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मानक



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Mazdoor Kisan Shakti Sangathan

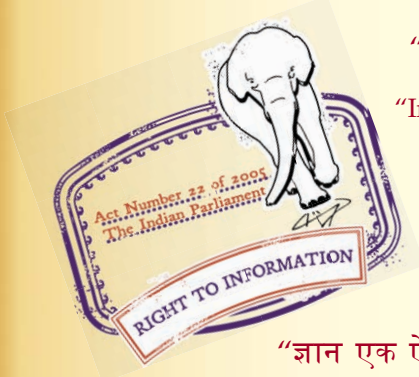
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“Step Out From the Old to the New”

IS 8000-3 (1992): Technical drawings - Geometrical tolerancing, Part 3: Dimensioning and tolerancing of profiles [PGD 24: Drawings]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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IS 8000 (Part 3) : 1992
ISO 1660 : 1987

भारतीय मानक

तकनीकी ड्राइंगें – ज्यामितीय छूटें

भाग 3 प्रोफाइलों के आयाम तथा छूटें

(दूसरा पुनरीक्षण)

Indian Standard

**TECHNICAL DRAWINGS — GEOMETRICAL
TOLERANCING**

PART 3 DIMENSIONING AND TOLERANCING OF PROFILES

(Second Revision)

UDC 744·621·753·1

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BUREAU OF INDIAN STANDARDS
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NATIONAL FOREWORD

This Indian Standard which is identical with ISO 1660 : 1987 'Technical drawings — Dimensioning and tolerancing of profiles' issued by the International Organization for Standardization (ISO) was adopted by the Bureau of Indian Standards on the recommendation of the Drawing Sectional Committee (LMD 02) and approval of the Light Mechanical Engineering Division Council.

The first revision of IS 8000 (Part 3) : 1985 'Geometrical tolerancing on technical drawings : Part 3 Dimensioning and tolerancing of profile' was based on ISO 1660 : 1982 'Technical drawings — Dimensioning and tolerancing of profiles' issued by the International Organization for Standardization (ISO). Consequent to the revision of the International Standard, harmonization of the Indian Standard has been made by the adoption of ISO 1660 : 1987.

In the adopted standard certain terminology and conventions are not identical with those used in Indian Standards; attention is especially drawn to the following:

- a) Comma (,) has been used as a decimal marker while in Indian Standards the current practice is to use point (.) as the decimal marker.
- b) Wherever the words 'International Standard' appear, referring to this standard, they should be read as 'Indian Standard'.

In this adopted standard, reference appears to ISO 1101. The Indian Standard IS 8000 (Part 1) : 1985 'Geometrical tolerancing on technical drawings: Part 1 Tolerances of form, orientation, location and run-out and appropriate geometrical definitions (*first revision*)' which is identical with ISO 1101 : 1983 is to be substituted in its place.

ADDITIONAL INFORMATION

This Indian Standard is one of a series of Indian Standards on geometrical tolerancing on technical drawings. The other standards in the series are:

- IS 8000 (Part 1) : 1985 Geometrical tolerancing on technical drawings: Part 1 Tolerances of form, orientation, location and run-out and appropriate geometrical definitions (*first revision*) (Identical with ISO 1101)
- IS 8000 (Part 2) : 1992 Technical drawings — Geometrical tolerancing: Part 2 Maximum material principles (Identical with ISO 2692)
- IS 8000 (Part 4) : 1976 Geometrical tolerancing on technical drawings: Part 4 Practical examples of indications on drawings (Identical with ISO/R 1661)

Indian Standard
**TECHNICAL DRAWINGS — GEOMETRICAL
TOLERANCING**

PART 3 DIMENSIONING AND TOLERANCING OF PROFILES

(Second Revision)

1 Scope and field of application

This International Standard describes the dimensioning and the geometrical tolerancing of profiled outlines and of profiled surfaces. The methods described are related to the sub-clauses in ISO 1101 dealing with the "profile tolerance of any line" and "profile tolerance of any surface".

2 Reference

ISO 1101, *Technical drawings — Geometrical tolerancing — Tolerancing of form, orientation, location and run-out — Generalities, definitions, symbols, indications on drawings.*

3 Dimensioning

Profiles may be dimensioned by either of the methods described in 3.1 and 3.2.

3.1 The successive radii of curvature and sufficient dimensions shall be given to locate the corresponding elements of the curve (see figure 1).

