

JIS

JAPANESE INDUSTRIAL STANDARD

Vocabulary of cones

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J I S

Vocabulary of cones

B 0154-1996

1. Scope This Japanese Industrial Standard specifies terms related to conical surfaces and conical workpieces used for machines (hereafter referred to as "vocabulary of cones").

Remarks: The cited standard in this Standard is given in the following:

JIS B 0401 System of limits and fits

2. Classification of terms The classification of terms shall be as given in the following:

- (1) Cones
- (2) Elements of cones
- (3) Cone tolerances
- (4) Cone fits

3. Terms and definitions The terms and definitions shall be as given in the following.

English equivalents are given for informative reference.

(1) Cones

No.	Term (Japanese characters)	Reading	Definition	English equivalent (informative reference)
101	円すい	ENSUI	A conical surface or a conical workpiece defined by its geometrical dimensions (see Attached Fig. 1).	cone, circular cone
102	円すい面	ENSUI-MEN	A surface of revolution which is formed by rotating a straight line around an axis with the straight line intersecting this axis.	conical surface
103	円すい部品	ENSUI-BUHIN	A workpiece or portion of a workpiece the main part of which is a conical surface. Remarks: A conical workpiece of which end face intersects perpendicular to the axis is called "right conical workpiece".	conical workpiece
104	円すい台	ENSUI-DAI	A cone which has been truncated by two parallel planes intersecting perpendicular to the axis. Remarks: The truncated cone is also called "cone" for short (see Attached Fig. 2).	truncated cone
105	外円すい	GAI-ENSUI	A cone which forms the outside feature of a conical workpiece (see Attached Fig. 3).	external cone
106	内円すい	NAI-ENSUI	A cone which forms the inside feature of a conical workpiece (see Attached Fig. 4).	internal cone
107	基準円すい	KIZYUN-ENSUI	The geometrically ideal cone which is given by either of geometrical dimensions given in the following (see Attached Fig. 5). (1) A basic cone diameter, the basic cone length and the basic rate of taper or the basic cone angle. (2) Two basic cone diameters and the basic cone length.	basic cone

No.	Term (Japanese characters)	Reading	Definition	English equivalent (informative reference)
108	実円すい	ZITU-ENSUI	An actually existing cone. Remarks: A cone obtained by measurement substitutes for the actual cone.	actual cone
109	許容限界円すい	KYOYÔ-GENKAI-ENSUI	The geometrically ideal two coaxial cones, having the same basic cone angle, which result from the basic cone, and the dimensions and position of the cone diameter tolerances (see Attached Figs. 6 and 9).	limit cones

(2) Elements of cone

No.	Term (Japanese characters)	Reading	Definition	English equivalent (informative reference)
201	円すいの軸線	ENSUI-NO-ZIKUSEN	A straight line which passes through the centre of conical surface (see Attached Fig. 7).	cone axis
202	円すいの母線	ENSUI-NO-BOSEN	The line of intersection of the plane including cone axis with the conical surface (see Attached Fig. 7).	generating line, generatrix
203	円すいの頂点	ENSUI-NO-TYÔTEN	The point of intersection of the cone axis and generating line (see Attached Fig. 7).	cone point
204	円すいの軸直角断面	ENSUI-NO-ZIKU-TYOKKAKU-DANMEN	The section of a cone by a perpendicular plane to the cone axis.	section perpendicular to the cone axis
205	円すいの軸断面	ENSUI-NO-ZIKU-DANMEN	The section of a cone by a plane including the cone axis.	section in direction of the cone axis
206	円すい直径	ENSUI-TYOKKEI	The distance between two parallel straight lines tangent to the intersection of a defined plane normal to the cone axis and conical surface (see Attached Fig. 7).	cone diameter

No.	Term (Japanese characters)	Reading	Definition	English equivalent (informative reference)
206 (continued)			Remarks: Those for the basic cone and the actual cone are called "basic cone diameter (basic cone diameter at the place where the position of axial direction is defined)" and "actual cone diameter" respectively.	
207	大端径	DAITANKEI	The cone diameter at the larger end face of a cone (see Attached Fig. 7). Remarks: Those for the basic cone are called "basic cone diameter at the larger end".	cone diameter at the larger end
208	小端径	SYÔTANKEI	The cone diameter at the smaller end face of a cone (see Attached Fig. 7). Remarks: Those for the basic cone are called "basic cone diameter at the smaller end".	cone diameter at the smaller end
209	円すい長さ	ENSUI-NAGASA	The distance in axial direction between the both ends of a cone (see Attached Fig. 7). Remarks: Those for the basic cone and actual cone are called "basic cone length" and "actual cone length" respectively.	cone length
210	テーパー角度	TÊPA-KAKUDO	The angle formed between the two generating liens of a cone in an axial plane section (see Attached Fig. 7). Remarks: That for the basic cone is called "basic cone angle" (see Attached Figs. 5 and 6).	cone angle
211	実テーパー角度	ZITU-TÊPA-KAKUDO	In an arbitrary section plane including the cone axis, the angle between the two pairs of parallel straight lines of which distance between them becomes minimum, including the rectangularity of two generating lines of an actual cone (see Attached Fig. 8). Remarks: In an actual cone, the actual cone angle is not always the same in different axial plane sections.	actual cone angle

No.	Term (Japanese characters)	Reading	Definition	English equivalent (informative reference)
212	円すい母線角	ENSUI-BOSENKAKU	The angle between the cone axis and generating line (see Attached Fig. 7).	cone generating angle
213	テーパ比	TÊPA-HI	The ratio of the diameter difference between two sections perpendicular to the cone axis to the interval between the both sections. Remarks: That for the basic cone is called "basic rate of taper".	rate of taper
214	許容限界円すい直径	KYOYÔ-GENKAI-ENSUI-TYOKKEI	The diameter of limit cone in an arbitrary section perpendicular to the cone axis (see Attached Fig. 9). Remarks: The largest limit cone diameter is called "the largest permissible cone diameter", and the smallest limit cone diameter "the smallest permissible cone diameter".	limit cone diameters
215	許容限界テーパ角度	KYOYÔ-GENKAI-TÊPA-KAKUDO	The largest and the smallest cone angles resulting from the basic cone angle and the magnitude and position of cone angle tolerance (see Attached Fig. 11). Remarks: The largest limit cone angle is called "the largest permissible cone angle", and the smallest limit cone angle "the smallest permissible cone angle".	limit cone angles

(3) Cone tolerances

No.	Term (Japanese characters)	Reading	Definition	English equivalent (informative reference)
301	円すい公差方式	ENSUI-KÔSA-HÔSIKI	A system of tolerance applied to cones, containing the cone diameter tolerance, cone angle tolerance, cone section diameter tolerance and cone form tolerance.	system of cone tolerances