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METRIC AND INCH UNITS

SPECIFICATION FOR
COLD WORKED HIGH TENSILE
ALLOY STEEL BARS
FOR PRESTRESSED CONCRETE

BRITISH STANDARDS INSTITUTION

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Price 8/- net

BRITISH STANDARDS INSTITUTION

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This British Standard, having been approved by the Iron and Steel Industry Standards Committee, was published under the authority of the Executive Board on 29 August, 1969.

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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, 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.

A complete list of British Standards, numbering over 5000, fully indexed and with a note of the contents of each, will be found in the British Standards Yearbook, price 20s. The BS Yearbook may be consulted in many public libraries and similar institutions.

This standard makes reference to the following British Standards:

BS 18. Methods for tensile testing of metals.

BS 3763. International System (SI) units.

British Standards are revised, when necessary, by the issue either of amendment slips or of revised editions. It is important that users of British Standards should ascertain that they are in possession of the latest amendments or editions.

The following BSI references relate to the work on this standard:
Committee reference ISE/9/-/6 Draft for comment 67/3439

CO-OPERATING ORGANIZATIONS

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

Board of Trade

British Cast Iron Research Association

British Constructional Steelwork Association

British Electrical and Allied Manufacturers' Association

Association

*British Steel Industry

British Ironfounders' Association

British Mechanical Engineering Federation

British Railways Board

Council of Ironfoundry Associations

Council of Iron Producers

*Crown Agents for Oversea Governments and Administrations

Department of Employment and Productivity

(H.M. Factory Inspectorate)

Engineering Equipment Users' Association

*Federation of Civil Engineering Contractors

Institute of British Foundrymen

*Institute of Iron and Steel Wire Manufacturers

Institute of Marine Engineers

*Institution of Civil Engineers

Institution of Mechanical Engineers

(Automobile Division)

Institution of Production Engineers

Institution of Structural Engineers

Joint Iron Council

Lloyd's Register of Shipping

Ministry of Defence, Army Department

Ministry of Defence, Navy Department

National Association of Drop Forgers and Stampers

National Physical Laboratory

(Ministry of Technology)

Oil Companies Materials Association

Royal Institute of British Architects

Shipbuilders & Repairers National Federation
 Society of British Aerospace Companies Ltd.
 Society of Motor Manufacturers and Traders Ltd.
 Stainless Steel Development Association
 Steel Castings Research and Trade Association

The Government department 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 Precast Concrete Federation
 Cement and Concrete Association
 Concrete Reinforcement Steel Association
 Concrete Society Ltd.
 Federation of Associations of Specialists and Sub-Contractors
 Greater London Council
 Institution of Municipal Engineers
 Ministry of Public Building and Works
 Ministry of Public Building and Works, Building Research Station
 Ministry of Transport
 National Federation of Building Trades Employers
 Reinforcement Manufacturers Association

BRITISH STANDARD SPECIFICATION FOR COLD WORKED HIGH TENSILE ALLOY STEEL BARS FOR PRESTRESSED CONCRETE

FOREWORD

This British Standard is authorized by the Iron and Steel Industry Standards Committee, and specifies the requirements for cold worked high tensile alloy steel bars used in prestressed concrete. In conformity with practice for cold worked steel products, details are given of the steelmaking process and quality of rolling, but no data are included in terms of the chemical composition of these bars. This is due to the fact that there are a variety of low alloy steels, the chemical compositions of which are such that the specified mechanical properties of the finished product are attainable.

In this standard, sizes of bars and specified characteristic loads are given in terms of both metric units and imperial units.

A British Standard specification for establishing the performance of prestressed anchorages for post-tensioned construction (metric units) is in course of preparation.

SPECIFICATION

1. SCOPE

This British Standard specifies the requirements for two series of preferred sizes of plain round alloy steel bar tendons prepared from hot rolled steel bars by cold working and intended for use in prestressed concrete. One series refers to metric units and the other to inch units.

2. DEFINITIONS

For the purposes of this British Standard, the following definitions apply:

- (1) *Cast*. Usually, the product of a single furnace charge. Sometimes, the furnace contents are tapped into two or more ladles when the product of each ladle may be called a separate cast.
- (2) *Bar*. A plain round bar of substantially circular cross section.
- (3) *Bar tendon*. A bar used in prestressed concrete.
- (4) *Nominal size*. The diameter of a nominally round bar.
- (5) *Length*. A piece of straight bar, without joint, cut to a specified length.
- (6) *Batch*. A number of lengths of one size from one cast.