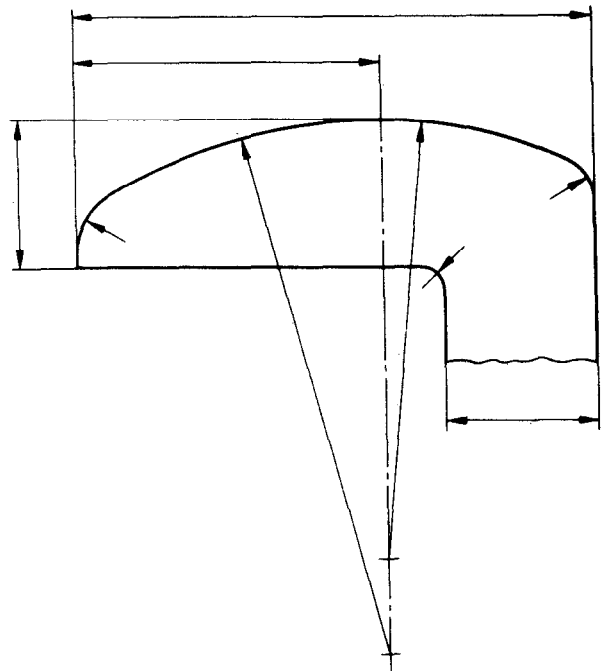


Figure 1

3.2 Linear or polar coordinates of a series of points through which the profile passes shall be given (see figure 2).

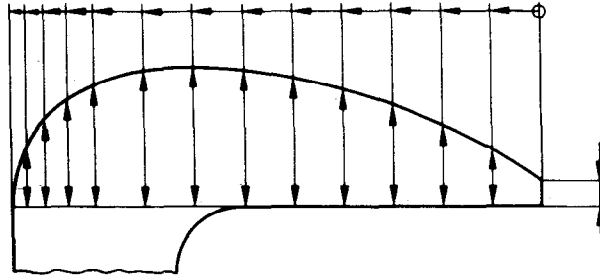
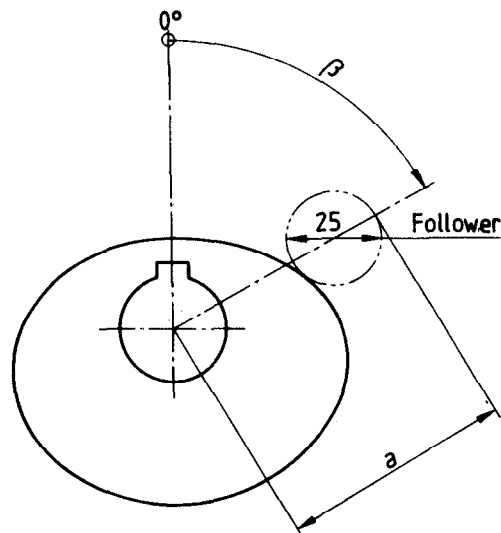


Figure 2

3.3 With either of the methods described in 3.1 or 3.2 it may be necessary to specify dimensions in association with a follower; the dimension, a , shall then be indicated on the drawing (see figure 3).



β	0°	20°	40°	60°	80°	100°	120 to 210°	230°	260°	280°	300°	320°	340°
a	50	52,5	57	63,5	70	74,5	76	75	70	65	59,5	55	52

Figure 3

4 Indication of tolerances

Profile dimensions may be tolerated by methods described in 4.1 and 4.2; the actual profile shall be contained within the specified tolerance zone.

4.1 Geometrical tolerancing of a line

The tolerance zone is defined with respect to the "true" profile which is itself defined by theoretically exact (basic) dimensions. The tolerance zone shall be equally disposed on either side of the true profile.

The width of the tolerance zone is uniform when measured normal to the true profile at any point (see figures 4 and 5).

