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भारतीय मानक प्रारूप
मोपेड स्पोक्स और स्पोक्स के लिए निप्पल के लिए विशिष्टता

Draft Indian Standard

MOPED SPOKES AND NIPPLES FOR SPOKES - SPECIFICATION

ICS 43.140

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Automotive Body, Chassis and Accessories Sectional Committee, TED 6

FOREWORD

This Indian Standard will be adopted by the Bureau of Indian Standards, after the draft finalized by the Automotive Body, Chassis and Accessories Sectional Committee had been approved by Transport Engineering Division Council.

This standard was first published in 1976 to Covers the requirements for moped spokes and nipples intended for use with them. In this Revision references were updated in view the technological advancements that have taken place since its last Publication.

The unit of tensile strength used in this standard is MPa. The relationship between MPa and kgf/mm² is as follows:

$$\begin{aligned} 1 \text{ MPa} &= 1 \text{ MN/m}^2 \\ &= 0.1 \text{ kgf/mm}^2 \text{ (within 2 percent error)} \end{aligned}$$

The composition of the committee responsible for formulation of this standard is given as **Annex A (will be added later)**

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.

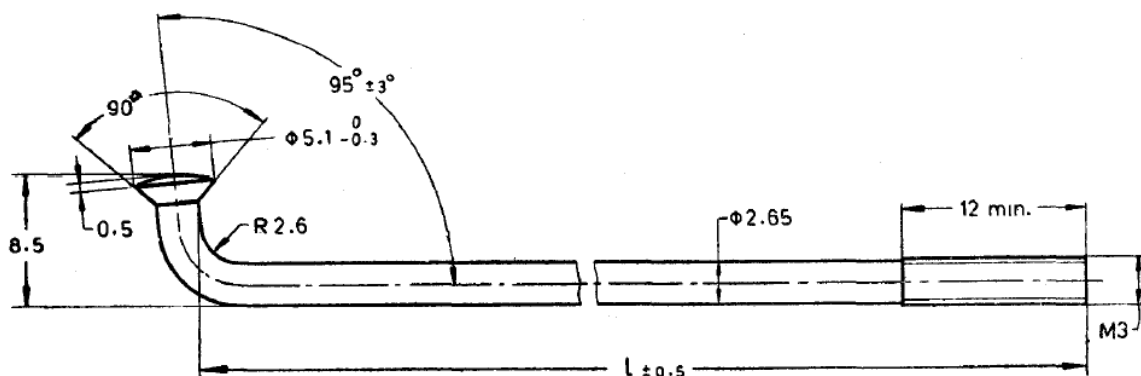
*Draft Indian Standard***SPECIFICATION FOR MOPED SPOKES AND NIPPLES FOR SPOKES****1 SCOPE**

Covers the requirements for moped spokes and nipples intended for use with them.

2 REFERENCES

The following standards 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 editions of the standards indicated below:

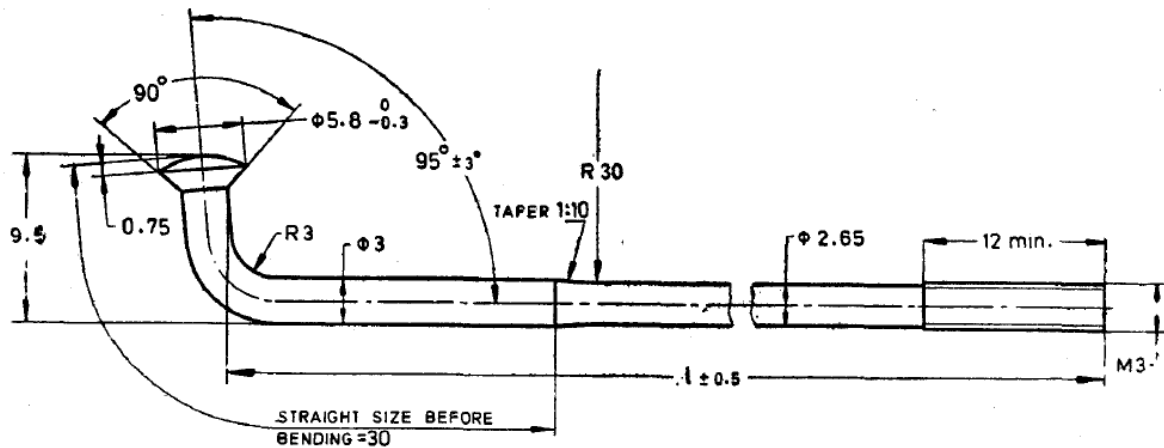
<i>IS No.</i>	<i>Title</i>
IS 4431: 1978	Specification for carbon and carbon manganese free cutting steels (First Revision)
IS 2500 (Part 1): 2000	Sampling procedures for inspection by attributes: Part 1 sampling schemes indexed by acceptance quality limit (AQL) for lot - By - Lot inspection (Third Revision)

3 DIMENSIONS**3.1 Spokes****3.1.1 Plain Spokes**

All dimensions in millimetres

FIG. 1 PLAIN SPOKES

3.1.2 Offset Spokes

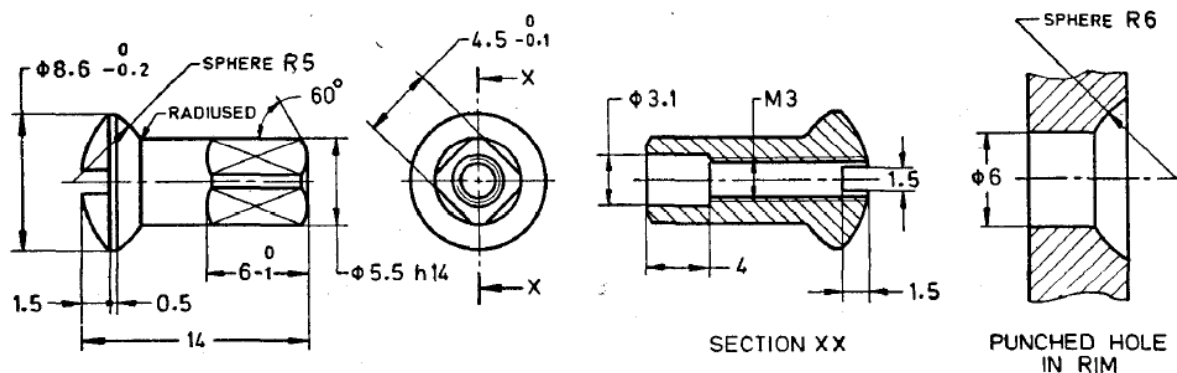


All dimensions in millimetres

FIG. 2 OFFSET SPOKES

3.1.3 Length of Spokes, 'l' — The spokes shall be supplied in lengths as specified by the purchaser or in accordance with the current trade practices to suit the particular type of wheel or wheels for which the spokes are designed.

3.2 Nipples



All dimensions in millimetres

FIG. 3 NIPPLES

4 MATERIAL

4.1 Spokes

The spokes shall be manufactured from steel having an ultimate tensile strength in the range of 1000 MPa to 1400 MPa.

4.2 Nipples

The nipples shall be manufactured from suitable grade of brass or from steel conforming to designation 13S25 of IS: 4431 'Specification for carbon and carbon manganese free cutting steels (First Revision)'.

5 MANUFACTURE

5.1 Spokes

The wires used for the manufacture of spokes shall be free from surface defects, piping or harmful segregation. The wire shall be processed during manufacture in such a way that it lies flat in coils of even diameter and is free from corkscrew effect. The spoke heads shall be smooth so as to fit correctly in the spoke hole.

5.2 Nipples

The hole in the nipple shall be drilled centrally through the head. The threads shall be neatly formed.

6 FINISH

The spokes shall be either galvanized or nickel chromium plated. The nipples manufactured from steel shall be nickel plated.

7 TEST FOR SPOKES

7.1 Reverse Bend Test for Spokes

The spoke wire shall be capable of being bent backward and forward not less than three times through an angle of 180° without showing signs of fracture (*see* Fig. 1). The first bend of 90° shall not be counted.

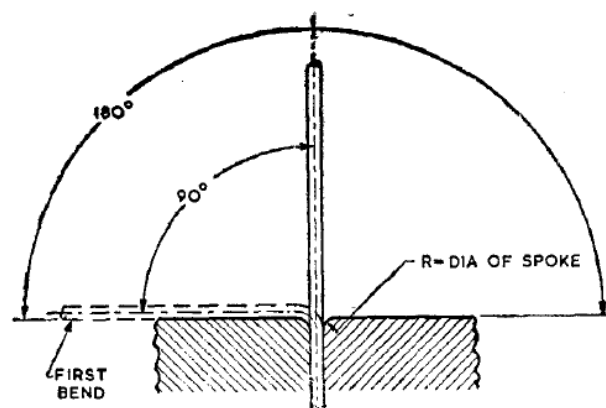


FIG. 4 REVERSE BEND TEST FOR SPOKE WIRE

8 MARKING

Shall be stamped or etched on the spokes and nipples.

8.1 Spokes

Shall be appropriately marked on their head with the following:

- a) Size, and
- b) Manufacture's name or trade-mark.

8.2 Nipples

Shall be marked on their head or body with the following:

- a) Size, and
- b) Manufacturer's name or trade-mark.

8.3 BIS Certification Marking

The moped spokes and nipples for spokes may also be marked with the Standard Mark.

8.3.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 2016* and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

9 PACKING

The spokes and nipples shall be wrapped in non-absorbent greased paper and then securely packed in water-proof strong card-board carton according to best prevalent trade practices. Normally a carton should contain 150 spokes unless otherwise specified by the purchaser. Each package shall be legibly marked with manufacturer's name or trade-mark, quantity of material and type of finish.

10 SAMPLING

Unless otherwise agreed to between the purchaser and the manufacturer, the procedure given in IS: 2500 (Part I) 'Sampling procedures for inspection by attributes: Part 1 sampling schemes indexed by acceptance quality limit (AQL) for lot - By - Lot inspection (Third Revision)' shall be followed. The single sampling plan to be followed for each characteristic, shall be corresponding to the inspection level and AQL, is given below:

<i>Characteristic</i>	<i>Inspection Level</i>	<i>AQL</i>
Dimensions, manufacture and finish	III	2.5
Material and reverse bend test	I	1.0

ANNEX A
(Foreword)

COMMITTEE COMPOSITION

AUTOMOTIVE BODY, CHASSIS AND ACCESSORIES SECTIONAL COMMITTEE,
TED 06

Will be added later