsolete.

The principal alterations to the earlier standards comprise small adjustments in the test requirements both for the different grades and for the various bar sizes in each grade, and the inclusion of an additional higher grade. The grades are numbered in accordance with the tensile strength requirements on the 1.2 in. diameter bar. A summary of the testing requirements for each grade is given in Appendix A and a guide to the grades approximately replacing those in the obsolete standards is given in Appendix D.

The production of castings in the higher grades of cast iron often involves special technique. It is recommended, therefore, that for large and/or intricate castings, or where the castings have to withstand exceptional conditions, the grade of iron selected and any heat treatment involved should be agreed between the purchaser and the manufacturer. Cast irons of Grade 26 present special difficulties for castings $\frac{3}{8}$ in. thick and under, and also, when made by certain processes, require special test bar procedure for all thicknesses, so that consultation between purchaser and manufacturer is essential.

It is emphasized further that the higher the grade of cast iron, the more expensive it becomes to produce; users should, therefore, in their own interests specify the lowest grade which will satisfy their own particular requirements.

Attention is drawn to the fact that varying test requirements are specified for different sized bars in each grade. Modification in the composition of iron used is generally necessary for the successful production of different castings having a wide variation of section thickness. The variations in bar strengths shown in this standard are intended to cover this point and are not intended to represent the falling off of strength with increase of section in any one casting.