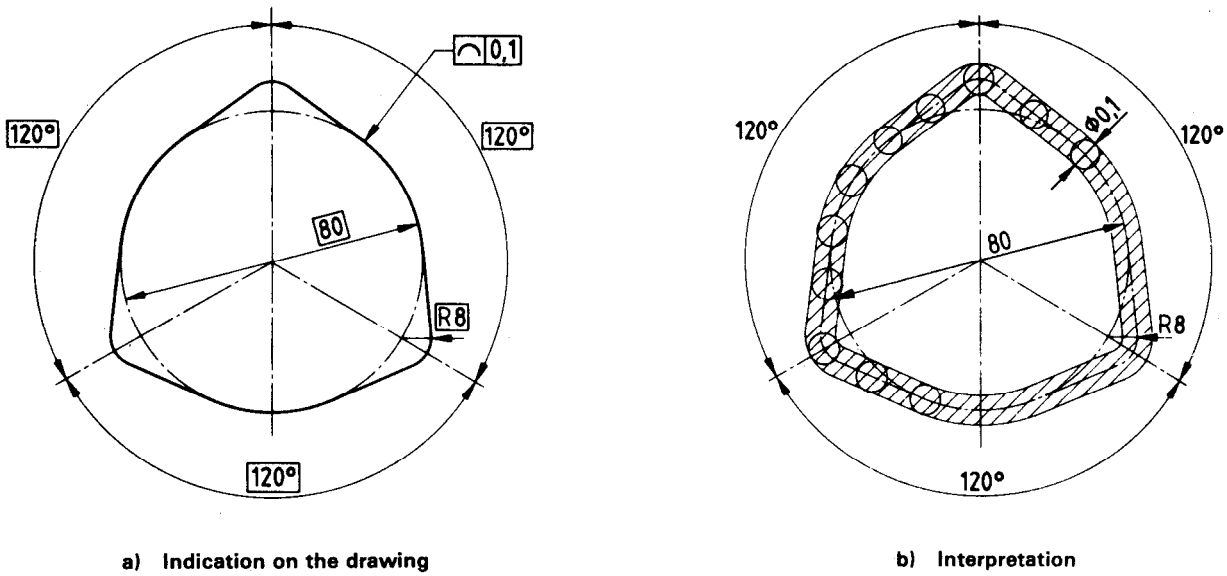


Figure 4

The tolerance zone is related to datum features.

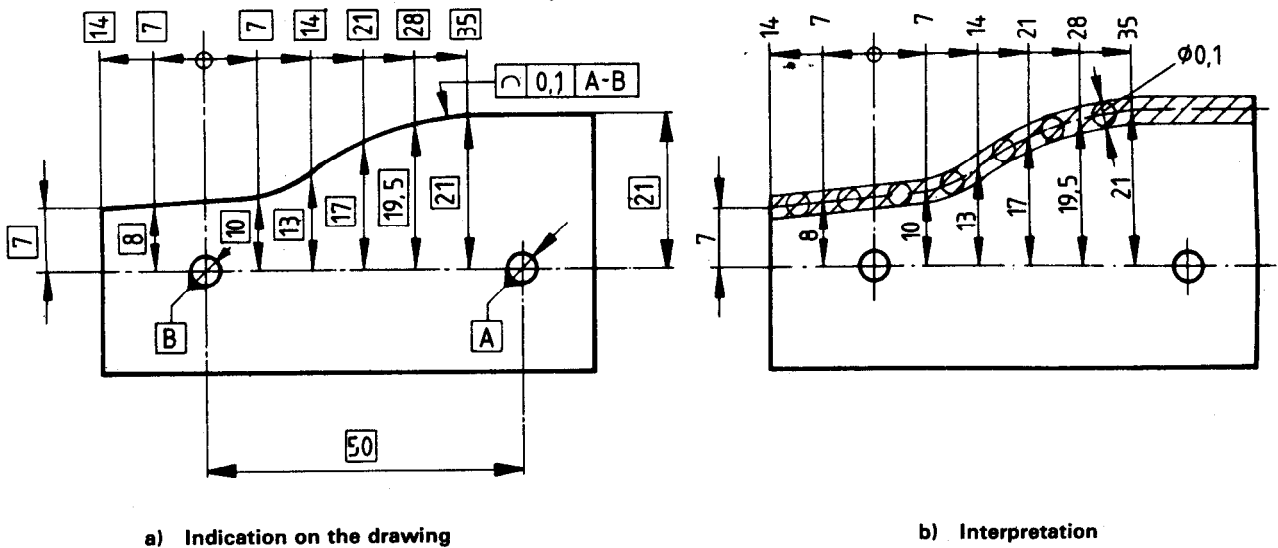
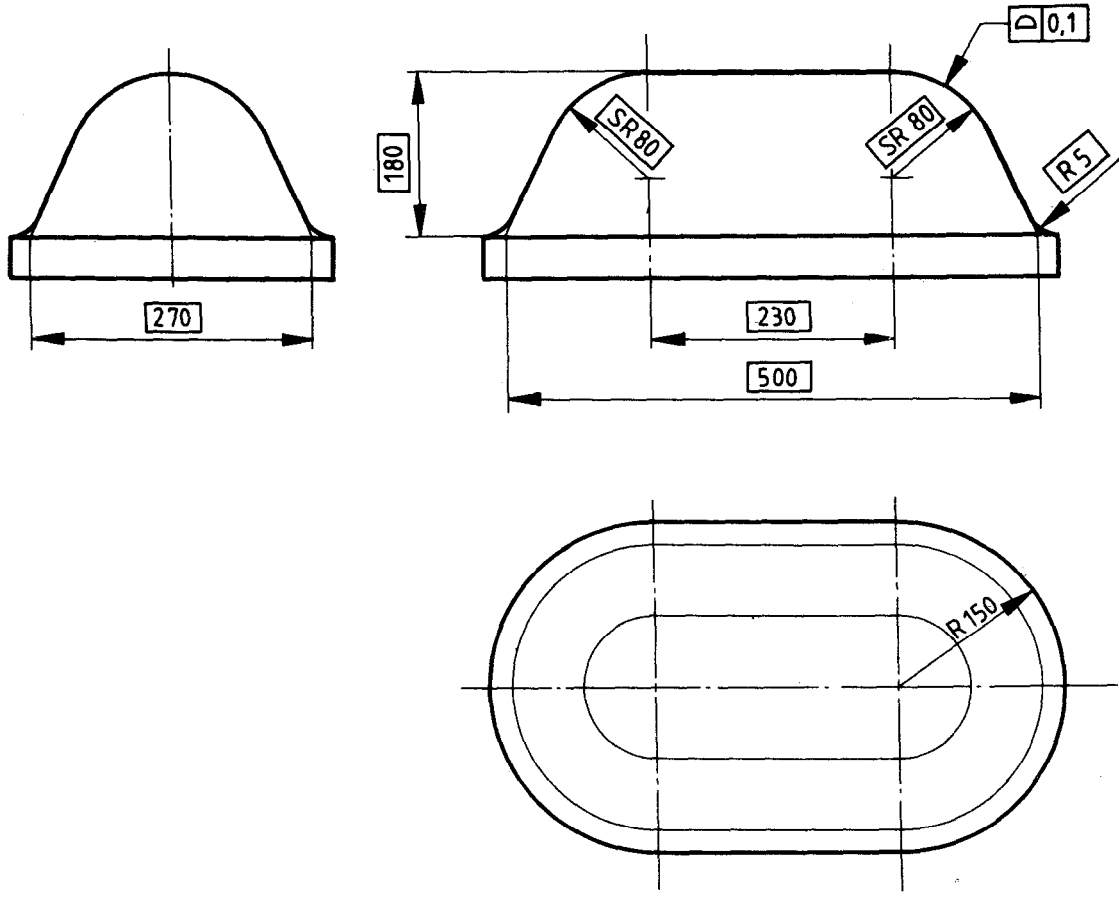


