



R. V. FASTENERS

AN ISO 9001:2015 CERTIFIED COMPANY

Deals in : ALL KINDS OF FASTENERS & STRUCTURES

Unit No. 1 : Backside Swani Motors, Shanti Nagar, Giaspura, LUDHIANA-141 010. (Pb.) INDIA

Unit No. 2 : Backside Vidhata Plywood Factory, Kanganwal Road, LUDHIANA-141 017. (Pb.) INDIA

E-mail : info@rvfasteners.com Website : www.rvfasteners.com

GUARANTEED TECHNICAL PARTICULARS FOR HDG HEXAGONAL BOLTS AND NUTS Gr. 5.6/5, PACK WASHER ,& SPRING WASHER				
S.No	DESCRIPTION	QUALITY PARTICULAR AS PER IS:1367 PART-3 2002		
1	Specification & Standards			
i)	Bolts	IS : 1363 Part 1 & 2 - 1992/2002, IS 12427, IS: 1367/2002 ✓		
ii)	Nuts	IS:14394 IS : 1363 Part 3 -1992 ✓		
iii)	Spring Washer	IS : 3063 : 1994 ✓		
iv)	Flat Washer	IS : 2016 : 1967 ✓		
2	Tolerances	IS : 1367 (Part 2): 1979/2002 ✓		
3	Raw Material			
i)	For Bolts & Nuts	IS : 1367 Part III & VI Grade-c ✓		
ii)	For Plain Washer	IS : 2062-2006 GR. E-250 ,CARBON STEEL ✓		
iii)	For Spring Washer	IS : 4072 :1975 ✓		
iv)	Type of Steel	Carbon Steel(MS ROD) ✓		
4	Chemical Composition	As per IS : 1367 Part III & VI, IS:		
		2062-2011 Gr. E-250/C &		
		IS : 4072:1975		
i)	For Bolts, Nuts, Spring Washer &			
	Plain Washer	Bolts	Nuts	S/W P/W
	Carbon (Min.)	0.13% ✓		0.55% ✓ --
	Carbon (Max.)	0.55% ✓	0.50%	0.75% 0.20%
	Phosphorus (Max.)	0.05% ✓	0.06%	0.05% 0.040%
	Sulphur (Max.)	0.06% ✓	0.15%	0.05% 0.040%
	Magnese (Max.)	1.50%	1.50%	0.80% 1.50%
	Silicon (Max.)	0.40%	0.40%	0.35% 0.40%
5	Mechanical Properties	IS : 1367 Part III - 2002		
(a)	For Polts	Property Class 5.6 as per IS 1367-2002		
i)	Tensile Strength (N/Sq. mm-min)	500 ✓		
ii)	Yield Strength (N/Sq. mm-min)	300		
iii)	Stress under proof load (N/sq. mm/min)	280 ✓		
iv)	Hardness HRB (Min./Max.)	79-95 HRB ✓		
v)	Elongation after fracture (%Min)	20% ✓		
vi)	Strength under wedge load (N/Sq. mm-min)	500 ✓		
vii)	Head soundness test	No fracture ✓		
(b)	For Hex Nuts	IS : 1367-1994 part VI AND 14394-1996 , Class 5 ✓		
i)	Proof stress (N/sq. mm-min)	500 ✓		
ii)	Hardness HRB (Min./Max.)	71-107 HRB		

APPROVED
Subject to the condition that you are not absolved of the responsibility of Correctness of materials.
James Kumar
Chief Engineer (Project-II)
NBPDCL



