

Specification for

Heavy duty pulley blocks for use with wire rope

Co-operating organizations

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

Associated Offices' Technical Committee*	Institute of Marine Engineers
Association of Consulting Engineers	Institution of Civil Engineers
Association of Mining Electrical and Mechanical Engineers	Institution of Gas Engineers
Board of Trade	Institution of Heating and Ventilating Engineers
British Chemical Plant Manufacturers' Association	Institution of Mechanical Engineers
British Compressed Air Society	Institution of Mechanical Engineers (Automobile Division)
British Electrical and Allied Manufacturers' Association	Institution of Production Engineers
British Gear Manufacturers' Association	Locomotive and Allied Manufacturers' Association of Great Britain
British Internal Combustion Engine Manufacturers' Association	London Transport Board
British Mechanical Engineering Confederation	Machine Tool Trades Association
British Pump Manufacturers' Association	Ministry of Defence
British Steel Industry	Ministry of Defence, Army Department*
Crown Agents for Oversea Governments and Administrations	Ministry of Power
Department of Employment and Productivity (H.M. Factory Inspectorate)*	Ministry of Public Building and Works
Electricity Council, the Central Electricity Generating Board and the Area Boards in England and Wales	Ministry of Technology
Engineering Equipment Users' Association*	Ministry of Technology — National Engineering Laboratory
Gas Council	Ministry of Transport
	National Coal Board
	National Physical Laboratory (Ministry of Technology)
	Royal Institute of British Architects

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 Constructional Steelwork Association	Lloyd's Register of Shipping
Chain Testers' Association of Great Britain	Machine-Made Chain Manufacturers' Association
Council of British Manufacturers of Petroleum Equipment	Ministry of Defence, Navy Department
Dock & Harbour Authorities Association	National Association of Iron and Steel Stockholders
Federation of Civil Engineering Contractors	National Federation of Building Trades Employers
Federation of Wire Rope Manufacturers of Great Britain	National Federation of Demolition Contractors
Honourable Company of Master Mariners	North East Coast Institution of Engineers and Shipbuilders
Institution of Plant Engineers	
Lifting Equipment Manufacturers' Association	

Amendments issued since publication

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Foreword

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.

This standard makes reference to the following British Standards:

BS 302, *Wire ropes for cranes, excavators and general engineering purposes.*

BS 592, *Carbon steel castings for general purposes (included in BS 3100. Steel castings for general engineering purposes.).*

BS 825, *Mild steel shackles.*

BS 919, *Screw gauge limits and tolerances.*

BS 970, *Wrought steels. En series.*

BS 1452, *Grey iron castings.*

BS 1486, *Lubricating nipples. Part 1. Lubricating nipples and adaptors for use on machinery and vehicles..*

BS 1610, *Methods for the load verification of testing machines.*

BS 1936, *Undercuts and runouts for screw threads.*

BS 2789, *Iron castings with spheroidal or nodular graphite.*

BS 2903, *Higher tensile steel hooks for chains, slings, blocks and general engineering purposes.*

BS 3017, *Mild steel forged ramshorn hooks.*

BS 3032, *Higher tensile steel shackles.*

BS 3317, *Mild steel forged triangular lifting eyes for use on wire rope pulley blocks with a lifting capacity of 60 tons or more.*

BS 3551, *Alloy steel shackles.*

This British Standard is one of a series for rigs and the elements (blocks, rope, winches, etc.) of which they are composed.

The wire rope pulley blocks specified in this standard are intended for heavy duty, and have sheaves with groove diameters of not less than 15 times the rope diameter. This makes adequate provision for a good expectation of rope life.

Single sheave blocks to the present standard are for use only as lead blocks.

In the design of the blocks to this standard, the working stresses and design requirements may be assumed to cover any additional loading arising from frictional resistance and acceleration of the load. It is pointed out, however, that when considering the *size* of the wire rope for which the sheaves are designed, the effect of frictional resistance on the hauling tension at the winch barrel should be taken into account¹⁾.

If reduced weight and bulk of the pulley block is of greater importance than long rope life, as may well be the case with pulley blocks having safe working loads of less than 25 tonnes, reference should be made to BS 4018, "Pulley blocks for use with wire rope for a maximum lift of 25 tonf in combination".

¹⁾ Information on frictional resistance in pulley blocks, and the resulting rope tensions when hoisting and lowering, is given in BS Handbook No. 4, "Lifting tackle", Part 1, "Ropes and fittings".

For ships' cargo blocks, reference should be made to BS 408²⁾.

NOTE Information concerning SI units is given in BS 350, "Conversion factors and tables" and in PD 5686, "The use of SI units".

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 12, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

²⁾ BS 408, "Ships' cargo blocks'.

