
खुले मुँह वाले स्लग रिंच (पाने) — विशिष्टि
(दूसरा पुनरीक्षण)

**Open Ended Slugging Wrenches
(Spanners) — Specification**
(Second Revision)

ICS 25.140.30

© BIS 2024



भारतीय मानक ब्यूरो
BUREAU OF INDIAN STANDARDS
मानक भवन, 9 बहादुर शाह ज़फर मार्ग, नई दिल्ली - 110002
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI - 110002

www.bis.gov.in www.standardsbis.in

FOREWORD

This Indian Standard (Second 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 and was subsequently revised in 1992. This second revision has been brought out to keep pace with the latest technological developments and international practices.

In this revision, the following changes have been made:

- a) Clause on references has been added;
- b) Material designations have been updated as per the latest Indian Standard; and
- c) [Table 1](#) has been modified to include additional sizes.

This standard covers requirements for spanners which are also commonly known as 'open ended slugging wrenches' are used for tightening and loosening of bolts/nuts by impact load which is applied by hammering on the striking end of the spanner arm.

In the preparation of this standard, considerable assistance has been derived from the following standards:

DIN 133 : 2009 Slugging wrenches, open end — Technical specifications

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

OPEN ENDED SLUGGING WRENCHES (SPANNERS) — SPECIFICATION

(*Second Revision*)

1 SCOPE

This standard specifies the requirements for forged open ended slugging wrenches also known as shortened single ended open jaw spanners.

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:

<i>IS No.</i>	<i>Title</i>
IS 2004 : 1991	Carbon steel forgings for general engineering purposes — Specification (<i>third revision</i>)
IS 2027 : 2023	Assembly tools for screws and nuts — Wrench and socket openings — Tolerances for general use (<i>fourth revision</i>)
IS 3748 : 2022/ ISO 4957 : 2018	Tool steels — Specification (<i>third revision</i>)
IS 6131 : 1980	Technical requirements for hand operated wrenches (spanners) and sockets (<i>first revision</i>)

3 DIMENSIONS

3.1 The dimensions of spanners shall be as given in [Table 1](#).

3.2 The tolerances on width across flats for the spanners shall be in accordance with IS 2027 as specified for forged and subsequently machined spanners.

4 MATERIAL

The material shall be suitable alloyed or unalloyed steels meeting the requirements laid down in [5](#). Any suitable grade of steel conforming to IS 3748, 35C4 or 40C8 conforming to IS 2004 or any of the steel grades mentioned in [Table 2](#).

5 HARDNESS

For nominal sizes up to and including 46 34 HRC to 40 HRC
(\approx 340 HV to 390 HV)

For nominal sizes 50 and above 30 HRC to 36 HRC
(\approx 300 HV to 350 HV)

6 MANUFACTURE, WORKMANSHIP AND FINISH

The spanner shall be well forged to shape and finished smooth all over. All sharp corners shall be removed. The spanners shall be free from burrs, cracks, seams or other manufacturing defects.

7 PRESERVATION AND PACKING

7.1 Spanners shall be given protective treatment against rust such as Mn-phosphating or black oxidizing or chrome plating, etc. If no protective treatment is given, these may be covered with grease or mineral jelly for rust proofing.

7.2 Each spanner or a number of spanners shall be wrapped in non-absorbent paper or poly bag and packed suitably as agreed to between the supplier and the purchaser.

8 SAMPLING

Sampling shall be as given in IS 6131.

9 DESIGNATION

The spanners shall be designated by its commonly used name, nominal size and number of this standard.

Example:

An open ended slugging spanner of nominal size 100 mm, shall be designated as:

Slugging spanner ring — 100 – IS 4508

10 MARKING

10.1 Each spanner shall be legibly and indelibly marked with nominal size and the manufacturer's name, initials or recognized trademark and month and year of manufacture/batch No.

10.2 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.

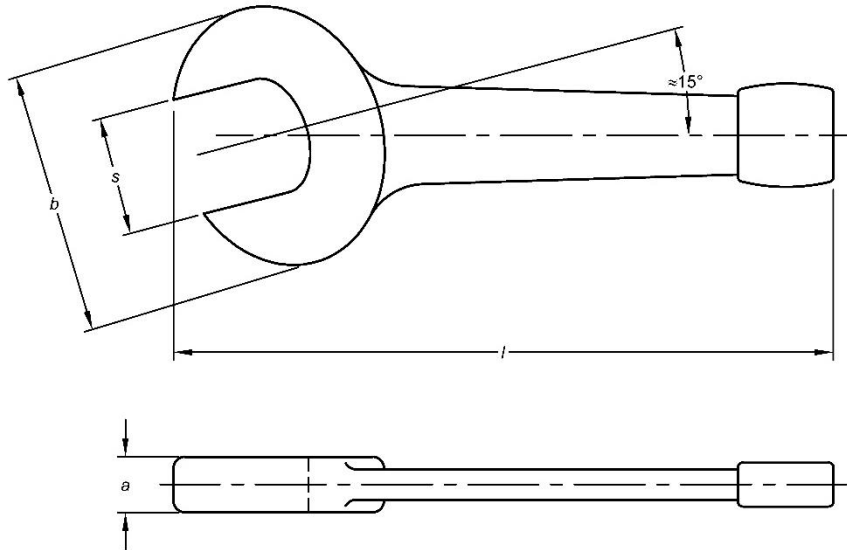
To access Indian Standards click on the link below:

https://www.services.bis.gov.in/php/BIS_2.0/bisconnect/knownyourstandards/Indian_standards/isdetails/

