



# PLANT STANDARD

HPBP TIRUCHIRAPALLI

BPS: 41216

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Based on IS: 1364 (Part 2) - 1983

## HEXAGON HEAD SCREWS, PRODUCT GRADES A & B

(Property Class 6.8)

### 1.0 SCOPE

Covers the requirements of Hexagon Head Screws in the size range M20 to M30.

### 2.0 SPECIFICATION AND REFERENCE STANDARDS

Dimensions and preferred sizes	Table 1 of this standard	
Preferred length-size combination	Table 2 of this standard	
Tolerance	Product grade	A - for products with $d \leq M24$ and $l \leq 10d$ or 150mm whichever is shorter B - for products with $d > M24$ or $l > 10d$ or 150mm whichever is shorter
	Indian Standard	IS: 1367 (Part 2)
Thread	Pitch	Coarse
	Tolerance	6g
	Indian Standard	IS: 4218 (Part 3, 5 & 6)
Material	Steel	
Mechanical properties	Property class	6.8
	Indian Standard	IS: 1367 (Part 3)
General requirements	Screws shall comply with IS: 1364 in respect of requirements not covered in this standard	
Sampling and Acceptability	Indian Standard	IS: 2614

2.1 Referred standards (Only the relevant parts of the current versions are applicable)

REVISIONS

DATE

APPROVED

STANDARDS SECTION  
ENGINEERING AND DEVELOPMENT CENTRE  
HPBP TIRUCHIRAPALLI

PREPARED  
HPBP TIRUCHY

ISSUED  
STANDARDS  
ENGG

DATE  
DEC 1986



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IS: 1364 Specification for hexagon head bolts, screws & nuts (Part 2) of product grade A&B. Part 2 Hexagon screws.

IS: 1367 Technical supply conditions for threaded steel fasteners

IS: 2614 Methods for sampling of fasteners

IS: 4218 ISO Metric screw threads

## 3.0 DESIGNATION

A Grade A Hexagon Head Screw to this standard of thread size M20 and nominal length 60mm shall be designated as:

### 3.1 On Drawings:

- i) Material Specification column : IS: 1364
- ii) Description column : SCRU HEX GR A 6.8-M20x60
- iii) Drawing Number column : 4121620060
- iv) Material Code column : 4121620060

### 3.2 Ordering Description

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

Hexagon head screw M20x60 IS:1364 (Part 2) - 6.8

## 4.0 ADDITIONAL INFORMATION

4.1 Property class 6.6 is also acceptable.

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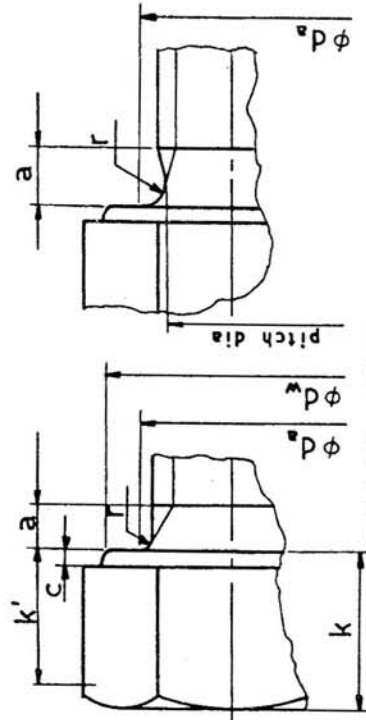
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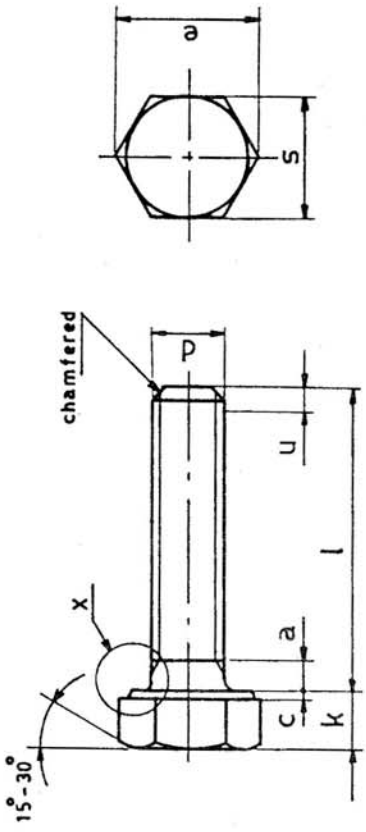
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**TABLE-1 DIMENSIONS FOR HEXAGON HEAD SCREWS**



k' = Effective gauging height.

DETAIL - X



u - according to 'CE' of IS:1368 - 'Dimensions of ends of bolts and screws'.

(All dimensions are in mm)

Thread size	a		c	da		d <sub>w</sub>	e		k		r	S	
	Min	Max		Min	Max		Min	Max	Min	Max		Min	Max
M20	7.5	0.2	0.8	22.4	28.2	27.7	33.53	32.95	12.28	12.15	0.8	29.67	29.16
M24	9	0.2	0.8	26.4	33.6	33.2	39.98	39.55	14.78	14.65	0.8	35.38	35
M30	10.5	0.2	0.8	33.4	42.7	42.7	50.85	50.85	18.7	18.28	1	46	45

\* a Min - Not less than 1P (Pitch)  
 + for l ≤ 10d or 150mm  
 ++ for l > 10d or 150mm



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**TABLE-2 PREFERRED LENGTH-SIZE COMBINATIONS  
FOR HEXAGON HEAD SCREWS  
(All dimensions are in mm)**

Nom	Nominal length 'l'				Thread size d		
	≤10d or 150mm		>10d or 150mm		M20	M24	M30
	Min	Max	Min	Max			
6	5.76	6.24					
8	7.71	8.29					
10	9.71	10.29					
12	11.65	12.35					
16	15.65	16.35					
20	19.58	20.42					
25	24.58	25.42					
30	29.58	30.42					
35	34.5	35.5	33.75	36.25	151		
40	39.5	40.5	38.75	41.25	162		
45	44.5	45.5	43.75	46.25			
50	49.5	50.5	48.75	51.25	184	278	
55	54.4	55.6	53.5	56.5			
60	59.4	60.6	58.5	61.5	211		827.6
65	64.4	65.6	63.5	66.5			
70	69.4	70.6	68.5	71.5		357	
80	79.4	80.6	78.5	81.5			
90	89.3	90.7	88.25	91.75			
100	99.3	100.7	98.25	101.75		463	

WEIGHTS

**Note:**

1. Preferred lengths are in between the stepped bold lines.
2. Weights are given in Kg per 1000 numbers only.
3. For stocked sizes refer BPS components book-let.

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