

INTER PLANT STANDARD IN STEEL INDUSTRY		
 IPSS	SPECIFICATION FOR FABRIC BEARINGS	IPSS:1-01-010-18 (First Revision)
		Formerly : IPSS:1-01-010-85

0. FOREWORD

- 0.1 Interplant standardization in steel industry has been initiated under the aegis of the Indian Standards Institution (ISI) and the Steel Authority of India Limited (SAIL). The Interplant Standards prepared by the standard committee on Mechanical Drives, IPSS 1:1, with the active participation of the representatives of all the steel plants and leading consultants and was originally adopted in 1982 and revised with first revision in March, 1985. Thereafter, standard revised with second revision in **November, 2018**.
- 0.2 Interplant standardization for steel industry primarily aims at achieving rationalization and unification of parts and sub-assemblies used in steel plants equipments and accessories and provides guidance in indenting stores or equipment for existing or new installations by individual steel plants. For exercising effective control on the inventories, it is advisable to select a fewer number of sizes (or type) from among the products mentioned in this standards for the purpose of company standards of individual steel plants. It is not desirable to make deviations in technical requirements.
- 0.3 This revision is an updated version to take care recent up gradation in technologies and in line with the decision taken with respect to all specifications on different type of Fabric Bearings under the purview of IPSS. 1:1.

1. SCOPE

- 1.1 This Inter Plant Standard covers the requirement of synthetic resin bonded laminated fabric bearing, molded or made from flat laminated sheet with woven cotton fabrics and applicable to roll necks of hot steel rolling mills.
- 1.2 This standard provides mainly the performance characteristics, lubrication, procedure and cooling water requirement of fabric bearings,. Test and sampling method of these bearings shall conform to IS: 1998-1962 ' Methods of test for thermosetting synthetic resin boned laminated sheets' and IS: 2036-1995 (R2005) ' Specification of Phenolic Laminated Sheets' or equivalent.

2. Technical Requirements

- 2.1 The physical properties of the material of fabric bearing shall be as given in Table – 1.
- 2.2 The flatness of the laminated shoot and the machining test shall conform to IS: 2036- 1995 (R2005).
- 2.3 Sheets shall be uniform in quality, free from detrimental local deformation and cracks and reasonably free of other small defects like scratches, heat marks, etc.

3. Lubrication and Cooling of Fabric Bearing

- 3.1 Water alone is a sufficient lubricant and coolant for application in which journal surface speed is greater than 30 m/min. Water with grease is necessary for surface speeds lower than 30 m/min and heavy bearing pressure.

- 3.2 If initial temperature of water supply cannot be kept below 30 °C then water alone is insufficient irrespective of load and/ or speed, and grease shall be added as a supplementary lubricant, alternatively an emulsion of soluble oil may be used both as coolant and lubricant.

TABLE 1 PHYSICAL PROPERTIES OF MATERIAL FOR FABRIC BEARING

Sl. No.	Physical Properties	Requirement	Test Method
1.	Tensile strength lengthwise, <i>Min</i> crosswise, <i>Min</i>	600 kg/cm ² 470 kg/cm ² }	IS : 1998-1962
2.	Compressive strength Flatwise, <i>Min</i> edgewise, <i>Min</i>	2 000 kg/cm ² 1 170 kg/cm ² }	IS : 1998-1962
3.	Cross breaking strength, <i>Min</i>	900 kg/cm ²	IS : 1998-1962
4.	Impact strength (Izod kg cm/cm of notch)	15-35*	IS : 1998-1962
5.	Hardness shore D	85-95	ASTM-D-2240
6.	Specific gravity (g/ml)	1.25-1.4	ASTM-D-792
7.	Water absorption % (24 h 1/8 in thick)	1.8-2.0*	ASTM-D-570
8.	Bond strength, <i>Min</i>	750 kg	ASTM-D-229
9.	Heat resistance, °C	125°C	

*While ordering, the exact values required shall be specified by the purchaser.

4. Test Certificate

- 4.1 Each lot of supply shall be accompanied by a test certificate giving the values of various properties as mentioned in Table -1

5. Marking

- 5.1 Each lot shall be marked suitably with the name of the manufacturer or his trade-mark.

6. Packing

- 6.1 The material shall be suitably packed to prevent damage during transit or storage.