Table 1 Dimensions for Open Ended Slugging Wrenches (Spanners)

([Foreword](#) and [Clause 3](#))

All dimensions are in millimetres.



Sl No.	Nominal Size <i>s</i>	<i>a</i>		<i>b</i> <i>Max</i>	<i>l</i>	
		<i>Max</i>	<i>Min</i>		<i>Max</i>	<i>Min</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
i)	19	17	15	50	165	150
ii)	22	17	15	55	165	150
iii)	24	17	15	55	165	150
iv)	27	17	15	58	185	170
v)	30	18	16	66	200	185
vi)	32			68		185
vii)	34			73		195
viii)	36	20	18	78	220	200
xi)	38			85	230	210
x)	41			90	240	220
xi)	46	22	19.5	100	260	240
xii)	50			110	285	265
xiii)	55	25	22.5	120	315	295
xiv)	60			130	325	305
xv)	65	30	27	142	355	335
xvi)	70	32	28.5	156	380	360

Table 1 (Concluded)

Sl No.	Nominal Size <i>s</i>	<i>a</i>		<i>b</i> <i>Max</i>	<i>l</i>	
		<i>Max</i>	<i>Min</i>		<i>Max</i>	<i>Min</i>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
xvii)	75			164	400	365
xviii)	80	35	31.5	175	415	390
xix)	85					
xx)	90	40	36	197	460	435
xxi)	95					
xxii)	100	48	43	230	500	475
xxiii)	105	48		230	500	475
xxiv)	110	50	45	238	525	500
xxv)	115	56	50	250		
xxvi)	120	56	50	258	550	525
xxvii)	125			268	550	525
xxviii)	130			278	580	555
xxix)	135					
xxx)	140	60	50	298	640	615
xxxi)	145	62	55.5	308	650	625
xxxii)	150		55.5			
xxxiii)	155		55.5			
xxxiv)	160	62	52	308	650	625
xxxv)	165	70	63	345	725	700
xxxvi)	170					
xxxvii)	175					
xxxviii)	180					
xxxix)	185	75	67	385	775	750
xl)	190					
xli)	195					
xlvi)	200			405		
xliii)	210	80	72	425	850	825
xliv)	220			445		
xlvi)	230			475		

Table 2 Chemical Composition of Steel Grades*(Clause 4)*

Sl No.	Grade	C	Si	Mn	S <i>(Max)</i>	P <i>(Max)</i>	Cr	V
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
i)	31CrV3	0.28 to 0.35	0.25 to 0.40	0.40 to 0.60	0.030	0.030	0.40 to 0.70	0.07 to 0.12
ii)	40Cr	0.37 to 0.44	0.17 to 0.37	0.50 to 0.80	0.030	0.030	0.80 to 1.10	Nil

NOTE — Composition limit in weight percent maximum, unless shown as a range or a minimum.

ANNEX A

(Foreword)

COMMITTEE COMPOSITION

Hand Tools Sectional Committee, PGD 34

<i>Organization</i>	<i>Representatives(s)</i>
Institute for Auto Parts and Hand tools Technology, Ludhiana	SHRI SANJEEV KATOCH (<i>Chairperson</i>)
Ajay Industries Private Limited, Jalandhar	SHRI AJAY GOSWAMI SHRI RAJAT GOSWAMI (<i>Alternate</i>)
Bharat Heavy Electrical Limited, New Delhi	SHRI M. RAVI SHRI J. S. ROY (<i>Alternate</i>)
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 (<i>Alternate</i>)
Engineering Export Promotion Council, New Delhi	SHRI OPINDER SINGH SHRI ASHWANI KUMAR (<i>Alternate</i>)
Falcon Garden Tools Private Limited, Ludhiana	SHRI GURCHINTAN SINGH SHRI SURINDER PAL SINGH (<i>Alternate</i>)
Gardex Industries, Jalandhar	SHRI PARAMJIT SINGH SHRI ASHUTOSH DATTA (<i>Alternate</i>)
Gujarat Matikam Kalakari and Rural Technology Institute, Gandhinagar	SHRI K. R. DHALORIA SHRI SATENDRA PAL SINGH (<i>Alternate</i>)
Hand Tools Industries Association, Nagaur	SHRI JULPHIKAR ALI SHRI ASHFAQ ALI (<i>Alternate</i>)
Hand Tools Manufacturers Association, Jalandhar	SHRI SUKHDEV RAJ SHRI ASHWANI KUMAR (<i>Alternate</i>)
Inder Industries, Jalandhar	SHRI VIJAY CHATRATH SHRI SUNIL CHATRATH (<i>Alternate</i>)
Indian Oil Corporation Limited, New Delhi	MS NEETA AGARWAL SHRI ABHISHEK ANUPAM (<i>Alternate</i>)
Institute for Auto Parts and Hand tools Technology, Ludhiana	SHRI SHIVANI THAKUR SHRI PANKAJ KAUNDAL (<i>Alternate</i>)
Kudale Instruments Private Limited, Pune	SHRI PUTAMBEKAR C. M. SHRI SANGRAM KUDALE (<i>Alternate</i>)
Ludhiana Hand Tools Association, Ludhiana	SHRI ASHOK GUPTA SHRI S. C. RALHAN (<i>Alternate</i>)
Mekaster Tools Limited, Chennai	SHRI SALIL AGARWAL
Oaykay Forgings Private Limited, Jalandhar	SHRI SHARAD AGGARWAL
Office of Development Commissioner (MSME), New Delhi	SHRI K. L. RAO SHRI K. K. FUNDA (<i>Alternate I</i>) SHRI G. SHANMUGANATHAN (<i>Alternate II</i>)

IS 4508 : 2024

<i>Organization</i>	<i>Representatives(s)</i>
Osho Tools Private Limited, Jandiali	SHRI RAJESH PESHION SHRI ASHOK GUPTA (<i>Alternate</i>)
Passi Agro-tech Enterprises, Ludhiana	SHRI BIKRAMJIT SINGH SHRI SARBAGH SINGH (<i>Alternate</i>)
Pye Tools Private Limited, Ludhiana	SHRI GAURAV SEHGAL
Research Designs and Standards Organization (RDSO), Lucknow	EXECUTIVE DIRECTOR
Taparia Tools Limited, Mumbai	SHRI N. B. BORSE SHRI NIKHIL BHUTUJA (<i>Alternate</i>)
Tata Motors Limited, Pune	SHRI ANOOP TOBY SHRI HANAMANT GURAV (<i>Alternate</i>)
Tata Steel Limited, Kolkata	SHRI RAHUL MISHRA SHRI JAYANT BHARDWAJ (<i>Alternate</i>)
Victor Forgings, Jalandhar	SHRI ANIL KUMAR SHRI SUKHDEV RAJ (<i>Alternate</i>)
BIS Directorate General	SHRI RAJEEV RANJAN SINGH, 'F'/SENIOR DIRECTOR AND HEAD (PRODUCTION AND GENERAL ENGINEERING) [REPRESENTING DIRECTOR GENERAL (<i>Ex-officio</i>)]

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

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act, 2016* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

Copyright

BIS has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of BIS. This does not preclude the free use, in the course of implementing the standard, of necessary details, such as symbols and sizes, type or grade designations. Enquiries relating to copyright be addressed to the Head (Publication & Sales), BIS.

Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the website-www.bis.gov.in or www.standardsbis.in.

This Indian Standard has been developed from Doc No.: PGD 34 (20363).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002

Telephones: 2323 0131, 2323 3375, 2323 9402

Website: www.bis.gov.in

Regional Offices:

	Telephones
Central : 601/A, Konnectus Tower -1, 6 th Floor, DMRC Building, Bhavbhuti Marg, New Delhi 110002	{ 2323 7617
Eastern : 8 th Floor, Plot No 7/7 & 7/8, CP Block, Sector V, Salt Lake, Kolkata, West Bengal 700091	{ 2367 0012 2320 9474
Northern : Plot No. 4-A, Sector 27-B, Madhya Marg, Chandigarh 160019	{ 265 9930
Southern : C.I.T. Campus, IV Cross Road, Taramani, Chennai 600113	{ 2254 1442 2254 1216
Western : 5 th Floor/MTNL CETTM, Technology Street, Hiranandani Gardens, Powai Mumbai 400076	{ 25700030 25702715

Branches : AHMEDABAD, BENGALURU, BHOPAL, BHUBANESHWAR, CHANDIGARH, CHENNAI, COIMBATORE, DEHRADUN, DELHI, FARIDABAD, GHAZIABAD, GUWAHATI, HARYANA (CHANDIGARH), HUBLI, HYDERABAD, JAIPUR, JAMMU, JAMSHEDPUR, KOCHI, KOLKATA, LUCKNOW, MADURAI, MUMBAI, NAGPUR, NOIDA, PARWANOO, PATNA, PUNE, RAIPUR, RAJKOT, SURAT, VIJAYAWADA.