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c) For Spring Washer	S/W
i) Hardness test	IS : 3063-1994 ✓
ii) Permanent set. Test	IS : 3063-1994 ✓
iii) Permanent load Test	IS : 3063-1994 ✓
iv) Twist test	IS : 3063-1994 ✓
6 (a) Hot Dip Galvanising of Bolts & Nuts	IS :1367 (Part XIII)-1983, 2629/1966
i) Mass of coating (g/m ² min)	Average 375 gm/m ² ✓
ii) Coating Thickness (mm-min)	Average 54 microns ✓
iii) Uniformity of Zinc Coating	CuSo ₄ dip test 4times one minute dip each
iv) Adhesion Test	With Blunt Knife
(b) Hot Dip Galvanising of washers	IS : 4759-1996
i) Mass of coating (g/m ² min)	Average 460 gm/m ²
ii) Coating Thickness (mm-min)	Average 66 microns
iii) Uniformity of Zinc Coating	CuSo ₄ dip test 4 times one minute dip each
iv) Adhesion Test	With Blunt knife
7 Sampling Procedure	IS : 1367 Part - 17/IS: 6821-1973 IS 2614/1969
For bolts & nuts, spring washer and plain washer	
8 Dimensional Particulars for Bolts, Nuts, Spring washers and plain washers	
	Bolts Nuts S/W P/W
	IS:1363 IS:1363 IS:1363/1994 IS : 2016
i) Shank diameter (ds) 'mm'	do ----- ---- ---- ✓
ii) Width across flat (s) 'mm'	do do ---- ---- ✓
iii) Width across corner (e) 'mm'	do do ---- ----
iv) Thickness of Bolt head (k) 'mm'	do ----- ---- ----
v) Length of thread (b)	do ----- ---- ----
vi) Thickness of Nut (m) in mm	IS : 1363 : 1992 ✓
vii) Spring washers d1, d2, b, s, h	IS : 3063 : 1994 ✓
viii) Plain washers d1, D, s	IS : 2016 : 1967 ✓

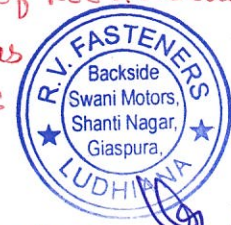
Note :-

- i) Contractors/Manufacturers are not absolved the responsibility of correctness of materials.
- ii) The material must comply Technical specification of REC & relevant IS.
- iii) Manufacturer must have valid Type Test report as mentioned in technical specification of REC at the time of inspection.



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Chief Engineer (Project-II)
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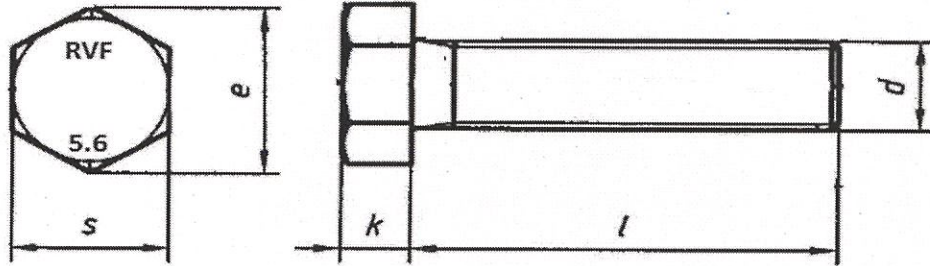
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Hex Bolt Drawing



Thread (d)	M8	M10	M12	M16	M20	M24	
pa	1,25	1,5	1,75	2	2,5	3	
e	min.	14,2	17,59	19,85	26,17	32,95	39,55
	nom.	5,3	6,4	7,5	10	12,5	15
k	max.	5,675	6,85	7,95	10,75	13,4	15,9
	min.	4,925	5,95	7,05	9,25	11,6	14,1
s	nom. = max.	13,00	16,00	18,00	24,00	30,00	36
	min.	12,57	15,57	17,57	23,16	29,16	35

Dimensions in millimetres

Contractor : M/s VAISHNO ASSOCIATES VIDYUT PROJECT LLP , 14-15, GAJARAJ TOWER, 3RD FLOOR, MOTI LAL ATAL ROAD, JAIPUR-302001 RAJASTHAN

PROJECT: Revamped Reforms- based and Results linked, Distribution Sector Scheme

CLINT : NORTH BIHAR POWER DISTRIBUTION CO. LTD

NOA NO.

