भारतीय मानक
Indian Standard

IS 4485 : 2024

रेलवे के लिए ट्रैक स्पैनर — विशिष्टि

(पहला पुनरीक्षण)

Track Spanners for Railways — Specification

(First Revision)

ICS 25.140.30

भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
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November 2024 **Price Group 4**

Hand Tools Sectional Committee, PGD 34

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards after the draft finalized by the Hand Tools Sectional Committee had been approved by the Production and General Engineering Division Council.

This standard was first published in 1968. This revision has been brought out to align it with the latest technological developments and international practices.

This standard covers requirements for three sizes of track spanners used for track bolts.

In this revision, the following major changes have been made:

a) References have been updated, and

b) Material designations have been updated as per latest Indian Standard.

The composition of the Committee, responsible for the formulation of this standard is given in Annex A.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 2022 ‘Rules for rounding off numerical values (*second revision*)’. ’The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

TRACK SPANNERS FOR RAILWAYS — SPECIFICATION

(First Revision)

1 SCOPE

This standard specifies the requirements for track spanners used by the railways.

2 REFERENCES

The standards given below contain provisions which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of these standards:

IS No.	*Title*
IS 1501 (Part 1) : 2020	Metallic materials — Vickers hardness test: Part 1 Test method (*fifth revision*)
IS 1570 (Part 2/ Sec 1) : 1979	Schedules for wrought steels: Part 2 Carbon steels (unalloyed steels), Section 1 Wrought products (other than wires) with specified chemical composition and related properties (*first revision*)
IS 2500 (Part 1) : 2000	Sampling procedures for inspection by attributes: Part 1 Sampling schemes indexed by acceptance quality limit (AQL) for lot — By — Lot inspection (*third revision*)

3 MATERIAL

For the manufacture of spanners, only those alloyed or unalloyed killed steels shall be used which after suitable heat treatment fulfill the requirements laid down in **4** and **7**. [Some of the suitable steels are 35C4 and 40C8 of IS 1570 (Part 2/Sec 1) with sulphur and phosphorus content of maximum 0.05 percent each].

4 HARDNESS

The spanners shall have a hardness of 400 HV to 480 HV up to a distance of 15 mm from working surfaces when determined in accordance with IS 1501 (Part 1).

5 DIMENSIONS

The dimensions of spanners shall be as given in Table 1.

6 WORKMANSHIP AND FINISH

The spanners shall be well-forged to shape and finished smooth all over. All sharp corners shall be removed. The spanners shall be free from manufacturing defects, such as burrs, seams, etc.

7 TORQUE TEST

For the purpose of torque test, a rigidly held bolt or a block of the same nominal width across flats as the spanner with a tolerance h9, shall be used. The open jaw of the spanner shall hold the bolt hexagon properly and appropriate torque as given in Table 2 shall be applied at opposite end at maximum possible distance from the hexagon. The application of torque shall be gradual and without jerks. At the completion of this test, the spanner shall not show any sign of damage or permanent deformation.

8 DESIGNATION

The spanners shall be designated as:

a) Commonly used name;

b) Nominal width across flats; and

c) Number of this standard.

Example:

A track spanner having a nominal width across flats of 41 millimetres shall be designated as:

Spanner 41, IS 4485

9 MARKING

9.1 Each spanner shall be marked with the nominal width across flats, and the manufacturer's name or trademark and month and year of manufacture/batch no. The spanners may also be marked with any other marking as desired by the purchaser in enquiry and order.

9.2 BIS Certification Marking

The product(s) conforming to the requirements of

this standard may be certified as per the conformity assessment schemes under the provisions of the *Bureau of Indian Standards Act*, 2016 and the Rules and Regulations framed thereunder, and the product(s) may be marked with the Standard Mark.

10 PRESERVATION AND PACKING

10.1 Spanners shall be covered with grease or mineral jelly for rust-proofing.

10.2 Each spanner shall be wrapped in non-absorbent paper and packed in accordance with best prevalent trade practice suitable for transit.

11 SAMPLING

The representative samples shall be drawn as specified in IS 2500 (Part 1).

Table 1 Dimensions of Track Spanners for Railways

(*Clause* 5 *and Fig.*1)

All dimensions in millimetres.

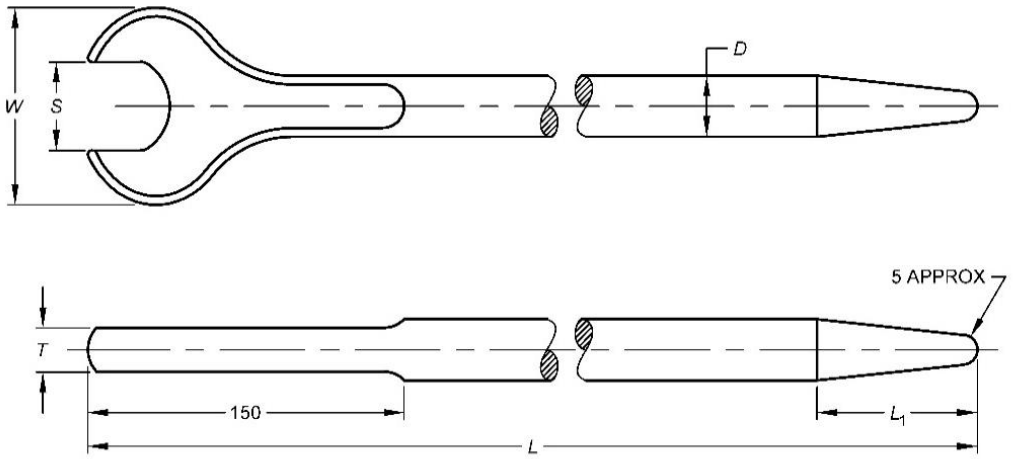

FIG. 1 DIMENSIONS OF TRACK SPANNERS FOR RAILWAYS

Sl No.	Nominal Width Across Flats	*S*		*D*	*L*	L_1	*T*	*W*
		Max	*Min*	Nem[1)]	± 5	Nem[1)]	Nem[1)]	Nem[1)]
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
i)	32	32.48	32.08	18	530	65	16	66
ii)	36	36.60	26.10	22	610	65	19	83
iii)	41	41.60	41.60	25	685	75	20	92

[1)] Nem = Nominal

Table 2 Testing Torque for Track Spanners for Railways

(*Clause* 7)

Sl No.	**Nominal Width Across Flats** S mm	**Testing Torque** kgf-m
(1)	(2)	(3)
i)	32	90
ii)	36	115
iii)	41	155

ANNEX A

(*Foreword*)

COMMITTEE COMPOSITION

Hand Tools Sectional Committee, PGD 34

Organization	*Representatives(s)*
Institute for Auto Parts and Hand tools Technology, Ludhiana	SHRI SANJEEV KATOCH **(*Chairperson*)**
Ajay Industries Private Limited, Jalandhar	SHRI AJAY GOSWAMI SHRI RAJAT GOSWAMI (*Alternate*)
Bharat Heavy Electrical Limited, New Delhi	SHRI M. RAVI SHRI J. S. ROY (*Alternate*)
Central Institute of Hand Tools, Jalandhar	SHRI AMIT KUMAR
Directorate General of Quality Assurance, Ministry of Defence, New Delhi	SHRI MANOJ PANDEY SHRI D. K. MOHAPATRA (*Alternate*)
Engineering Export Promotion Council, New Delhi	SHRI OPINDER SINGH SHRI ASHWANI KUMAR (*Alternate*)
Falcon Garden Tools Private Limited, Ludhiana	SHRI GURCHINTAN SINGH SHRI SURINDER PAL SINGH (*Alternate*)
Gardex Industries, Jalandhar	SHRI PARAMJIT SINGH SHRI ASHUTOSH DATTA (*Alternate*)
Gujarat Matikam Kalakari and Rural Technology Institute, Gandhinagar	SHRI K. R. DHALORIA SHRI SATENDRA PAL SINGH (*Alternate*)
Hand Tools Industries Association, Nagaur	SHRI JULPHIKAR ALI SHRI ASHFAQ ALI (*Alternate*)
Hand Tools Manufacturers Association (Jalandhar)	SHRI SUKHDEV RAJ SHRI ASHWANI KUMAR (*Alternate*)
Inder Industries, Jalandhar	SHRI VIJAY CHATRATH SHRI SUNIL CHATRATH (*Alternate*)
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Organization	*Representatives(s)*
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BIS Directorate General	SHRI RAJEEV RANJAN SINGH, SCIENTIST'F'/SENIOR DIRECTOR AND HEAD (PRODUCTION AND GENERAL ENGINEERING) [REPRESENTING DIRECTOR GENERAL (*Ex-officio*)]

Member Secretary
SHRI VIMAL KUMAR
SCIENTIST 'C'/DEPUTY DIRECTOR
(PRODUCTION AND GENERAL ENGINEERING), BIS

Bureau of Indian Standards

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This Indian Standard has been developed from Doc No.: PGD 34 (18691).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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