Figure 5

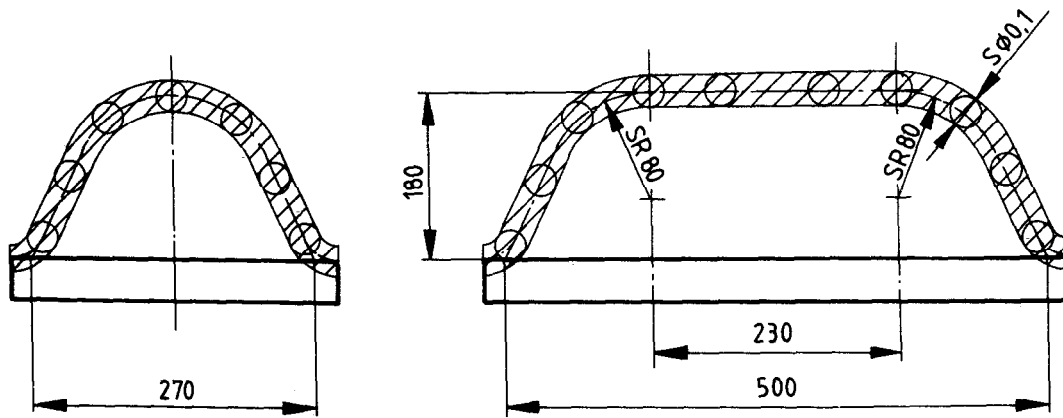
4.2 Geometrical tolerancing of a profiled surface

The tolerance zone of a surface to be given a profile tolerance is defined with respect to the true profile which is itself defined by theoretically exact dimensions. This zone shall be equally disposed on either side of the true profile of the surface.

The width of the tolerance zone is uniform when measured normal to the true profile of the surface at any point (see figure 6).



a) Indication on the drawing



b) Interpretation

Figure 6

Bibliography

The following International Standards may also be useful when this International Standard is being applied:

ISO 129, *Technical drawings — Dimensioning — General principles, definitions, methods of execution and special indications.*

ISO 5459, *Technical drawings — Geometrical tolerancing — Datums and datum-systems for geometrical tolerancing.*

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