



PLANT STANDARD

HPBP TIRUCHIRAPALLI

BPS: 41222

PAGE 1 OF 4

Based on IS: 1363(Part 2)-1984

HEXAGON HEAD SCREWS-PRODUCT GRADE C

(Property Class 4.6)

1.0 SCOPE

Covers the requirements for Hexagon Head Screws of product grade C in the size range M5 to M24.

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	C
	Indian Standard	IS: 1367(Part 2)
Thread	Pitch	Coarse
	Tolerance	8g
	Indian Standard	IS: 4218(Part 3,5 & 6)
Material	Steel	
Mechanical properties	Property class	4.6
	Indian Standard	IS: 1367(Part 3)
Sampling and Acceptability	Indian Standard	IS: 2614
General requirements	Screws shall comply with IS: 1363 in respect of requirements not covered in this standard	

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

IS: 1363 Specification for hexagon head bolts, screws & nuts (Part 2) of product grade C. Part 2 Hexagon head screws.

IS: 1367 Technical supply conditions for threaded steel fasteners

IS: 2614 Methods for sampling of fasteners

IS: 4219 ISO Metric screw threads

REVISIONS

DATE

APPROVED

STANDARDS SECTION
ENGINEERING AND DEVELOPMENT CENTRE
HPBP TIRUCHIRAPALLI

PREPARED

HPBP TIRUCHY

ISSUED

STANDARDS
ENGG

DATE

DEC 1986

COPYRIGHT AND CONFIDENTIAL

The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED. It must not be used directly or indirectly in any way detrimental to the interest of the company.



PLANT STANDARD

HPBP TIRUCHIRAPALLI

BPS: 41222

PAGE 2 OF 4

3.0 DESIGNATION

A Grade C Hexagon Head Screw to this standard of thread size M12 and nominal length 60mm shall be designated as:

3.1 On Drawings:

- i) Material Specification column: IS: 1363
- ii) Description column : SCRUBHX GR C 4.6-M12x60
- iii) Drawing Number column : 4122212060
- iv) Material Code column : 4122212060

3.2 Ordering Description

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

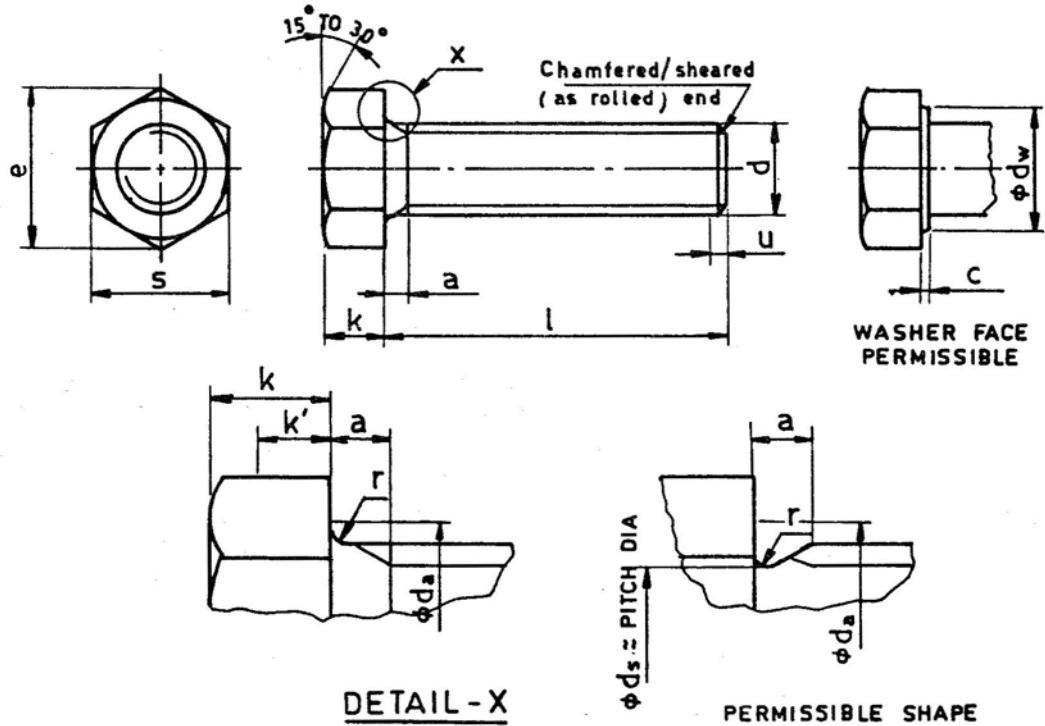
Hexagon Head Screw M12x60 IS: 1363(Part 2)-4.6

COPYRIGHT AND CONFIDENTIAL

The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED. It must not be used directly or indirectly in any way detrimental to the interest of the company.

DEC 1986

TABLE 1 DIMENSIONS FOR HEXAGON HEAD SCREWS



COPYRIGHT AND CONFIDENTIAL

The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED. It must not be used directly or indirectly in any way detrimental to the interest of the company.

(All dimensions are in mm)

Thread size d	M5	M6	M8	M10	M12	M16	M20	M24
Pitch P	0.8	1	1.25	1.5	1.75	2	2.5	3
* a Max	3.2	4	5	6	7	8	10	12
c Max	0.5	0.5	0.6	0.6	0.6	0.8	0.8	0.8
da Max	6	7.2	10.2	12.2	14.7	18.7	24.4	28.4
d _w Min	6.7	8.7	11.4	14.4	16.4	22	27.7	33.2
e Min	8.63	10.89	14.20	17.59	19.85	26.17	32.95	39.55
	Nom	3.5	4	5.3	6.4	7.5	10	12.5
k Min	3.12	3.62	4.92	5.95	7.05	9.25	11.6	14.1
	Max	3.88	4.38	5.68	6.85	7.95	10.75	15.9
k' Min	2.2	2.5	3.45	4.2	4.95	6.5	8.1	9.9
r Min	0.2	0.25	0.4	0.6	0.6	0.6	0.8	0.8
s Max	8	10	13	16	18	24	30	36
	Min	7.64	9.64	12.57	15.57	17.57	23.16	35

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

* a Min not less than 1P.

k'=Effective gauging height.



PLANT STANDARD

HPBP TIRUCHIRAPALLI

BPS: 41222

PAGE 4 OF 4

**TABLE 2 PREFERRED LENGTH-SIZE COMBINATIONS
FOR HEXAGON HEAD SCREWS**

(All dimensions are in mm)

Nominal length l			Thread size d							
Nom	Min	Max	M5	M6	M8	M10	M12	M16	M20	M24
10	9.10	10.90		4.4						
12	11.10	12.90								
16	15.10	16.90		5.5	11.2	20.8				
20	18.95	21.05			12.3	23.2				
25	23.95	26.05		7.4	14.3	25.9	37.3	71.3		
30	28.95	31.05			16.3		41			
35	33.75	36.25			18.3	31		85		
40	38.75	41.25					49.9	92.2		
45	43.75	46.25				38.5		100	167	264
50	48.75	51.25		14			58.7	108		
55	53.5	56.5						115	196	
60	58.5	61.5					68.2		208	
65	63.5	66.5							213	324
70	68.5	71.5								
(75)	73.5	76.5						138		
80	78.5	81.5								
90	88.25	91.75								
100	98.25	101.75					83.4			463
(110)	108.25	111.75						203		
(125)	123	127					92.9			

WEIGHTS

COPYRIGHT AND CONFIDENTIAL
The information on this document is the property of BHARAT HEAVY ELECTRICALS LIMITED. It must not be used directly or indirectly in any way detrimental to the interest of the company.

Note:

1. Sizes in brackets are non-preferred. (Not covered by IS:1363 - Part 2)
2. Preferred lengths are in between the stepped bold lines.
3. Weights are given in Kg per 1000 numbers only.
4. For stocked sizes refer BPS components book-let.