

इंटरनेट

मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 549 (2005): Split Pins [PGD 31: Bolts, Nuts and Fasteners Accessories]



“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 549 : 2005**  
**ISO 1234 : 1997**

**भारतीय मानक**  
**स्प्लिट पिनेँ — विशिष्टि**  
**( तीसरा पुनरीक्षण )**

***Indian Standard***  
**SPLIT PINS — SPECIFICATION**  
**( *Third Revision* )**

ICS 21.060.50

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**BUREAU OF INDIAN STANDARDS**  
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**NEW DELHI 110002**

*April 2005*

**Price Group 3**

**NATIONAL FOREWORD**

This Indian Standard ( Third Revision ) which is identical with ISO 1234 : 1997 'Split pins' issued by the International Organization for Standardization ( ISO ) was adopted by the Bureau of Indian Standards on the recommendations of the Bolts, Nuts and Fasteners Accessories Sectional Committee and approval of the Medical Instruments, General and Production Engineering Division Council.

The original version of this standard was issued in 1954 and subsequently revised in 1964 and 1974. The earlier edition was based on ISO/R 1234 : 1971 'Split pins — Metric series' and was in full agreement in regard to dimensions. This third revision has been harmonized with ISO 1234 : 1997 by adoption to make pace with the latest developments taken place at international level.

The text of ISO Standard has been approved as suitable for publication as an Indian Standard without deviations. Certain terminology and conventions are, however, not identical to those used in the Indian Standards. Attention is drawn especially to the following:

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

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted in their place, are listed below along with their degree of equivalence for the editions indicated:

<i>International Standard</i>	<i>Corresponding Indian Standard</i>	<i>Degree of Equivalence</i>
ISO 3269 : 1988 <sup>1)</sup> Fasteners — Acceptance inspection	IS 1367 ( Part 17 ) : 2005 Technical supply conditions for threaded steel fasteners: Part 17 Inspection, sampling and acceptance procedure ( <i>fourth revision</i> )	Identical
ISO 4042 <sup>2)</sup> Threaded components — Electroplated coatings	IS 1367 ( Part 11 ) : 2002 Technical supply conditions for threaded steel fasteners: Part 11 Electroplated coatings ( <i>third revision</i> )	do

The concerned Technical Committee has reviewed the provisions of the following International Standard referred in this adopted standard and has decided that they are acceptable for use in conjunction with this standard:

<i>International Standard</i>	<i>Title</i>
ISO 9717 : 1990	Phosphate conversion coatings for metals — Method of specifying requirements

As decided by the committee additional requirements of length gauge, packaging and marking are given in National Annex A. These additional requirements are part of this standard.

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, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values ( *revised* )'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

<sup>1)</sup> Since revised in 2000.

<sup>2)</sup> Since revised in 1999.

*Indian Standard*  
**SPLIT PINS — SPECIFICATION**  
*( Third Revision )*

### 1 Scope

This International Standard specifies the characteristics of split pins.

### 2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3269:1988, *Fasteners – Acceptance inspection.*

ISO 4042:—<sup>1)</sup>, *Fasteners – Electroplated coatings.*

ISO 9717:1990, *Phosphate conversion coatings for metals – Method of specifying requirements.*

### 3 Dimensions

See figure 1, table 1 and table 2

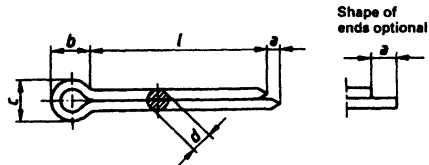


Figure 1

1) To be published. (Revision of ISO 4042:1989).

Table 1 — Dimensions (Lengths / : see table 2)

Nominal size <sup>a</sup>		Dimensions in millimetres								
		0,6	0,8	1	1,2	1,6	2	2,5	3,2	
<i>d</i>	max.	0,5	0,7	0,9	1,0	1,4	1,8	2,3	2,9	
	min.	0,4	0,6	0,8	0,9	1,3	1,7	2,1	2,7	
<i>a</i>	max.	1,6	1,6	1,6	2,50	2,50	2,50	2,50	3,2	
	min.	0,8	0,8	0,8	1,25	1,25	1,25	1,25	1,6	
<i>b</i>	=	2	2,4	3	3	3,2	4	5	6,4	
<i>c</i>	max.	1,0	1,4	1,8	2,0	2,8	3,6	4,6	5,8	
	min.	0,9	1,2	1,6	1,7	2,4	3,2	4,0	5,1	
Corresponding diameters <sup>b</sup>	Bolts	over	—	2,5	3,5	4,5	5,5	7	9	11
		to	2,5	3,5	4,5	5,5	7	9	11	14
	Clevis pins	over	—	2	3	4	5	6	8	9
		to	2	3	4	5	6	8	9	12

