



**Bharat Heavy Electricals Limited**  
Industrial Valves Plant  
Goindwal Sahib (Punjab)

Enquiry No.  
**2526-084E**

Date:  
**10.02.2026**

**NOTICE INVITING TENDER (NIT)**

Dear Sir / Madam,

BHEL Goindwal Sahib (Punjab) invites offers from interested bidders / suppliers for submission of their offer through e-procurement mode at <https://eprocurebhel.co.in/>. Offers in any other mode will not be accepted. In case of any difficulty faced while registering on BHEL's e-Procurement portal developed by NIC, queries may be addressed to 0120-4001002, 0120-4001005 and 0120-6277787; email: [support-eproc@nic.in](mailto:support-eproc@nic.in). These details are also available on 'Contact Us' page of the portal.

<b>Tender enquiry no. &amp; date</b>	2526-084E dated <b>10.02.2026</b>
<b>Form of contract</b>	Supply
<b>Tender / Item description</b>	Fasteners GVFST
<b>Material standard / Drawings</b>	As per attached TDC(s), Drawings and BPS.
<b>Location(s) of Supply / Work</b>	BHEL, IVP Goindwal, Punjab – 143422, India.
<b>Earnest Money Deposit (EMD)</b>	Not Applicable
<b>Performance Security (PS)</b>	Not Applicable (Refer Sr. no. 13 of GCC of tender terms)
<b>Quotation parts</b>	Two Part Bid
<b>Tender download / Bid submission start date</b>	<b>10.02.2026 (17:00 Hrs. IST)</b>
<b>Tender download / Bid submission end date</b>	<b>21.02.2026 (12:00 Hrs. IST)</b>
<b>Tender / Bid opening date</b>	<b>21.02.2026 (15:30 Hrs. IST)</b>
<b>Validity of offer (In days)</b>	75 days from techno commercial bid opening (Part I)
<b>Quantity variation</b>	+/- 10% of tender quantity
<b>Delivery schedule</b>	Within <b>90 Days</b> from the date of PO placement / LOI
<b>Tender evaluation</b>	Item Wise as detailed in Special Terms and Conditions
<b>Reverse auction</b>	Not Applicable
<b>Make In India (MII) Purchase Preference</b>	Applicable
<b>MSE reserved</b>	12 out of 110 Items are reserved for MSE Manufacturers as per Table 1 of Special terms and conditions.
<b>Contact person details</b>	Ranveer Singh, Manager 01859-224 630, ranveer.singh@bhel.in  Rajesh Kumar, Sr. Manager 01859-224 618, kumarrajesh@bhel.in



## SPECIAL TERMS AND CONDITIONS

Tender Enquiry No. 2526-084E Dated 10.02.2026 **Due date 21.02.2026**

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### S1. SCOPE OF SUPPLY

Material shall be supplied as per the applicable TDC/drawing as mentioned in the Table- 1. National & International material standards shall have to be arranged by bidders themselves.

**Table 1 : List of Items along with Applicable TDC (Technical Delivery Condition) and Drawing / BPS / IS Standard Number.**

Sr . N o.	Material	Description	Qty (no. )	L1 Comparison will be done as (A)	Drawing No. /Rev. no. or BPS	Applicable TDC /Rev. no.	Applicable Standard	Stainl ess Steel Mater ial (Yes /No)	MSE reserv ed Items (Yes/ No)
1	964562600 000	BOLT- 1/2"x55 - B7-N073	300	Set (1 Set = 1 Bolt + 1 Nut)	3VN0730688 1/04	TDC:5:16 4/12	-----	No	No
2	964562790 000	NUT -1/2" -2H-N073	300		3VN0730687 6/03	TDC:5:16 4/12	A194 GR.2H	No	No
3	964562620 000	BOLT- 5/8"x70 - B7-N001	600	Set (1 Set = 1 Bolt + 1 Nut)	3VN0010688 1/04	TDC:5:16 4/12	-----	No	No
4	964562800 000	NUT -5/8" -2H-N025	600		3VN0250687 6/03	TDC:5:16 4/12	A194 GR.2H	No	No
5	412371206 000	BOLT- M12x60 - 8.8- IS1364P1	700	Set (1 Set = 1 Bolt + 1 Nut)	-----	-----	IS-1364(P- 1)	No	Yes
6	413200001 200	NUT -M12 -CL8- IS1364P3	700		-----	-----	IS:1364(P- 3)	No	Yes
7	412371605 000	BOLT- M16x50 - 8.8- IS1364P1	300	Number	-----	-----	IS-1364(P- 1)	No	Yes
8	964522410 000	BOLT- M16x50 - B7-0008	600	Number	3V00082072 3/03	TDC:5:16 4/12	-----	No	No
9	412371606 000	BOLT- M16x60 - 8.8- IS1364P1	800	Number	-----	-----	IS-1364(P- 1)	No	Yes
10	412371608 000	BOLT- M16x80 - 8.8- IS364P1	200	Set (1 Set = 1 Bolt + 1 Nut)	-----	-----	IS-1364(P- 1)	No	Yes



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11	413200001 600	NUT -M16 -CL8- IS1364P3	200		-----	-----	IS-1364(P- 3)	No	Yes
12	964533300 000	BOLT- M16x90 - B7-0010	800	Number	3V00102072 3/02	TDC:5:16 4/12	-----	No	No
13	964523140 000	BOLT- M20x55 - B7-0009	700	Number	3V00092072 3/03	TDC:5:16 4/12	-----	No	No
14	964521960 000	BOLT- M20x60 - B7-0005	200	Number	3V00052072 3/03	TDC:5:16 4/12	-----	No	No
15	964650030 000	BOLT- M24x75 - B7-0016	300	Number	3V00162072 8/00	TDC:5:16 4/12	-----	No	No
16	964531720 000	BOLT- M24x85 - B7-0009	100	Number	3V00092072 8/03	TDC:5:16 4/12	-----	No	No
17	412370807 500	BOLT- M8x75 - 8.8- IS1364-P1	200 0	Number	-----	-----	IS-1364(P- 1)	No	Yes
18	964567490 000	DE STUD- 5/8"x115 - B7-N435	300	Set (1 Set = 1 Stud + 1 Nut)	3VN4350688 4/01	TDC:5:16 4/12	-----	No	No
19	964562800 000 (same as Sr. No.04)	NUT -5/8" -2H-N025	300		3VN0250687 6/03	TDC:5:16 4/12	A194 GR.2H	No	No
20	411011296 000	DE STUD- M12x60 - 6.6- IS1862-A- TL72-CAD	150 0	Number	-----	-----	IS-1862	No	Yes
21	411011605 000	DE STUD- M16x50 - 6.6- IS1862-A- TL66	100	Set (1 Set = 1 Stud + 1 Nut)	-----	-----	IS-1862	No	Yes
22	413200001 600 (same as Sr. No.11)	NUT -M16 -CL8- IS1364P3	100		-----	-----	IS-1364(P- 3)	No	Yes
23	411012010 000	DE STUD- M20x100 - 6.6- IS1862-A- TL120	100	Set (1 Set = 1 Stud + 2 Nuts)	-----	-----	IS-1862	No	Yes
24	413190002 000	NUT -M20 -2H	200		BPS 41319	-----	BPS 41319	No	Yes
25	964564270 000	FT STUD- 1"x135 -	400	Set (1 Set = 1	3V13870687 5/02	TDC:5:16 4/12	A193- GR.B7	No	No



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		B7-1387		Stud + 2 Nuts)					
26	964562820 000	NUT -1" - 2H-N065	800		3VN0650687 6/03	TDC:5:16 4/12	A194 GR.2H	No	No
27	964562760 000	FT STUD- 1"x158 - B7-N065	200	Set (1 Set = 1 Stud + 2 Nuts)	3VN0650687 5/02	TDC:5:16 4/12	A193- GR.B7	No	No
28	964562820 000 (same as Sr. No.26)	NUT -1" - 2H-N065	400		3VN0650687 6/03	TDC:5:16 4/12	A194 GR.2H	No	No
29	964562290 000	FT STUD- 1"x170 - B7-N224	250 0	Set (1 Set = 1 Stud + 2 Nuts)	3VN2240687 5/02	TDC:5:16 4/12	A193- GR.B7	No	No
30	964562820 000 (same as Sr. No.28)	NUT -1" - 2H-N065	500 0		3VN0650687 6/03	TDC:5:16 4/12	A194 GR.2H	No	No
31	964656350 000	FT STUD- 1/2"- 13UNC- 2A-80- B8M	800	Set (1 Set = 1 Stud + 2 Nuts)	3V00012324 8/02	-----	A193 B8M CL.2	Yes	No
32	964656480 000	HEX NUT- 1/2"- 13UNC- 2B-GR.8M	160 0		3V00012324 9/00	-----	A194- GR.8M	Yes	No
33	964562680 000	FT STUD- 1/2"x80 - B7-N081	450 0	Set (1 Set = 1 Stud + 2 Nuts)	3VN0810687 5/02	TDC:5:16 4/12	A193- GR.B7	No	No
34	964562790 000 (same as Sr. No.02)	NUT -1/2" -2H-N073	900 0		3VN0730687 6/03	TDC:5:16 4/12	A194 GR.2H	No	No
35	964536650 000	FT STUD- 1-1/2"x220 -B7-N827	200	Set (1 Set = 1 Stud + 2 Nuts)	3VN8270687 5/00	TDC:5:16 4/12	A193- GR.B7	No	No
36	964536680 000	NUT -1- 1/2" -2H- N827	400		3VN8270687 6/00	TDC:5:16 4/12	A194 GR.2H	No	No
37	964567040 000	FT STUD- 1-1/4"x150 -B7-N361	500	Set (1 Set = 1 Stud + 2 Nuts)	3VN3610687 5/01	TDC:5:16 4/12	A193- GR.B7	No	No
38	964566830 000	NUT -1- 1/4" -2H- F505	100 0		3VF5050687 6/01	TDC:5:16 4/12	A194 GR.2H	No	No
39	964566800 000	FT STUD- 1-1/4"x215 -B7-F505	500	Set (1 Set = 1 Stud + 2 Nuts)	3VF5050687 5/01	TDC:5:16 4/12	A193- GR.B7	No	No
40	964566830 000 (same as Sr.	NUT -1- 1/4" -2H- F505	100 0		3VF5050687 6/01	TDC:5:16 4/12	A194 GR.2H	No	No



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	No.38)								
41	964566820 000	FT STUD- 1-1/4"x250 -BT-F507	300	Set (1 Set = 1 Stud + 2 Nuts)	3VF5070687 5/02	TDC:5:16 4/12	A193- GR.B7	No	No
42	964566830 000 (same as Sr. No.40)	NUT -1- 1/4" -2H- F505	600		3VF5050687 6/01	TDC:5:16 4/12	A194 GR.2H	No	No
43	964565730 000	FT STUD- 1-1/8"x180 -B16-N309	300	Set (1 Set = 1 Stud + 2 Nuts)	3VN3099518 0/01	TDC:5:16 4/12	A193- GR.B16	No	No
44	964565800 000	NUT -1- 1/8" -GR7- N309	600	Set (1 Set = 1 Stud + 2 Nuts)	3VN3099517 8/02	TDC:5:16 4/12	A194-GR.7	No	No
45	964562770 000	FT STUD- 1-1/8"x180 -BT-N105	400 0	Set (1 Set = 1 Stud + 2 Nuts)	3VN1050687 5/02	TDC:5:16 4/12	A193- GR.B7	No	No
46	964562830 000	NUT -1- 1/8" -2H- N105	800 0	Set (1 Set = 1 Stud + 2 Nuts)	3VN1050687 6/03	TDC:5:16 4/12	A194 GR.2H	No	No
47	964566810 000	FT STUD- 1-1/8"x220 -BT-F506	700	Set (1 Set = 1 Stud + 2 Nuts)	3VF5060687 5/01	TDC:5:16 4/12	A193- GR.B7	No	No
48	964562830 000 (same as Sr. No.46)	NUT -1- 1/8" -2H- N105	140 0	Set (1 Set = 1 Stud + 2 Nuts)	3VN1050687 6/03	TDC:5:16 4/12	A194 GR.2H	No	No
49	964567430 000	FT STUD- 1-3/8"x190 -BT-N437	100	Set (1 Set = 1 Stud + 2 Nuts)	3VN4370687 5/01	TDC:5:16 4/12	A193- GR.B7	No	No
50	964536670 000	NUT -1- 3/8" -2H - N848	200	Set (1 Set = 1 Stud + 2 Nuts)	3VN8480687 6/00	TDC:5:16 4/12	A194 GR.2H	No	No
51	964656390 000	FT STUD- 3/4"- 10UNC- 2A-120- B8M	500	Set (1 Set = 1 Stud + 2 Nuts)	3V00052324 8/02	-----	A193 B8M CL.2	Yes	No
52	964656500 000	HEX NUT- 3/4"- 10UNC- 2B-GR.8M	100 0	Set (1 Set = 1 Stud + 2 Nuts)	3V00032324 9/00	-----	A194- GR.8M	Yes	No
53	964656400 000	FT STUD- 3/4"- 10UNC- 2A-133- B8M	400	Set (1 Set = 1 Stud + 2 Nuts)	3V00062324 8/02	-----	A193 B8M CL.2	Yes	No
54	964656500 000 (same as Sr. No.52)	HEX NUT- 3/4"- 10UNC- 2B-GR.8M	800	Set (1 Set = 1 Stud + 2 Nuts)	3V00032324 9/00	-----	A194- GR.8M	Yes	No



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55	964562740 000	FT STUD- 3/4"x120 - B7-N041	600	Set (1 Set = 1 Stud + 2 Nuts)	3VN0410687 5/02	TDC:5:16 4/12	A193- GR.B7	No	No
56	964562810 000	NUT -3/4" -2H-N057	120 0		3VN0570687 6/03	TDC:5:16 4/12	A194 GR.2H	No	No
57	964562750 000	FT STUD- 3/4"x133 - B7-N089	200 0	Set (1 Set = 1 Stud + 2 Nuts)	3VN0890687 5/02	TDC:5:16 4/12	A193- GR.B7	No	No
58	964562810 000 (same as Sr. No. 56)	NUT -3/4" -2H-N057	400 0		3VN0570687 6/03	TDC:5:16 4/12	A194 GR.2H	No	No
59	964656370 000	FT STUD- 5/8"- 11UNC- 2A-105- B8M	100 0	Set (1 Set = 1 Stud + 2 Nuts)	3V00032324 8/02	-----	A193 B8M CL.2	Yes	No
60	964656490 000	HEX NUT- 5/8"- 11UNC- 2B-GR.8M	200 0		3V00022324 9/00	-----	A194- GR.8M	Yes	No
61	964656380 000	FT STUD- 5/8"- 11UNC- 2A-118- B8M	700	Set (1 Set = 1 Stud + 2 Nuts)	3V00042324 8/02	-----	A193 B8M CL.2	Yes	No
62	964656490 000 (same as Sr. No.60)	HEX NUT- 5/8"- 11UNC- 2B-GR.8M	140 0		3V00022324 9/00	-----	A194- GR.8M	Yes	No
63	964656360 000	FT STUD- 5/8"- 11UNC- 2A-86- B8M	700	Set (1 Set = 1 Stud + 2 Nuts)	3V00022324 8/02	-----	A193 B8M CL.2	Yes	No
64	964656490 000 (same as Sr. No.64)	HEX NUT- 5/8"- 11UNC- 2B-GR.8M	140 0		3V00022324 9/00	-----	A194- GR.8M	Yes	No
65	964562710 000	FT STUD- 5/8"x105 - B7-N009	700 0	Set (1 Set = 1 Stud + 2 Nuts)	3VN0090687 5/02	TDC:5:16 4/12	A193- GR.B7	No	No
66	964562800 000 (same as Sr. No.19)	NUT -5/8" -2H-N025	140 00		3VN0250687 6/03	TDC:5:16 4/12	A194 GR.2H	No	No
67	964562720 000	FT STUD- 5/8"x118 - B7-N017	500	Set (1 Set = 1 Stud + 2 Nuts)	3VN0170687 5/02	TDC:5:16 4/12	A193- GR.B7	No	No
68	964562800 000 (same as Sr.	NUT -5/8" -2H-N025	100 0		3VN0250687 6/03	TDC:5:16 4/12	A194 GR.2H	No	No



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	No.66)								
69	964562690 000	FT STUD- 5/8"x86 - B7-N025	150 0	Set (1 Set = 1 Stud + 2 Nuts)	3VN0250687 5/02	TDC:5:16 4/12	A193- GR.B7	No	No
70	964562800 000 (same as Sr. No.68)	NUT -5/8" -2H-N025	300 0		3VN0250687 6/03	TDC:5:16 4/12	A194 GR.2H	No	No
71	964564560 000	FT STUD- 7/8"x150 - B7-N212	200 0	Set (1 Set = 1 Stud + 2 Nuts)	3VN2120687 5/02	TDC:5:16 4/12	A193- GR.B7	No	No
72	964564310 000	NUT -7/8" -2H-N206	400 0		3VN2060687 6/02	TDC:5:16 4/12	A194 GR.2H	No	No
73	411171612 000	FT STUD- M16x120 - B7	250 0	Set (1 Set = 1 Stud + 2 Nuts)	BPS 41117	-----	-----	No	No
74	413190001 600	NUT -M16 -2H	500 0		BPS 41319	-----	A194GR2H	No	No
75	411171609 000	FT STUD- M16x90 - SA193B7	600	Set (1 Set = 1 Stud + 2 Nuts)	BPS 41117	-----	SA193B7	No	No
76	413190001 600 (same as Sr. No.74)	NUT -M16 -2H	120 0		BPS 41319	-----	A194GR2H	No	No
77	411172012 000	FT STUD- M20x120 - B7	500	Set (1 Set = 1 Stud + 2 Nuts)	BPS 41117	-----	-----	No	No
78	413190002 000 (same as Sr. No.24)	NUT -M20 -2H	100 0		BPS 41319	-----	BPS 41319	No	No
79	411172013 000	FT STUD- M20x130 - B7	150 0	Set (1 Set = 1 Stud + 2 Nuts)	-----	-----	-----	No	No
80	413190002 000 (same as Sr. No.78)	NUT -M20 -2H	300 0		BPS 41319	-----	BPS 41319	No	No
81	411172013 900	FT STUD- M20x130 - B7-CAD	300 0	Set (1 Set = 1 Stud + 2 Nuts)	BPS 41117	-----	BPS 41117	No	No
82	413010092 000	NUT -M20 -CL6- IS1364P3- CAD	600 0		-----	-----	IS:1364(P- 3)	No	No
83	964526850 000	FT STUD- M20x197 - B7-0005	200	Set (1 Set = 1 Stud + 2	3V00052072 9/02	TDC:5:16 4/12	A193- GR.B7	No	No



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84	413190002 000 (same as Sr. No.84)	NUT -M20 -2H	400	Nuts)	BPS 41319	-----	BPS 41319	No	No
85	411172414 000	FT STUD- M24x140 - B7	700	Set (1 Set = 1 Stud + 2 Nuts)	-----	-----	-----	No	No
86	413190002 400	Hex Nut M24 - 2H Gr B 425 BPS 41319	140 0	BPS 41319	-----	A194GR2H	No	No	
87	411172415 000	FT STUD- M24x150 - B7	200	Set (1 Set = 1 Stud + 2 Nuts)	BPS 41117	-----	-----	No	No
88	413190002 400 (same as Sr. No86)	Hex Nut M24 - 2H Gr B 425 BPS 41319	400	BPS 41319	-----	A194GR2H	No	No	
89	964654870 000	FT STUD- M30x3.5X 240-B7	200	Set (1 Set = 1 Stud + 2 Nuts)	3V00242072 9/00	TDC:5:16 4/12	A193- GR.B7	No	No
90	413190003 000	NUT -M30 -2H	400	-----	-----	A194GR2H	No	No	
91	964524410 000	FT STUD- M30x3x18 5 -B7-0001	400	Set (1 Set = 1 Stud + 2 Nuts)	3V00012072 9/02	TDC:5:16 4/12	A193- GR.B7	No	No
92	964606450 000	NUT - M30x3 - 2H-0008- H30	800	3V00082071 7/00	TDC:5:16 4/12	A194 GR.2H	No	No	
93	964608300 000	FT STUD- M30x3x20 0 -B7- Z022	200	Set (1 Set = 1 Stud + 2 Nuts)	3VZ0222266 7/00	TDC:5:16 4/12	A193- GR.B7	No	No
94	964606450 000 (same as Sr. No.92)	NUT - M30x3 - 2H-0008- H30	400	3V00082071 7/00	TDC:5:16 4/12	A194 GR.2H	No	No	
95	964527060 000	FT STUD- M30x3x27 0 -B16- 0031	100	Set (1 Set = 1 Stud + 2 Nuts)	3V00312072 9/02	TDC:5:16 4/12	A193- GR.B16	No	No
96	964523100 000	NUT - M30x3 - GR7-0010- H24	200	3V00102071 7/01	TDC:5:16 4/12	A194-GR.7	No	No	
97	964658920 000	HEX.BOLT -M12 X1.75X60- B8M	200	Set (1 Set = 1 Bolt + 1 Nut)	3V00022570 8/02	-----	A193 B8M CL.2	Yes	No



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98	964658440000	NUT-M12-8M	200		4V000527368/00	-----	A194-GR.8M	Yes	No
99	931068450000	PLUG-5196	100	Number	3V519606413/02	TDC:5:164/12	-----	No	No
100	931068440000	PLUG-5199	100	Number	3V519906413/01	TDC:5:164/12	-----	No	No
101	930595160000	STUD M10X45-2899	300	Set (1 Set = 1 Stud + 2 Nuts)	3V113403661/01	TDC:5:164/12	-----	No	No
102	413200001000	NUT -M10-CL8-IS1364P3	600		-----	-----	IS:1364(P-3)	No	No
103	931017180000	STUD M16X50-S661	1000	Set (1 Set = 1 Stud + 2 Nuts)	3VS66109338/00	TDC:5:164/12	-----	No	No
104	413020001600	THIN NUT-M16 -CL5-IS1364P4	2000	Set (1 Set = 1 Stud + 2 Nuts)	-----	-----	IS:1364(P-4)	No	No
105	930595170000	STUD M16X55 -1135	500	Set (1 Set = 1 Stud + 1 Nut)	3V113503661/01	TDC:5:164/12	-----	No	No
106	413190001600 (same as Sr. No.76)	NUT -M16-2H	500	Set (1 Set = 1 Stud + 1 Nut)	BPS 41319	-----	A194GR2H	No	No
107	930596020000	STUD M8X30 -S833	500	Set (1 Set = 1 Stud + 2 Nuts)	3VS83309338/00	TDC:5:164/12	-----	No	No
108	413020000800	THIN NUT-M 8 -CL5-IS1364P4	1000	Set (1 Set = 1 Stud + 2 Nuts)	-----	-----	IS-1364(P-4)	No	No
109	931019960000	STUD-M16X70 -2961	100	Set (1 Set = 1 Stud + 1 Nut)	3V296103661/00	TDC:5:164/12	-----	No	No
110	413190001600 (same as Sr. No.106)	NUT -M16-2H	100	Set (1 Set = 1 Stud + 1 Nut)	BPS 41319	-----	A194GR2H	No	No

**Please take special attention of material type as stainless steel and class of fasteners and quote prices accordingly. For detail technical requirement please check applicable drawing/TDC/BPS/IS standard as mentioned in above list of items.**

### **SPECIAL NOTES:**

- a) The L1 evaluation will be done as per Set wise or number wise as per unit of L1 Comparison mentioned in column A of above table, so please take special attention while quoting prices in Part-II (BOQ).
- b) Bidder has to submit Unit rate for Each item in the Price Bid/BOQ (Part-II), **However**



## SPECIAL TERMS AND CONDITIONS

Tender Enquiry No. 2526-084E Dated 10.02.2026 **Due date 21.02.2026**

Tender Description: Supply of Fasteners GVFST

*evaluation of rates shall be done as per column 05 of above table (L1 Comparison will be done as(A) ). Wherever L1 Comparison is in set, the bidder has to quote for both Bolt/Stud and Nut and also the material shall be supplied in assembled condition only. Please note that in case same nut is appearing multiple times, then bidder has to quote rate of nut multiple times for getting eligible in each set. If bidder has not quoted for both items of set, then he will be disqualified for that set. Wherever unit of L1 Comparison is number, the comparison will be done number-wise only.*

- c) *Wherever the nuts are repeating that is item 02 and 34; 04, 19, 66, 68 and 70; 11 and 22; 24,78, 80 and 84; 26 , 28 and 30; 38, 40 and 42; 46 and 48; 52 and 54; 56 and 58; 60, 62 and 64;74, 76, 106 and 110 of Table 1 minimum of the quoted rates will be considered for such nuts by the vendor.*
- d) *Quality Assurance Plan Applicable:*
  - i. For stainless steel fasteners at 31, 32, 51 to 54, 59 to 64, 97 and 98 is document number BHE:SQAP:SS:01 dt. 12.08.2021.
  - ii. For the remaining fasteners, document number BHE:QP:FAS:02 dt. 15.03.2019 / as per standard as applicable.

### **ITEMS RESERVED FOR MSE MANUFACTURERS ARE MENTIONED IN ABOVE TABLE.**

*In case, no response is received from MSE bidder(s) for items reserved for MSEs, then procurement will be made from Non-MSE bidder(s).*

## **S2. PRE-QUALIFICATION CRITERIA (PQC)**

Bidder has to submit following documents to fulfil PQC:

1. Supplier shall be manufacturer of Fasteners. Offers from Traders/Dealers/Stockists/agents will summarily be rejected. Submission of Certificate of Registration or UDYAM Certificate or Self-Declaration or ISO certificate from bidder for proof as a **fastener manufacturer** is required to fulfil this criterion. Manufacturers **shall provide list of inhouse machinery** available to prove fastener manufacturing.
2. Bidder has to submit one or more purchase order/s of Fasteners from any customer with minimum cumulative value of Rs. **12,68,000.00 (Six twelve lacs sixty eight thousand only)** along with the proof of execution like Invoice / Consignee Receipt Note / Completion Certificate, from any customer(s). PO date should be **01.02.2023** or afterwards till bid opening date". PO value mentioned above is net of taxes.

**Also, please note that the proof of execution like Invoice / Consignee Receipt Note / Completion Certificate must include the Purchase Order reference number, otherwise that PO will not be considered for the fulfilment of this tender term.**

Start-ups shall be exempted from this criterion of Purchase order and invoice submission without any relaxation in quality standards or technical parameters as per D.O. No. 5(4)/2016-BE-I dated 15.02.2017. For claiming Start-Up exemption, vendors have to submit DPIIT (Dept. of Promotion of Industry and Internal Trade)/DIPP (Department for Industrial Policy and Promotion) recognition certificates.

## **S3. PART-I: TECHNO-COMMERCIAL BID**



## SPECIAL TERMS AND CONDITIONS

Tender Enquiry No. 2526-084E Dated 10.02.2026 **Due date 21.02.2026**

Tender Description: Supply of Fasteners GVFST

**This tender is through e-procurement mode** for supply of “Fasteners GVSFT” as per specifications mentioned in below tender terms. Bidder has to submit their offer on BHEL e-Procurement portal at <https://eprocurebhel.co.in/>. **Offer in any other mode will not be accepted.** Please refer clause no. 1.2 of General Contract Conditions of MM Tenders (GCC), regarding instructions to bidder for submission of offer on BHEL e-procurement portal.

Tenders shall be submitted in Two parts on or before the due date and time indicated in the NIT

### **Part-I: Techno-Commercial Bid**

Bid should contain all the documents/confirmations as per following details:

- Acceptance of Techno-Commercial terms and conditions shall be attached along with bid document (Duly filled Part-I Techno-Commercial Bid Questionnaire)

*IF THE OFFER IS NOT ACCCOMPANIED WITH ACCEPTANCE OF TERMS AND CONDITIONS, IT SHALL BE CONCLUDED THAT ALL THE TERMS AND CONDITIONS ARE ACCEPTABLE AND NO CLAIM WHATSOEVER SHALL BE ENTERTAINED LATER ON.*

*IF THERE IS ANY DEVIATION IN REFERENCE TO ANY OF THE TENDER TERM, KINDLY MENTION IN PART-I TECHNO-COMMCERICAL BID ONLY. DEVIATION SPECIFIED ELSEWHERE, WILL NOT BE CONSIDERED.*

- Documents as per Pre-Qualification Criteria (PQC).

### **Part-II: Price Bid**

Price Bid as per the attached format.

### **S4. REVERSE AUCTION**

Reverse auction will not be conducted in this tender enquiry.

### **S5. DELIVERY SCHEDULE**

Delivery shall be within 90 days from date of Purchase Order/ Letter of Intent. Quotation of bidder not accepting delivery terms, shall be rejected.

### **S6. LOADING CRITERIA CUM COUNTER OFFER**

No counter-offer will be given in this Tender Enquiry except MSE/MII purchase preference.

### **S7. INSPECTION**

Inspection will be done as per drawings/ documents of tender by BHEL / BHEL nominated TPI (Third party inspection), inspection agency charges will be borne by BHEL. MTC's, inspection reports to submitted to BHEL after inspection along with supplies.

### **S8. GRIEVANCE REDRESSAL MECHANISM**



## SPECIAL TERMS AND CONDITIONS

Tender Enquiry No. 2526-084E Dated 10.02.2026 **Due date 21.02.2026**

Tender Description: Supply of Fasteners GVFST

To promote transparency and ensure fair treatment of all bidders, a structured Grievance Redressal Mechanism is in place to address any concerns or issues arising during the tendering process or in subsequent business dealings with the company.

Suppliers/Contractors are requested to follow the below escalation process for grievance resolution:

1. **First Level:** Any grievance should initially be addressed to the designated Dealing Officer, whose contact details are provided in the Notice Inviting Tender (NIT)/Contract.
2. **Second Level:** If the issue remains unresolved, it may be escalated by lodging a formal grievance through the SUVIDHA Portal: <https://suvidha.bhel.in/suvidha/>. Responses will be provided in accordance with the defined escalation matrix.

### **S9. VALIDITY OF OFFERS**

The offers shall be kept valid for **75** days from the actual date of techno-commercial (Part-I) bid opening.

### **S10. PRICE BASIS**

- a. Rates shall be quoted on rate INR per Unit basis, Net of taxes & on FOR BHEL IVP Basis. Comparison shall be made on landed rate per Unit. Evaluation shall be done **line item wise** as per above Table -1.
- b. Order of enquiry item Sl. no. shall be maintained in the quotation.

### **S11. QUANTITY VARIATION**

**+/- 10%** Variation in the quantity is applicable for all the items

### **S12. Key Points for Supply / Works / Service Invoices in SUVIDHA for supplier/contractor**

SUVIDHA Portal Link (<https://suvidha.bhel.in/suvidha/>)

1. **Registration of all supply / works / service invoices**, irrespective of the invoice amount, is **mandatory** in SUVIDHA.
2. **For net invoice amount exceeding ₹5 lakhs (including taxes):**
  - o Upload of **Class 3 Digitally Signed Tax Invoice** is **mandatory**.
  - o All other documents as per the **PO checklist** must also be uploaded.
  - o However, if any other **digitally signed document** is specified in the PO checklist , then **Class 3 Digitally Signed document is mandatory for uploading**
3. **For net invoice amount up to ₹5 lakhs (including taxes):**
  - o Upload of all documents as per the **PO checklist** is **mandatory**.
  - o All Documents **can be uploaded without a digital signature**.
  - o However, if a **digitally signed document** is specified in the PO checklist but a **non-digitally signed** version is uploaded, the **hard copy must be submitted**.



## SPECIAL TERMS AND CONDITIONS

Tender Enquiry No. 2526-084E Dated 10.02.2026 **Due date 21.02.2026**

Tender Description: Supply of Fasteners GVFST

These Special terms & conditions along with NIT and General Contract Conditions (GCC) collectively are the part of tender terms and conditions.



## General Conditions of Contract (GCC) of MM Tenders

### BHARAT HEAVY ELECTRICALS LIMITED

Industrial Valve Plant: 433, Industrial Complex,  
Goindwal Sahib, Dist. Tarn Taran,  
Punjab-143422 (INDIA)

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#### 1. Instruction to Bidder

Quotations shall be submitted before due date and time. Late offers are liable to be rejected, so please ensure to submit bid well within due date and time. Techno-commercial part will be opened on due date.

**Based on evaluation of techno-commercial offers, Price bids of bidders who qualify from techno-commercial evaluation shall be opened. BHEL may decide to open the Price bid same day at 1700 hrs. If not opened on the same day, all qualifying bidders shall be notified for date of opening of Price bids by email/fax/post/courier/E-procurement system generated email.**

##### 1.1 Instruction to Bidder (In case of Non-E-Procurement / Paper/ Manual/ Hard Copy based tenders)

Sealed Tenders can be dropped in the tender box labeled as 'Tender box for MM contracts.' This tender box is located at the entrance of Admin block BHEL Goindwal. Quotations can also be submitted through e-mail at **tendermm\_ivp@bhel.in**. Offers received in time shall be considered only when offers are complete in all respects. In case of bulky tenders, please handover quotation to tender issuing authority [Contact: 01859 224 615/

618]. Bid can be sent to following address:

**BHEL, Industrial Valve Plant,  
#433, Industrial Complex,  
Goindwal Sahib, Distt. Tarn Taran,  
Punjab-143422.**

##### 1.2 Instruction to bidder (In case of E-Procurement)

1. Interested bidders / suppliers shall submit their offer through e-procurement mode at <https://eprocurebhel.co.in/> .
2. **Offers in any other mode will not be accepted.**
3. Procedure for submission of tender is available in the "Bidder Manual Kit" at e-tender portal <https://eprocurebhel.co.in/> .
4. In case of any difficulty faced while registering on BHEL's e-Procurement portal developed by NIC, queries may be addressed to 0120-4001002, 0120-4001005 and 0120-6277787; email: [support-eproc@nic.in](mailto:support-eproc@nic.in). These details are also available on 'Contact Us' page of the portal.
5. Before uploading scanned documents if any, the bidders shall sign on all the statements, documents, certificates uploaded by him, owning responsibility for their correctness / authenticity.
6. **Disclaimer clause:** Neither the Organization (Bharat Heavy Electricals Ltd.) nor the service provider is responsible for any failure of submission of bids due to failure of internet or other connectivity problems or reasons thereof.

#### 2. Scope of Supply

Material shall be supplied as per the applicable latest Technical Delivery Conditions (TDC)/ Material Standard requirements/BPS/Drawing and other requirement as given in the Tender Enquiry. National & International material Standards shall have to be arranged by vendors themselves. Latest applicable revisions of standards/procedures to be referred.

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All required tests as called in referred material standard/BHEL/TDC/drawing etc. shall be carried out by vendor at no extra cost. Material Test Certificates (MTC), inspection reports and Compliance/Guarantee Certificate are to be provided along with the supplies.

### 3. Price Basis

1. Order of enquiry item sl. no. shall be maintained in the quotation.
2. The rates quoted shall be firm and fixed. No price variation is proposed and allowed.
3. Rates quoted should be FOR BHEL Goindwal basis. The offers quoted on other than FOR Goindwal basis are liable to be rejected.

In case bidder has quoted Ex-works prices, then he/she will be given an opportunity to accept price basis as FOR Goindwal either by accepting delivery as FOR Goindwal in same quoted price or by providing loading factor on his/her quoted ex-works prices to make them FOR prices.

**Variation in GST or any other statutory levies during contractual delivery period shall be to BHEL's account.**

### 4. Taxes & Duties

Payment of GST portion will be released to vendor only upon completion of statutory requirement and further subject to following:

- a) Vendor declaring such invoice in his GSTR-1 and
- b) Receipt of goods and Tax invoice by BHEL and
- c) Confirmation of payment of GST thereon by vendor on GSTN portal.
- d) Above is subject to receipt of goods/service and tax invoice thereof along with vendor declaring invoice in his return and paying GST within timeline prescribed for availing ITC by BHEL.

Following may please be noted for availing Input Tax Credit (ITC) by BHEL:

1. Since ITC can be availed only when BHEL is in possession of GST Tax invoice and after receipt of goods. Thus, vendor to ensure timely dispatch of goods and Tax invoice. It may be noted that in case of any delay in receipt of Tax Invoice and/or receipt of goods, the ITC availment by BHEL will get delayed thus entailing additional cash outflow & may even get denied if ITC availment timelines are breached.
2. Further ITC can be availed only when vendor has declared such invoice in his outward supply Return GSTR-1 and after GST thereon has been paid by him at the time of filing of monthly Return.
3. If GST credit is delayed/denied to BHEL due to non/delayed receipt of goods and/or tax invoice or expiry of timeline prescribed in GST law for availing such ITC, or any other reasons not attributable to BHEL, GST amount shall be recoverable from vendor along with interest levied/leviable on BHEL.
4. Further, in case vendor delays declaring such invoice in his return and GST credit availed by BHEL is denied or reversed subsequently as per GST law, GST amount paid by BHEL towards such ITC reversal as per GST law shall be recoverable from vendor/contractor along with interest levied/leviable on BHEL.

### GST Law Provision in 'Bill to Ship to' Case

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In case where delivery destination is other than BHEL IVP Goindwal, then the following clause is also applicable: -

As per the extant provisions of Sec. 12(2), read with Sec. 31(1) of CGST Act, 2017, the time limit to raise GST invoice is till the time of removal of goods (where the supply involves movement of goods).

Accordingly, it has been reiterated that customer (BHEL's Customer) billing is also to be done by BHEL at the time of vendor's billing on BHEL on removal of goods from vendor's works and GST liability is to be discharged thereof.

Hence, Vendor is required to inform BHEL at the time of billing/removal of goods. In the case where BHEL is get penalized by GST authority, due to delay in generating the invoice and the core reason for this delay is attributable to supplier, then the penalty imposed on BHEL by GST authorities will be pass on to supplier and deduction will be done from the pending dues of supplier with BHEL.

### 5. Evaluation in Case of More Than One L-1 Bidder

In the course of evaluation, if more than one bidder happens to occupy L1 status, effective L1 will be decided by soliciting discounts from the respective L1 bidders.

In case more than one bidder happens to occupy the L1 status even after soliciting discounts, the L1 bidder shall be decided by a toss / draw of lots, in the presence of the respective L1 bidder(s) or their representative(s).

Ranking will be done accordingly. BHEL's decision in such situations shall be final and binding.

### 6. Inspection

1. The seller shall give adequate notice, of 1 week or as mutually agreed period, in writing to the Purchaser about the date and place at which the goods will be ready for inspection/ testing, as provided for in the contract.
2. Purchaser or his authorized representative shall be entitled to carry out inspection of material and workmanship/Surveillance Audit at Seller's premises or at his sub-contractor's premises at all reasonable times during execution of contract; Such inspection, examination and testing, if made, shall not absolve the Seller from his obligations under the contract. No additional charges shall be claimed for such inspections. Moreover, all required infrastructure (testing, tools etc) have to be arranged by supplier.
3. Any inspection carried out before supply by vendor/incoming stage at BHEL notwithstanding, if any defect/non-conformity is noted during processing, the same shall be attended/replaced by vendor at no extra cost.
4. BHEL representative from unit or CQ is authorized to carry out audits along with TPIA at vendor's works before clearing the items for dispatch.
5. Necessary tooling including thread gauges etc. have to be arranged by vendor. Only in exceptional cases, based on BHEL discretions item/nature, BHEL may consider request to provide gauges if available with BHEL. But in no case this shall be linked with delivery of material.
6. In case of following points, visit charges to be paid to Third Party Inspection Agency (TPIA) shall be imposed as penalty on Supplier:

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## General Conditions of Contract (GCC) of MM Tenders

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- a) Nothing/NIL material is offered during Inspection (whilst physical visit of Inspection Engineer at Supplier's work) with respect to "Offered Quantity" mentioned in raised Inspection Call.
- b) Lapses on the account of supplier has led to rejection of offered material (as per approved QAP/ Technical Specifications/ Other pertinent requirement), while carrying out Inspection.
- c) Less Quantity/ Short Quantity is offered during Inspection (whilst physical visit of Inspection Engineer at Supplier's work) with respect to "Offered Quantity" mentioned in raised Inspection Call for any of the line(s) item, leading to re-visit of Inspection Engineer.

### 7. Delivery Schedule

Supplies shall be affected and completed as per schedule mentioned in special terms and conditions. Commencement of delivery period shall be reckoned from the date of PO / LOI or any other agreed milestone.

In case of non-acceptance of delivery schedule, supplier bid is liable to be rejected.

### 8. Reverse Auction

In case, it is declared in special terms & conditions of tender enquiry that RA is applicable for the NIT, then RA will be conducted as per following clause:

BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on <https://www.bhel.com/>) for this tender. RA shall be conducted among the techno-commercially qualified bidders as per RA guidelines.

Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered for RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking.

### 9. Payment Terms

1. Payments shall be made to the Seller (MSE / Non MSE) within the mentioned days (as per below table) from the Payment Due date. Vehicle entry date at BHEL Units / Sites / other delivery destinations as mentioned on Lorry Receipt (LR) copy shall be taken as Payment due date.

Type of Bidder	Payment Terms (Number of days)
Micro & Small Enterprises (MSEs)	45 days
Medium Enterprises	60 days
Non MSME	90 days

In case there is shortfall in documents/deficiency in material as per the tender terms/purchase orders, the same shall be notified by BHEL to supplier. Payment due date shall be revised accordingly considering submission of all documents/removal of deficiency by supplier.

For availing MSE benefits, latest copy of Udyam certificate shall be submitted.

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## General Conditions of Contract (GCC) of MM Tenders

### BHARAT HEAVY ELECTRICALS LIMITED

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**MSME bidders can avail benefits of payment through TReDS (Trade Receivable e Discounting System).**

In case of any deviation from standard payment term mentioned above, BHEL shall load on the item price at 'Base rate of SBI (as applicable on the date of bid opening; Techno-commercial bid opening) + 6% for the period of relaxation sought by bidders.

#### 2. Documents to be submitted (if applicable)

- i) Tax invoice (Invoice shall be GST compliant and should contains all the required information such as GST No, HSN code etc.)
- ii) Transporter copy along with material/consignment. In case material is delivered at location other than BHEL Goindwal, then LR receipt/acknowledgement is required.
- iii) Material Test Certificates (MTC) and
- iv) Compliance Certificate.

Any additional document required shall be mentioned in special terms & conditions.

#### 3. GST registration number is to be submitted by qualified vendor as per GST law.

4. It is mandatory to mention proper material codes in the invoices and separate invoices to be raised for different POs.

**5. BHEL releases payment through EFT mode ONLY. Necessary details may please be submitted by filling required format before release of payment.**

## 10. Supplied Material Adjustment

Item/s pending in previous PO has to be billed in previous PO only. Otherwise, BHEL will be free to adjust the supplies in previous PO. Any implication of tax will be on supplier's account. For this it is desirable that vendor should reconcile the pending PO statement every month/frequently with BHEL. Vendor can also view these details at Portal (<https://trichy.bhel.com/mm/index.jsp>).

## 11. Treatment of cases regarding Conflict of Interest

The bidder notes that a conflict of interest would said to have occurred in the tender process and execution of the resultant contract, in case of any of the following situations:

- i) If its personnel have a close personal, financial, or business relationship with any personnel of BHEL who are directly or indirectly related to the procurement or execution process of the contract, which can affect the decision of BHEL directly or indirectly;
- ii) The bidder (or his allied firm) provided services for the need assessment/ procurement planning of the Tender process in which it is participating;
- iii) Procurement of goods directly from the manufacturers/ suppliers shall be preferred. However, if the OEM/ Principal insists on engaging the services of an agent, such agent shall not be allowed to represent more than one manufacturer/ supplier in the same tender. Moreover, either the agent could bid on behalf of the manufacturer/ supplier or the manufacturer/ supplier could bid directly but not both. In case bids are received from both the manufacturer/ supplier and the agent, bid received from the agent shall be ignored. However, this shall not debar more than one Authorized distributor (with/ or without the OEM). from quoting equipment manufactured by an Original Equipment Manufacturer (OEM) in procurements under a Proprietary Article Certificate.

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## General Conditions of Contract (GCC) of MM Tenders

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iv) A bidder participates in more than one bid in this tender process. Participation in any capacity by a Bidder (including the participation of a Bidder as a partner/ JV member or sub-contractor in another bid or vice-versa) in more than one bid shall result in the disqualification of all bids in which he is a party. However, this does not limit the participation of an entity as a sub-contractor in more than one bid if he is not bidding independently in his own name or as a member of a JV.

The Bidder declares that they have read and understood the above aspects, and the bidder confirms that such conflict of interest does not exist and undertakes that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s), in this regard. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the Bidder is found having indulged in above activities, the same will be considered as a violation of the tender conditions, and suitable action shall be taken by BHEL as per extant policies/ guidelines.

It has to be signed by the authorized signatory of the bidder.

### 12. Validity of Offers

The offers shall be kept open for acceptance 'for number of days mentioned in special terms and conditions' from the date of opening of the tender. In case of tender extension, the bid validity shall be considered from the date of tender opening.

### 13. Performance Security (PS)

Applicability:

- 1) Performance Security will not be applicable in which total PO value on vendor in one tender enquiry is less than or equal to Rs. twenty lakhs.
- 2) **(a) In case total PO value on vendor in one tender enquiry is greater than Rs. 20 Lakhs:** Successful bidder (L1 or counter-offer accepted) has to submit Performance Security (PS) @5% of PO value within 21 days from the date of award of PO. PS shall be valid for a period of one year. This PS will be released to the vendor without interest after two months of completion of all supplies under the PO.

**(b) In case total PO value on vendor is equal to or greater than Rs. 2 crores, then before the release of this PS as mentioned in clause 2 (a) above, vendor has to submit another PS of Rs. one lakh after two months of completion of all supplies under the PO. This PS shall be valid for a period of 18 months. This additional PS will be released to the vendor without interest after expiry of validity upon fulfilment of contractual obligations as per terms of contract**

Vendor has to submit written request to BHEL for refund of PS well in advance before the due date. Further release of PS as mentioned in 2 (a) will also be subject to submission of additional PS as mentioned in 2 (b) above if applicable.

In case of non-submission of PS for 5% of contract value, it will amount to breach of contract.

Mode of deposit:

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## General Conditions of Contract (GCC) of MM Tenders

### BHARAT HEAVY ELECTRICALS LIMITED

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Punjab-143422 (INDIA)

Performance security may be furnished in the following forms:

- 1) Local cheques of Scheduled Banks (subject to realization)/ Pay Order/ Demand Draft/ Electronic Fund Transfer in favour of BHEL.

#### Account details:

Bank Name	STATE BANK OF INDIA
BRANCH	GOINDWAL SAHIB
A/C NO	40179740806
IFSC CODE	SBIN0010743

- 2) Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format should have the approval of BHEL.
- 3) Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL).
- 4) Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (held in the name of Contractor furnishing the security and duly endorsed/ hypothecated/ pledged, as applicable, in favour of BHEL).
- 5) Insurance Surety Bond.
- 6) By way of retention from dues available in the form of Bills payable to the supplier against same / other contracts in the same unit.

(Note: BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith).

#### Forfeiture of Performance Security:

The performance security will be forfeited and credited to BHEL's account in the event of a breach of contract by the supplier.

### 14. Breach of contract, Remedies and Termination

In case of breach of contract, wherever the value of security instruments like performance bank guarantee available with BHEL against the said contract is 10% of the contract value or more, such security instruments to the extent of 10% contract value will be encashed. In case the value of the security instruments available is less than 10% of the contract value, the balance amount be recovered in all or any of the following manners:

- from dues available in the form of Bills payable to defaulted supplier against the same contract.
- from the dues payable to defaulted supplier against other contracts in the same Region/Unit /any other region/unit.
- In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against defaulted supplier.

Further, levy of liquidated damages, debarment, termination, de-scoping, short-closure, etc., shall be applied as per provisions of the contract.

### 15. Acceptance of Material Supplied

1. The supply shall strictly as per the specifications in the tender /purchase order.

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2. Delivery of the ordered items as per the delivery terms in the Purchase Order does not automatically constitute acceptance of the delivered items.
3. Acceptance of the materials supplied will be based on the inspection and certification documents by the supplier as stipulated in the Purchase order. However, BHEL reserves the right to test the material supplied, if required, at BHEL Lab or any other approved/accredited lab and the result will be binding on the supplier.
4. The acceptance or otherwise of the delivered items will be separately communicated to the supplier by BHEL through B2B portal within 15 days from the delivery of items or delivery of the required test certificates /other documents whichever is later.
5. In case of rejection of the delivered items, either part or full, the vendor shall replace the rejected items as per the specification in the Purchase order/tender at their cost within 30 days of communication of rejection to the supplier. The supplier shall be given maximum two opportunities to replace the rejected items.
6. After the clearance of the 1st lot, in case of rejection of the delivered items, either part or full, if the supplier fails to replace the rejected items within 30 days of communication of the rejection, the same shall be treated as failure to execute the contract and actions as per the Guidelines for Suspension of Business Dealings with Suppliers /Contractors available in the webpage: <https://www.bhel.com> would be taken against such supplier.

### 16. Warrantee and Corresponding Repair / Replacement of Goods

Goods shall comply with the specifications for material, workmanship and performance. Unless otherwise specified, vendor shall give a warrantee against design & manufacturing defects for a period of 18 months from the date of receipt. In case of non-acceptance of this term, bid shall be liable for rejection.

If the delivery is found non-compliant during the warranty period, leading to rejection, the Seller shall arrange free replacement / repair of goods, within one month from the date of intimation. Corresponding quantity shall be treated as unsupplied against respective purchase order till replacement is received at BHEL. In the event of the Seller's failure to comply, Purchaser may take action as appropriate, including repair / replenish rejected goods, at the cost of the seller as per contractual obligations.

All incidental charges like freight, insurance and customs duty in respect of return of defective items are to vendor's account only. BHEL will inform related invoice, quantity etc. to supplier. Supplier has to give advance intimation / plan (Transporter, Vehicle details) for the lifting of material. Further supplier has to provide requisite documents (such as Credit Note, e-Way Bill etc.) to lift the rejected material. Material should be lifted within one month from date of intimation. After one-month, BHEL will not be responsible for rejected material and BHEL shall have the right to dispose off such rejected material.

The defective parts and components shall be collected by your Indian agent or / authorized person, only after completing the replacement / repairs. If the supplier fails to replace / rectify the defective/ damaged items on free of cost within one month of reporting from our end, the same shall be treated as failure to execute the contract and actions as per the Guidelines for Suspension of Business Dealings with Suppliers /Contractors available in the webpage: <https://www.bhel.com> would be taken against such

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supplier without prejudice to the other remedies available to BHEL under the contract and law in this regard.

### 17. Preferences for Micro and Small Enterprises (MSEs)

Preferences as mentioned in “Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012” & “Public Procurement Policy for Micro and Small Enterprises (MSEs) Amendment Order, 2018”, or as per latest guidelines issued by government shall be given to Micro and Small enterprises.

Main points which are mentioned in the above orders are as follows:

- 25% Procurement of the tender value shall be made from MSE (Micro, Small Enterprises) firms.
- 25% of the 25% quantity (i.e. 6.25% of the tender quantity) offered to the MSE's shall be reserved for MSE's owned by SC/STs. Failure to participate by any MSE owned by SC/ST's; this 6.25% quantity shall be procured from other MSEs.
- 3% from within the 25% quantity offered to the MSE's shall be reserved for women owned MSE's. Failure to participate by any MSE owned by women; this 3% quantity shall be procured from other MSEs.
- EMD shall be exempted for MSE's. All these benefits are subject to production of all statutory documents
- In tender, participating Micro and Small Enterprises quoting price within price band of L1+15 per cent shall also be allowed to supply a portion of requirement by bringing down their price to L1 price in a situation where L1 price is from someone other than a Micro and Small Enterprise and such Micro and Small Enterprise shall be allowed to supply up to 25 per cent of total tendered value. In case of more than one such Micro and Small Enterprise, the supply shall be shared proportionately (to tendered quantity).

MSE suppliers can avail the intended benefits only if they submit **Udyam Registration Certificate** along with the offer. No other document shall be considered for availing MSE benefits. Non-submission of such document will lead to consideration of their bid at par with other bidders. No benefit shall be applicable for this enquiry if any deficiency in the above required documents is not cleared before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required document is to be uploaded on the portal.

*Note: It may however be noted that MSE guidelines as on date (Date of Technical Bid Opening Part-1) shall prevail.*

### 18. Liquidated Damage (LD)

1. Time is the essence of the contract.
2. The ordered items shall be delivered as per the delivery period mentioned in the Purchase Order.
3. In case the supplier supplies the ordered items beyond the delivery period specified, Liquidated Damages -LD - as detailed below shall be will be levied from the supplier without prejudice to any other relief /compensation available to BHEL, Punjab under any other condition of the contract/applicable legal provisions.

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4. Failure to dispatch the materials in the time as per the delivery mentioned in our Purchase Order (PO) would make the supplier liable to an un-conditional LD at the rate of 0.5% of the undelivered order value per week of the delay or part thereof subject to a maximum of 10% of the undelivered order value.
5. Indigenous: In case of Ex-works delivery terms, the document date (Invoice/Challan date) in Goods Receipt (GR) document shall be reckoned for LD deduction. In case of FOR Delivery terms, Vehicle entry date at BHEL Units / Sites / other delivery destinations as mentioned on Lorry Receipt (LR) copy shall be taken as basis for LD calculations.
6. Import: For CFR terms, BL date will be considered for LD calculation.

BHEL reserves the right to receive or not receive the material after the due date of PO. Applicable GST shall also be recovered from suppliers/contractors on LD amount. For this Debit note will be issued by BHEL indicating the respective supply invoice number.

### 19. Liability Under Reverse Charge (RCM)

Any GST liability arising on BHEL under Reverse Charge (RCM) before actual receipt of goods and/ or Invoice thereof would be subject to recovery of Interest leivable for the period between the date of such liability and actual date of eligibility of ITC based on receipt of goods, receipt of Invoices and other conditions specified in GST Law as applicable.

### 20. Preference to Make in India

This procurement shall be governed by notification no. P-45021/2/2017-PP (BE-II) dated 16.09.2020 of Government of India issued by DPIIT and subsequent circulars issued afterwards. Accordingly, the minimum local content, the margin of purchase preference and the procedure for purchase preference to make in India shall be adhered.

### 21. Resolution of Disputes

The Parties agree that if at any time (whether before, during or after the arbitral or judicial proceedings), any Disputes (which term shall mean and include any dispute, difference, question or disagreement arising in connection with construction, meaning, operation, effect, interpretation or breach of the contract/tender which the Parties are unable to settle mutually), arise inter-se the Parties, the same may, be referred by either party to Conciliation to be conducted through Independent Experts Committee to be appointed by competent authority of BHEL from the BHEL Panel of Conciliators.

Notes:

1. No serving or a retired employee of BHEL/Administrative Ministry of BHEL shall be included in the BHEL Panel of Conciliators.
2. Any other person(s) can be appointed as Conciliator(s) who is/are mutually agreeable to both the parties from outside the BHEL Panel of Conciliators.

The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided in Annexure-X to this GCC.

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The Annexure-X together with its appendices will be treated as if the same is part and parcel hereof and shall be as effectual as if set out herein in this GCC.

Except as provided elsewhere in this Contract, in case amicable settlement is not reached between the parties, in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract, then, either Party may, by a notice in writing to other Party, refer such dispute or difference to sole arbitration of an arbitrator appointed as per the Arbitration and Conciliation Act, 1996 (India) or statutory modification or re-enactment thereof and the rules made thereunder and for the time being in force.

The Arbitrator shall pass a reasoned award and the award of the Arbitrator shall be final and binding upon the parties.

This contract shall be governed, construed and interpreted in accordance with the laws of India.

Subject as aforesaid, the provisions of Arbitration & Conciliation Act 1996 (India) or statutory modification or re-enactment thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceeding under this clause.

The seat of arbitration shall be Tarn Taran, Punjab, India.

The cost of arbitration shall be borne as per the award of the Arbitrator.

Subject to arbitration in terms of clause above, the Courts at Tarn Taran, Punjab, India shall have exclusive jurisdiction over any matter arising out of or in connection with this Contract.

Notwithstanding the existence or any dispute or difference and/or reference for the arbitration, the vendor/contractor shall proceed with and continue without hindrance the performance of its obligation under this Contract with due diligence and expedition in a professional manner except where the Contract has been terminated by either Party in terms of this Contract.

### **In Case of Contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable:**

In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contract(s) between Central Public Sector Enterprises (CPSEs)/Port Trusts inter se and also between CPSEs and Government Departments/Organizations (Excluding disputes concerning Railways, Income Tax, Customs & Excise Departments, such dispute or difference shall be taken up by either party for its resolution through AMRCD as mentioned in DPE OM No.05/003/2019-FTS-10937 dated 14<sup>th</sup> December, 2022 and the decision of AMRCD on the said dispute will be binding on both the parties.”

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Set off : BHEL shall have the right to recover any money which in the sole opinion of BHEL is due from the supplier from any money due to the supplier under this Contract or any other contract or from the Security Deposit/BG furnished by the supplier under this Contract or any other contract.

### 22. Access to Manufacturing Premises

While Purchase Orders placed on the vendor are under execution, authorized representatives of BHEL shall be allowed free access to the manufacturing facilities for the purpose of inspection or monitoring the progress of purchase orders. This access will also be extended to representatives of BHEL's customers accompanying the authorized representative/s of BHEL (which shall be intimated in advance), if our contractual requirements with our customers call for the same.

### 23. Force Majeure

1. Notwithstanding the provisions contained in other clauses, the supplier shall not be liable for imposition of any such sanction so long the delay and/or failure of the supplier in fulfilling its obligations under the contract is the result of an event of Force Majeure. For purposes of this clause, Force Majeure means an event beyond the control of the supplier and not involving the supplier's fault or negligence and which is not foreseeable and not brought about at the instance of the party claiming to be affected by such event and which has caused the non – performance or delay in performance. Such events may include, but are not restricted to, wars or revolutions, hostility, acts of public enemy, civil commotion, sabotage, fires, floods, explosions, epidemics, quarantine restrictions, strikes excluding by its employees, lockouts excluding by its management, freight embargoes and Acts of GOD.
2. If a Force Majeure situation arises, the supplier shall promptly notify the Purchaser/Consignee in writing of such conditions and the cause thereof within twenty-one days of occurrence of such event. Unless otherwise directed by the Purchaser/Consignee in writing, the supplier shall continue to perform its obligations under the contract as far as reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.
3. If the performance in whole or in part or any obligation under this contract is prevented or delayed by any reason of Force Majeure for a period exceeding sixty days, either party may at its option terminate the contract without any financial repercussion on either side.
4. In case due to a Force Majeure event the Purchaser/Consignee is unable to fulfil its contractual commitment and responsibility, the Purchaser/Consignee will notify the supplier accordingly and subsequent actions taken on similar lines described in above sub-paragraphs.

### 24. Non-Disclosure Agreement

All Drawing and technical documents relating to the product or its manufacture submitted by one party to the other, prior or subsequent to the formation of contract, shall remain property of the submitting party. Drawing, technical documents or other technical information received by one party, shall not without the consent of the other party, be used for any other purpose than that, for which they were provided. Such technical information shall not without the consent of the submitting party, otherwise be used or copied, reproduced, transmitted or communicated to a third party. Patterns supplied by BHEL will remain BHEL's property which shall be returned by the bidder on demand to BHEL. Bidder shall in no way share or use such intellectual property of BHEL to promote his own business with others.

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***BHEL reserves the right to claim damages from the bidder, or take appropriate penal action as deemed fit against the bidder, for any infringement of the provisions contained herein.***

#### **25. Preventive Checks to Eliminate Suspected Cartel Formation**

The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines.

#### **26. Fraud Prevention Policy**

The Bidder along with its associate / collaborators / sub-contractors / sub-vendors / consultants / service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <https://www.bhel.com/> and shall immediately bring to the notice of BHEL management about any fraud or suspected fraud as soon as it comes to their notice.

#### **27. Suspension of Business Dealings with Suppliers / Contractors**

The offers of the bidders who are under suspension and also the offers of the bidders, who engage the services of the firms debarred across BHEL, shall be rejected. The list of firms debarred across BHEL is available on BHEL web site <https://www.bhel.com/>.

**INTEGRITY COMMITMENT, PERFORMANCE OF THE CONTRACT AND PUNITIVE ACTION THEREOF:**

##### **27.1. Commitment by BHEL:**

BHEL commits to take all measures necessary to prevent corruption in connection with the tender process and execution of the contract. BHEL will during the tender process treat all Bidder(s) in a transparent and fair manner, and with equity.

##### **27.2. Commitment by Bidder/ Supplier/ Contractor:**

**27.2.1.** The bidder/ supplier/ contractor commits to take all measures to prevent corruption and will not directly or indirectly influence any decision or benefit which he is not legally entitled to nor will act or omit in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India.

**27.2.2.** The bidder/ supplier/ contractor will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract and shall adhere to relevant guidelines issued from time to time by Govt. of India/ BHEL.

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27.2.3. The bidder/ supplier/ contractor will perform/ execute the contract as per the contract terms & conditions and will not default without any reasonable cause, which causes loss of business/ money/ reputation, to BHEL.

If any bidder/ supplier/ contractor during pre-tendering/ tendering/ post tendering/ award/ execution/ post-execution stage indulges in mal-practices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the price or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India, then, action may be taken against such bidder/ supplier/ contractor as per extant guidelines of the company available on <https://www.bhel.com/> and/or under applicable legal provisions.

### 28. Discrepancy in Words and Figures

1. If, in the price structure quoted for the required goods/ services/ works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity}, the unit price shall prevail and the total price corrected accordingly, unless in the opinion of the purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.
2. If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
3. If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject of (a) and (b) above.
4. If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date upto which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the purchaser, the bid is liable to be ignored.
5. Bids should be free from correction, overwriting, using corrective fluid, etc. Any interlineation, cutting, erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid else shall be liable for rejection.
6. All overwriting/cutting, etc will be numbered by bid opening officials and announced during bid opening.

### 29. LOI (Letter of Intent)

BHEL may issue LOI prior to the PO for any reason whatsoever. The LOI in such cases is to be treated as PO for all practical purposes and all the Terms & Conditions of the tender shall be applicable from the date of issue of LOI.

### 30. Sub-Contract

The purchase order or any part thereof shall not be sub-contracted, assigned or otherwise transferred without previously obtaining the BHEL's consent in writing.

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### 31. Clarifications

The correspondence exchanged against the tender from both tenderer and BHEL through email/e-procurement are considered as valid document legally though it is not signed. It is treated as valid confirmations made on behalf of the respective company and very much comes under the legal ambit of the business transaction and hence it is binding on both the parties to the business. Any transaction pertaining to the tender from both the parties of business done round the clock irrespective of the office or business hours of the companies, are valid legally and binding on both the parties. This applies to the extent only in such cases where deadline time for transaction is not specifically declared by either or both the parties to the business.

### 32. Restrictions Under Rule 144(XI) of The General Financial Rules (GFR), 2017

Restrictions on procurement from a bidder of a country which shares a land border with India

- I. a) Any bidder from a country which shares a land border with India will be eligible to bid in this tender, whether of goods or services (including consultancy services and non-consultancy services), only if the bidder is registered with the Competent Authority.  
b) Further, any bidder (including an Indian bidder) who has a Specified Transfer of Technology (ToT) arrangement with an entity from a country which shares a land border with India will be eligible to bid in any procurement whether of goods or services (including consultancy services and non-consultancy services) only if the bidder is registered with the Competent Authority. *This clause shall be applicable only in the tenders which attract restrictions due to specified ToT.*
- II. "Bidder" (Seller / Service Provider) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. "Bidder (or entity) from a country which shares a land border with India" for the purpose of the Order means:
  - a) An entity incorporated, established, or registered in such a country; or
  - b) A subsidiary of an entity incorporated, established, or registered in such a country; or
  - c) An entity substantially controlled through entities incorporated, established, or registered in such a country; or
  - d) An entity whose beneficial owner is situated in such a country; or
  - e) An Indian (or other) agent of such an entity; or
  - f) A natural person who is a citizen of such a country; or
  - g) A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- IV. The beneficial owner for the purpose of (iv) above will be as under
  1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

Explanation—

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- a) "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent. of shares or capital or profits of the company;
- b) "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
- 2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
- 3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
- 4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
- 5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.
- V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.
- VI. The registration shall be valid at the time of submission of bid and at the time of acceptance of bid.
- VII. If the bidder was validly registered at the time of acceptance / placement of order, registration shall not be a relevant consideration during contract execution.
- VIII. "Transfer of Technology" means dissemination and transfer of all forms of commercially usable knowledge such as transfer of know-how, skills, technical expertise, designs, processes and procedures, trade secrets, which enables the acquirer of such technology to perform activities using the transferred technology independently.

Any false declaration and non-compliance of the above would be a ground for debarment and further legal action in accordance with law.

#### **Bidder has to submit a certificate certifying following along with offer:**

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfils all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be Attached]."

### 33. General

- 1. BHEL will not be bound by any power of attorney granted by the vendors or by changes in the composition of the firm made subsequent to the execution of the contract. They may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the vendor concerned.

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2. BHEL reserves the right to extend the due date of opening, which shall be informed. Validity of offer shall be deemed to be revised accordingly.
3. BHEL reserves the right to accept or reject any part or whole of the tender of a bidder by assigning a valid reason thereof. BHEL reserves the right to cancel the tender without assigning any reason thereof and without any obligation before any commitment.
4. Acceptance of all terms and conditions, in the form of signed copy of T&C or confirmation separately written, shall be submitted along with quotation. If nothing is mentioned, it shall be concluded that these terms and conditions are acceptable.
5. BHEL may increase/decrease item/s based on BHEL requirement before price bid opening. Suitable price implication may be asked from suppliers.
6. BHEL may drop item/items from tender at any stage of tender before placing PO. BHEL may also delete PO with consent with supplier within delivery date of PO.
7. After releasing PO, it is assumed that supplier has accepted PO if we do not receive acknowledgement from supplier within 5 days of date of PO.
8. In case of unscheduled holiday on opening day of tender, the next working day will be treated as scheduled prescribed day of opening of tender.
9. On the due date of tender opening, only technical bids will be opened. The opened technical bids will be evaluated by us and clarifications required, if any, will be called for from the bidders on technical and commercial points. If no reply is received from the vendor for the clarification raised by BHEL with in the final cut-off date, those vendors offer will be processed with the documents available / submitted against this tender. Offers not meeting the required specification and technical condition will be summarily rejected. The price bids of technically suitable bidders will be opened on a later date with prior intimation to techno-commercially suitable bidders.
10. Ranking L-1, L-2 etc. shall be done for individual item for the techno-commercially acceptable offers on landed cost to BHEL, IVP Goindwal basis and BHEL reserves the right to place order for individual items with different vendors.
11. BHEL reserves the right to negotiate with L1 vendor or re-float the tender for items where, L1 price is not the lowest acceptable price; BHEL reserves the right to increase or decrease the tender quantity.
12. If supplier is mentioning delivery destination within state/ outside state depending upon his location of factory, Free on Road etc. these are assumed as on FOR Goindwal. If supplier is wishing to give delivery on Ex works basis, then he has to clearly mention about it.
13. The bidder has to keep track of any changes by viewing the addendum(s) / Corrigendum(s) issued by the Purchaser on time-to- time basis in the E-Procurement platform. The Company calling for tenders shall not be responsible for any claims/problems arising out of this.
14. Unregistered suppliers, who are techno-commercially qualified against the open tender, are requested to register with BHEL as permanent supplier by submitting the Supplier Registration Form (SRF) in online supplier registration portal (<https://supplier.bhel.in/>).
15. The General Conditions of Contract and the Special Conditions in each enquiry and the resulting purchase order constitute the entire contract between the parties. In case of any discrepancy between the provisions of General Conditions of Contract and Special Conditions of the Tender, the provisions in Special Conditions of the Tender shall prevail and interpretation of BHEL of such condition/clause will be final and binding on both the parties.

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### 34. Treatment in Case of Dealer Acceptance

Whether dealers/agents in tender are acceptable that will be mentioned in tender special terms. In case of acceptance of dealers/agents in tender, below criteria is applicable.

#### For manufacturers

In case manufacturer insists on engaging a dealer / agent / reseller, such dealer / agent / reseller is not allowed to represent more than one manufacturer for same item. In case more than one dealers/agent of a company quote for same item, then bid of both dealers/agents shall be considered. In case OEM has authorized a particular dealer specific to any tender, then bid of any other dealer of same OEM shall be rejected.

#### For dealer / agent / reseller:

In case of dealers / agents / reseller, valid authorized dealer certificate is required from original manufacturer (OEM). In case bids are received from dealer / agent and manufacturer both, bid submitted by dealer will be rejected. A dealer representing more than one manufacturer for same item will be rejected. Kindly quote for single make only. Dealer has to provide contact details (like name, e-mail id, telephone no & address) of OEM office issuing "Dealer Authorization Certificate".

### 35. Enclosure

Annexure-1: Declaration regarding Insolvency/ Liquidation/ Bankruptcy Proceedings

Annexure-2: Declaration reg. minimum local content in line with revised public procurement

Annexure-3: Proforma of Bank Guarantee for Performance Security.

Annexure-4: List of Consortium Bank.

Annexure-X: Brief Procedure for Conduct of Conciliation Proceedings

Appendix-I of Annexure-X

Appendix-II of Annexure-X

Appendix-III of Annexure-X

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## General Conditions of Contract (GCC) of MM Tenders BHARAT HEAVY ELECTRICALS LIMITED

Industrial Valve Plant: 433, Industrial Complex,  
Goindwal Sahib, Dist. Tarn Taran,  
Punjab-143422 (INDIA)

### Annexure-1

(To be Typed & submitted in the Letter Head of the Company/Firm of Bidder)

---

---

To  
Bharat Heavy Electrical Limited  
Industrial Valves Plant  
Goindwal  
Punjab-143422

Dear Sir,

Subject: DECLARATION REGARDING INSOLVENCY/ LIQUIDATION/  
BANKRUPTCY PROCEEDINGS

Ref: 1) Tender Enquiry No.

I/We, \_\_\_\_\_ declare that, I/We am/are not admitted under insolvency resolution process or liquidation under Insolvency and Bankruptcy Code, 2016, as amended from time to time or under any other law as on date, by NCLT or any adjudicating authority/authorities.

Yours faithfully,

(Signature, date & seal of authorized representative of the bidder)

Date:

Place:

Signature Not Verified

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## General Conditions of Contract (GCC) of MM Tenders BHARAT HEAVY ELECTRICALS LIMITED

Industrial Valve Plant: 433, Industrial Complex,  
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Punjab-143422 (INDIA)

### Annexure-2

DECLARATION REGARDING MINIMUM LOCAL CONTENT IN LINE WITH  
REVISED PUBLIC PROCUREMENT (PREFERENCE TO MAKE IN INDIA), ORDER  
2017 DATED 04TH JUNE, 2020 AND SUBSEQUENT ORDER(S)  
(To be Typed & submitted in the Letter Head of the Company/Firm of Bidder)

-----  
To  
Bharat Heavy Electrical Limited  
Industrial Valves Plant  
Goindwal  
Punjab-143422

Dear Sir,  
Sub: Declaration reg. minimum local content in line with Public Procurement (Preference to Make in India), Order 2017-Revision, dated 04<sup>th</sup> June, 2020 and subsequent order(s).

Ref: 1) Tender Enquiry No.

We hereby certify that the items/works/services offered by M/s \_\_\_\_\_  
(Name of of bidder) has a local content of \_\_\_ % and this meets the local content requirement  
for **Class-1 Local supplier/ Class-2 Local supplier** \*\* as defined in Public  
Procurement (Preference to Make in India), Order 2017-Revision dated 04.06.2020 issued  
by DPIIT and subsequent order(s).

The details of the location(s) at which the local value addition is made are as follows:

1. \_\_\_\_\_ 2. \_\_\_\_\_

3. \_\_\_\_\_ 4. \_\_\_\_\_

...

Thanking you,  
Yours faithfully,

(Signature, Date & seal of Authorized Signatory of the Bidder)

\*\* - Strike out whichever is not applicable.

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## General Conditions of Contract (GCC) of MM Tenders

### BHARAT HEAVY ELECTRICALS LIMITED

Industrial Valve Plant: 433, Industrial Complex,  
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Punjab-143422 (INDIA)

Note:

1. Bidders to note that above format, duly filled & signed by authorized signatory, shall be submitted along with the techno-commercial offer.
2. In case the bidders quoted value is in excess of Rs 10 Crores , the authorized signatory of this declaration shall necessarily be the statutory auditor or cost auditor of the company (in the case of companies) or a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies).
3. In the event of false declaration, actions as per the above order and as per BHEL Guidelines shall be initiated against the bidder

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## General Conditions of Contract (GCC) of MM Tenders

### BHARAT HEAVY ELECTRICALS LIMITED

Industrial Valve Plant: 433, Industrial Complex,  
Goindwal Sahib, Dist. Tarn Taran,  
Punjab-143422 (INDIA)

### Annexure-3

#### BANK GUARANTEE FOR PERFORMANCE SECURITY (On non-Judicial paper of appropriate value)

Bank Guarantee No.  
Date.

To

Bharat Heavy Electrical Limited  
Industrial Valves Plant  
Goindwal  
Punjab-143422

Dear Sirs,

In consideration of Bharat Heavy Electricals Limited (hereinafter referred to as the 'Employer' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Companies Act, 1956 and having its registered office BHEL House, Siri Fort New Delhi through its Unit at BHEL, IVP, Goindwal having awarded to..... (Name of the Vendor / Contractor / Supplier) with its registered office at..... hereinafter referred to as the 'Vendor / Contractor / Supplier', which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns), a contract Ref No..... valued at Rs. .... (Rupees ....) and the Vendor / Contractor / Supplier having agreed to provide a contract performance bank guarantee, equivalent to ... % (... percent) of the said value of the contract to the employer for the faithful performance of the Contract.

We, ....., (here in after referred to as the Bank), having registered/Head office at ..... and inter alia a branch at ..... being the Guarantor under this Guarantee, hereby irrevocably and unconditionally undertake to forthwith and Immediate pay to the Employer any sum or sums upto a maximum amount of Rs ..... (Rupees in words ..... ) without any demur, immediately on first demand from the Employer and without any reservation, protest, and recourse and without the Employer needing to prove or demonstrate reasons for its such demand.

Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.....

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## General Conditions of Contract (GCC) of MM Tenders

### BHARAT HEAVY ELECTRICALS LIMITED

Industrial Valve Plant: 433, Industrial Complex,  
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We undertake to pay to the Employer any money so demanded notwithstanding any dispute or disputes raised by the Vendor / Contractor / Supplier in any suit or proceeding pending before any Court or Tribunal, Arbitrator or any other authority, our liability under this present being absolute and unequivocal.

The payment so made by us under this Guarantee shall be a valid discharge of our liability for payment thereunder and the Vendor / Contractor / Supplier shall have no claim against us for making such payment.

We the.....Bank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract/ satisfactory completion of the performance guarantee period as per the terms of the Contract and that it shall continue to be enforceable till all the dues of the employer under or by virtue of the said Contract have been fully paid and its claims satisfied or discharged.

We.....Bank further agree that the Employer shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Contract or to extend time of performance by the said Vendor /Contractor / Supplier from time to time or to postpone for any time or from time to time any of the powers exercisable by the Employer against the said Vendor / Contractor / Supplier and to forbear or enforce any of the terms and conditions relating to the said Contract and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Vendor / Contractor / Supplier or for any forbearance, act or omission on the part of the Employer or any indulgence by the Employer to the said Vendor / Contractor / Supplier or by any such matter or thing whatsoever which under the law relating to sureties would but for this provision have effect of so relieving us.

The Bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Vendor / Contractor/ Supplier and notwithstanding any security or other guarantee that the Employer may have in relation to the Vendor /Contractor / Supplier 's liabilities.

This Performance Bank Guarantee shall remain in force upto..... and including and and shall be extended from time to time for such period as may be desired by Employer.

This Guarantee shall not be determined or affected by liquidation or winding up, dissolution or change of constitution or insolvency of the Vendor / Contractor / Supplier but shall in all respects and for all purposes be binding and operative until payment of all money payable to the Employer in terms thereof.

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## General Conditions of Contract (GCC) of MM Tenders

### BHARAT HEAVY ELECTRICALS LIMITED

Industrial Valve Plant: 433, Industrial Complex,  
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Punjab-143422 (INDIA)

Unless a demand or claim under this guarantee is made on us in writing on or before the.....we shall be discharged from all liabilities under this guarantee thereafter.

This Bank Guarantee shall be governed, construed and interpreted in accordance with the laws of India.

Courts at ..... shall alone have exclusive jurisdiction over any matter arising out of or in connection with this bank guarantee.

We ..... Bank lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Employer in writing.

Notwithstanding anything to the contrary contained hereinabove:

- a) The liability of the Bank under this guarantee shall not exceed----
- b) This Guarantee shall be valid up to ----
- c) Unless the Bank is served a written claim or demand on or before..... all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

We, ..... Bank have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

For and on behalf of  
(Name of the Bank)

Date:

Place of Issue:

Notes:

1. The BG should be on Non-Judicial Stamp paper/e-stamp paper of appropriate value as per Stamp

Act prevailing in the State(s) where the BG is submitted or is to be acted upon or the rate prevailing in the State where the BG was executed, whichever is higher. The Stamp Paper/estamp paper shall be purchased in the name of Contractor/sub-contractor /vendor/ Bank issuing the guarantee.

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## General Conditions of Contract (GCC) of MM Tenders BHARAT HEAVY ELECTRICALS LIMITED

Industrial Valve Plant: 433, Industrial Complex,  
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Punjab-143422 (INDIA)

Annexure-4

### LIST OF CONSORTIUM BANKS

Sl. No.	NAME OF THE BANK
1	State Bank of India
2	Canara Bank
3	IDBI Bank Limited
4	ICICI Bank Limited
5	HDFC Bank Limited
6	Axis Bank
7	IndusInd Bank Limited
8	Bank of Baroda
9	Exim Bank
10	Indian Bank
11	Punjab National Bank
12	Union Bank of India
13	Yes Bank Limited
14	RBL Bank Ltd.
15	Standard Chartered Bank
16	Indian Overseas Bank
17	Kotak Mahindra Bank Limited
18	Federal Bank Limited
19	Hongkong and Shanghai Banking Corporation Ltd

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## General Conditions of Contract (GCC) of MM Tenders BHARAT HEAVY ELECTRICALS LIMITED

Industrial Valve Plant: 433, Industrial Complex,  
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### Annexure-X

#### **BRIEF PROCEDURE FOR CONDUCT OF CONCILIATION PROCEEDINGS**

1. The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided herein:
2. The party desirous of resorting to Conciliation shall send an invitation/notice in writing to the other party to conciliate specifying all points of Disputes with details of the amount claimed. The party concerned shall not raise any new issue thereafter. Parties shall also not claim any interest on claims/counter-claims from the date of notice invoking Conciliation till the conclusion of the Conciliation proceedings.
3. The party receiving the invitation/notice for Conciliation shall within 30 days of receipt of the notice of Conciliation intimate its consent for Conciliation along with its counter-claims, if any.
4. The Conciliation in a matter involving claim or counter-claim (whichever is higher) up to Rs 5 crores shall be carried out by sole Conciliator nominated by BHEL while in a matter involving claim or counter-claim (whichever is higher) of more than Rs 5 crores Conciliation shall be carried out by 3 Conciliators nominated by BHEL.
5. The Parties shall be represented by only their duly authorized in-house executives/officers and neither Party shall be represented by a Lawyer.
6. The first meeting of the IEC shall be convened by the IEC by sending appropriate communication/notice to both the parties as soon as possible but not later than 30 days from the date of his/their appointment. The hearings in the Conciliation proceeding shall ordinarily be concluded within two (2) months and, in exceptional cases where parties have expressed willingness to settle the matter or there exists possibility of settlement in the matter, the proceedings may be extended by the IEC by a maximum of further 2 months with the consent of the Parties subject to cogent reasons being recorded in writing.
7. The IEC shall thereafter formulate recommendations for settlement of the Disputes supported by reasons at the earliest but in any case, within 15 days from the date of conclusion of the last hearing. The recommendations so formulated along with the reasons shall be furnished by the IEC to both the Parties at the earliest but in any case, within 1 month from the date of conclusion of the last hearing.
8. Response/modifications/suggestions of the Parties on the recommendations of the IEC are to be submitted to the IEC within time limit stipulated by the IEC but not more than 15 days from the date of receipt of the recommendations from the IEC.

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## General Conditions of Contract (GCC) of MM Tenders

### BHARAT HEAVY ELECTRICALS LIMITED

Industrial Valve Plant: 433, Industrial Complex,  
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9. In the event, upon consideration, further review of the recommendations is considered necessary, whether by BHEL or by the other Party, then, the matter can be remitted back to the IEC with request to reconsider the same in light of the issues projected by either/both the Parties and to submit its recommendations thereon within the following 15 days from the date of remitting of the case by either of the Parties.
10. Upon the recommendations by the Parties, with or without modifications, as considered necessary, the IEC shall be called upon to draw up the Draft Settlement Agreement in terms of the recommendations.
11. When a consensus can be arrived at between the parties only in regard to any one or some of the issues referred for Conciliation the draft Settlement Agreement shall be accordingly formulated in regard to the said Issue(s), and the said Settlement Agreement, if signed, by the parties, shall be valid only for the said issues. As regards the balance issues not settled, the parties may seek to resolve them further as per terms and conditions provided in the contract.
12. In case no settlement can be reached between the parties, the IEC shall by a written declaration, pronounce that the Conciliation between the parties has failed and is accordingly terminated.
13. Unless the Conciliation proceedings are terminated in terms of para 22 (b), (c) & (d) herein below, the IEC shall forward his/its recommendations as to possible terms of settlement within one (1) month from the date of last hearing. The date of first hearing of Conciliation shall be the starting date for calculating the period of 2 months.
14. In case of 3 members IEC, 2 members of IEC present will constitute a valid quorum for IEC and meeting can take place to proceed in the matter after seeking consent from the member who is not available. If necessary, videoconferencing may be arranged for facilitating participation of the members. However, the IEC recommendations will be signed by all members. Where there is more than one (1) Conciliator, as a general rule they shall act jointly. In the event of differences between the Members of IEC, the decision/recommendations of the majority of the Members of IEC shall prevail and be construed as the recommendation of the IEC.
15. The Draft Settlement Agreement prepared by the IEC in terms of the consensus arrived at during the Conciliation proceedings between the Parties shall be given by the IEC to both the parties for putting up for approval of their respective Competent Authority.
16. Before submitting the draft settlement agreement to BHEL's Competent Authority viz. the Board Level Committee on Alternative Dispute Resolution (BLCADR) for approval, concurrence of the other party's Competent Authority to the draft settlement agreement shall be obtained by the other party and informed to BHEL within 15 days of receipt of the final draft settlement agreement by it. Upon approval by the Competent Authority, the Settlement Agreement would thereafter be signed by the authorized representatives of both the Parties and authenticated by the members of the IEC.

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## General Conditions of Contract (GCC) of MM Tenders

### BHARAT HEAVY ELECTRICALS LIMITED

Industrial Valve Plant: 433, Industrial Complex,  
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Punjab-143422 (INDIA)

17. In case the Draft Settlement Agreement is rejected by the Competent Authority of BHEL or the other Party, the Conciliation proceedings would stand terminated.
18. A Settlement Agreement shall contain a statement to the effect that each of the person(s) signing thereto (i) is fully authorized by the respective Party(ies) he/she represents, (ii) has fully understood the contents of the same and (iii) is signing on the same out of complete freewill and consent, without any pressure, undue influence.
19. The Settlement Agreement shall thereafter have the same legal status and effect as an arbitration award on agreed terms on the substance of the dispute rendered by an arbitral tribunal passed under section 30 of the Arbitration and Conciliation Act, 1996.
20. Acceptance of the Draft Settlement Agreement/recommendations of the Conciliator and/or signing of the Settlement Agreement by BHEL shall however, be subject to withdrawal/closure of any arbitral and/or judicial proceedings initiated by the concerned Party in regard to such settled issues.
21. Unless otherwise provided for in the agreement, contract or the Memorandum of Understanding, as the case may be, in the event of likelihood of prolonged absence of the Conciliator or any member of IEC, for any reason/incapacity, the Competent Authority/Head of Unit/Division/Region/Business Group of BHEL may substitute the Conciliator or such member at any stage of the proceedings. Upon appointment of the substitute Conciliator(s), such reconstituted IEC may, with the consent of the Parties, proceed with further Conciliation into the matter either de-novo or from the stage already reached by the previous IEC before the substitution.
22. The proceedings of Conciliation under this Scheme may be terminated as follows:
  - a. On the date of signing of the Settlement agreement by the Parties; or,
  - b. By a written declaration of the IEC, after consultation with the parties, to the effect that further efforts at conciliation are no longer justified, on the date of the declaration; or,
  - c. By a written declaration of the Parties addressed to the IEC to the effect that the Conciliation proceedings are terminated, on the date of the declaration; or,
  - d. By a written declaration of a Party to the other Party and the IEC, if appointed, to the effect that the Conciliation proceedings are terminated, on the date of the declaration.
  - e. On rejection of the Draft Settlement Agreement by the Competent Authority of BHEL or the other Party.

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## General Conditions of Contract (GCC) of MM Tenders

### BHARAT HEAVY ELECTRICALS LIMITED

Industrial Valve Plant: 433, Industrial Complex,  
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Punjab-143422 (INDIA)

23. The Conciliator(s) shall be entitled to following fees and facilities:

Sr. No.	Particulars	Amount
1	Sitting fees	Each Member shall be paid a Lump Sum fee of Rs 75,000/- for the whole case payable in terms of paragraph No. 27 herein below.
2	Towards drafting of settlement agreement	<p>In cases involving claim and/or counter-claim of up to Rs 5crores. Rs 50,000/- (Sole Conciliator)</p> <p>In cases involving claim and/or counter-claim of exceeding Rs 5 crores but less than Rs 10 crores. Rs. 75,000 (per Conciliator)</p> <p>In cases involving claim and/or counter-claim of more than Rs 10 crores. Rs 1,00,000/- (per Conciliator)</p> <p>Note: The aforesaid fees for the drafting of the Settlement Agreement shall be paid on Signing of the Settlement Agreement after approval of the Competent Authority or Rejection of the proposed Settlement Agreement by the Competent Authority of BHEL.</p>
3	Secretarial expenses	<p>Rs 10,000/- (one time) for the whole case for Conciliation by a Sole Member IEC.</p> <p>Where Conciliation is by multi member Conciliators –Rs 30,000/- (one time)- to be paid to the IEC</p>
4	<p>Travel and transportation and stay at outstation</p> <p>i Retired Senior Officials of other Public Sector Undertakings (pay scale wise equivalent to or more than E-8 level of BHEL)</p>	<p>As per entitlement of the equivalent officer (pay scale wise) in BHEL.</p>
	Others	As per the extant entitlement of whole time Functional Directors in BHEL.

Signature Not Verified

AMAN SHARMA





## General Conditions of Contract (GCC) of MM Tenders

### BHARAT HEAVY ELECTRICALS LIMITED

Industrial Valve Plant: 433, Industrial Complex,  
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5	Venue for meeting	Unless otherwise agreed in the agreement, contract or the Memorandum of Understanding, as the case may be, the venue/seat of proceedings shall be the location of the concerned Unit / Division / Region / Business Group of BHEL. Without prejudice to the seat/venue of the Conciliation being at the location of concerned BHEL Unit / Division / Region / Business Group, the IEC after consulting the Parties may decide to hold the proceedings at any other place/venue to facilitate the proceedings. Unless, Parties agree to conduct Conciliation at BHEL premises, the venue is to be arranged by either Party alternately.
---	-------------------	--

24. The parties will bear their own costs including cost of presenting their cases/evidence/witness(es)/expert(s) on their behalf. The parties agree to rely upon documentary evidence in support of their claims and not to bring any oral evidence in IEC proceedings.

25. If any witness(es) or expert(s) is/are, with the consent of the parties, called upon to appear at the instance of the IEC in connection with the matter, then, the costs towards such witness(es)/expert(s) shall be determined by the IEC with the consent of the Parties and the cost so determined shall be borne equally by the Parties.

26. The other expenditures/costs in connection with the Conciliation proceedings as well as the IEC's fees and expenses shall be shared by the Parties equally.

27. Out of the lump sum fees of Rs 75,000/- for Sitting Fees, 50% shall be payable after the first meeting of the IEC and the remaining 50% of the Sitting Fees shall be payable only after termination of the conciliation proceedings in terms of para 22 hereinabove.

28. The travelling, transportation and stay at outstation shall be arranged by concerned Unit as per entitlements as per Serial No. 3 of the Table at para 23 above, and in case such arrangements are not made by the BHEL Unit, the same shall be reimbursed to the IEC on actuals limited to their entitlement as per Serial No. 4 of the Table at Para 23 above against supporting documents. The IEC Member(s) shall submit necessary invoice for claiming the fees/reimbursements.

29. The Parties shall keep confidential all matters relating to the conciliation proceedings. Confidentiality shall extend also to the settlement agreement, except where its disclosure is necessary for purposes of its implementation and enforcement or as required by or under a law or as per directions of a Court/Governmental authority/ regulatory body, as the case may be.

Signature Not Verified

AMAN SHARMA





## General Conditions of Contract (GCC) of MM Tenders

### BHARAT HEAVY ELECTRICALS LIMITED

Industrial Valve Plant: 433, Industrial Complex,  
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30. The Parties shall not rely upon or introduce as evidence in any further arbitral or judicial proceedings, whether or not such proceedings relate to the Disputes that is the subject of the Conciliation proceedings:

- a. Views expressed or suggestions made by the other party in respect of a possible settlement of the Disputes;
- b. admissions made by the other party in the course of the Conciliator proceedings;
- c. proposals made by the Conciliator;
- d. The fact that the other Party had indicated his willingness to accept a proposal for settlement made by the Conciliator.

31. The Parties shall not present the Conciliator(s) as witness in any Alternative Dispute Resolution or Judicial proceedings in respect of a Disputes that is/was the subject of that particular Conciliation proceeding.

32. None of the Conciliators shall act as an arbitrator or as a representative or counsel of a Party in any arbitral or judicial proceeding in respect of a Disputes that is/was the subject of that particular Conciliation proceeding.

33. The Parties shall not initiate, during the Conciliation proceedings, any arbitral or judicial proceedings in respect of a Disputes that is the subject matter of the Conciliation proceedings except that a Party may initiate arbitral or judicial proceedings where, in his opinion, such proceedings are necessary for preserving his rights including for preventing expiry of period of limitation. Unless terminated as per the provisions of this Scheme, the Conciliation proceedings shall continue notwithstanding the commencement of the arbitral or judicial proceedings and the arbitral or judicial proceedings shall be primarily for the purpose of preserving rights including preventing expiry of period of limitation.

34. The official language of Conciliation proceedings under this Scheme shall be English unless the Parties agree to some other language.

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## General Conditions of Contract (GCC) of MM Tenders BHARAT HEAVY ELECTRICALS LIMITED

Industrial Valve Plant: 433, Industrial Complex,  
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### Appendix-I of Annexure-X

#### FORMAT FOR SEEKING CONSENT FOR REFERRING THE DISPUTES TO CONCILIATION THROUGH IEC

To,

M/s. (Stakeholder's name)

**Sub: Resolution of the Disputes through conciliation by Independent Expert Committee (IEC).**

Ref: Contract No/MoU/Agreement/LOI/LOA& date \_\_\_\_\_.

Sir,

With reference to above referred Contract/MoU/Agreement/LOI/LOA, you have raised certain Disputes/claims. Vide your letter dated\_\_\_\_ you have requested BHEL to refer the Disputes/claims to IEC for Conciliation.

We are enclosing herewith Format (3) for giving consent and the terms and conditions of BHEL Conciliation Scheme, 2018 governing conciliation through IEC. You are requested to give your unconditional consent to the said terms and conditions of the Scheme by returning the same duly sealed and signed on each page. On receipt of your consent, matter will be put to the Competent Authority for consideration and decision.

Please note that BHEL has also certain claims against you (if applicable). BHEL reserves its right to agree or not to agree conciliation of the said disputes through BHEL and this letter is being issued without prejudice to BHEL's rights and contentions available under the contract and law.

Yours faithfully,

**Representative of BHEL**

Signature Not Verified

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## General Conditions of Contract (GCC) of MM Tenders

### BHARAT HEAVY ELECTRICALS LIMITED

Industrial Valve Plant: 433, Industrial Complex,  
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Punjab-143422 (INDIA)

### Appendix-II of Annexure-X

#### **FORMAT FOR GIVING CONSENT BY CONTRACTOR/VENDOR/CUSTOMER/COLLABORATOR/CONSORTI UM PARTNERSFOR REFERRING THE DISPUTES TO CONCILIATION THROUGH IEC**

To,

BHEL

.....

#### **Sub: Resolution of Disputes through Conciliation by Independent Expert Committee (IEC).**

Ref: Contract/MoU/Agreement/LOI/LOA No \_\_\_\_\_ & date \_\_\_\_\_

With reference to above referred contract, our following bills/invoices/claims submitted to BHEL are still unpaid giving rise to Disputes:

SL. no.	Claim Description	Bill submitted to BHEL (no. and date)	Amount of the bill/claim	Amount received from BHEL	Outstanding Amount

Accordingly, we request you to kindly refer the Disputes in respect of above claims to IEC for Conciliation.

We hereby agree and give our unconditional consent to the terms and conditions of BHEL Conciliation Scheme, 2018 governing conciliation through IEC. We have signed the same on each page and enclosed it for your consideration.

Yours faithfully,

(Signature with stamp)

**Authorized Representative of Contractor  
Name, with designation Date**

Signature Not Verified

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## General Conditions of Contract (GCC) of MM Tenders BHARAT HEAVY ELECTRICALS LIMITED

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### Appendix-III of Annexure-X

#### STATEMENT OF CLAIMS/COUNTER CLAIMS TO BE SUBMITTED TO THE IEC BY BOTH THE PARTIES

1. Chronology of the Disputes
2. Brief of the Contract/MoU/Agreement/LOI/LOA
3. Brief history of the Disputes:
4. Issues:

#### 5. Details of Claim(s)/Counter Claim(s):

SI. No.	Description of claim(s)/Counter Claim	Amount (in INR) Or currency applicable in the contract	Relevant contract clause

6. Basis/Ground of claim(s)/counter claim(s) (along with relevant clause of contract)

**Note—** The Statement of Claims/Counter Claims may ideally be restricted to maximum limit of 20 pages. Relevant documents may be compiled and submitted along with the statement of Claims/Counter Claims. The statement of Claims/Counter Claims is to be submitted to all IEC members and to the other party by post as well as by email.

Signature Not Verified

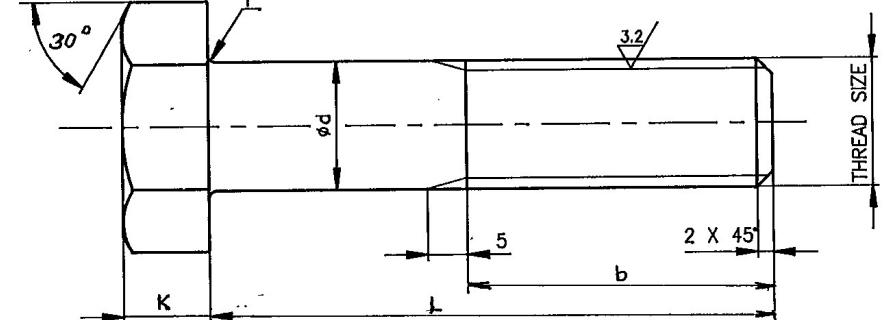
AMAN SHARMA

Page 35 of 35  
22.08.2025 12:35

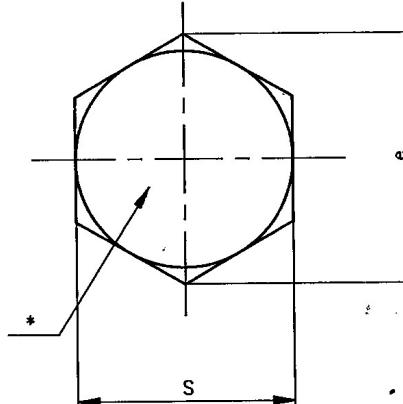


SL. No.	DRAWING NO.	MATERIAL CODE	MATL. SPECN	THREAD SIZE	L	Ød	b	K	S		e		r	FINISH WT. (kg)	MATL. MARK	SIZE/RATING
									MAX	MIN	MAX	MIN				
01	3-V-N073-06881/04	96 456 260 0000	ASTM A193-B7 HT CERTIFY	1/2"-13UNC-2A	55	12.7	30	9	22.22	21.59	25.65	24.61	0.75	0.06	B7	2"150, 2"300 3"150, 3"300
02	3-V-N033-06881/04	96 456 261 0000		5/8"-11UNC-2A	60	15.875	38	10.7	26.97	26.19	31.17	29.85	1	0.10	B7	4"150, 4"300
03	3-V-N001-06881/04	96 456 262 0000		5/8"-11UNC-2A	70	15.875	38	10.7	26.97	26.19	31.17	29.85	1	0.14	B7	6", 8", 10", 12" / 150 6", 8", 10" / 300
04	3-V-N224-06881/03	96 456 231 0000		5/8"-11UNC-2A	80	15.875	38	10.7	26.97	26.19	31.17	29.85	1	0.16	B7	20" / 150
05	3-V-C329-06881/03	96 456 433 0000		5/8"-11UNC-2A	75	15.875	38	10.7	26.97	26.19	31.17	29.85	1	0.15	B7	4" - C 900
06	3-V-N204-06881/03	96 456 450 0000	SA 307 Gr. B CERTIFY	3/4"-10UNC-2A	85	19.05	30	12.7	31.75	30.78	36.65	35.10	1	0.27	307-B	6" / C 150
07	3-V-N205-06881/03	96 456 451 0000		3/4"-10UNC-2A	90	19.05	35	12.7	31.75	30.78	36.65	35.10	1	0.28	307-B	8" / C 150
08	3-V-N207-06881/03	96 456 452 0000		7/8"-9UNC-2A	105	22.225	40	14.7	36.52	35.41	42.16	40.31	1	0.43	307-B	10" & 12" - C 150

REV	DATE	ALTERED:	CHE&APPD



19 12.5 / 3.2



### NOTES:-

- \* PUNCH MATERIAL MARK
- FOR QUALITY REQUIREMENTS REFER LATEST APPLICABLE TDC
- THIS COMPONENTS SHOULD BE GALVANISED TO A DEPTH OF 8 TO 12 MICRONS

REV.	DATE	ALTD:-	CHE&APPD

REV.	DATE	ALTD:-	CHE&APPD

REV.	DATE	ALTD:-	CHE&APPD

REV.	DATE	ALTD:-	CHE&APPD

REV.	DATE	ALTERED	R.L. @ G.P.C.
07	11.6.99	CHE&APPD. M.R.K. M	

GALVANISING (NOTE 3) ELIMINATED.  
DCN NO. HM 0393

DEPL. VL	GRADE OF UNPOL. DIM	FIRST ANGLE	SCALE	WEIGHT (kg)	ITEM NO.
CODE 340	S / M / X	NTS	REFERRABLE	0.00 kg	
TITLE : HEX. BOLT					REVISION
3-V-0000-06881					07

DRAWN	2	NAME	DATE
CHECKED	3	R.L.	11.6.99
APPROVED	M.R.K.	MC	11.6.99

9 $\angle$ 890-0000-Λ-

1

SL. No.	DRAWING No.	COMP. CODE	MATL. SPECN.	S		e		m		ØD	MATL. MARK	NET WT. (Kg.)
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.			
01	3.V.N073.06876/03	96 456 279	ASTM A194 - 2H, CERTIFY	22.22	21.59	25.65	24.61	12.80	11.79	1/2"-13 UNC -2B	2H	0.02
02	3.V.N025.06876/03	96 456 280		26.97	26.19	31.17	29.85	16.03	14.91	5/8"-11 UNC -2B	2H	0.03
03	3.V.N057.06876/03	96 456 281		31.75	30.78	36.65	35.10	19.25	18.03	3/4"-10 UNC -2B	2H	0.08
04	3.V.N065.06876/03	96 456 282		41.28	40.01	47.65	45.62	25.70	24.28	1"-8 UNC -2B	2H	0.17
05	3.V.N105.06876/03	96 456 283		46.02	44.60	53.16	50.85	29.93	27.41	1.1/8"-8 UN -2B	2H	0.27
06	3.V.N206.06876/02	96 456 431		36.52	35.41	42.16	40.37	22.47	21.16	7/8"-9 UNC -2B	2H	0.11
07	3.V.N204.06876/02	96 456 453	SA 307 Gr.B CERTIFY	31.75	30.78	36.65	35.10	19.25	18.03	3/4"-10 UNC -2B	307 B	0.08
08	3.V.N207.06876/02	96 456 454		36.52	35.41	42.16	40.37	22.47	21.16	7/8"-9 UNC -2B	307 B	0.11
09	3.V.F505.06876/01	96 456 683	ASTM A194 - 2H, CERTIFY	50.8	49.23	58.65	56.11	31.78	30.15	1.1/4"-8 UN -2B	2H	0.22
10	3.V.N848.06876	96 453 667		55.57	53.8	64.16	61.37	35.0	33.27	1.3/8"-8 UN -2B	2H	0.42
11	3.V.N827.06876	96 453 668		60.33	58.42	69.65	66.59	38.23	36.40	1.1/2"-8 UN -2B	2H	0.52
12	3.V.N846.06876/01	96 453 669		69.85	67.61	80.65	77.09	44.68	42.65	1.3/4"-8 UN -2B	2H	0.81
13	3.V.NK44.06876	96 465 904		65.07	63.02	75.15	71.84	41.45	39.53	1.5/8"-8 UN -2B	2H	0.68
14	3.V.NK45.06876	96 465 906		79.37	76.84	91.64	87.61	51.13	48.90	2"-8 UN -2B	2H	1.36

**NOTE:**

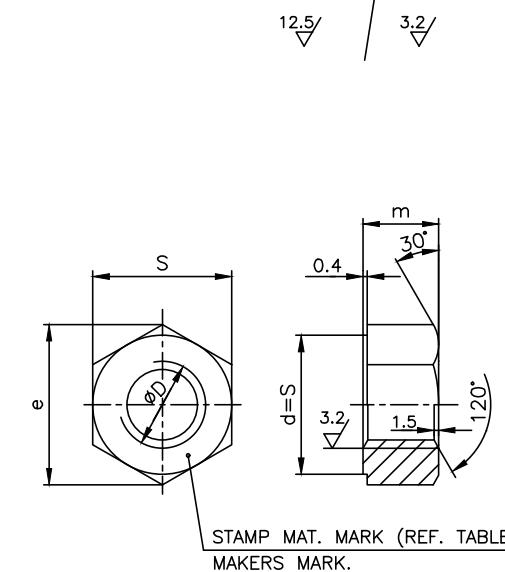
1. FOR QUALITY REQUIREMENTS REFER LATEST APPLICABLE STANDARD(TDS:5:164).

REV	DATE	ALTERED	R.P.SING
09	26.11.18	CHD & ARBD	SSK &

SI No 13 & 14 INCLUDED

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

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		Bharat Heavy Electricals Ltd., Unit: High Pressure Boiler Plant. Tiruchirapalli-620014.		NAME M.SRINIVASAN	SIGN	DATE 22.04.96	NO. OF VAR.
 365-121				DRN	N.DHANAPAL	22.04.96	
				CHD	A.VISWANATHAN	22.04.96	
				APPD		22.04.96	
DEPT VL		SCALE NTS	WEIGHT (KG) REF. TABLE	REFERENCE INFORMATIONS			NO. OF ITEMS
CODE 320				CAD: C306876			
TITLE HEX NUT				CARD CODE U 01	DRAWING NO. 3-V-0000-06876		REV 09

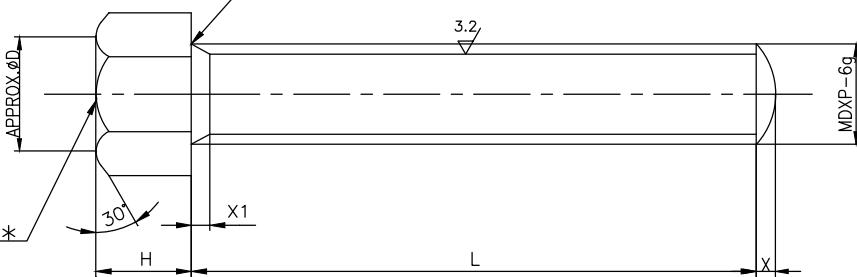
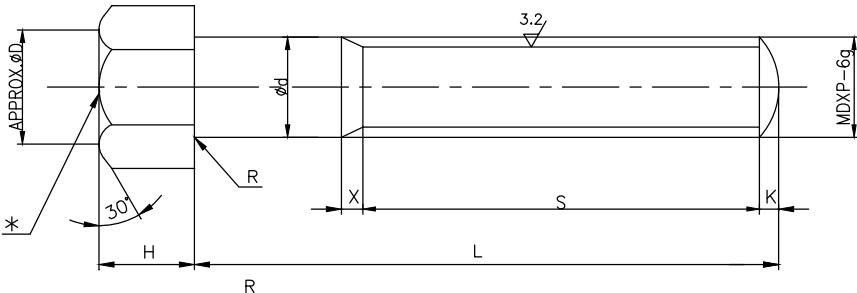


RETRACED WITH REV. 09 ON 26.11.18

DRAWING NO. 3-V-0000-20723/8

12.5 / 3.2

SL No.	DRAWING NO.	COMP. CODE	MATL. SPECN.	DIMENSIONS											FINISHED WT IN KGS		
				Md	P	L	S	H	K	X	X1	R	Ød	ØD	B		
01	3-V-0001-20723/3	964521920000	ASTM A193 B7, CERTIFY	M8	1.25	30	30	5.5	—	2.5	3.5	0.4	8	12.6	13	15	0.02
02	3-V-0002-20723/3	964521930000		M10	1.5	16	16	7	—	3	4.5	0.4	10	16.5	17	19.6	0.02
03	3-V-0003-20723/3	964521940000		M10	1.5	20	20	7	—	3	4.5	0.4	10	16.5	17	19.6	0.02
04	3-V-0004-20723/3	964521950000		M12	1.75	20	20	8	—	3.5	5	0.6	12	18	19	21.9	0.03
05	3-V-0005-20723/3	964521960000		M20	2.5	60	46	13	5	5	—	0.8	20	29	30	34.6	0.23
06	3-V-0006-20723/3	964521970000		M24	3	90	54	15	6	6	—	0.8	24	34	36	41.6	0.45
07	3-V-0007-20723/3	964521980000		M30	3.5	110	66	19	7	7	—	1.0	30	44	46	53.1	0.88
08	3-V-0008-20723/3	964522410000		M16	2	50	38	10	4	4	—	0.6	16	23	24	27.7	0.10
09	3-V-0009-20723/3	964523140000		M20	2.5	55	46	13	5	5	—	0.8	20	29	30	34.6	0.22
10	3-V-0010-20723/2	964533300000		M16	2	90	60	10	4	4	—	0.6	16	23	24	27.7	0.16
11	3-V-0011-20723/2	964568210000		M20	2.5	85	46	13	5	5	—	0.8	20	29	30	34.6	0.31
12	3-V-0012-20723/2	964533560000		M20	2.5	126	70	13	5	5	—	0.8	20	29	30	34.6	0.43
13	3-V-0013-20723/1	964535750000		M30	3.5	120	76	19	7	7	—	1.0	30	44	46	53.1	0.95
14	3-V-0014-20723	964655090000		M16	2	75	38	16	4	4	—	0.6	16	23	24	27.7	0.14
15	3-V-0015-20723	964655100000		M24	3	141	40	15	6	6	—	0.8	24	34	36	41.6	0.64
16	3-V-0016-20723	964655120000		M20	2.5	70	25	14	5	5	—	0.8	20	26	30	34.6	0.27

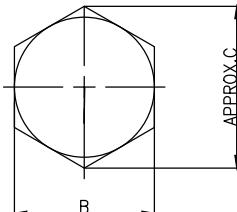


REV 8 DATE 04.03.13 ALTERED DEEPAKRAJ  
REV 7 DATE 12.04.08 ALTERED VB  
CHD & APPD M.RAJAKUMAR

SL.No.15 AND 16 INCLUDED.

DRAWING CONVERTED AS SOFT COPY

DCP No.800813



REDRAWN WITH REV.7 ON 12.04.08

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

NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING NO	ITEM NO
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT									
BHARAT HEAVY ELECTRICALS LTD, UNIT: HIGH PRESSURE BOILER PLANT, TIRUCHIRAPALLI 620014.									
365-121 DRN V.BAIRAVAN DEPT VL CHD M.RAJASEKARAN CODE 320 APPD M.RAJAKUMAR									
NO. OF ITEMS	DEPT VL	CODE	SCALE	WEIGHT (KG)	REFERENCE INFORMATIONS				
	NTS	—			PT-42				
	TITLE	CARD CODE	DRAWING NO.	REV					
	BOLT	U 01	3-V-0000-20723	8					

ALL DIMENSIONS ARE IN MILLIMETRES. FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP / QP.

3-V-0000-20728/1 -

S/N	DRAWING NO.	COMP. CODE	MATERIAL SPECN.	DIMENSIONS										NET WT (Kgs)	REMARKS	
				MD	P	L	S	H	K	X	X1	R	øD	B		
1	3-V-0001-20728/02	964524380000	M16	2	70	70	10	-	4	6	0.6	1.6	23	24	27.7	0.14
2	3-V-0002-20728/02	964543900000	M39	4	120	80	25	4	8	-	1.2	3.9	57.5	60	69.3	1.73
3	3-V-0003-20728/02	964524400000	M14	2	120	30	10	2	4	-	0.6	1.4	20	21	24.2	0.11
4	3-V-0004-20728/02	964526840000	M5	0.8	25	25	3.5	-	2	2	0.2	5	7	8.3	9.2	0.01
5	3-V-0005-20728/02	964528590000	M30	3.5	80	45	19	4	7	-	1.0	3.0	44	46	53.1	0.57
6	3-V-0006-20728/02	964529810000	M20	2.5	70	50	13	5	5	-	0.8	20	29	30	34.6	0.27
7	3-V-0007-20728/02	964530600000	M6	1	16	16	4	-	2	3	0.25	6	9.8	10	11.5	0.01
8	3-V-0008-20728/02	964531710000	M20	2.5	95	40	13	5	5	-	0.8	20	29	30	34.6	0.33
9	3-V-0009-20728/03	964531720000	M24	3	85	50	15	6	6	-	0.8	24	34	36	41.6	0.40
0	3-V-0010-20728/02	964605960000	M8	1.25	20	20	5.5	-	2.5	3.75	0.5	8	12.6	13	15.0	0.011
1	3-V-0011-20728/02	964605970000	M8	1.25	25	25	5.5	-	2.5	3.75	0.5	8	12.6	13	15.0	0.012
2	3-V-0012-20728/02	964532250000	M24	3	120	60	15	6	6	-	0.8	24	34	36	41.6	0.55
3	3-V-0013-20728/02	964533230000	M36	4	100	60	23	4	8	-	2	36	53	55	63.5	1.30
4	3-V-0014-20728/01	964534120000	M16	2	120	70	10	4	4	-	0.6	1.6	23	24	27.7	0.22
5	3-V-0015-20728	964535410000	M16	2	20	20	10	-	4	6	0.6	1.6	23	24	27.7	0.04
6	3-V-0016-20728	964605030000	M24	3	75	40	15	6	6	-	0.8	24	34	36	41.6	0.34
7	3-V-0017-20728	964535780000	M20	2.5	110	60	13	5	5	-	0.8	20	29	30	34.6	0.38
8	3-V-0018-20728	964535900000	M36	4	130	80	23	4	8	-	2	36	53	55	63.5	1.54

The diagram shows a cylindrical component with the following dimensions and features:

- Overall height:  $H$
- Base width:  $W_{MAX} = 65$
- Base radius:  $R$
- Base angle:  $30^\circ$
- Base height:  $3.2$
- Base hole diameter:  $p\phi$
- Base hole depth:  $S$
- Base hole center height:  $K$
- Overall height:  $H$
- Overall width:  $W_{MAX} = 65$

NOTES:

1. \* PUNCH MATERIAL MARK B7 FOR A193 B7.
2. QUALITY REQUIREMENTS SHALL BE AS PER LATEST TDC-5:64

RETRACED WITH REV.10 DATED 01.02.03

Size A3

SL. No.	DRAWING No.	MATERIAL CODE	MATERIAL SPECIFICATION	DIMENSIONS				NET WT. (kg)	SIZE/RATING
				THREAD SIZE	$L^{\pm 1.5}$	$A^{\pm 1.5}_0$	$B^{\pm 1.5}$		
01	3-V-N105-06884/02	96 456 259 0000	ASTM A193 GR. B7, HT, CERTIFY	5/8"-11UNC	93	23	40	0.13	12"/300C
02	3-V-N435-06884/01	96 456 749 0000		5/8"-11UNC	115	20	50	0.18	14"/300; 16"/300C
03	3-V-N437-06884/01	96 456 750 0000		3/4"-10UNC	140	25	50	0.25	20"/300C
04	3-V-C537-06884/01	96 456 796 0000		5/8"-11UNC	140	23	65	0.22	12"/900C
05	3-V-C538-06884/01	96 456 797 0000		3/4"-10UNC	185	25	80	0.41	20"/900C
06	3-V-N827-06884/01	96 453 699 0000		1"-8UNC	200	30	90	0.8	32"/150C

21    12.5/ / 3.2/ / 3.2/

NOTES:-

- \* PUNCH MATERIAL MARK - B7
- FOR QUALITY REQUIREMENT REFER LATEST APPLICABLE T.D.C  
5:164  
▲ THIS COMPONENT SHOULD BE GALVANISED TO A DEPTH OF 80/120 MICRON

REV. 06	DATE 11.11.99	ALT. R.L. 005 <sup>005</sup> CHE & APPD. M.R.K. <i>W</i>	REV. 05	DATE 16.10.99	ALT. R.L. 005 <sup>005</sup> CHE & APPD. M.R.K. <i>W</i>
IN SL. NO. 06, DIM. 200 WAS 190. DCN No. HM 04/16			SL. NO. 06 INCLUDED.		

REV. 04 DATE 11.6.99 ALT. R.L. 005<sup>005</sup>  
CHE & APPD. M.R.K. *W*

GALVANISING (NOTE 3) ELIMINATED  
DCN No. HM 0393

SL. NO. 02 & 03 INCLUDED.

REV. 03 DATE 20.3.97 ALT. R.L. 005<sup>005</sup>  
CHE & APPD. M.R.K. *W*

SL. NO. 04 & 05 INCLUDED.

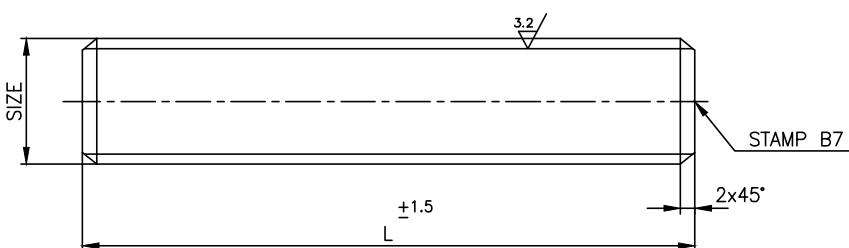
	Bharat Heavy Electricals Ltd., Boiler Plant Unit, Tiruchirappalli-620 014.				
	DEPT. V.L.	CODE 340	FIRST ANGLE	SCALE NTS	WEIGHT (kg)
	TITLE STUD	DRC NO.	ITEM NO. 06		
3-V-0000-06884					REVISION 06

CAUTION: The information on this 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.

DRAWING NO: 3-V-0000-06875

SL.No	DRAWING No.	MATERIAL	MATL. CODE	SIZE	L	WEIGHT IN Kgs.	SIZE/RATING
01	3-V-N073-06875/02	ASTM A193 B7, HT, CERTIFY	964562670000	1/2"-13UNC-2A	68	0.07	2"-150
02	3-V-N081-06875/02		964562680000	1/2"-13UNC-2A	80	0.08	2"-300
03	3-V-N025-06875/02		964562690000	5/8"-11UNC-2A	86	0.13	3"-150
04	3-V-N001-06875/02		964562700000	5/8"-11UNC-2A	94	0.15	4"-150 6"-150
05	3-V-N009-06875/02		964562710000	5/8"-11UNC-2A	105	0.16	8"-150 3",4"-300
06	3-V-N017-06875/02		964562720000	5/8"-11UNC-2A	118	0.18	6"-300
07	3-V-N057-06875/02		964562730000	3/4"-10UNC-2A	112	0.25	10"-150
08	3-V-N041-06875/02		964562740000	3/4"-10UNC-2A	120	0.27	12"-150
09	3-V-N089-06875/02		964562750000	3/4"-10UNC-2A	133	0.30	8"-300
10	3-V-N065-06875/02		964562760000	1"-8UNC-2A	158	0.63	10"-300
11	3-V-N105-06875/02		964562770000	1.1/8"-8UN-2A	180	0.91	12"-300
12	3-V-N106-06875/02		964562780000	1.1/8"-8UN-2A	140	0.71	12"-300
13	3-V-N224-06875/02		964562290000	1"-8UNC-2A	170	0.71	20"-150
14	3-V-1387-06875/02		964564270000	1"-8UNC-2A	135	0.54	16"-150
15	3-V-N204-06875/02		964564280000	3/4"-10UNC-2A	105	0.25	6"-150

SL.No	DRAWING No.	MATERIAL	MATL. CODE	SIZE	L	WEIGHT IN Kgs.	SIZE/RATING
16	3-V-N206-06875/02	ASTM A193 B7, HT, CERTIFY	964564290000	7/8"-9UNC-2A	115	0.35	10"-150
17	3-V-N207-06875/02		964564300000	7/8"-9UNC-2A	125	0.38	12"-150
18	3-V-N212-06875/02		964564560000	7/8"-9UNC-2A	150	0.45	8"-300
19	3-V-F505-06875/01		964566800000	1.1/4"-8UN-2A	215	1.34	8"-600
20	3-V-F506-06875/01		964566810000	1.1/8"-8UN-2A	220	1.41	10"-600
21	3-V-F507-06875/02		964566820000	1.1/4"-8UN-2A	250	1.74	12"-600
22	3-V-N361-06875/01		964567040000	1.1/4"-8UN-2A	150	0.94	24"-150& 16"-300
23	3-V-N437-06875/01		964567430000	1.3/8"-8UN-2A	190	1.44	20"-300
24	3-V-N847-06875		964536630000	1.1/4"-8UN-2A	195	1.23	28"-150
25	3-V-N848-06875		964536640000	1.3/8"-8UN-2A	210	1.58	30"-150
26	3-V-N827-06875		964536650000	1.1/2"-8UN-2A	220	1.96	32"-150
27	3-V-N846-06875/01		964536660000	1.3/4"-8UN-2A	240	2.9	36"-150
28	3-V-NE97-06875		964653420000	1.1/2"-8UN-2A	260	2.32	26"-300
29	3-V-NK44-06875		964659010000	1.5/8"-8UN-2A	270	2.84	28"-300
30	3-V-NK45-06875		964659050000	2"-8UN-2A	275	4.38	28"-600
31	3-V-P788-06875		964659130000	1.3/8"-8UN-2A	235	1.59	14"-600
32	3-V-NM12-06875		964730530000	1.1/8"-8UN-2A	150	0.76	18"-150



## NOTE:-

FOR QUALITY REQUIREMENTS REFER LATEST APPLICABLE TDC:5:164

DCP No.	ALTD: TS	APPD: MK	DCP No.	ALTD: RPS	APPD: KRS
REV	CHD: RPS	DT: 15.10.24	REV	CHD: SSK	DT: 12.06.19

SL. No. 32 INCLUDED.

REV 14  
ZONE -

SL. No. 31 INCLUDED.

REV 14  
ZONE -

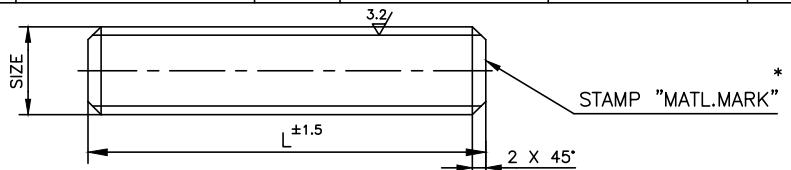
CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

NO OF ITEMS	NAME	SIGN	DATE	NO OF VAR.
—	V.BAIRAVAN	31.12.09	—	—
—	S.SATHEESHKUMAR	31.12.09	—	—
—	K.RAJASEKARAN	31.12.09	—	—
—	DRN	—	—	—
—	CHD	—	—	—
—	APPD	—	—	—
DEPT VL CODE	SCALE	WEIGHT (KG)	REFERENCE INFORMATIONS	ITEM NO
320	NTS	—	—	—
TITLE	CARD CODE	DRAWING NO.	REV	—
STUD	U 01	3-V-0000-06875	15	—

DRAWING NO. 3-V-0000-23248

12.5 / 3.2

SL.No	DRAWING No.	MATERIAL	MATL. CODE	SIZE	L	WEIGHT IN Kgs.	MATL. MARK*
01	3-V-F522-23248/01	ASTM A193 Gr. B16	96 456 882 0000	7/8"-9UNC-2A	150	0.45	B16
02	3-V-F523-23248/01		96 456 883 0000	3/4"-10UNC-2A	133	0.30	B16
03	3-V-F524-23248/01		96 456 884 0000	1"-8UNC-2A	170	0.71	B16
04	3-V-F525-23248/01		96 456 885 0000	1.1/4"-8UN-2A	215	1.34	B16
05	3-V-F526-23248/01		96 456 886 0000	1.1/8"-8UN-2A	220	1.41	B16
06	3-V-F527-23248/02		96 456 887 0000	1.1/4"-8UN-2A	250	1.74	B16
07	3-V-0001-23248/02		96 465 635 0000	1/2"-13UNC-2A	80	0.08	B8MSH
08	3-V-0002-23248/02		96 465 636 0000	5/8"-11UNC-2A	86	0.13	B8MSH
09	3-V-0003-23248/02		96 465 637 0000	5/8"-11UNC-2A	105	0.16	B8MSH
10	3-V-0004-23248/02		96 465 638 0000	5/8"-11UNC-2A	118	0.18	B8MSH
11	3-V-0005-23248/02		96 465 639 0000	3/4"-10UNC-2A	120	0.26	B8MSH
12	3-V-0006-23248/02		96 465 640 0000	3/4"-10UNC-2A	133	0.29	B8MSH
13	3-V-0007-23248/02		96 465 641 0000	7/8"-9UNC-2A	150	0.45	B8MSH
14	3-V-0008-23248/02		96 465 642 0000	1"-8UNC-2A	135	0.53	B8MSH
15	3-V-0009-23248/02		96 465 643 0000	1"-8UNC-2A	158	0.62	B8MSH
16	3-V-0010-23248/02		96 465 644 0000	1"-8UNC-2A	170	0.67	B8MSH
17	3-V-0011-23248/02		96 465 645 0000	1.1/8"-8UN-2A	180	0.90	B8MSH
18	3-V-0012-23248/02		96 465 646 0000	1.1/4"-8UN-2A	215	1.32	B8MSH
19	3-V-0013-23248/02		96 465 647 0000	1.1/4"-8UN-2A	250	1.54	B8MSH
20	3-V-0014-23248/02		96 465 769 0000	7/8"-9UNC-2A	120	0.36	B8MSH
21	3-V-0016-23248/02		96 465 830 0000	1.1/8"-8UN-2A	140	0.87	B8MSH
22	3-V-0015-23248/01		96 465 794 0000	1/2"-13UNC-2A	95	0.09	B8MSH
23	3-V-F933-23248/01		96 465 938 0000	1.1/8"-8UN-2A	220	1.41	B8MSH



DCP No. -	ALTD: TS CHD: RPS	APPD: MK DT: 05.08.25	DCP No. -	ALTD: RPS CHD: MK	APPD: SSK DT: 07.03.24		
REV 11	SL. No. 41 INCLUDED			REV 10	MATL. MARK B8MSH WAS B8M.		

SL.No	DRAWING No.	MATERIAL	MATL. CODE	SIZE	L	WEIGHT IN Kgs.	MATL.MARK*
24	3-V-0017-23248	ASTM A193 Gr. B7M	96 465 854 0000	1/2"-13UNC-2A	80	0.08	B7M
25	3-V-0018-23248		96 465 855 0000	5/8"-11UNC-2A	86	0.13	B7M
26	3-V-0019-23248		96 465 856 0000	5/8"-11UNC-2A	105	0.16	B7M
27	3-V-0020-23248		96 465 857 0000	5/8"-11UNC-2A	118	0.18	B7M
28	3-V-0021-23248		96 465 858 0000	3/4"-10UNC-2A	120	0.26	B7M
29	3-V-0022-23248		96 465 859 0000	3/4"-10UNC-2A	133	0.29	B7M
30	3-V-0023-23248		96 465 860 0000	7/8"-9UNC-2A	150	0.45	B7M
31	3-V-0024-23248		96 465 861 0000	1"-8UNC-2A	135	0.53	B7M
32	3-V-0025-23248		96 465 862 0000	1"-8UNC-2A	158	0.62	B7M
33	3-V-0026-23248		96 465 863 0000	1"-8UNC-2A	170	0.67	B7M
34	3-V-0027-23248		96 465 864 0000	1.1/8"-8UN-2A	180	0.90	B7M
35	3-V-0028-23248		96 465 865 0000	1.1/4"-8UN-2A	215	1.32	B7M
36	3-V-0029-23248		96 465 866 0000	1.1/4"-8UN-2A	250	1.54	B7M
37	3-V-0030-23248		96 465 867 0000	7/8"-9UNC-2A	120	0.36	B7M
38	3-V-0031-23248		96 465 868 0000	1.1/8"-8UN-2A	140	0.87	B7M
39	3-V-NL92-23248/01	ASTM A193 Gr.B8M Cl.2, CERTIFY	96 473 027 0000	1.1/4"-8UN-2A	150	0.94	B8MSH
40	3-V-Z135-23248/01		96 473 028 0000	1.1/4"-8UN-2A	180	1.11	B8MSH
41	3-V-F982-23248		96 473 056 0000	1.1/8"-8UN-2A	195	1.21	B8MSH

NOTE

01. FOR QUALITY REQUIREMENTS: REFER LATEST APPLICABLE PROCEDURE.

-	-	-	-	-	-	-	-	-	-
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING NO. COMP. CODE	ITEM NO

## TYPE OF PRODUCT

OR NAME OF

CUSTOMER/PROJECT

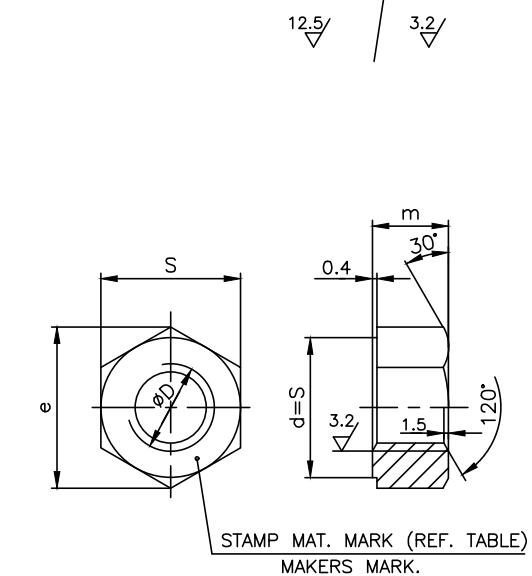
	BHARAT HEAVY ELECTRICALS LTD. UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI-620014.	DRN 365-191 02.03.2021	NAME M.SRINIVASAN	SIGN	DATE 18.05.98	NO. OF VAR.
CHD	K.S.RAMAN				18.05.98	—
APPD	N.NAGARAJAN				18.05.98	

DEPT VL CODE	SCALE	WEIGHT (KG.)	REFERENCE INFORMATIONS	NO. OF ITEMS
REV 11	NTS	REF.TABLE		
ZONE —	TITLE STUD		CARD CODE U 01	DRAWING NO. 3-V-0000-23248 11
REV 10			REV	

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

3-V-0000-23249  
DRAWING NO.

SL. No.	DRAWING No.	COMP. CODE	MATL. SPECN.	S		e		m		ØD	MATL. MARK	NET WT. (Kg.)
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.			
01	3-V-F522-23249/02	96 456 888 0000	ASTM A194 – Gr.7	36.52	35.41	42.16	40.37	22.47	21.16	7/8"-9 UNC -2B	GR.7	0.11
02	3-V-F523-23249/02	96 456 889 0000	ASTM A194 – Gr.7	31.75	30.78	36.65	35.10	19.25	18.03	3/4"-10 UNC -2B	GR.7	0.08
03	3-V-F524-23249/02	96 456 890 0000	ASTM A194 – Gr.7	41.28	40.01	47.65	45.62	25.70	24.28	1"-8 UNC -2B	GR.7	0.17
04	3-V-F525-23249/02	96 456 891 0000	ASTM A194 – Gr.7	50.80	49.23	58.65	56.11	31.78	30.15	1.1/4"-8 UN -2B	GR.7	0.27
05	3-V-F526-23249/02	96 456 892 0000	ASTM A194 – Gr.7	46.02	44.60	53.16	50.85	29.93	27.41	1.1/8"-8 UN -2B	GR.7	0.22
06	3-V-0001-23249	96 465 648 0000	ASTM A194 – Gr.8M	22.22	21.59	25.65	24.61	12.80	11.79	1/2"-13 UNC -2B	GR.8M	0.02
07	3-V-0002-23249	96 465 649 0000	ASTM A194 – Gr.8M	26.97	26.19	31.17	29.85	16.03	14.91	5/8"-11 UNC -2B	GR.8M	0.03
08	3-V-0003-23249	96 465 650 0000	ASTM A194 – Gr.8M	31.75	30.78	36.65	35.10	19.25	18.03	3/4"-10 UNC -2B	GR.8M	0.08
09	3-V-0004-23249	96 465 651 0000	ASTM A194 – Gr.8M	36.52	35.41	42.16	40.37	22.47	21.16	7/8"-9 UNC -2B	GR.8M	0.11
10	3-V-0005-23249	96 465 652 0000	ASTM A194 – Gr.8M	41.28	40.01	47.65	45.62	25.70	24.28	1"-8 UNC -2B	GR.8M	0.17
11	3-V-0006-23249	96 465 653 0000	ASTM A194 – Gr.8M	46.02	44.60	53.16	50.85	29.93	27.41	1.1/8"-8 UN -2B	GR.8M	0.22
12	3-V-0007-23249	96 465 654 0000	ASTM A194 – Gr.8M	50.80	49.23	58.65	56.11	31.78	30.15	1.1/4"-8 UN -2B	GR.8M	0.27
13	3-V-0008-23249	96 465 847 0000	ASTM A194 – Gr.2HM	22.22	21.59	25.65	24.61	12.80	11.79	1/2"-13 UNC -2B	GR.2HM	0.02
14	3-V-0009-23249	96 465 848 0000	ASTM A194 – Gr.2HM	26.97	26.19	31.17	29.85	16.03	14.91	5/8"-11 UNC -2B	GR.2HM	0.03
15	3-V-0010-23249	96 465 849 0000	ASTM A194 – Gr.2HM	31.75	30.78	36.65	35.10	19.25	18.03	3/4"-10 UNC -2B	GR.2HM	0.08
16	3-V-0011-23249	96 465 850 0000	ASTM A194 – Gr.2HM	36.52	35.41	42.16	40.37	22.47	21.16	7/8"-9 UNC -2B	GR.2HM	0.11
17	3-V-0012-23249	96 465 851 0000	ASTM A194 – Gr.2HM	41.28	40.01	47.65	45.62	25.70	24.28	1"-8 UNC -2B	GR.2HM	0.17
18	3-V-0013-23249	96 465 852 0000	ASTM A194 – Gr.2HM	46.02	44.60	53.16	50.85	29.93	27.41	1.1/8"-8 UN -2B	GR.2HM	0.22
19	3-V-0014-23249	96 465 853 0000	ASTM A194 – Gr.2HM	50.80	49.23	58.65	56.11	31.78	30.15	1.1/4"-8 UN -2B	GR.2HM	0.27
20	3-V-0015-23249	96 465 940 0000	ASTM A194 – Gr.8M	55.57	53.8	64.16	61.37	35.0	33.27	1.3/8"-8 UN -2B	GR.8M	0.42



NOTE:

1. FOR QUALITY REQUIREMENTS REFER LATEST APPLICABLE QUALITY PROCEDURE.
2. SUITABLE OIL PRESERVATIVE SHALL BE APPLIED.

REV	DATE	ALTERED	R.P.SINGH
05	03.03.21	CHD & APPD	SAMFER & SSS

SL. No. 20 INCLUDED.

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

—	—	—	—	—	—	—	—	—	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING NO	ITEM NO
<p><b>TYPE OF PRODUCT</b>  <b>OR NAME OF</b>  <b>CUSTOMER/PROJECT</b></p> <p> <b>BHARAT HEAVY ELECTRICALS LTD.</b>          UNIT: HIGH PRESSURE BOILER PLANT.          TIRUCHIRAPALLI-620014.          365-121</p>									
DEPT VL		SCALE	WEIGHT (KG)	DRN M.SRINIVASAN	SIGN	DATE 22.04.96	NO.OF VAR		
CODE 320		NTS	REF. TABLE	CHD N.DHANAPAL		23.04.96			
				APPD A.VISWANATHAN		23.04.96			
				REFERENCE INFORMATIONS				NO. OF ITEMS	
				CAD: F323249					
TITLE  <b>HEX NUT</b>				CARD CODE U 01	DRAWING NO.  <b>3-V-0000-23249</b>			REV 05	

3-V-0000-95180

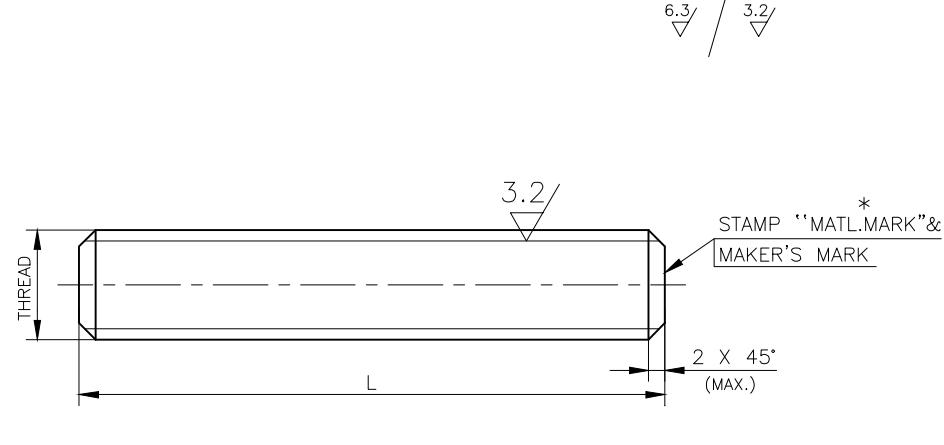
DRAWING NO.

SL.No	DRAWING No.	MATERIAL CODE	MATERIAL SPECN.	DIMENSIONS		MATERIAL MARK *	FINISHED WEIGHT(Kgs.)	SIZE/RATING
				THREAD	L			
01.	3-V-M357-95180/02	96 456 481 0000	ASTM A320 Gr.L7,HT, CERTIFY	5/8"-11UNC-2A	105	L7	0.164	4"/300C
02.	3-V-M358-95180/02	96 456 482 0000		5/8"-11UNC-2A	118	L7	0.184	6"/300C
03.	3-V-M359-95180/02	96 456 483 0000		3/4"-10UNC-2A	133	L7	0.298	8"/300C
04.	3-V-N228-95180/01	96 456 525 0000		5/8"-11UNC-2A	105	B16	0.164	4"/300C
05.	3-V-N229-95180/01	96 456 526 0000		5/8"-11UNC-2A	118	B16	0.184	6"/300C
06.	3-V-N230-95180/01	96 456 527 0000		3/4"-10UNC-2A	133	B16	0.298	8"/300C
07.	3-V-N306-95180/01	96 456 570 0000		5/8"-11UNC-2A	94	B16	0.146	6"/150C & 4"/150C
08.	3-V-N305-95180/01	96 456 571 0000		3/4"-10UNC-2A	112	B16	0.251	10"/150C
09.	3-V-N304-95180/01	96 456 572 0000		1"-8UNC-2A	158	B16	0.629	10"/300C
10.	3-V-N309-95180/01	96 456 573 0000		1 1/8"-8UNC-2A	180	B16	0.910	12"/300C
11.	3-V-N301-95180/01	96 456 574 0000		1/2"-13UNC-2A	68	B16	0.068	2"/150C
12.	3-V-N262-95180/01	96 456 575 0000		1/2"-13UNC-2A	80	B16	0.080	2"/300C
13.	3-V-N292-95180/01	96 456 576 0000		5/8"-11UNC-2A	86	B16	0.134	3"/150C
14.	3-V-N266-95180/01	96 456 577 0000		3/4"-10UNC-2A	120	B16	0.269	12"/150C
15.	3-V-N363-95180/01	96 456 616 0000	ASTM A193 -B8,SH, CERTIFY	1/2"-13UNC-2A	80	B8	0.080	2"/300C
16.	3-V-N364-95180/01	96 456 617 0000		5/8"-11UNC-2A	105	B8	0.164	3"/300C
17.	3-V-N204-95180/01	96 456 659 0000	SA307-Gr.B CERTIFY	3/4"-10UNC-2A	106	Gr.B	0.25	6"/150C
18.	3-V-N211-95180/01	96 456 660 0000		3/4"-10UNC-2A	125	Gr.B	0.27	6"/300C
19.	3-V-N622-95180/01	96 456 790 0000	ASTM A193 -B16,QT, CERTIFY	1 1/8"-8UN-2A	140	B16	0.7	14"/300C
20.	3-V-C537-95180/01	96 456 802 0000		1 5/8"-8UN-2A	300	B16	3.3	12"/900C
21.	3-V-C538-95180/01	96 456 803 0000		2"-8UN-2A	390	B16	6.3	14"/900C
22.	3-V-M768-95180/01	96 456 851 0000	ASTM A320 Gr.L7,HT, CERTIFY	5/8"-11UNC-2A	86	L7	0.13	3"/150C
23.	3-V-M769-95180/01	96 456 852 0000		5/8"-11UNC-2A	94	L7	0.15	4"/150C & 6"/150C
24.	3-V-NG10-95180	96 465 375 0000	ASTM A193 B16, QT CERTIFY	1 1/8"-8UN-2A	200	B16	0.98	20"/300C
25.	3-V-NH84-95180	96 465 628 0000		1 1/2"-8UN-2A	220	B16	1.96	32"/150C
26.	3-V-H972-95180	96 600 039 0000		1/2"-13UNC-2A	95	B16	0.09	1/2"/3000C

REV 13	DATE 06.06.16	ALTERED CHD & APPD	BAJITH KUMAR MS & KRS
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SL.NO: 26 INCLUDED

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

NOTE

- FOR QUALITY REQUIREMENTS REFER LATEST APPLICABLE QUALITY PROCEDURE.
- SUITABLE RUST PREVENTIVE COATING SHALL BE APPLIED AFTER MACHINING.

DRAWING REDRAWN WITH REV.13 ON 06.06.2016

—	—	—	—	—	—	—	—	—	—
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING NO	ITEM NO

## TYPE OF PRODUCT

OR NAME OF  
CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD.  
UNIT: HIGH PRESSURE BOILER PLANT  
TIRUCHIRAPALLI-620014.  
365-121

CS

DRN

T.R.R.MURTHY

NAME

SIGN

DATE

27.09.99

NO. OF VAR.

CHD

N.DHANAPAL

NAME

27.09.99

APPD

K.S.RAMAN

NAME

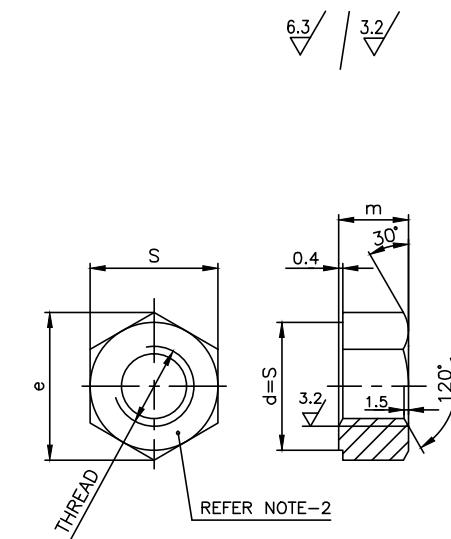
27.09.99

DEPT	VL	SCALE	WEIGHT (KG.)	REFERENCE INFORMATIONS	NO. OF ITEMS
CODE	320	NTS	REF TABLE	CAD: F395180	
TITLE				DRAWING NO. 3-V-0000-95180	REV 13
				CARD CODE U 01	

STUD

3-V-0000-95178/08  
DRAWING NO.

SL. No.	DRAWING No.	COMP. CODE	MATL. SPECN.	S		e		m		THREAD	MATL. MARK	NET WT. (Kg.)
				MAX.	MIN.	MAX.	MIN.	MAX.	MIN.			
01	3.V.M357.95178/03	96 456 484	ASTM A194 Gr.7,HT,CERTIFY	26.97	26.19	31.17	29.85	16.03	14.91	5/8"-11 UNC-2B	Gr.7	0.033
02	3.V.M359.95178/03	96 456 486	ASTM A194 Gr.7,HT,CERTIFY	31.75	30.78	36.65	35.10	19.25	18.03	3/4"-10 UNC-2B	Gr.7	0.076
03	3.V.N301.95178/02	96 456 578	ASTM A194 Gr.7,HT,CERTIFY	22.22	21.59	25.65	24.61	12.80	11.79	1/2"-13 UNC-2B	Gr.7	0.021
04	3.V.N304.95178/02	96 456 579	ASTM A194 Gr.7,HT,CERTIFY	41.28	40.09	47.65	45.62	25.70	24.28	1"-8 UNC-2B	Gr.7	0.165
05	3.V.N309.95178/02	96 456 580	ASTM A194 Gr.7,HT,CERTIFY	46.02	44.60	53.16	50.85	28.93	27.41	1-1/8"-8 UN-2B	Gr.7	0.266
06	3.V.M358.95178/03	96 456 485	ASTM A194 Gr.8,SH,CERTIFY	26.97	26.19	31.17	29.85	16.03	14.91	5/8"-11 UNC-2B	Gr.8	0.033
07	3.V.N363.95178/02	96 456 618	ASTM A194 Gr.8,SH,CERTIFY	22.22	21.59	25.65	24.61	12.80	11.79	1/2"-13 UNC-2B	Gr.8	0.021
08	3.V.M463.95178/02	96 456 654	ASTM A194 Gr.8,SH,CERTIFY	24.00	23.67	--	26.75	14.80	14.10	M16-6H	Gr.8	0.034
09	3.V.B001.95178/02	96 456 656	ASTM A194 Gr.8,SH,CERTIFY	--	19.00	--	21.10	--	10.00	M12-6H	Gr.8	0.018
10	3.V.N204.95178/02	96 456 657	ASTM A194 Gr.8,SH,CERTIFY	31.75	30.78	36.65	35.10	19.25	18.03	3/4"-10 UNC-2B	Gr.8	0.076
11	3.V.NH84.95178/00	96 465 629	ASTM A194 Gr.7,HT,CERTIFY	60.33	58.42	69.65	66.59	38.23	36.40	1-1/2"-8UN-2B	Gr.7	0.52



## NOTES:

1. FOR QUALITY REQUIREMENTS REFER LATEST APPLICABLE STANDARD.
2. PUNCH MATERIAL MARK(REFER TABLE) & MAKER'S MARK.

REV	DATE	ALTERED	M.RAMESH	REV	DATE	ALTERED	M.S
08	16.06.14	CHD & APPD	MS&SSK	07	20.11.13	CHD & APPD	SSK & KRS
SL.No.11 INCLUDED				DRAWING CONVERTED INTO AUTOCAD ASTM A194 Gr.8 WAS AISI 304. GALVANISING REMOVED FOR Gr.7 DCP:801645			
REV	DATE	ALTERED	TRR	REV	DATE	ALTERED	K.P.L
06	28.05.01	CHD & APPD	KSR	05	13.06.96	CHD & APPD	AVN
MATL.SPECN. A194 Gr.4 REVISED TO A194 Gr.7				MATL. Gr.8 & Gr.D CHANGED AS SS 304.			
REFER DCN. CS: 1147				REFER CS:DCN:CS: 0585			

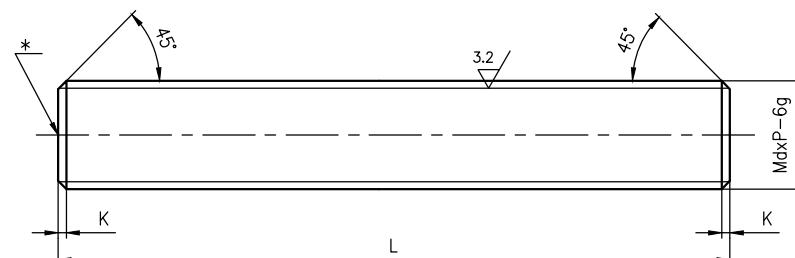
**CAUTION:** The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

—	—	—	—	—	—	—	—	—	—
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING NO	ITEM No
<b>TYPE OF PRODUCT</b> RETRACED WITH REV. 07 ON 20.11.2013 <b>OR NAME OF</b> <b>CUSTOMER/PROJECT</b>									
 <b>BHARAT HEAVY ELECTRICALS LTD.</b> UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALI-620014.					DRN	K.P.L	SIGN	DATE 13.06.96	NO.OF VAR.
					CHD	N.D.P		13.06.96	
					APPD	A.V.N		13.06.96	
DEPT VL		SCALE NTS	WEIGHT (KG). REF. TABLE	REFERENCE INFORMATIONS				NO.OF ITEMS	
CODE 320				CAD: C395178					
<b>TITLE</b> HEX. NUT				CARD CODE U 01	DRAWING NO. 3-V-0000-95178				REV 08

ALL DIMENSIONS ARE IN MILLIMETRES. FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP / QP.

DRAWING NO. 3-V-0000-20729

SL No.	DRAWING No.	COMP. CODE	MATL. SPECN.	DIMENSIONS				WT(KG)
				MDxP-6g	L	K		
01	3-V-0001-20729/02	964524410000	A193 B7, CERTIFY	M30x3	185	3		1.03
02	3-V-0002-20729/02	964524420000		M30x3	280	3		1.55
03	3-V-0003-20729/02	964524430000		M42x3	440	3		4.79
04	3-V-0004-20729/02	964524440000		M48x3	520	3		7.39
05	3-V-0005-20729/02	964526850000		M20x2.5	195	2.5		0.48
06	3-V-0006-20729/02	964527050000		M30x3	270	3		1.49
07	3-V-0007-20729/02	964527260000		M36x3	270	3		2.04
08	3-V-0008-20729/02	964527270000		M36x3	500	3		3.78
09	3-V-0009-20729/02	964527280000		M36x3	310	3		2.34
10	3-V-0010-20729/02	964527290000		M20x2.5	165	2.5		0.52
11	3-V-0011-20729/02	964527300000		M22x2.5	180	2.5		0.54
12	3-V-0012-20729/02	964527310000		M24x3	190	3		0.68
13	3-V-0013-20729/02	964527320000		M24x3	210	3		0.75
14	3-V-0014-20729/02	964527330000		M24x3	250	3		0.89
15	3-V-0015-20729/01	964534230000		M12x1.75	90	2		0.09
16	3-V-0016-20729/01	964534240000		M16x2	125	2		0.20
17	3-V-0017-20729/01	964534250000		M20x2.5	150	2.5		0.47
18	3-V-0018-20729	964651670000		M42x3	220	3		2.4
19	3-V-0019-20729	964660060000		M39x3	480	3		4.5
20	3-V-0020-20729	964653440000		M39x3	240	3		2.2
21	3-V-0021-20729	964653450000		M39x3	280	3		2.6
22	3-V-0022-20729	964654080000		M42x3	340	3		3.5
23	3-V-0023-20729	964655060000		M48x3	300	3		4.20
24	3-V-0024-20729	964654870000		M30	240	3		1.3
25	3-V-0025-20729	964655080000		M33	220	3.5		1.5



REV 13 DATE 28.05.13 ALTERED GANESH REV 12 DATE 14.03.13 ALTERED GANESH  
CHD & APPD K.RAJASEKARAN CHD & APPD M.RAJAKUMAR

SL. No. 49 INCLUDED.

SL. No. 25 INCLUDED.

SL No.	DRAWING No.	COMP. CODE	MATL. SPECN.	DIMENSIONS				WT(KG)
				MDxP-6g	L	K		
26	3-V-0026-20729/02	964524450000		M30x3	185	3		1.03
27	3-V-0027-20729/02	964524460000		M30x3	280	3		1.55
28	3-V-0028-20729/02	964524470000		M42x3	440	3		4.79
29	3-V-0029-20729/02	964524480000		M48x3	520	3		7.39
30	3-V-0030-20729/02	964526860000		M20x2.5	195	2.5		0.48
31	3-V-0031-20729/02	964527060000		M30x3	270	3		1.49
32	3-V-0032-20729/02	964527340000		M36x3	270	3		2.04
33	3-V-0033-20729/02	964527350000		M36x3	500	3		3.78
34	3-V-0034-20729/02	964527360000		M36x3	310	3		2.34
35	3-V-0035-20729/02	964527370000		M20x2.5	165	2.5		0.52
36	3-V-0036-20729/02	964527380000		M22x2.5	180	2.5		0.54
37	3-V-0037-20729/02	964527390000		M24x3	190	3		0.68
38	3-V-0038-20729/02	964527400000		M24x3	210	3		0.75
39	3-V-0039-20729/02	964527410000		M24x3	250	3		0.89
40	3-V-0040-20729/01	964534260000		M12x1.75	90	2		0.09
41	3-V-0041-20729/01	964534270000		M16x2	125	2		0.20
42	3-V-0042-20729/01	964534280000		M20x2.5	150	2.5		0.47
43	3-V-0043-20729	964651700000		M42x3	220	3		2.4
44	3-V-0044-20729	964660070000		M39x3	480	3		4.5
45	3-V-0045-20729	964652610000		M39x3	240	3		2.2
46	3-V-0046-20729	964652620000		M39x3	280	3		2.6
47	3-V-0047-20729	964654090000		M42x3	340	3		3.5
48	3-V-0048-20729	964654150000		M27x3	180	3		0.8
49	3-V-0049-20729	964655740000		M33	220	3.5		1.5

NO OF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING NO	ITEM NO
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT									
BHARAT HEAVY ELECTRICALS LTD. UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI-620014. 365-121					DRN	V.BAIRAVAN	SIGN	DATE	NO. OF VAR.
					CHD	K.RAJASEKARAN		15.3.04	
					APPD	M.RAJAKUMAR		15.3.04	
DEPT	VL	CODE	NTS	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS
CODE	320			REF. TABLE	CAD REF:-T320729				
TITLE					CARD CODE	DRAWING NO.		REV	
STUD					U 01	3-V-0000-20729		13	

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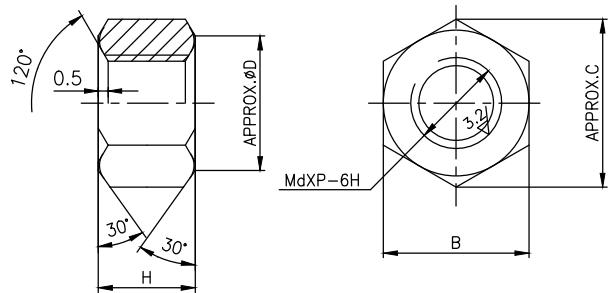
12.5 / 3.2

NOTES:-

1. QUALITY REQUIREMENTS SHALL BE AS PER LATEST APPLICABLE QUALITY WORK INSTRUCTION.
2. PUNCH MATL.MARK B7 FOR A193-B7 AND B16 FOR A193-B16

ALL DIMENSIONS ARE IN MILLIMETRES. FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP / QP.

SL. NO.	DRAWING NO.	MATERIAL SPECN.	COMP.CODE	DIMENSIONS						FINISHED WT(kg)	12.5 / 3.2	
				Md	P	H	B	C	ØD		V	
01.	3-V-0001-20717	A194-2H, CERTIFY	96 452 160 0000	M22	2.5	18	32	37	31	0.07		
02.	3-V-0002-20717		96 452 161 0000	M30	3	24	46	53.1	44	0.21		
03.	3-V-0003-20717		96 452 312 0000	M42	3	42	65	75	62	0.29		
04.	3-V-0004-20717/1		96 452 450 0000	M39	4	32	60 <sup>▲</sup>	65	55	0.24		
05.	3-V-0005-20717		96 452 688 0000	M5	0.8	4	8.3	9.2	7	0.01		
06.	3-V-0006-20717		96 452 932 0000	M48	3	48	75	86.5	72	0.94		
07.	3-V-0007-20717		96 453 057 0000	M52	3	52	80	92.4	77	1.2		
08.	3-V-0008-20717		96 460 645 0000	M30	3	30	46	53.1	44	0.23		
17.	3-V-0017-20717		96 453 358 0000	M22	2.5	22	32	37	31	0.09		
18.	3-V-0018-20717/1		96 466 008 0000	M39	3	39	60 <sup>▲</sup>	65	55	0.29		
20	3-V-3234-20717		96 465 274 0000	M33	3.5	33	50	57.7	49	0.32		



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

SL. NO.	DRAWING NO.	MATERIAL SPECN.	COMP.CODE	DIMENSIONS						FINISHED WT(kg)
				Md	P	H	B	C	ØD	
09.	3-V-0009-20717/1	A194-Gr.7, CERTIFY	96 452 309 0000	M22	2.5	18	32	37	31	0.07
10.	3-V-0010-20717/1		96 452 310 0000	M30	3	24	46	53.1	44	0.21
11.	3-V-0011-20717/1		96 452 311 0000	M42	3	42	65	75	62	0.29
12.	3-V-0012-20717/1		96 453 058 0000	M52	3	52	80	92.4	77	1.2
13.	3-V-0013-20717/1		96 460 647 0000	M30	3	30	46	53.1	44	0.23
14.	3-V-0014-20717/2		96 453 203 0000	M39	4	32	60 <sup>▲</sup>	65	55	0.24
15.	3-V-L793-20717/1		96 460 741 0000	M42	4.5	42	65	75	62	0.29
16.	3-V-0016-20717/1		96 453 357 0000	M22	2.5	22	32	37	31	0.09
19.	3-V-0019-20717/1		96 466 009 0000	M39	3	39	60 <sup>▲</sup>	65	55	0.29
21.	3-V-3237-20717		96 465 275 0000	M33	3.5	33	50	57.7	49	0.32

### NOTES:-

01. LATEST APPLICABLE QUALITY WORK INSTRUCTION SHALL BE FOLLOWED IN ALL RESPECTS.

—	—	—	—	—	—	—	—	—	—	—
NO. OFF	DESCRIPTION	MATERIAL CODE	MATERIAL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING NO.	ITEM NO	
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT										
	 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPPALI-620014.	DRN CHD APPD	Y.ARTHUR K.RAJASEKARAN M.RAJAKUMAR	SIGN	DATE	17.3.07	NO. OF VAR.			
DEPT VL CODE	320		SCALE N T S	WEIGHT (KG.)	REFERENCE INFORMATIONS CAD REF: T320717 PT40		NO. OF ITEMS			
TITLE			NUT	CARD CODE U 01	DRAWING NO. 3-V-0000-20717	REV 06				

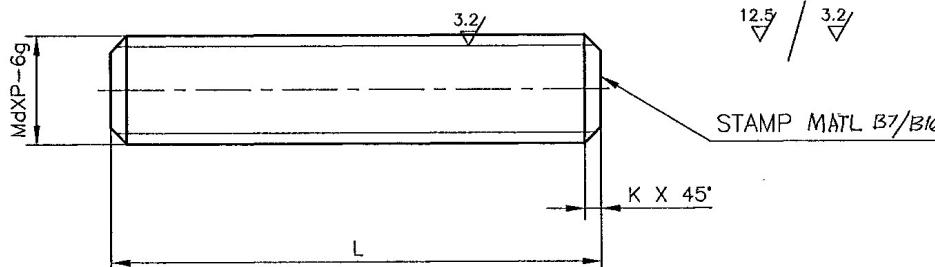
REV 06	DATE 04.11.17	ALTERED R.P.SINGH CHD & APPD SSK & KRS	REV 05	DATE 10.05.08	ALTERED M.SRINIVASAN CHD & APPD K.S.RAMAN
DIMENSIONS 60 WAS 56 FOR M39					SL.NO. 20 & 21 INCLUDED.

DCP NO.802298

Size A3

## NOTE

01. FOR QUALITY REQUIREMENTS: REFER LATEST APPLICABLE PROCEDURE.



REV	DATE	ALTERED MPS <i>mfg</i>
01	20.4.2k	CHD & APPD SCS <i>mfg</i>

SI NO 03 ADDED

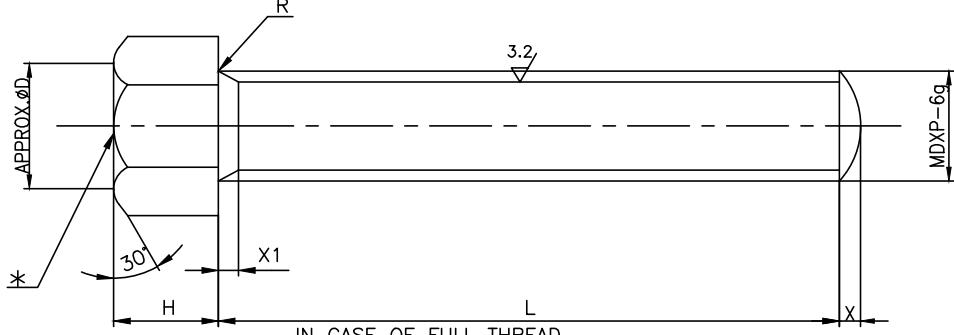
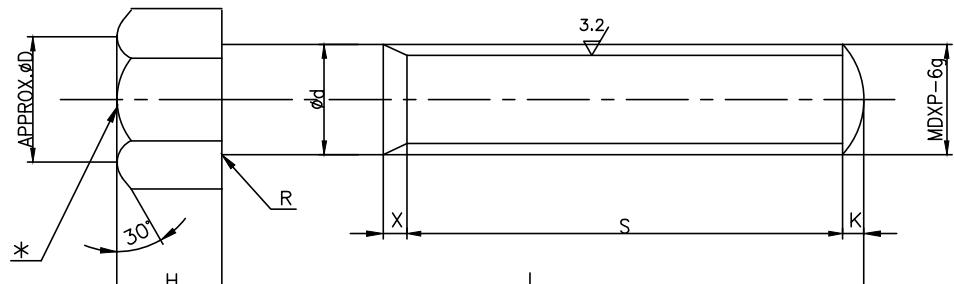
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—	—	—	—	—	—	—	—	—	—	—	—	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING NO	ITE NO			
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT												
 <b>BHARAT HEAVY ELECTRICALS LTD.</b> , UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPPALLI-620014. 365-121					DRN	NAME M P S	SIGN <i>m/s</i>	DATE	NO. VAL			
					CHD	P R K	<i>DR. P. K.</i>					
					APPD	S C S	<i>M/s</i>	13.7.99				
DEPT VL		SCALE NTS	WEIGHT (KG)	REFERENCE INFORMATIONS							NO. ITEM	
CODE 320				CAD : Q322667								
TITLE STUD				CARD CODE U 01	DRAWING NO. 3-V-0000-22667							RE

DRAWING NO. 3-V-0000-25708

12.5 / 3.2

SL No.	DRAWING NO.	COMP. CODE	MATL. SPECN.	DIMENSIONS												FINISHED WT IN KGS	
				Md	P	L	S	H	K	X	X1	R	Ød	ØD	B	C	
01	3-V-0001-25708/2	964657840000	ASTM A193-B8M CL.2, CERTIFY	M12	1.75	100	65	8	-	3.5	5	0.6	12	18	19	21.9	0.1
02	3-V-0002-25708/2	964658920000		M12	1.75	60	30	8	-	3.5	5	0.6	12	18	19	21.9	0.07

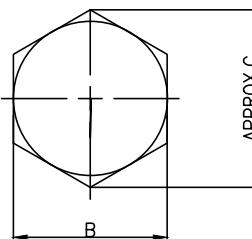


DCP No.	ALTD: RPS	APPD: SSK	DCP No.	ALTD: RPS	APPD: SSK
-	CHD: MK	DT: 07.03.24	-	CHD: SAB	DT: 26.06.20

REV 03  
ZONE -  
IN NOTE SL. NO. 01 MATERIAL MARK  
B8MSH WAS B8M.

REV 02  
ZONE -  
MATL. SPECIFICATION UPDATED.

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

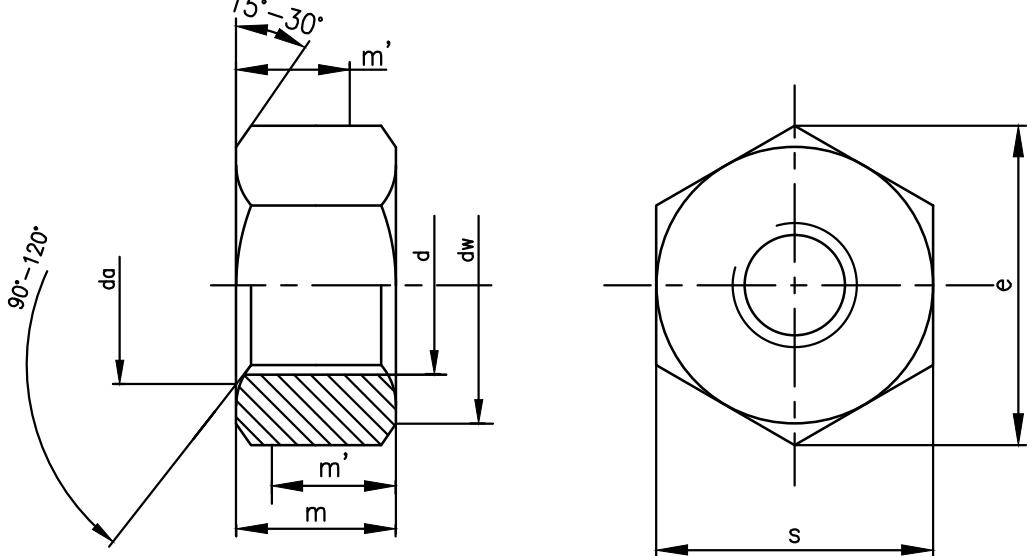


## NOTES:

- \* PUNCH MATERIAL MARK B8MSH FOR A193-B8M.
- QUALITY REQUIREMENTS SHALL BE AS PER LATEST TDC 5:164.

NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING NO.		ITEM NO
								DRN	NAME	
								T.SANGEETHA	SIGN	DATE 02.02.17
								S.SATHEES		02.02.17
								K.RAJASEKARAN		02.02.17
DEPT VL CODE	320	SCALE NTS	WEIGHT (KG)	REFERENCE INFORMATIONS				PT-42		
TITLE	HEX BOLT	CARD CODE U 01	DRAWING NO. 3-V-0000-25708	REV 03						

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

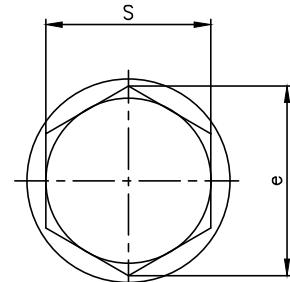
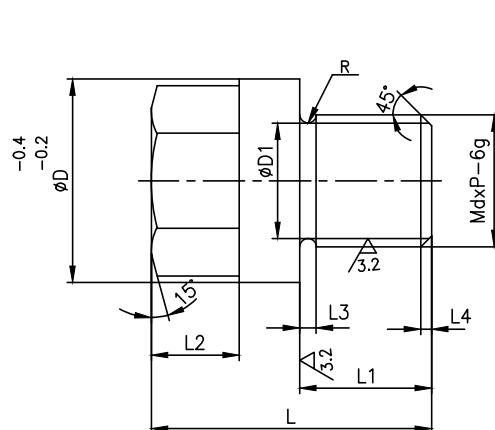
FOR TOLERANCES OF UNTOLERANCED DIMENSIONS							ALL DIMENSIONS ARE IN MILLIMETRES. DURING MANUFACTURE REFER RELEVANT QCP/QP										
REV	DATE	ALTERED R.P.SINGH		REV	DATE	ALTERED											
01	29.10.18	CHD & APPD SSK & KRS				CHD & APPD											
MATERIAL SPECIFICATION																	
CHANGED FROM B8MA TO Gr.8M																	
GROUP No. 0006 & 0007 ADDED																	
																	
NOTE:- FOR OTHER DIMENSIONS/DETAILS REFER IS:1364.																	
MATERIAL CODE	DRAWING NO	Thread Size	da		dw		e		m		m'	s		WEIGHT			
		d	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min				
964658380000	4-V-0001-27368	M10	10	10.8	14.6	17.77	10	9.64	7.7	16	15.73	0.0108					
964658390000	4-V-0002-27368	M20	20	21.6	27.7	32.95	20.7	19.40	15.5	30	29.16	0.0645					
964658400000	4-V-0003-27368	M27	27	29.16	38	45.2	24.7	22.6	18.1	41	40	0.185					
964658410000	4-V-0004-27368	M30	30	32.4	42.7	50.85	30.7	29.10	23.3	46	45	0.253					
964658440000	4-V-0005-27368	M12	12	13.0	16.6	20.03	12	11.57	9.30	18	17.73	0.0165					
964658970000	4-V-0006-27368	M33	33	35.6	46.6	55.37	33	31.4	25.1	50	49	0.30					
964658960000	4-V-0007-27368	M24	24	25.9	33.2	39.55	24.2	22.9	18.3	36	35	0.11					
	HEXAGON NUT		ASTM A194 Gr.8M, CERTIFY														
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT		SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING NO			ITEM No					
	 <b>BHARAT HEAVY ELECTRICALS LTD.</b> UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122					DRN	NAME R.P.SINGH		SIGN		DATE 16.04.18	NO. OF VAR					
						CHD	S.SATHEES				16.04.18						
						APPD	K.RAJASEKARAN				16.04.18						
DEPT VL			SCALE NTS	WEIGHT (KG). REFER TABULATION		REFERENCE INFORMATIONS						NO. OF ITEMS					
CODE	320					-----											
TITLE							CARD CODE	DRAWING NO.					REV				
HEX NUT							U 01	4-V-0000-27368					01				

Size A4

DRAWING NO.  
3-V-0000-06413

12.5 / 3.2

SL.No.	DRAWING NUMBER	COMPONENT CODE	RAW MATL DETAILS			WT(KG)		DIMENSIONS									REMARKS			
			SIZE	MATL.SPECN	MATL. CODE	SCRAP SORT	GROSS	NET	MdxP-6g	$\phi D$	$\phi D$	$\phi D$	e	S	L	L1	L2	L3	L4	R
01	3-V-5144-06413/02	93 100 677 0000	$\phi 40 \times 60$	A193-B7,QT CERTIFY	15 039 116	20	0.59	0.27	M24X2	37	21	34.6	30	51	24	16	3	2	1.5	-
02	3-V-5150-06413/02	93 100 678 0000	$\phi 50 \times 70$		15 039 197	20	1.11	0.33	M30X2	43	27	41.6	36	62	30	19	3	2	1.5	-
03	3-V-5152-06413/02	93 100 748 0000	$\phi 36 \times 50$		15 039 088	20	0.40	0.14	M20X1.5	30	16.5	28	24	40	20	13	3	2	1.5	-
04	3-V-5186-06413/02	93 104 802 0000	$\phi 32 \times 46$	A182-F6a Cl.3 HARDENED& TEMPERED CERTIFY	-	40	0.29	0.14	M20X1.5	30	16.5	28	24	40	20	13	3	2	1.5	3"-300C
05	3-V-5188-06413/02	93 104 803 0000	$\phi 40 \times 57$		-	40	0.56	0.27	M24X2	37	21	34.6	30	51	24	16	3	2	1.5	4"&6"-300C
06	3-V-5189-06413/02	93 104 804 0000	$\phi 45 \times 68$		-	40	0.85	0.33	M30X2	43	27	41.6	36	62	30	19	3	2	1.5	8"-300C
07	3-V-1447-06413/02	93 106 479 0000	$\phi 50 \times 55$	A193-B7,QT CERTIFY	15 039 197	20	0.88	0.30	M30X1.5	43	27	41.6	36	46	14	19	3	2	1.5	-
08	3-V-5199-06413/02	93 106 844 0000	$\phi 32 \times 46$		-	46	0.29	0.14	M20X1.5	30	16.5	28	24	40	20	13	3	2	1.5	-
09	3-V-5196-06413/02	93 106 845 0000	$\phi 40 \times 57$		-	46	0.56	0.27	M24X2	37	21	34.6	30	51	24	16	3	2	1.5	-
10	3-V-Z001-06413/02	93 106 846 0000	$\phi 50 \times 70$	A182-F316, SH CERTIFY	-	46	1.08	0.3	M30X2	43	27	41.6	36	62	30	19	3	2	1.5	-
11	3-V-Z113-06413	93 204 759 0000	$\phi 56 \times 67$		SA182 F60, SH CERTIFY	-	46	1.3	0.27	M24X2	37	21	34.6	30	51	24	16	3	2	1.5



REV DATE ALTERED R.P.SINGH  
09 19.06.19 CHD & APPD SSK & KRS

SL. No. 11 INCLUDED

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## NOTES

1. UNSPECIFIED SHRAP CORNERS TO BE CHAMFERED TO 0.5X45°.
2. HARDNESS - 26 TO 32 HRC FOR B7 MATL.

SL No.	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING NO	ITEM NO
--------	-------------	-----------	------------	----------------	------------	-------------	---------------	------------	---------

TYPE OF PRODUCT  
OR NAME OF  
CUSTOMER/PROJECT

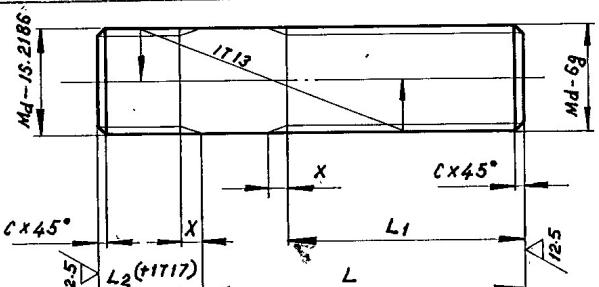
	BHARAT HEAVY ELECTRICALS LTD. UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI-620014. 365-121	DRN	R.P.SINGH	SIGN	DATE	NO. OF VAR.
CODE	CHD	S.SATHEES			06.10.18	
320	APPD	K.RAJASEKARAN			06.10.18	

DEPT VL	SCALE	WEIGHT (KG)	REFERENCE INFORMATIONS	NO. OF ITEMS
CODE				
320				

TITLE PLUG

CARD CODE	DRAWING NO.
U 01	3-V-0000-06413 09

SL. No.	DRAWING No.	MATERIAL DETAILS					DIMENSIONS							NET Wt. [kg.]	COMP. CODE	SL. No.		
		SPEC.	SIZE	CODE	HEAT TREATMENT	SCRAP SORT	GROSS Wt. (kg.)	L	L <sub>1</sub>	L <sub>2</sub>	X	C	Md	IT13				
1	3.V.1134.03661/1	ASTM A193-B7, CERTITY	Φ16x65	15039115	HARDENED & TEMPERED	20	0.103	45	26	13 <sup>+1.8</sup>	3.5	1.5	M10		0.27	0.036	930595160000	1
2	3.V.1135.03661/1		Φ20x85	15039084			0.210	55	38	23 <sup>+2.1</sup>	5	2	M16		0.27	0.123	930595170000	2
3	3.V.1132.03661/1		Φ25x90	15039086			0.347	60	46	23 <sup>+2.1</sup>	6	2.5	M20		0.33	0.205	930595180000	3
4	3.V.2663.03661/1		Φ20x75	15039084			0.185	46	35	23 <sup>+2.1</sup>	5	2	M16		0.27	0.12	930602550000	4
5	3.V.1076.03661		Φ16x80	15039115			0.13	55	35	20 <sup>+2.1</sup>	3.5	1.5	M10		0.27	0.05	930608660000	5
6	3.V.1705.03661		Φ25x100	15039086			0.386	70	46	23 <sup>+2.1</sup>	6	2.5	M20		0.33	0.21	930609390000	6
7	3.V.5402.03661		Φ20x118	15039084			0.29	85	38	23 <sup>+2.1</sup>	5	2	M16		0.27	0.19	930678070000	7
8	3.V.2899.03661		Φ25x110	15039086			0.424	75	30	32 <sup>+2.8</sup>	6	2.5	M20		0.33	0.26	931006060000	8
9	3.V.2956.03661		Φ16x70	15039115			0.11	45	25	20 <sup>+2.1</sup>	3.5	1.5	M10		0.27	0.04	931017320000	9
10	3.V.2961.03661		Φ20x100	15039084			0.25	70	40	23 <sup>+2.1</sup>	5	2	M16		0.27	0.15	931019960000	10
11	3.V.P208.03661		Φ25x110	15039086			0.42	65	35	35 <sup>+2.8</sup>	6	2.5	M20		0.33	0.25	931026230000	11
12	3.V.B555.03661		Φ25x95	15039086			0.36	50	35	35 <sup>+2.8</sup>	6	2.5	M20		0.33	0.21	931035410000	12
13	3.V.5142.03661	A193 B16	Φ32x130	15039165			0.82	85	60	35 <sup>+2.8</sup>	6	2.5	M27		0.33	0.54	931037190000	13
14	3.V.5618.03661	A193-B7, CERTIFY	Φ16x95	15039115	HARDENED, TEMPERED	20	0.15	67	25	20 <sup>+2.1</sup>	3.5	1.5	M10		0.27	0.05	931666030000	14



REV. DATE ALTER  
CHG. 2

REV. D.

ALTERED  
CHECKED

REV.	DATE	ALTER
------	------	-------

REV. D.

ALTERED

- 6 -

NO. OF PIECES	DESCRIPTION	SEM PRO/SEQ.NO.	INT. MAT. / SEQ. NO.	FINAL MATERIAL	SCRAP SORT	NET WT(KG)	GROSS WT(KG)	DRAWING NO./	ITEM NO.
------------------	-------------	-----------------	----------------------	----------------	---------------	---------------	-----------------	--------------	-------------

RETRACED WITH REV. NO. 10 ON 15.6.95



**BHARAT HEAVY ELECTRICALS LTD.**  
**BOILER PLANT UNIT, TIRUCHIRAPALLI-14**

 <i>NTS</i>	<b>SCALE</b>  <i>ALL DIMENSIONS IN MILLIMETRES</i>	DRAWN	R.L. <i>OSW</i>	TOTAL NET WT. (kg.)	Y
		CHECKED	R.L. <i>OSW</i>	TYPE	
		APPROVED	M.R.K. <i>HR</i>		
		DATE	13/03/83	NEW/OLD DRG. NO	
<b>CAUTION</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LTD., BOILER PLANT UNIT, TIRUCHY-14 AND SHALL NOT BE USED WITHOUT THEIR EXPRESS WRITTEN PERMISSION IN ANY FORM OR PART THEREOF FOR ANY OTHER PURPOSE THAN FOR WHICH IT IS SENT TO YOU.					
33-115		<b>STUD</b> DRAWING NO. 3-V-0000-03661 REVISION 10			

SL.No	DRG. No.	RAW MATERIAL				DIMENSIONS				FINISH WT. (Kg)	APPLICABLE TYPE NO'S.	SL.No
		SPECIFICATION	SIZE	CODE NO.	WT. (Kg)	L	Md- 62	C/45				
1	3-V-S661-09338	ASTM-A193 B7	BAR 4 20X55	15039084	0.16	50	M16	2		0.09	S661, S665, S666, 5964, S998	1
2	3-V-S833-09338	ASTM-A193 B7	BAR 4 12X35	15039091	0.03	30	M8	1		0.01	S833, S834, S835, S836, S931, S838, S839, S840, S841, S842, S843, S844, S845, S846, S847, S848, S849, S850, S851, S852, S853, S854, S865, S866, S867, S868, S889, S890, S891, S892, S893, S894, S895, S896, S897, S898, S899, S895	2
3	3-V-S858-09338	ASTM-A193 B7	BAR 4 12X35	15039091	0.03	40	M8	1		0.008	S858, S859	3
4	3-V-N204-09338 93104965 0000		BAR 4 12X60	15039091	0.53	55	M8	1		0.02	N204	4
5	3-V-N210-09338 93107183 0000	ASTM A193 B7	Φ10X90	-	0.80	80	M8	1		0.05	2.3.4" - 150C & 300C GV	5
6	3-V-N645-09338 93108303 0000		Φ25X120	-	0.462	110	M20	2		0.27	N645	

125 // 32

MICROFILMED ON 2018  
ROLL 1000024 FRAME 1009

REV 03	DATE 26-3-74	ALTERED: N.D.PAL <i>Mehra</i>	02	DATE 28/4/86	ALTERED: <i>Chandru</i>	01	DATE 17.9.77	ALTERED: N.D.PAL <i>Mehra</i>	01	DATE 17.9.77	ALTERED: N.D.PAL <i>Mehra</i>
CHECKED: <i>Juris</i>			CHECKED: <i>Chandru</i>			CHECKED: <i>Chandru</i>			CHECKED: <i>Chandru</i>		
SL.NO 4 IS INCLUDED			ZONE 3 In Sl No: 3 Dimension L. INCREASED FROM 30 TO 40			ZONE SL NO. 2 INCLUDED.			TITLE STUD		

ASTM-A193-B7	Q/T	10	- CERTIFY	
MATERIAL SPECIFICATION	HEAT TREATMENT	SCRAP SORT	TYPE OF CERTIFICATION	
BHARAT HEAVY ELECTRICALS LTD., BOILER PLANT UNIT, TIRUCHIRAPALI-14				

FIRST ANGLE	SCALE	DRAWN CHECKED APPROVED	4.00 kg TYPE
ALL DIMENSIONS IN MILLIMETRES		DATE 02.11.77	NEW/OLD DRG. NO.

CAUTION	THE INFORMATION CONTAINED IN THIS DRAWING IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED, BOILER PLANT UNIT, TIRUCHY-620014, AND SHALL NOT BE USED WITHOUT THEIR EXPRESS WRITTEN PERMISSION IN ANY FORM OR PART THEREOF FOR ANY OTHER PURPOSE THAN FOR WHICH IT IS SENT TO YOU.	
05-229	DRAWING NO. 3-V-S000-09338	REVISION 05



# PLANT STANDARD

HPBP TIRUCHIRAPPALLI

BPS 41117

Rev. No. 03

PAGE 1 of 3

## STUD BOLTS FOR TEMPERATURE USE

(For temperatures of medium up to 425°C)

### 1.0 SCOPE

1.1 Covers the requirements for Stud Bolts for use in medium of temperature 425°C in the size range M12 to M39x3.

### 2.0 SPECIFICATION AND REFERENCE STANDARDS

Dimensions and Preferred sizes		Fig 1 & Table 1 of this standard
Preferred length-size combination		Table 1 of this standard
Tolerance	Product grade	A
	Indian standard	IS: 1367 (part 2)
Thread	Pitch	Table 1 of this standard
	Tolerance	6g
	Indian standard	IS: 4218 Part 3, IS: 14962 Part 2 & 3
Material		Steel according to ASTM A193-B7 Certified in quenched and tempered condition
Manufacture		Thread rolling up to M24
Mechanical Properties		As specified in ASTM A193 – B7
Marking		All studs shall be stamped B7 on any one side
General requirement		Studs shall comply with TDC:5:164 in respect of requirements not covered in this standard except cadmium plating.

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Revisions: Brought up to date			Approved STANDARDS SECTION HPBP, TIRUCHIRAPPALLI		
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Rev. No. 03	Amd. No.	Reaffirmed	Prepared	Issued	Dt of 1 <sup>st</sup> Issue
Dt. 06.04.2022	Dt.	Year:	STANDARDS	STANDARDS	Dec 1986



# PLANT STANDARD

HPBP TIRUCHIRAPPALLI

BPS 41117

Rev. No. 03

PAGE 2 of 3

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

IS: 1367 Part 2      Technical supply conditions for threaded steel fasteners.

IS: 1368              Dimensions for ends of parts with external ISO metric threads.

IS: 4218 Part 3      ISO metric screw threads

ASTM-A193           Specification for alloy steel and stainless bolting material for high temperature service.

TDC: 5: 164           TDC for alloy steel studs to specification ASTM A193 Gr B7/B7m/B16 oil field equipment.

S: 14962 (Part 2 & 3) ISO General Purpose Metric Screw Threads - Tolerances

## 3.0 DESIGNATION

A grade - A stud to this standard of thread size M16 and nominal length 90mm shall be designated as:

### 3.1 On Drawings:

- 1) Material specification column: A 193 B-7
- 2) Description column      : STUD BOLT GR A T425 M16x90
- 3) Drawing number column    : BPS 41117
- 4) Material code column     : 4111716090

### 3.2 Ordering Description

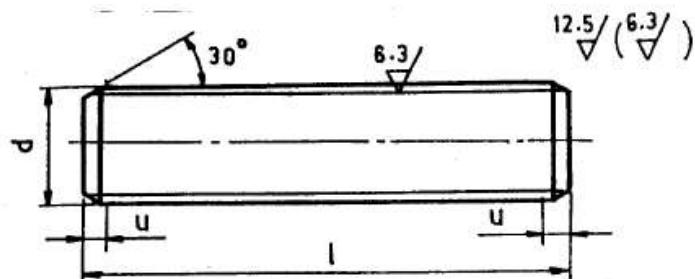
For placing indents, issuing enquiries and on purchase order, the ordering description given below shall be followed.

**Stud M16x90 BPS:41117-A-ASTM-A193-B7**

### 4.0 ADDITIONAL INFORMATION

4.1 Copies of the following standard and TDC: 5: 164 shall be enclosed along with the purchase order.

**FIG. 1. DIMENSIONS FOR STUD BOLTS**  
(All dimensions are in millimetres)



'u' according to IS:1368

**TABLE 1 PREFERRED LENGTH - SIZE COMBINATION FOR STUD BOLTS**  
(All dimensions are in millimetres)

Thread Size <b>d</b>	Nominal Length (l)																	
	60	70	80	90	100	110	120	130	140	150	160	170	180	200	225	240	250	280
	Weights																	
<b>M12</b>		62	70.9															
<b>M16</b>				135.9	151.7		183.3	<b>1</b>										357.1
<b>M20</b>					221.9			280.9		<b>303</b>								
<b>M24</b>								390.4			<b>496.9</b>			603.4				
<b>(M27)</b>										591.4				770.8				
<b>M30</b>										722.9		832.4						
<b>(M33)</b>													<b>1208.6</b>					
<b>(M39x3)</b>														<b>1875.7</b>				

**NOTE:**

1. Preferred lengths are in between the stepped bold lines
2. Weights are given in Kg per 1000 numbers only
3. Sizes in brackets are non-preferred.



# PLANT STANDARD

HPBP TIRUCHIRAPPALLI

BPS 41319

Rev. No. 04

PAGE 1 of 3

## NUTS FOR TEMPERATURE USE (For Medium of Temperature Up to 425°C)

### 1.0 SCOPE

Covers the requirements of hexagon nuts for use in medium of temperature up to 425°C & in the size range M8 to M45x3.

### 2.0 SPECIFICATION AND REFERENCE STANDARDS

Dimensions and Preferred Sizes	Figure 1 & Table 1 of this standard	
Tolerance	Product grade	A for nuts with $d \leq M16$ B for nuts with $d > M16$
	Indian standard	IS: 1367 (Part 2)
Thread	Pitch	Table 1 of this standard
	Tolerance	6H
	Indian Standard	IS: 4218 (Part 3), IS14962 (Part 2 & 3)
Material	Steel to ASTM – A194 2H Certified	
Testing	The finished nut shall satisfy the requirements of hardness, proof load and cone proof load, tests as specified in ASTM A194.	
General requirements	Nuts shall comply with latest version of TDC:5:164 in respect of requirements not covered in this standard, except for cadmium plating	

Revisions: Brought up to date			Approved STANDARDS SECTION HPBP, TIRUCHIRAPPALLI		
Rev. No. 04	Amd. No.	Reaffirmed	Prepared STANDARDS	Issued STANDARDS	Dt of 1 <sup>st</sup> Issue Dec 1986
Dt. 17.08.2024	Dt.	Year:			

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# PLANT STANDARD

HPBP TIRUCHIRAPPALLI

BPS 41319

Rev. No. 04

PAGE 2 of 3

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

IS: 1367 (Part 2) Technical supply conditions for threaded steel fasteners.

IS: 4218 (Part 3) ISO General Purpose Metric Screw Threads

TDC: 5: 164 Carbon & Alloy Steel Fasteners (Studs, Bolts & Nuts) For Valves, Oil Field Equipment (OFE) and Other Applications

ASTM A 194 Specification for Carbon and Alloy Steel Nuts for bolts for High Pressure and High Temperature service.

IS14962 (Part 2 & 3) ISO General Purpose Metric Screw Threads - Tolerances

## 3.0 DESIGNATION

A grade - A hexagon nut to this standard of thread size M8 shall be designated as:

### 3.1 On Drawings:

- 1) Material specification column: ASTM A 194 – 2H
- 2) Description column : NUT HEX GR A – T425 M8
- 3) Drawing number column : BPS 41319
- 4) Material code column : 4131900008

### 3.2 Ordering Description

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

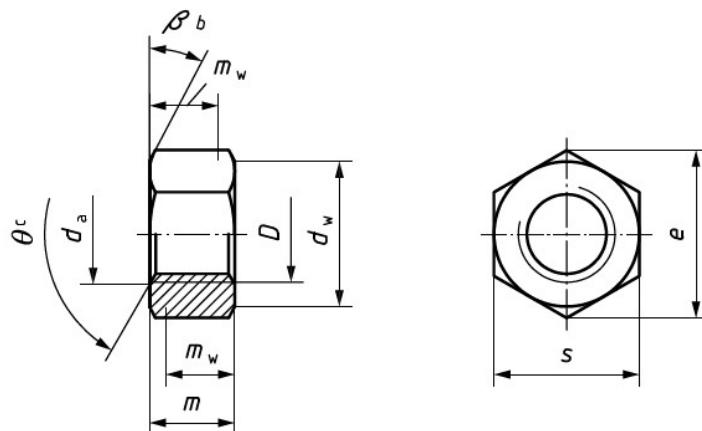
Hex Nut M8 to BPS: 41319-A-ASTM A194-2H for nuts with d <= M16

Hex Nut M20 to BPS: 41319-B-ASTM A194-2H for nuts with d > M16

## 4.0 ADDITIONAL INFORMATION

Copies of this standard and TDC:5:164 shall be enclosed along with the purchase order.

Figure 1



b       $\beta = 15^\circ$  to  $30^\circ$ .

c       $\theta = 90^\circ$  to  $120^\circ$ .

Table 1

(All dimensions are in millimeters)

Thread Size D	d <sub>a</sub>		d <sub>w</sub>		e		m		m <sub>w</sub>		s		Weight
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
<b>M8</b>	8	8.75	11.6		14.38	8	7.64	6.1	13	12.73		6.0	
<b>M10</b>	10	10.80	14.6		17.77	10	9.64	7.7	16	15.73		10.8	
<b>M12</b>	12	13.00	16.6		20.03	12	11.57	9.5	18	17.73		16.5	
<b>M16</b>	16	17.30	22.5		26.75	17.1	16.40	13.1	24	23.67		33.0	
<b>M20</b>	20	21.60	27.7		32.95	20.7	19.40	15.5	30	29.16		64.5	
<b>M24</b>	24	25.90	33.2		39.55	24.2	22.90	18.3	36	35.00		110.0	
<b>(M27)</b>	27	28.2	38		45.20	27.5	26.30	21.0	41	40.00		166.0	
<b>M30</b>	30	32.40	42.7		50.85	30.7	29.10	23.3	46	45.00		231.0	
<b>(M33)</b>	33	35.6	46.6		55.37	33	31.40	25.1	50	49.00		299.0	
<b>M36x3</b>	36	38.90	51.1		60.79	36.6	35.00	28.0	55	53.80		364.0	
<b>(M39x3)</b>	39	42.1	55.9		66.44	39	37.40	29.9	60	58.80		485.0	
<b>(M45x3)</b>	45	48.6	64.7	80.8		45	43.40	34.7	70	68.80		750.0	

m<sub>w</sub> – Wrenching Height

Notes:

1. Sizes Shown in brackets are non-preferred.
2. Weights are given in kg per 1000 numbers only.



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**भारत हैवी इलेक्ट्रिकल्स लिमिटेड**  
 (भारत सरकार का उपक्रम)  
**इंडस्ट्रियल वाल्व्स प्लॉट**  
**Bharat Heavy Electricals Limited**  
 (A Govt. of India Undertaking)  
**Industrial Valves Plant**

**Quality Assurance Plan for Fasteners\*:**  
 NUT, BOLT (INCL EYE BOLT, LIFTING EYE BOLT), STUD

BHE:QAP:FAS:02  
Dt:15.03.2019

SN	Stage of inspection	Inspection type		Ref doc	Quantum of check	Format of Record	Agency	
							M	BHEL/TPIA
1	Raw material	Chemical/Mechanical properties		Material test certificate	100%	MTC report	V	V
		Chemical Analysis	Chemical composition	Material specification in drg	one sample per heat	Annex 1 of TDC	P	W
		Mechanical Properties	Tensile strength	Material specification in drg	one sample per heat	Annex 1 of TDC	P	W
			Mechanical testing for nut		10% or 20 nos hardness check at manufacturer end, one sample each type per heat for TPIA or BHEL**			
2	Finished product	Dimension	As per drawing, Thread with GO/ NO GO Gauge	Material drg/BPS	10% or 20 nos/type.	Inspection report	P	P
		Visual	Free from burrs, physical damages		100%	Annex 1 of TDC	P	P
		MPI	ASTM E709	As per procedure	10% or 20 nos/type.	MPI report	P	W
		Marking/Identification	Material grade/supplier name or symbol	As per PO/Drawing/TDC	10%	Annex 1 of TDC	P	W

15/03/19  
 (Matswala)

15/03/19  
 (Gaurav Ch)  
 (Gaurav Ch)

15/03/19  
 S.R. Icamry



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(भारत सरकार का उपक्रम)  
इंडस्ट्रियल वाल्व्स प्लॉट  
Bharat Heavy Electricals Limited  
(A Govt. of India Undertaking)  
Industrial Valves Plant

9/2

	Rust preventive oil		As per TDC:5:164	100%	Annex 1 of TDC	P	W
3	Packing	Packed in wooden/cardbo ard box with layer to layer cushioning material.		10%	Annex 1 of TDC	P	W
	Test certificate	MTC	.		Annex 1 of TDC	P	V

M-Manufacturer, V-Verification, W-Witness, P-Perform

- \* QAP IS PREPARED TO MEET REQUIREMENT OF TDC:5:164 (latest),.PLS REFER IT, IN CASE OF AMBIGUITY ARISES.
- \*\* TPIA/BHEL MAY INCREASE SAMPLE QTY UP TO 10%.

 15/03/19	 15/03/19	 15/03/19
Vikas Kumar Sr. Engr / QM Prepared	Samir Shandilya Sr Mgr/ QM & HSE Reviewed	S R Kenny AGM/QM, HSE, Engg, TEC & SM Approved



**भारत हैवी इलेक्ट्रिकल्स लिमिटेड**  
 (भारत सरकार का उपक्रम)  
**इंडस्ट्रियल वाल्व्स प्लॉट**  
**Bharat Heavy Electricals Limited**  
 (A Govt. of India Undertaking)  
**Industrial Valves Plant**

**Standard Quality Assurance Plan for Stainless steel fasteners**

BHE:SQAP:SS:01

Dt:12.08.2021

SN	Stage of inspection	Inspection type	Ref doc	Quantum of check	Format of Record	Agency	
						M	BHEL/TPIA
1	Raw material	Chemical/Mechanical properties	Material test certificate	100%	MTC report	V	V
2	Finished product	Chemical Analysis	Chemical composition (for both stud and nut)	Material specification in drawing/PO	one sample per heat	Chemical Test Report	P W
		Mechanical Properties	Tensile strength	Material specification in drawing/PO	one sample per heat	Mechanical Test Report	P W
			Yield strength/Proof Load (for both stud and nut)		one sample per heat		
			Elongation		one sample per heat		
			Reduction of area		one sample per heat		
			Hardness (for both stud and nut)		10% or 20 nos.		
		Dimension	As per drawing, Thread with GO/ NO GO Gauge (for both stud and nut)	Material drg/BPS	10% or 20 nos/type whichever is lower.	Inspection report	P P



**भारत हैवी इलेक्ट्रिकल्स लिमिटेड**  
 (भारत सरकार का उपक्रम)  
**इंडस्ट्रियल वाल्व्स प्लॉट**  
**Bharat Heavy Electricals Limited**  
 (A Govt. of India Undertaking)  
**Industrial Valves Plant**

	Heat Treatment	-----	Material specification in drawing/PO	100%	Heat Treatment Report	P	V
	Visual	Free from burrs, physical damages		100%		P	P
	Marking/Identification	Material grade and supplier name or symbol	As per PO/Drawing/Aplicable Standard	10%		P	W
3	Packing	Packed in wooden/cardboard box with layer to layer cushioning material.	As per PO/Drawing/Aplicable Standard	10%		P	W

M-Manufacturer, V-Verification, W-Witness, P-Perform

- QAP IS PREPARED TO MEET REQUIREMENT OF ASTM 193 & ASTM 194 (Latest Revisions), PLS REFER IT, IN CASE OF AMBIGUITY ARISES.
- TPIA/BHEL MAY INCREASE SAMPLE QTY UP TO 10%.

 अमनप्रीत सिंह / Amanpreet Singh डीप मैनेजर / Dy. Manager (QM) भारत हैवी इलेक्ट्रिकल्स लिमिटेड Bharat Heavy Electricals Limited (A Govt. of India Undertaking) इंडस्ट्रियल वाल्व्स प्लॉट / Industrial Valves Plant गोईद्वाल सहित / Goindwal Sahib (Punjab)	 Manvir Singh Sr. Manager (QM) BHEL, IVP, Goindwal	 S R Kenny AGM/QM & BE
Amanpreet Singh Dy. Manager / QM Prepared	Manvir Singh Sr Mgr/ QM & BE Reviewed	Approved



**Product: Carbon & Alloy Steel Fasteners (Studs, Bolts & Nuts) for Valves, Oil Field Equipment (OFE) and other applications**

Revision Record: 00: 17.01.90: First issue. Rev: 01:21.06.90 Editorial corrections. Rev 02:21.04.91 TC for studs/bolts added. Rev 03: 04.04.96: Annexure I amended. Cl 3.3.3 & 5.3 modified. Rev 04:20.10.96: NDT, Acid pickling added & re-written. Rev 05: 28.04.98: Cl 3 modified to include MPI, certificate modified & Cl 7.4 deleted. Rev 06:15.06.99: Title, Cl 1 to 5 & 7.1 modified. Cl 7.2 changed to Cl 7.3. Cl 7.3 changed to 7.4 and modified. Cl 7.2 Galvanizing added. Test certificate sample format modified.

Rev 07: 15/06/2017: TDC: 5:166 for CS & AS Nuts has been merged with this TDC. Totally revised in line with changed requirements and Xylan coating requirements added.

Rev 08: 14/09/2019: Cl 1.0, 2.0, 3.0, 4.0, 5.0 modified in line with API 6A 21<sup>st</sup> Ed 2018 Errata 1 and for better clarity.

Rev.09: 19/02/2021: Latest version of the referred Standards/Specifications indicated thoughtout TDC; Cl.2.0 iid added; Cl.4.1 added; Annexure-1 modified;

Rev.10: 25/08/2023: Latest version of the referred Standards/Specifications indicated though out TDC;

Rev.11: 23/07/2024: Latest version of the referred Standards/Specifications indicated though out TDC;

Rev.12: 31/07/2025: *Latest version of the referred Standards/Specifications indicated though out TDC; Cl.1.0,2.0i,3.0ii &ve, 4.1,6ii&iv, 7.0 & Annexure 1 revised. 6iii added.*

## **1.0 MATERIAL SPECIFICATIONS:**

All the codes, standards, specifications, drawings & procedures, etc., referred in this TDC shall be of latest revision as on the date of Purchase Order, unless specified otherwise.

<b>Studs/Bolts - Alloy Steel</b>	:	ASME SA 193-23 /ASTM A 193-25 Gr B7, B7M & B16.
<b>Nuts - Carbon Steel</b>	:	ASME SA 194-23 /ASTM A 194-24 Gr 2H & 2HM
<b>Alloy Steel</b>	:	ASME SA 194-23 /ASTM A 194-24 Gr 4 & 7
<b>Additional Requirements</b>	:	As listed below (Supplementary to the above material specifications)
<b>Size and Quantity</b>	:	As per Purchase Order (PO) & Applicable Drawing
<b>Bolting Qualification (OFE application):</b>		<i>BSL 1 of API 20E Ed 2017 Addendum 2 Errata 2</i>

## **2.0 GENERAL REQUIREMENTS:**

- i. This TDC is applicable for Valves, OFE (API 6A 21<sup>st</sup> Ed 2018 *Errata 6 Addendum 4 & API 16C 3<sup>rd</sup> Ed 2021 Errata 2 Addendum 1*) and other applications including NACE MR0175 Ed.2021 / ISO 15156 Ed.2020 Parts 1, 2 & 3. The products shall be manufactured to the relevant requirements specified in the applicable drawings, specifications, PO & this TDC. *Wherever the drawing mention Bolting Specification Level (BSL), the requirements of OFE application as stipulated in this TDC shall also apply.*
- ii. Studs / Bolts / Nuts used for OFE application:
  - a) Studs / Bolts / Nuts shall be qualified and manufactured in accordance with BSL 1 of API 20E. The qualification & requalification records as per API 20E Ed 2017 Addendum 2 Errata 2 shall be maintained by the Supplier. The supplier shall prepare Manufacturing Process Specification(MPS) to include as a minimum allowable levels for all Studs/Bolts/Nuts manufacturing parameters including process control variables and heat treatment parameters as per API 20E Ed 2017 Addendum 2 Errata 2 and this TDC.
  - b) Raw material shall be fully wrought. Reduction ratio based on starting material diameter shall be a minimum of 4:1. The steel shall conform to the respective material specifications. Intentional addition of Boron is not allowed. All elements intentionally added to the heat shall be reported in the Test Certificate.
  - c) Furnace calibration shall be in accordance with API 6A 21<sup>st</sup> Ed 2018 *Errata 6 Addendum 4 Annex M; SAE AMS 2750 Rev.H; or SAE AMS H6875 Rev.C.* For induction or direct resistant heat treatment, calibration shall be in accordance with manufacturer's written procedure. For forging furnaces, calibration shall be in accordance with manufacturer's written procedure
  - d) Heat lot:
    - Batch furnace: bolting or raw material of a single heat and diameter, heat treated together as a single austenitizing, quenching, tempering, and stress-relieving charge.



Product: Carbon & Alloy Steel Fasteners (Studs, Bolts & Nuts) for Valves, Oil Field Equipment (OFE) and other applications

- Continuous furnace: bolting or raw material of a single heat and diameter heat treated without interruption in a continuous charge
- iii. Nuts shall be hot/cold forged or manufactured from hot rolled/cold drawn bars. If made from hexagonal bars, 100% MT is to be done on bars as per ASTM E709-21 to ensure freedom from surface/sub-surface defects.
- iv. Hot rolled & cold drawn bars, if used (for studs/bolts or nuts), shall be machined at least 2 mm (minimum) in radius (i.e. 4 mm in diameter) to remove the seams completely. After machining, at least 10% of the bars shall be tested by MPI as per ASTM E709-21 to ensure freedom from surface/sub-surface defects.
- v. Heat treatment of finished studs/bolts shall be carried as per the material specification requirements for corresponding grades. For heat treatment of finished components, salt bath or controlled atmosphere furnace shall be used. After heat treatment, the threads shall be thoroughly cleaned to remove all deposits. If acid pickling is done for cleaning, it shall be as per Cl. 6 (v) of this TDC.
- vi. Cadmium Plating (Cl 6 (i) of this TDC), Electroplating (Cl 6 (ii) of this TDC) and/or Xylan Coating (Cl 6 (iii) of this TDC) shall be done on the fasteners if specified in Drawing/PO. For all other cases, rust preventive coating (Cl 6 (iv) of this TDC) shall be done.

### 3.0 CHEMICAL, MECHANICAL PROPERTIES & NDE:

- i. Mill certificate from steel manufacturer for conformance to chemistry heat-wise shall be submitted. Additionally, product analysis shall be done on one sample/heat by the stud/bolt/nut manufacturer. Methods and practices for chemical analysis shall be in accordance with ASTM A 751-21.
- ii. The microstructure and macrostructure shall conform to the requirements of the respective material specifications, *as applicable*.
- iii. **Tensile Testing for Studs/Bolts:** One tensile test/heat/size/ HT batch shall be carried out in the finished heat treated condition as per SA / A 193 and shall meet the material specification requirements for corresponding grades.

#### iv. **Hardness Testing for Studs/Bolts:**

Hardness testing, including specimen preparation, shall be performed in accordance with ASTM A 370-24a including Annex A3, except that testing shall also be in conformance with ASTM E10-23 or ASTM E18-24.

- a) **For ASME SA 193-23 / ASTM A 193-25 Gr B7 & B16:** Hardness check shall be carried out on finished stud/ bolt as per ASME SA 193-23 / ASTM A 193-25, at least on 10% of the finished studs/bolts.

Gr B7: Hardness: 25 to 34 HRC or 253 to 319 HBW.

Gr B16: Hardness: 25 to 35 HRC or 253 to 321 HBW.

- b) **For ASME SA 193-23 / ASTM A 193-25 Gr B7M:**

Hardness check on 100% of studs/bolts as per SA193.

Gr B7M: Hardness: 94 to 99 HRB or 201 to 235 HBW.

#### v. **Mechanical Testing for Nuts:**

- a) **For ASME SA 194-23 / ASTM A 194-24 Gr 2H, Gr 4, & Gr 7:**

Hardness check on finished nuts shall be as per ASME SA 194-23 / ASTM A 194-24 (including quantum of testing).

Gr 4: Hardness: 24 to 35 HRC or 248 to 327 HBW.

Gr 2H & Gr 7: Hardness: 24 to 34 HRC or 248 to 319 HBW.



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b) **For ASME SA 194-23 / ASTM A 194-24 Gr 2HM:**

Hardness check on 100% of finished nuts shall be carried out as per ASME SA 194-23 / ASTM A 194-24.  
Gr 2HM: Hardness: 159 to 235 HBW.

c) **Proof load test shall be done as per ASME SA 194-23 / ASTM A 194-24 for all grades of nuts** and shall meet the requirements of corresponding grades of the material specification.

d) After final heat treatment, sample nuts shall be heat treated as per Table 1 and meet the corresponding hardness requirements.

Table 1.

Grade	Temperature (°C)	Soaking Time (Hr)	Cooling	Minimum Hardness (HBW) at room temperature
2H	540	24	Slow Cool	179
2HM	540	24	Slow Cool	159
4, 7	590	24	Slow Cool	201

e) **Cone Proof Load Test:** This test shall be performed as per ASME SA 194-23 / ASTM A 194-24 in case of visible surface discontinuities. On such cases Proof load shall be as per ASME SA 194-23 / ASTM A 194-24.

vi. **NDE:**

Magnetic particle inspection shall be carried out as per ASTM E709-21 in at least 10% of the finished studs/bolts of all grades. Cracks, linear indications (length  $\geq$  3 times its width) are unacceptable.

#### 4.0 SAMPLING INSPECTION:

All inspection shall be in accordance with relevant drawing or BPS (Boiler Plant Standard), PO, this TDC and ASME SA 193-23 / ASTM A 193-25 for studs/bolts and ASME SA 194-23 / ASTM A 194-24 for nuts. The threads shall be checked with calibrated ring gauges for studs/bolts & plug gauges for nuts in the final heat treated condition for black variety and prior to final plated/coated condition for the cadmium plated/electroplated/ xylan coated items.

Visual, dimensional checks and their acceptance shall be as per applicable drawing and ASME SA 193-23 / ASTM A 193-25 for studs/bolts & ASME SA 194-23 / ASTM A 194-24 for nuts.

#### 4.1 Gauging Requirements for Xylan along with Zinc Corrosion-Resistant Coated Fasteners

i. Studs

- No under sizing is allowed
- Prior to Xylan and Zinc Corrosion-Resistant Coating, Class 2A Gauge to be used for inspection
- After coating, No Gauge inspection is required

ii. Nut

- Over sizing is allowed to maximum of 0.2mm in the internal diameter of threads
- Prior to Over sizing, Class 2B Gauge to be used for inspection
- After Over sizing, a gauge having an allowance as per Class 2B along with 0.2mm Over sizing allowance to be made and inspected thereof

iii. Assembly of Stud and Nut

- Free run of nut over stud to be ensured
- No play is allowed
- After free run of nut over stud, Xylan coating should not get peeled off.

#### 5.0 MARKING & PACKING:

- Punch/emboss each finished component with applicable material grade (B7/ B7M/ B16 for studs/bolts; 2H/2HM/4/7 for nuts) and supplier's emblem. Studs/bolts of grade B7M and nuts of Gr 2HM shall have a line under the grade symbol.



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- ii. Punch/emboss serial number also in B7M studs/bolts and Gr 2HM nuts in addition to the above, to correlate with hardness. Protect the threaded ends with plastic end caps. Pack in wooden box/ gunny bag of convenient size for easy handling and transportation. Mark quantity in each box/gunny bag.
- iii. Marking for OFE applications: In addition to the above, studs / Bolts / Nuts shall have marked with unique heat lot identification and followed by "20E1" for BSL 1. Each piece 1 in. nominal diameter and larger shall be marked. For studs / Bolts / Nuts less than 1 in. nominal diameter, the studs / Bolts / Nuts shall be securely containerized to maintain heat lot identification and traceability. Multiple heat lots shall not be mixed in a single container. Containers used in the processing, storing, and shipping of studs / Bolts / Nuts not individually marked shall be clearly labeled with all marking information required by the relevant material specifications and API 20E Ed 2017 Addendum 2 Errata 2.

## 6.0 SPECIAL REQUIREMENTS:

### i. Cadmium Plating:

- a) Clean the fasteners to make them free from rust, grease, oil, scale, etc., before plating. When pickling is considered essential, it shall be done as per Cl 6 (v) of this TDC.
- b) Apply Cadmium Plating to the specified thickness on specified areas. Thickness shall be measured on 5% of the PO quantity of fasteners.
- c) After plating, bake the parts at 175°C to 205°C for a minimum period of 3 hours. The elapsed time between plating and baking shall not exceed 8 hours.
- d) Apply a Chromate Conversion coating after plating and baking.

### ii. Zinc Plating (Electroplating or Electro Deposition of Zinc Chromate):

- a) Clean the fasteners to make them free from rust, grease, oil, scale, etc., by suitable organic solvents/ hand tool methods/ *blast cleaning to Sa2.5* before electroplating. Then, pickling shall be done as per Cl 6 (vi) of this TDC.
- b) The fasteners shall then be electroplated as per *IS 1573 - 1986 (Reaffirmed 2021)* and to the minimum coating thickness specified in the applicable drawing. Thickness shall be measured on 5% of the PO quantity of fasteners.
- c) All electroplated parts (regardless of strength level), *except parts of grades B7M & 2HM, shall be baked within 2 hours after plating at 191°C–218°C for 8 hours minimum at temperature*

### iii. Zinc Phosphating (Phosphate conversion coating):

- a) Clean the fasteners to make them free from rust, grease, oil, scale, etc., by suitable organic solvents/ hand tool methods before phosphating
- b) Phosphating to be done as per *IS 3618 - 1966 (Reaffirmed 2021)*

### iv. Xylan Coating:

- a) Either one of the two Zinc corrosion-resistant coatings to be performed on the fasteners before Xylan Coating
  - i) Zinc Plating (electroplating or electrodeposition of zinc)
  - ii) Zinc Phosphating (Heavy weight phosphate conversion coating)

- b) If Zinc Plating is used as corrosion resistant coating, then suitable surface preparation to be carried out before xylan coating for better adhesion.

- c) The fasteners shall then be xylan coated as per the requirements and to the minimum coating thickness specified in the applicable drawing.

### d) Tests for Xylan Coating:

The following test shall be carried out on Xylan coated fasteners and results to be reported in the Test certificate (in addition to the Test Certificate for the fastener material and other inspections requirements):

#### i) Thickness measurement:

Dry film thickness of Xylan coating to be measured using a magnetic induction or Eddy current type electronic gauge and the reading shall meet the drawing/PO requirement for thickness of coating of Xylan 1070. The thickness measurements shall be made in



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accordance with ASTM D7091-22. Thickness shall be measured on 5% of the PO quantity of fasteners.

**ii) Cure Test:**

This test method is for ensuring the completeness of cure of Xylan 1070 coating by evaluating the resistance of the cured coating to a solvent known to attack uncured film. The testing method shall be as per Whitford test method 115B (as recommended by the Xylan coating supplier).

**Acceptance criteria:** No white precipitate or stain shall be available after the test.

**iii) Adhesion Test using Cross-hatch and Cello Tape:**

Test as per ASTM D3359-23 Method B for measuring Adhesion by Tape Test.

**Acceptance Criteria:** No loss of adhesion (5B Classification).

**iv) Salt Spray Test:**

Xylan coated fasteners should pass a minimum requirement of 500 hours of salt spray test as per ASTM B117-19. Certificate of compliance for meeting the salt spray test requirements shall be provided.

**v. Rust preventive fluids/Coating requirements:**

- Clean the fasteners to make them free from rust, grease, oil, scale, etc., by hand tool/ manual cleaning method.
- Apply one coat of rust preventive fluid, of any of the following brands of the suppliers (Table 2), to obtain dry film thickness of 20 microns minimum:

**Table 2. Rust Preventive Fluid/Coatings Brands**

SI No	Brand/Chemical	Supplier Name and Address
1	BONITA-RPF	M/s Bonita Chemicals, 64, Industrial Estate, Nunhai, Agra-282 006
2	CHAMPION-RPF	M/s Guardian Chemicals, 8, Rajaji Ind st, West Lake Area, Nungambakkam, Madras-600 034
3	ECONOL RPF (non-drying type)	M/s Process Aids, Bangalore
4	TECTYL 506	M/s Plastipeel Chemicals and Plastics (P) Ltd, Thane-400 604
5	TRPF	M/s Sundaram Paints Pvt. Ltd., Thanjavur-613 004
6	TRPF	M/s Solar Paints, Pudukkotai.
7	WICOR-P	M/s Western India Paint and Color Co P. Ltd, Madras-600 017

Use of any other brand/chemical shall be done with the prior approval of BHEL.

**vi. Acid Pickling:**

- Wherever pickling done, it shall be done using Hydrochloric acid of 5-10% concentration for a period of 5 to 10 minutes at room temperature with suitable inhibitor.
- After pickling thorough rinsing shall be carried out with water to remove acid residues & further DM water rinsing. After thorough rinsing with DM water, the rinsing shall not show any red color (free acidity) when tested with methyl orange indicator.

**7.0 CERTIFICATION:**

The manufacturer shall provide Test Certificates (TC) duly countersigned by the Authorized Inspecting Authority nominated by BHEL in P.O. (if specified) along with raw material TC from Steel Maker. The applicable versions of the referred Codes, Standards and Specifications shall be reported in the Test Certificates and NDE reports.



**Product: Carbon & Alloy Steel Fasteners (Studs, Bolts & Nuts) for Valves, Oil Field Equipment (OFE) and other applications**

Manufacturer's TC shall contain the following details as per the sample format attached as Annexure-1 to this TDC:

- i. BHEL PO No & PO Date
- ii. Technical Delivery Condition (TDC) No & its Revision No, Drawing & its revision no
- iii. Melt/Heat No, Serial No (if applicable)
- iv. Raw Material TC Number and Date
- v. Chemical and Mechanical properties for Studs/Bolts and Nuts including the location and orientation of test specimens
- vi. Heat treatment details (temperature, time, cooling medium, etc.)
- vii. NDE reports with NDE Personnel qualification records, all relevant NDE operating parameters and NDE Results with reference and acceptance criteria
- viii. Type of Surface coating & its coating thickness – Cadmium Plating, Chromate conversion coating, Zinc corrosion-resistant coatings, Xylan Coating, Rust preventive coating, etc.
- ix. Test methods and results on Xylan Coating
- x. Baking details for cadmium plating, electroplating & Xylan coating
- xi. Manufacturers' identification mark
- xii. Certify soundness & confirmation to PO requirements.

<i>2 Jan 31/07/25</i>	<i>Ship 31/7/25</i>	<i>21a 24 +</i>	<i>Balamurugan 31/7/2025</i>	<i>Dr. V Deepesh 31/07/2025</i>
N Nagamuthu Pandian	P Arun Kumar	Venkateswarlu Ala <i>31/07/25</i>	M Balamurugan	
SM/QA	MGR / Valves Engg	SM/QC/RM&SD	SM / Valves/Purchase	DGM / QA
Prepared By	Reviewed By			Approved By



Product: Carbon & Alloy Steel Fasteners (Studs, Bolts & Nuts) for Valves, Oil Field Equipment (OFE) and other applications

**Annexure-1. Test certificate for Studs/Bolts & Nuts- Sample format**

TC No:	Date:	
Customer :	PO No./ Amd :	
TDC No./Rev.:	DC No. :	
Product :	Drg. No./Rev :	
Description : (Spec, dia, pitch, length)	Thread Spec. :	
Quantity :		
<u>Requirement</u> :	<u>Records/ Observation</u>	
Size of bar - Before machining :		
- After machining :		
Type of furnace used for hardening :		

<b>TDC Clause no.</b>	Raw Material mill TC No: Melt/Heat Number:		TC Date: Reduction Ratio:
2.0 & 3.0	<b>a) Heat Treatment Details:</b> Hardening Temperature: °C; Soaking time: Cooling Medium: Tempering Temperature: °C; Soaking time: Cooling Medium: <b>b) Additional Tempering for Nuts (after final tempering):</b> Temperature: °C; Soaking time: Cooling Medium:		
3.0	<b>a) Product analysis for chemistry</b>	<b>Report No &amp; Date:</b>	
	Spec C Mn P S Si Cr Mo V Ni Others		
	Min.		
	Max.		
	Actual		
	<b>b) Tensile test after H &amp; T and final drying (Finished heat treated condition) – For Studs/Bolts</b>		
		<b>UTS (MPa)</b>	<b>YS (MPa)</b>
	<b>Reqd/Spec Value</b>		
	<b>Test result</b>		
		<b>Spec Value</b>	<b>Test result</b>
	<b>Remarks</b>		
	c) Hardness Test Result (for Studs/Bolts, Nuts):		
	d) Hardness Test Result (for Nuts after 24 hrs of tempering):		
	e) Proof load (kN) for nuts & result		
	f) Result of Cone Proof load test for nuts		
	g) NDE Result for Studs/Bolts:		
4.0	Visual and dimensional checking as per applicable drawing for studs/bolts & nuts:		
5.0	Punching details (identification): End cap for threaded portion:		
6.0	<b>a) Type of coating:</b> Cadmium Plating / Chromate Conversion / Zinc Plating / Zinc Phosphating/ Xylan /Rust preventive coating <b>(Tick applicable coating)</b> <b>Coating thickness/DFT:</b>		
	<b>b) Tests for Xylan Coating</b>	<b>Results</b>	
	<b>c) Pickling Acid:</b>	<b>Concentration:</b>	
	Drying after pickling.	Temperature: °C;	Soaking time:

This is to certify that the above results are correct and the parts meet specification and PO requirements.

Signature with date

Supplier: In-charge of Quality

Signature with date

BHEL / Authorized Inspection Agency

**Note:** Additional Sheets may be attached, if required.

**PART-I (TECHNO-COMMERCIAL BID)**  
**(To be filled by bidder & submit with offer as pdf file only)**

<b>Tender Enquiry No. &amp; Date</b>	<b>2526-084E Dt. 10.02.2026</b>
<b>Tender Description</b>	<b>Supply of Fasteners GVSFT</b>

Bidder must note following points:

1. This workbook is protected, except for cells where comments / confirmation is to be given by bidder.
2. Bidder is advised not to unprotect / tamper the sheet / alter the terms mentioned in the sheet.
3. