भारतीय मानक

Indian Standard

IS 14677 : 2023

वस्त्रादि — चरखा के लिए बोल्स्टर के साथ स्पिंडल — विशिष्टि

(पहला पुनरीक्षण)

Textiles — Spindles with Bolsters for *Charkha* — Specification

(First Revision)

ICS 59.120.30

भारतीय मानक ब्यूरो
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September 2023 **Price Group 4**

Textile Machinery and Accessories Sectional Committee, TXD 14

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Textile Machinery and Accessories Sectional Committee had been approved by the Textiles Division Council.

Charkha is a device for spinning thread or yarn from fibres. It is a small, portable, hand-cranked wheel, is ideal for spinning cotton and other fine, short-staple fibres, though it can be used to spin other fibres as well.

This standard was originally published in 1999. The standard has been revised to incorporate the following changes:

a) References to Indian Standards have been updated;
b) Sampling clause has been modified; and
c) Marking clause has been modified.

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

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

TEXTILES — SPINDLES WITH BOLSTERS FOR *CHARKHA* — SPECIFICATION

(First Revision)

1 SCOPE

This standard prescribes requirements for spindles and bolsters for use in *Charkha*.

2 REFERENCES

The standards listed in Annex A 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.

3 MATERIAL

3.1 Spindle

Spindle blade shall be made of ball bearing steel (*see* IS 4398). The wharve shall be made of free cutting steel (*see* IS 4431).

3.2 Bolster

The bolster shall be made of mild steel (*see* IS 2062).

3.3 Workmanship and Finish

There shall be no visible damage on the surface of spindle and bolster. The spindle and bolster shall be free from burrs, scars, cracks and traces of rust.

4 REQUIREMENTS

4.1 The dimensions for the spindle and bolster shall be as given in Fig. 1 and shall be subject to the following tolerances:

a) Diameter of wharve sleeve where the bobbin rests — $+ 0.025$ mm, $- 0.1$ mm

b) Spindle diameter at top — $+ 0$ mm, $- 0.05$ mm

c) Radius at bottom tip of the spindle — $+ 0.1$ mm, $- 0$ mm

d) Spindle diameter at bearing portion — $+ 0$ mm, $- 0.01$ mm

e) For all other dimensions — $+ 0.2$ mm, $- 0$ mm

4.2 The hardness of spindle blade when measured by Rockwell hardness tester according to the method prescribed in IS 1586 (Part 1) shall be as follows:

a) 5 mm from bottom tip — 58 HRC to 64 HRC

b) Bearing portion — 56 HRC to 62 HRC

5 SAMPLING

5.1 Lot

All the spindles and bolsters of same type and set of dimensions and manufactured from the same material under essentially similar conditions delivered to a buyer shall constitute a lot.

5.2 Unless otherwise agreed to between the buyer and the seller, the number of spindles and bolsters to be selected for inspection shall be according to col (2) and col (3) of Table 1.

Table 1 Sample Size and Criteria for Conformity

(*Clauses* 5.2 *and* 5.3)

Sl No.	Lot Size	Sample Size	Acceptance No.
(1)	(2)	(3)	(4)
i)	Up to 150	8	1
ii)	151 to 280	13	1
iii)	281 to 500	20	2
iv)	501 and above	32	3

5.3 Criteria for Conformity

The number of spindles with bolsters to be inspected for various characteristics and the criteria for conformity shall be as follows:

Sl No.	*Characteristics*	*Number of Spindles with Bolsters to be Inspected*	*Criteria for Conformity*
(1)	(2)	(3)	(4)
i)	Workmanship and finish, dimensions tolerances, and hardness	According to col (3) of Table 1	Non-conformity rollers not to exceed corresponding number given in col (4) of Table 1

6 MARKING

6.1 The box containing spindles with bolsters shall be marked with following:

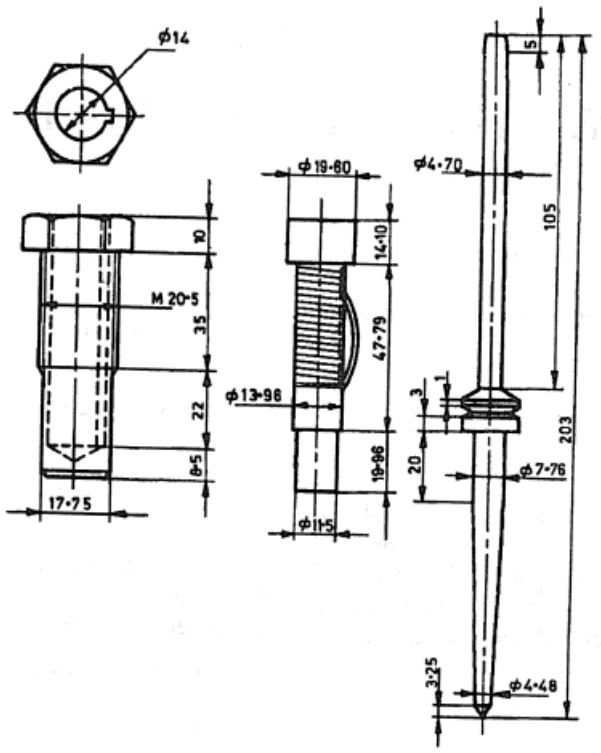
a) Name of the material;
b) Indication of the source of manufacture;
c) Batch or code number;
d) Number of spindles in the box;
e) Gross and net mass;
f) Lot/batch number;
g) Country of origin; and
h) Any other information required by the law in force and/or by the buyer.

6.2 BIS Certification Marking

The product 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 may be marked with the Standard Mark.

7 PACKING

The spindles and the bolsters shall be coated with rust-preventive agent and shall be packed as agreed between the buyer and the seller.



All dimensions in millimetres.

FIG. 1 SPINDLES WITH BOLSTER FOR USE ON *CHARKHA*

ANNEX A

(*Clause* 2)

LIST OF REFERRED STANDARDS

IS No.	*Title*	*IS No.*	*Title*
IS 1586 (Part 1) : 2018/ ISO 6508-1 : 2016	Metallic materials — Rockwell hardness test: Part 1 Test method (*fifth revision*)	IS 4398 : 1994	Carbon-chromium steel for the manufacture of balls, rollers and bearing races — Specification (*second revision*)
IS 2062 : 2011	Hot rolled medium and high tensile structural steel — Specification (*seventh revision*)	IS 4431 : 1978	Specification for carbon and carbon manganese free-cutting steels (*first revision*)

ANNEX B

(*Foreword*)

COMMITTEE COMPOSITION

Textile Machinery and Accessories Sectional Committee, TXD 14

Organization	*Representative(s)*
Central Manufacturing Technology Institute, Bengaluru	DR NAGAHANUMAIAN **(*Chairperson*)**
Amritlakshmi Machine Works, Mumbai	SHRI N. K. BRAHMACHARI SHRI N. K. RAUT (*Alternate*)
ATE Enterprises Private Limited, New Delhi	SHRI ABHIJIT KULKARNI SHRI ANIL KUMAR SHARMA (*Alternate*)
Bajaj Industries Private Limited, Kolkata	REPRESENTATIVE
Bhowmick Calculator, Kolkata	SHRI GOUTAM BHOWMICK SHRI VIVEKANANDA BHOWMICK (*Alternate*)
Central Manufacturing Technology Institute, Bengaluru	SHRI B. R. MOHANRAJ SHRI K. SARAVANAN (*Alternate*)
Confederation of Indian Textile Industry, New Delhi	SHRI AJAY KUMAR
Dashmesh Jacquard and Powerloom Private Limited, Panipat	SHRI RAJMEET DHAMMU (*Representative*)
HLL Lifecare Limited, Noida	SHRI AKHIL G. S. SHRI RATNAKAR GUPTA (*Alternate*)
ICAR-Central Institute for Research on Cotton Technology, Mumbai	DR N. SHANMUGAM DR T. SENTHILKUMAR (*Alternate*)
India ITME Society, Mumbai	SHRI PRASHANT MANGUKIA SHRIMATI SEEMA SRIVASTAVA (*Alternate*)
Indian Jute Industries Research Association, Kolkata	SHRIMATI SAUMITA CHOUDHURY SHRI PARTHA SANYAL (*Alternate*)
Indian Jute Mils Association, Kolkata	REPRESENTATIVE
Indian Textile Accessories and Machinery Manufacturers Association, Mumbai	SHRI N. D. MHATRE SHRI CHANDRESH SHAH (*Alternate*)
Inspiron Engineering Private Limited, Ahmedabad	SHRI SANJAY KOWARKAR SHRI ANKUR SONI (*Alternate*)
JCB Industries, Guwahati	SHRI DHRUBA SARMA SHRI ABHIJIT BHUYAN (*Alternate*)
Kusters Calico Machinery Limited, Karjan	SHRI DEVANG PARIKH SHRI SHUBHASIS SUR (*Alternate*)
Lakshmi Machine Works Limited, Coimbatore	MS KALPANA A. MS DIVYA V. (*Alternate*)
Laxmi Shuttleless Looms Private Limited, Ahmedabad	SHRI KETAN SANGHVI
Ludlow Jute Limited, Kolkata	REPRESENTATIVE

Organization	*Representative(s)*
Ministry of Heavy Industries and Public Enterprises, Department of Heavy Industry, New Delhi	SHRI SANJEEV GUPTA SHRI S. SUNDAR (*Alternate*)
National Safety Council, Navi Mumbai	SHRI LALIT R. GABHANE SHRI R. R. DEOGHARE (*Alternate*)
Office of the Textile Commissioner, Mumbai	SHRI C. R. KALESAN SHRI JAGRAM MEENA (*Alternate*)
Peass Industrial Engineers Private Limited, Navari	SHRI RAVI S. RAO SHRI JIGNESH B. PATEL (*Alternate*)
Technocraft Industries India Limited, Mumbai	SHRI RAVINDER KUMAR SHRI DURADUNDESHWAR HIREMATH (*Alternate*)
Textile Machinery Manufacturers Association, Mumbai	SHRI M. SHANKAR SHRI PRASHANT MANGUKIA (*Alternate*)
The Bombay Textile Research Association, Mumbai	SHRI VIJAY GAWDE SHRI R. A. SHAIKH (*Alternate*)
The Synthetic and Art Silk Mills Research Association, Mumbai	DR MANISHA MATHUR SHRI SANJAY SAINI (*Alternate*)
The Textile Association (India), Mumbai	SHRI J. B. SOMA SHRI ASHOK JUNEJA (*Alternate*)
Truetzschler India Private Limited, Ahmedabad	SHRI PRAVIN KANDGE SHRI SHILADITYA JOSHI (*Alternate*)
United Nations International Children's Emergency Fund, New Delhi	DR PRATIBHA SINGH SHRI YUSUF KABIR (*Alternate*)
Veermata Jijabai Technological Institute, Mumbai	DR SURANJANA GANGOPADHYAY SHRI S. P. BORKAR (*Alternate*)
BIS Directorate General	SHRI J. K. GUPTA, SCIENTIST 'E'/DIRECTOR AND HEAD (TEXTILES) [REPRESENTING DIRECTOR GENERAL (*Ex-officio*)]

Member Secretary
SHRI SWAPNIL
SCIENTIST 'B'/ASSISTANT DIRECTOR
(TEXTILES), BIS

Bureau of Indian Standards

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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