



PLANT STANDARD

HPBP TIRUCHIRAPALLI

BPS: 41408

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Based on IS: 2016-1967

PUNCHED WASHERS - TYPE A

1.0 SCOPE

Covers the requirements for punched washers Type A in the size range 1.8 to 78 mm.

2.0 SPECIFICATION AND REFERENCE STANDARDS

Dimensions and tolerances	Table 1 of this standard	
Material	Suitable Steel	
Finish	Natural finish	
Sampling and Acceptability	Indian Standard	IS: 6821 and IS: 5369
General requirements	Washers shall comply with IS: 2016 in respect of requirements not covered in this standard.	

2.1 Referred Standards (Only the current versions are applicable).

IS: 2016 Specification for plain washers

IS: 5369 General requirements for plain washers and lock washers

IS: 6821 Methods for sampling non-threaded fasteners

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ENGINEERING AND DEVELOPMENT CENTRE
HPBP TIRUCHIRAPALLI

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3.0 DESIGNATION

A punched washer to this standard for bolt/screw size M6 shall be designated as:

3.1 On Drawings:

- i) Material Specification column: IS: 2016-A
- ii) Description column : WASHER PNCHD A 6
- iii) Drawing Number column : 4140806000
- iv) Material code column : 4140800006

3.2 Ordering Description

For placing indents, issuing enquiries and on purchase orders, the ordering description given below shall be followed.

Punched Washer A 6.6* IS: 2016 - Steel

4.0 ADDITIONAL INFORMATION

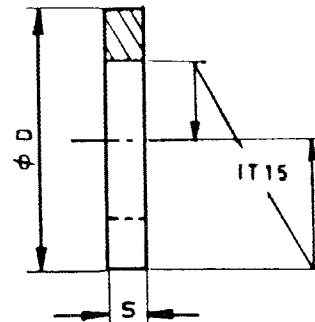
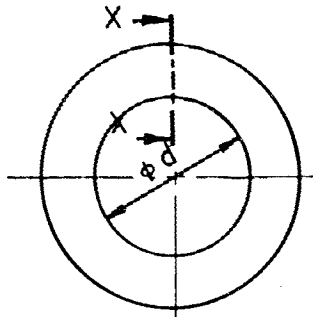
- 4.1 These washers can be used for Product Grade C of general purpose bolts and screws.
- *4.2 While preparing ordering description, the actual hole size (corresponding to bolt/screw size) shall be filled in referring from Table.
- 4.3 Copies of this standard shall be enclosed alongwith the purchase orders for size 56mm and 72 mm.

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TABLE 1 - DIMENSIONS FOR PUNCHED WASHERS



SECTION XX

(All dimensions are in millimetres)

Size d	D Nom	s Nom	For bolt/ screw size	Weight
1.8	4	0.4	M1.6	0.1
2.4	5	0.4	M2	
3.4	7	0.5	M3	
4.5	9	0.8	M4	
5.5	10	1.0	M5	
6.6	12.5	1.6	M6	1.1
9.0	17	1.6	M8	2.1
11	21	2.0	M10	3.9
14	24	2.5	M12	5.9
18	30	3.15	M16	11.1
22	37	3.15	M20	17.1
26	44	4.0	M24	31.0
(30)	50	4.0	(M27)	39.4
33	56	4.0	M30	50.4
(36)	60	5.0	(M33)	71.0
39	66	5.0	M36	87.3
(42)	72	6.0	(M39)	126.0
45	78	6.0	M42	284.0
(48)	85	8.0	(M45)	
52	92	8.0	M48	
61	105	9.0	M56	
78	122	10.0	M72	

NOTE:

- Sizes in brackets are non-preferred.
- Weights are given in kg per 1000 numbers only-
- For stocked sizes refer BPScomponents booklet.



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Based on IS: 549-1974

SPLIT PINS

1.0 SCOPE

Covers the requirements for Split Pins in the diameter range 0.6 to 20mm.

2.0 SPECIFICATION AND REFERENCE STANDARDS

Dimensions and tolerances	Table 1 of this standard	
Preferred length and size combination	Table 2 of this standard	
Material	Mild Steel Wire (Half round)	
Finish	Bright self colour finish	
Sampling and Acceptability	Indian Standard	IS: 6821
General requirements	Pins shall comply with IS: 549 in respect of requirements not covered in this standard	

2.1 Referred Standards (Only the current versions are applicable)

IS: 549 Specification for Split Pins.

IS: 6821 Methods for sampling non-threaded fasteners

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3.0 DESIGNATION

A Split Pin to this standard of nominal diameter 5mm and nominal length 56mm shall be designated as:

3.1 On Drawings:

- i) Material Specification column: IS: 549
- ii) Description column : PIN SPLIT 5x56
- iii) Drawing Number column : 4170405056
- iv) Material Code column : 4170450056

3.2 Ordering Description

For placing indents, issuing enquiries and on purchase order, the Ordering Description given below shall be followed.

Split Pin 5x56 IS: 549

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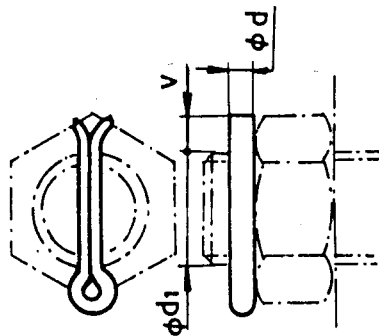
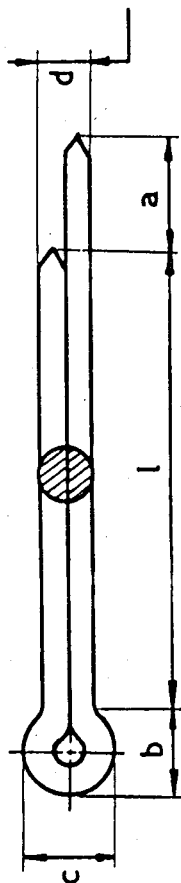
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TABLE 1 - DIMENSIONS FOR SPLIT PINS
(All dimensions in millimetres)



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Dimensions	Nominal size															
	0.6	0.8	1.0	1.2	1.6	2.0	2.5	3.2	4.0	5.0	6.3	8.0	10	13	16	20
d	Max	0.5	0.7	0.9	1.0	1.4	1.8	2.3	2.9	3.7	4.6	5.9	7.5	9.5	12.4	15.4
	Min	0.4	0.6	0.8	0.9	1.3	1.7	2.1	2.7	3.5	4.4	5.7	7.3	9.3	12.1	15.1
a	Max	1.6	1.6	1.6	2.5	2.5	2.5	3.2	4.0	4.0	4.0	4.0	4.0	6.3	6.3	6.3
	≈	2.0	2.4	3.0	3.0	3.2	4.0	5.0	6.4	8.0	10	12.6	16	26	32	40
c	Max	1.0	1.4	1.8	2.0	2.8	3.6	4.6	5.8	7.4	9.2	11.8	15	24.8	30.8	38.6
	Min	0.9	1.2	1.6	1.7	2.4	3.2	4.0	5.1	6.5	8.0	10.3	13.1	21.7	27.0	33.8
Corres-ponding dia-meter d ₁	Over	--	2.5	3.5	4.5	5.5	7.0	9.0	11	14	20	27	39	56	80	120
	Up to	2.5	3.5	4.5	5.5	7.0	9.0	11	14	20	27	39	56	80	120	170
v	Over	--	2	3	4	5	6	8	9	12	17	23	29	44	69	110
	Up to	2	3	4	5	6	8	9	12	17	23	29	44	69	110	160
		3	3	4	5	5	6	6	8	8	10	12	14	16	25	32



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TABLE 2 - PREFERRED LENGTH-SIZE COMBINATION
FOR SPLIT PINS

(All dimensions in millimetres)

1 Nom + 1/2 IT 17	Nominal size															
	0.6	0.8	1.0	1.2	1.6	2.0	2.5	3.2	4.0	5.0	6.3	8.0	10	13	16	20
4																
5																
6																
8																
10																
12																
14						0.4										
16																
18																
20																
22									2.7							
25																
28										5.5						
32									3.6							
36										6.5						
40									4.6		11.6					
45																
50									5.6	8.4	13.4					
56										9.2						
63											17.2					
71																
80																
90																
100																
112																
125																
140																
160																
180																
200																
224																
250																
280																

NOTE:

- Weights are given in kg per 1000 numbers only
- For stocked sizes refer BPS components booklet
- Preferred lengths are in between the stepped bold lines

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