

Specification for

Pulley blocks for use with wire rope —

For a maximum lift of 25 tonf in
combination

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

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 standard:

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

This British Standard, having been approved by the Mechanical Engineering Industry Standards Committee and endorsed by the Chairman of the Engineering Divisional Council, was published under the authority of the General Council on 27 May 1966

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Foreword

This standard makes reference to the following British Standards:

BS 302, BS 621, *Steel wire ropes for cranes, excavators and general engineering purposes.*

BS 592, (Included in BS 3100) *Steel castings for general engineering purposes.*

BS 919, *Screw gauge limits and tolerances.*

BS 970, *Wrought steels in the form of bars, billets and forgings up to 6 in ruling section, for automobile and general engineering purposes. 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 2902, *Higher tensile steel chain slings and rings, links alternative to rings, egg links and intermediate links.*

BS 3032, *Higher tensile steel shackles.*

BS 3458, *Alloy steel chain slings.*

BS 3551, *Alloy steel shackles.*

The present standard is one of a series of British Standards for rigs and the elements (blocks, rope, winches etc.) of which they are composed.

The design (Clause 3) requires specific overload performance, and provision is made for an optional test to prove the design (Clause 16). Such an approach does not require an overall design factor, and in this specification (unlike others) a factor of safety is not given. In applying this new concept it is important that the evidence of sample tests and the material control should be given.

A further innovation is in the marking of the safe working load, which is now based on the number of parts of rope in the fall. A single block can have two or even three safe working loads according to how it is rigged. This cannot be shown by marking which takes no account of rigging.

The standard should not be applied to ships' cargo blocks, which are covered by BS 408, "Ships" cargo blocks'.

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 and ii, 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.

1 Scope

This British Standard applies to pulley blocks designed for a maximum lift of 25 tonf (25 000 kgf) in combination, for use with wire rope with rope speed not exceeding 100 ft/min (30 m/min), and with sheave diameter (at the bottom of the groove) not larger than 12 in (300 mm).

2 Definitions¹⁾

For the purposes of this standard the following definitions apply:

pulley block

a block with sheave(s) for use with steel wire rope and forming a wire rope purchase

single, double, treble block

a block with one, two, three sheaves

snatch block

a single block with a gate through which a rope can be passed to facilitate reeving

head fitting

the means by which the block is attached to its anchorage or to the load being lifted (The head fitting, becket and other parts of a wire rope pulley block are illustrated in Figure 1.)

becket

the fitting on the block to which the rope used in the rig may be anchored

safe working load (S.W.L.)

the maximum load which can be safely applied to the block

rope fall

the rope connecting the blocks of a rig

rope parts

the parts of the fall between the blocks

hauling part

that part of the rope connecting an anchored block to the external source from which the tension or power is supplied to control the position of the moving block engaging the load. The hauling part does not constitute part of the fall²⁾

proof load

the load to which every block is tested

1/1 rig, 2/1 rig, etc. Rigs with, respectively, top and bottom single blocks, top double and bottom single block, etc.

¹⁾ At the present time these definitions have not been approved in certain countries for use in ships.

²⁾ In certain circumstances the source of tension or power is connected directly to the moving block instead of to the anchored block. The part of rope making this connection constitutes part of the fall between the blocks.

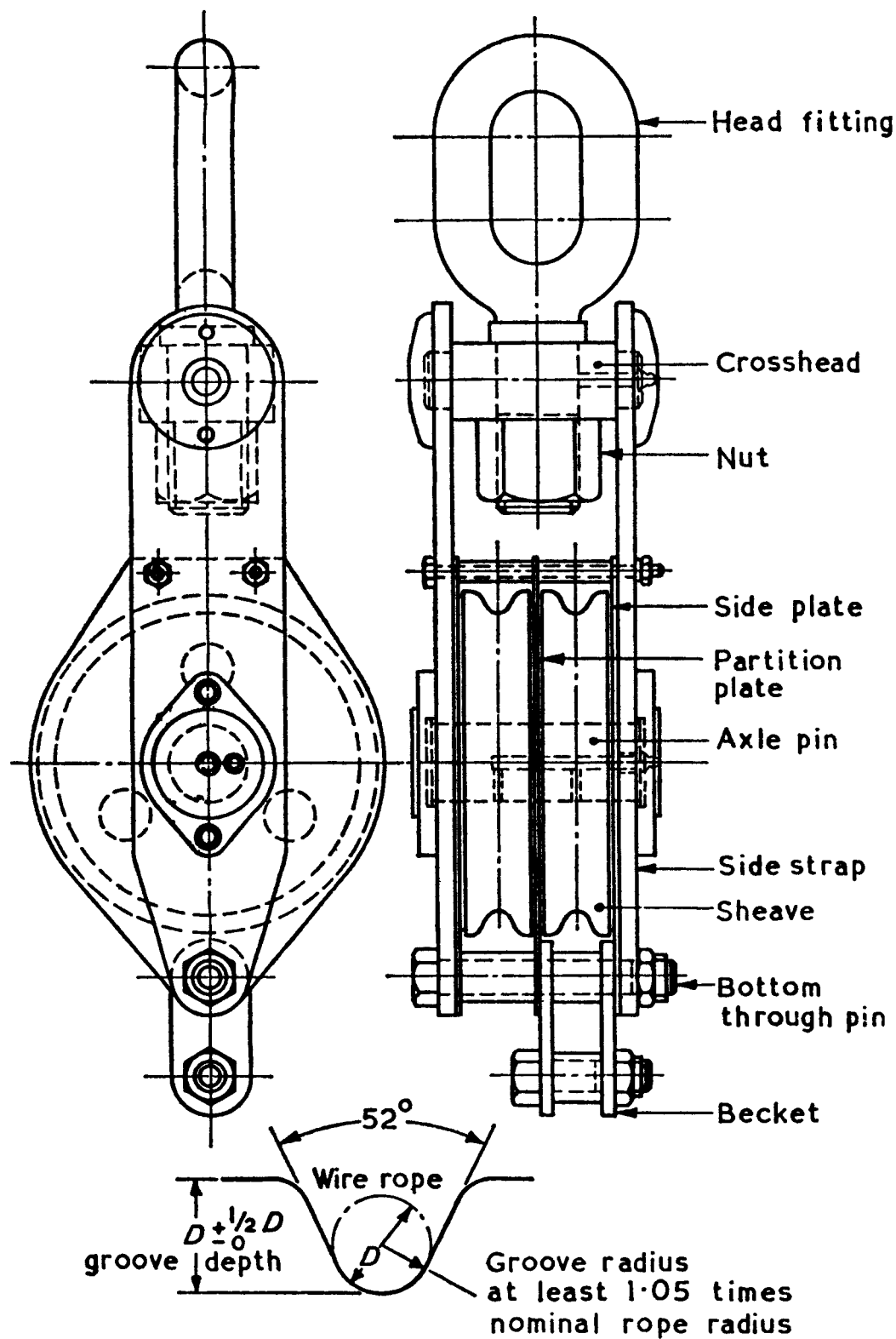


Figure 1 — Wire rope pulley block components