

Specification for

Railway track spanners

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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:—

Admiralty*	High Commission of India
Air Ministry	Institute of Marine Engineers
Associated Offices' Technical Committee	Institute of Petroleum
Association of Consulting Engineers (Incorporated)	Institution of Civil Engineers
British Chemical Plant Manufacturers' Association	Institution of Gas Engineers
British Compressed Air Society	Institution of Heating and Ventilating Engineers
British Electrical and Allied Manufacturers' Association*	Institution of Mechanical Engineers*
British Electricity Authority and Area Boards	Institution of Mechanical Engineers (Automobile Division)
British Engineers' Association	Institution of Production Engineers*
British Internal Combustion Engine Manufacturers' Association	Locomotive Manufacturers' Association*
British Iron and Steel Federation	Machine Tool Trades' Association*
British Railways, The British Transport Commission*	Ministry of Fuel and Power
Crown Agents for Oversea Governments and Administrations	Ministry of Labour and National Service (Factory Department)
D.S.I.R. — Mechanical Engineering Research Laboratory	Ministry of Supply*
Engineering Equipment Users' Association	Ministry of Transport and Civil Aviation
Gas Council*	Ministry of Works
	National Coal Board
	National Physical Laboratory*
	Radio Industry Council
	War Office

The Government departments and other 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:—

Federation of British Hand Tool Manufacturers	Society of British Aircraft Constructors
General Post Office	Society of Motor Manufacturers and Traders
Institution of Structural Engineers	Telephone Manufacturers Technical Development Committee
Leicester Technical College	Spanner manufacturers
National Association of Drop Forgers and Stampers	

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 3 March 1955

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Foreword

This standard makes reference to the following British Standards:—

BS 64, *Steel fishbolts and nuts for railway rails*.

BS 916, *Black bolts and nuts. Hexagon and square, B.S.W. and B.S.F.*

BS 970, *Wrought steels*.

This British Standard has been prepared under the authority of the Mechanical Engineering Industry Standards Committee.

These spanners are designed primarily for use on permanent way work and were formerly known as platelayers' spanners.

The various forms have been developed by the civil engineering departments of British Railways, each for a specific function, and the Institution is indebted to British Railways for their ready co-operation in the preparation of this specification.

Each type is designed for one size of bolt or nut only, so that the question of size range does not arise and the types are therefore differentiated by name. For the same reason it is unnecessary for these spanners to be marked with the nominal size or similar distinguishing symbol.

Both the design of these spanners and the material from which they are made are directly related to the specialized functions of the tool. Thus the torque tests which are specified for other types of open-ended spanners are unnecessary and are omitted, being replaced by what is known as a shock test, which is intended to check the quality of the heat treatment and which to some extent simulates the types of blow to which these tools are subject during use.

It is emphasized that in developing the types of spanner shown in the specification, the special needs of the track used in this country by the railways, coal mines, military authorities and others have to some extent dictated the spanner forms, for which reason it may be found that such spanners do not always fulfil the requirements of railways or tracks overseas.

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.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 10, 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

The provisions of this British Standard relate to the material and dimensions of the types of railway track spanner known by the following names:—

- Spanners for fishbolt nuts.
- Spanners for running fishbolt nuts.
- Spanners for stretcher bar bolts.
- Spanners for chair bolts.
- Spanners for crossing bolts.
- Box spanners for tee-head bolts.
- Box spanners for chair bolts.
- Box spanners for chair screws (self-cleaning type).

2 Application of the spanners

The spanners given in this specification shall be suitable for the nut or bolt sizes shown below:

Spanners for fishbolt nuts:	Square nuts, $1\frac{5}{8}$ in. across flats as given in BS 64 ^a .
Spanners for running fishbolt nuts:	Square nuts, $1\frac{5}{8}$ in. across flats as given in BS 64 ^a .
Spanners for stretcher bar nuts:	$\frac{3}{4}$ in. nominal size bolts as given in BS 916 ^b .
Spanners for chair bolts:	1.200 in. across flats. Square nuts $1\frac{5}{16}$ in. across flats. This spanner is also suitable for fangbolts and concrete sleeper bolts.
Spanners for crossing bolts:	$1\frac{1}{4}$ in. nominal diameter Whitworth bolts, square nuts, 2.050 across flats.
Box spanners for tee head bolts:	Nuts $1\frac{5}{16}$ in. square.
Box spanners for chair bolts:	Nuts $1\frac{5}{16}$ in. square.
Box spanners for chair screws (self-cleaning):	Square taper heads $1\frac{1}{8}$ in. max. across flats.

^a BS 64, "Steel fishbolts and nuts for railway rails".

^b BS 916, "Black bolts and nuts. Hexagon and square, B.S.W. and B.S.F.".

3 Material

Open-ended railway track spanners and box spanners shall be manufactured from steel complying with Specification En 4 of BS 970¹⁾.

Steel having equivalent mechanical properties may be used as an alternative to that quoted above.

4 Heat treatment and hardness

The inside faces of the jaws of open-ended and box type railway track spanners shall be hardened by the cyanide process to produce a surface hardness approximately within the range of 52 to 60 on the Rockwell C scale.

5 Manufacture

a) *Prohibition of welding.* Open-ended railway track spanners shall be manufactured in such a manner that there is no welding between the shank and the head.

b) *Jaw openings.* The jaw openings of the spanners shall be machined to the specified dimensions.

6 Test

The quality of manufacture shall be such that every open jaw spanner is capable of passing the following test:—

The spanner shall be held at the end of the shank and the head subjected to three sharp manual blows on an anvil, the tool travelling through an angle of approximately 45°. After the third blow the spanner shall show no sign of any defect or distortion.

7 Finish

All railway track spanners shall have a smooth black oiled finish.

8 Dimensions

The dimensions of the various types of spanner shall be those shown in Figure 1 to Figure 8 inclusive.

¹⁾ BS 970, "Wrought steels".