Manufacture : M/s R.V Fasteners

Item Description : Bolt with nut & washer

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 responsibility of
 Correctness of materials

(Signature)
Chief Engineer (Project-II)
 NBPDCL

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(Signature)
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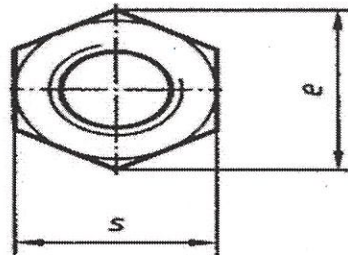
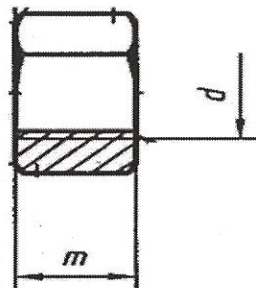
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Hex Nut Drawing



Thread (d)		M8	M10	M12	M16	M20	M24
pa		1,25	1,5	1,75	2	2,5	3
e	min.	14,2	17,59	19,85	26,17	32,95	39,55
m	max.	7,9	9,5	12,2	15,9	19,0	22,3
	min.	6,4	8,0	10,4	14,1	16,9	20,2
s	nom. = max.	13,00	16,00	18,00	24,00	30,00	36
	min.	12,57	15,57	17,57	23,16	29,16	35

Dimensions in millimetres

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 Chief Engineer (Project-II)
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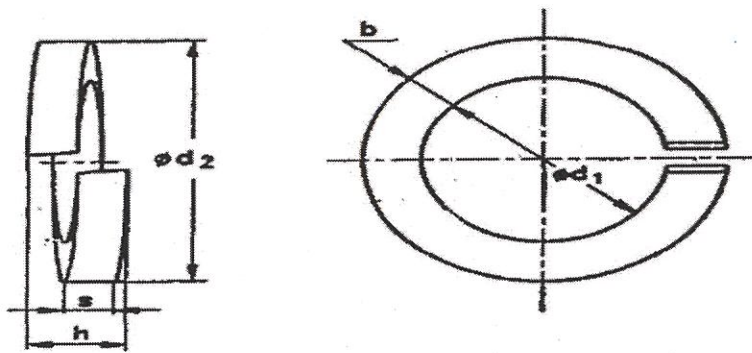
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Spring Washer Drawing



Size	M8	M10	M12	M16	M20	M24
Inner Dia.-d1	8.10-8.50	10.20-10.70	12.20-12.70	16.20-17.00	20.20-21.20	24.50-25.50
Outer Dia.-d2	14.80 Max	18.10 Max	21.10 Max	27.40 Max	33.60 Max	40.00Max
Thickness -s	1.90-2.10	2.05-2.35	2.35-2.65	3.30-3.70	3.80-4.20	4.80-5.20
Width-b	2.85-3.15	3.30-3.70	3.80-4.20	4.80-5.20	5.80-6.20	6.75-7.25
Free Height-h	4.00-4.70	4.40-5.20	5.00-5.90	7.00-8.30	8.00-9.40	10.00-11.80

Dimensions in millimetres

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Item Description : Bolt with nut & washer



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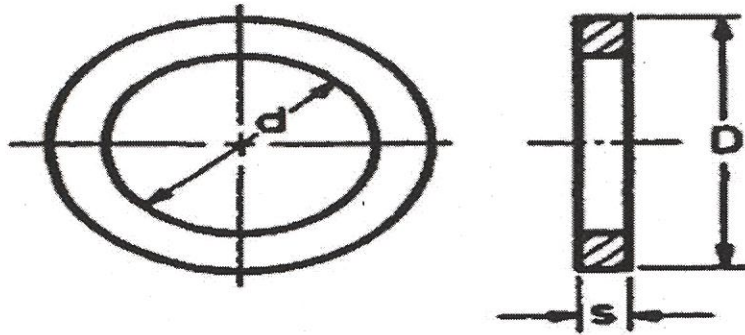
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Plain Washer Drawing



Size	M8	M10	M12	M16	M20	M24
Inner Dia.-d	9.00-9.43	11.00-11.43	14.00-14.43	18.00-18.43	22.00-22.52	26.00-26.52
Outer Dia.-D	12.90-14.00	19.90-21.00	22.70-24.00	28.70-30.00	35.60-37.00	42.60-44.00
Thickness -s	1.40-1.80	1.80-2.20	2.20-2.80	2.40-3.60	2.40-3.60	3.40-4.60

Dimensions in millimetres

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Handwritten signatures and initials
 AEE(P-II) EEE(P-II) ESE(P-II)



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Handwritten signature
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