

**भारतीय मानक ब्यूरो**  
**BUREAU OF INDIAN STANDARDS**

*Draft for comments only*

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**भारतीय मानक मसौदा**

**वस्त्रादि – रिंग कताई और डबलिंग फ्रेम्स में प्रयुक्त ड्रम गिरियाँ/टी आर गिरियाँ**  
**– विशिष्टि**

*( आई एस 13560 पहला पुनरीक्षण )*

*Draft Indian Standard*

**TEXTILES — DRUM PULLEYS/TR PULLEYS USED IN RING SPINNING  
AND DOUBLING FRAMES — SPECIFICATION**

*( First Revision of IS 13560 )*

**ICS 59.120.10**

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Textile Machinery and Accessories  
Sectional Committee, TXD 14

Last date for receipt of comment is  
07 April 2024

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**FOREWORD**

*(Formal clause will be added later)*

Drum pulley/TR pulley is used to drive the roller bearing spindles on ring frames and ring doubters by means of spindle driving tapes. The drive is generally four spindle drive.

This standard originally published in 1992. The present revision has been made to incorporate the following changes:

- a) References to Indian standards have been updated;
- b) All amendments have been incorporated;
- c) Sampling clause has been incorporated; and
- d) Marking clause has been modified.

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.

## 1 SCOPE

This standard prescribes the requirements of drum pulleys/tr pulleys used on ring frames and ring doublers to drive spindles.

## 2 REFERENCES

The standards listed 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 editions of the standards listed below.

<i>IS No.</i>	<i>Title</i>
IS 2500 (Part 1) : 2000 / ISO 2859-1:1999	Sampling procedures for inspection by attributes — Part 1 sampling schemes indexed by acceptance quality limit (AQL) for lot — By — Lot inspection ( <i>third revision</i> )
IS 10719 : 2015 / ISO 1302 : 2002	Geometrical Product Specifications (GPS) — Indication of Surface Texture in Technical Product Documentation ( <i>first revision</i> )

## 3 MANUFACTURE

### 3.1 Material

The pulley shall be manufactured from sheet steel, die cast light alloy or moulded polymeric materials as agreed to between the buyer and seller.

### 3.2 Shape and Surface

The outer surface of the pulley shall be free from scratches, indentations, burrs and such other defects which cause damage to the spindle tapes. The pulleys shall have well rounded smooth surface without sharp edges or corners to avoid accumulation of fluff, from the shape or from electrostatic properties during operation.

**3.3** The pulleys shall be of solid type or of split flange type. If latter, they shall have Dowell pins or Tennon Keyforms in the hub and the periphery to eliminate any discontinuity at drive surface. All split pulleys shall have firm grip on the shafts. Even on repeated assembly/disassembly, the run out and out of balance tolerances as achieved during manufacture shall be retained.

**3.4** The pulleys shall have the material well distributed to have the unbalance before machining within 150 gem. In service conditions, the drum pulley shall satisfy the requirements given in 4.

## **4 REQUIREMENTS**

**4.1** The dimensions of the drum pulleys/TR pulleys shall be as agreed to between the buyer and the seller. The dimensions of a typical drum pulley and that of TR pulley are shown in Fig. 1 and Fig. 2 respectively. The bore of the pulley shall conform to the tolerances as specified by the ring frame manufacturer.

**4.2** The run-out of the pulley on assembly shall not exceed the values as given below:

- a) Bore surface to outside diameter - 0.2 mm TIR; and
- b) Bore surface to face diameter - 0.3 mm TIR

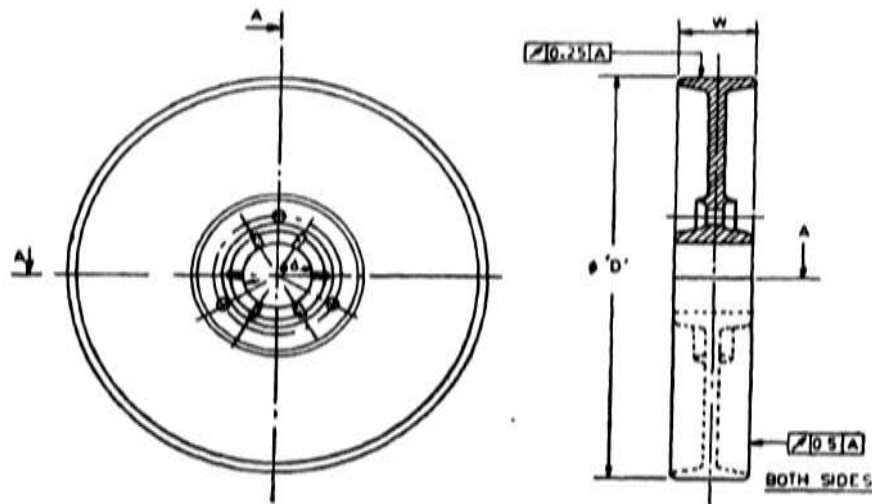
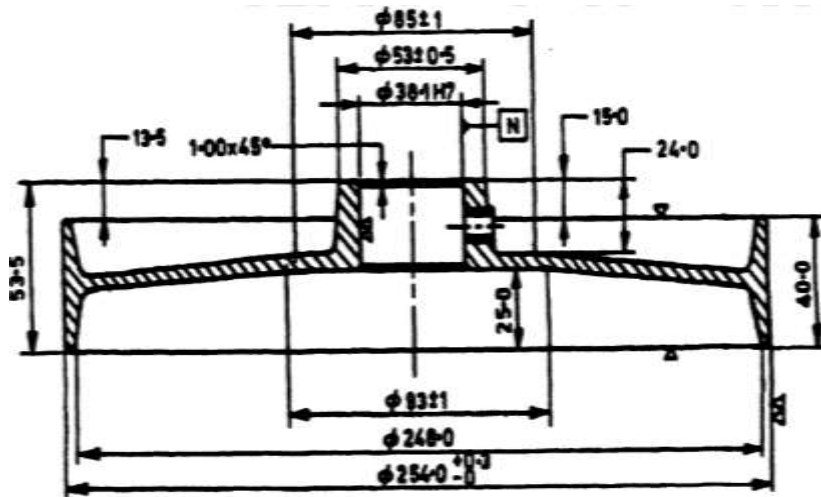


FIG. 1 TYPICAL DRUM PULLEY



All dimension in millimetres.

FIG. 2 TR PULLEY

### 4.3 Surface Finish

The permissible surface finish of the pulley shall be N 7 (*see* IS 10719) on machined working surface areas and N 9 on machined non-working surface areas and all other surfaces.

### 4.4 Balancing

The pulley shall be dynamically balanced to have the residual out-of-balance within 25 gcm at a speed agreed to between the buyer and the seller.

## 5 SAMPLING

Unless otherwise agreed to between the buyer and the seller, to ascertain the conformity of product(s) to the requirements of this specification, or as specified in IS 2500 (Part 1) shall be followed.

## 6 MARKING

**6.1** Each pulley shall be marked with the indication of the source of manufacture.

### 6.2. 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 products may be marked with the Standard Mark.

## **7 PACKING**

Each pulley shall be wrapped in kraft paper or polyethylene film. A convenient number of wrapped pulleys shall be packed in a wooden case. In case the drum pulleys are assembled on the drum pulley shaft, each drum pulley shaft assembly shall be packed in a convenient number in a wooden box in such a manner that during transit, the assemblies are not damaged.