Nominal size <sup>a</sup>		Dimensions in millimetres								
		4	5	6,3	8	10	13	16	20	
<i>d</i>	max.	3,7	4,6	5,9	7,5	9,5	12,4	15,4	19,3	
	min.	3,5	4,4	5,7	7,3	9,3	12,1	15,1	19,0	
<i>a</i>	max.	4	4	4	4	6,30	6,30	6,30	6,30	
	min.	2	2	2	2	3,15	3,15	3,15	3,15	
<i>b</i>	=	8	10	12,6	16	20	26	32	40	
<i>c</i>	max.	7,4	9,2	11,8	15,0	19,0	24,8	30,8	38,5	
	min.	6,5	8,0	10,3	13,1	16,6	21,7	27,0	33,8	
Corresponding diameters <sup>b</sup>	Bolts	over	14	20	27	39	56	80	120	170
		to	20	27	39	56	80	120	170	—
	Clevis pins	over	12	17	23	29	44	69	110	160
		to	17	23	29	44	69	110	160	—

1) Nominal size = diameter of the split pin hole; for the pin hole diameter the following tolerance classes are recommended.

H13 for nominal size ≤ 1,2  
H14 for nominal size > 1,2

2) For railway applications and in cases where split pins in clevis pins are subjected to alternating transverse forces, it is recommended to use the next larger split pin size to that specified in this table.

Table 2 — Nominal lengths *l* and commercial lengths

Dimensions in millimetres

Length <i>l</i>			Nominal size																
nom.	min.	max.	0,6	0,8	1	1,2	1,6	2	2,5	3,2	4	5	6,3	8	10	13	16	20	
4	3,5	4,5																	
5	4,5	5,5																	
6	5,5	6,5																	
8	7,5	8,5																	
10	9,5	10,5																	
12	11	13																	
14	13	15																	
16	15	17																	
18	17	19																	
20	19	21																	
22	21	23																	
25	24	26																	
28	27	29																	
32	30,5	33,5																	
36	34,5	37,5																	
40	38,5	41,5																	
45	43,5	46,6																	
50	48,5	51,5																	
56	54,5	57,5																	
63	61,5	64,5																	
71	69,5	72,5																	
80	78,5	81,5																	
90	88	92																	
100	98	102																	
112	110	114																	
125	123	127																	
140	138	142																	
160	158	162																	
180	178	182																	
200	198	202																	
224	222	226																	
250	248	252																	
280	278	282																	



**IS 549 : 2005**  
**ISO 1234 : 1997**

#### **4 Requirements and reference International Standards**

See table 3

**Table 3 — Requirements and reference International Standards**

<b>Material</b>	Steel (St) Copper-zinc alloy (Cu Zn) Copper (Cu) Aluminium alloy (Al) Austenitic stainless steel (A)  Other materials as agreed between customer and supplier
<b>Ductility</b>	Each leg of the split pin shall be capable of withstanding being bent back upon itself once, with no visible indication of fracture occurring at the point of bend
<b>Surface finish</b>	Plain i e parts to be supplied in natural finish, treated with a protective lubricant, or with other coatings as agreed between customer and supplier For electroplated coatings, see ISO 4042 For phosphate coating see ISO 9717
<b>Workmanship</b>	Pins shall be free of burrs, irregularities and detrimental defects  The eye shall be as circular as possible The cross-section of the two straight legs together shall be circular
<b>Acceptability</b>	For acceptance procedure, see ISO 3289

#### **5 Designation**

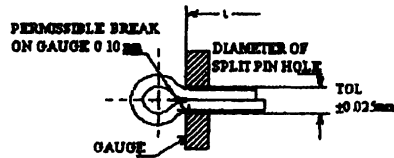
A split pin of nominal size 5 mm, nominal length  $l = 50$  mm, made of steel (St) is designated as follows

**Split pin ISO 1234 – 5 × 50– St**

## NATIONAL ANNEX A

### A-1 LENGTH GAUGE

The length of the split pins may be determined by means of a split pin gauge as illustrated below



### A-2 PACKAGING

The split pins shall be packed in cartons/or wooden boxes with quantity as specified below

<i>Nominal Diameter ( mm )</i>	<i>Quantity in Each Carton/Wooden Box ( Numbers )</i>
Up to and including 2	1 000
2.5, 3.2 and 4	500
5 and 6.3	200
8 and 10	100
13, 16 and 20	50

Packages shall be made in such a way that they are protected against mechanical damage in transit

### A-3 MARKING ON PACKAGING

Each carton shall be labelled with the manufacturer's name or initials or trade-mark, description of contents, particulars of quantity and size of split pins

### A-4 BIS CERTIFICATION MARKING

Details available with the Bureau of Indian Standards

## Bureau of Indian Standards

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Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically, a standard along with amendments is reaffirmed when such review indicates that no changes are needed, if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards Monthly Additions'.

This Indian Standard has been developed from Doc No **MGP/BP 33 (0399)**

#### Amendments Issued Since Publication

Amend No	Date of Issue	Text Affected

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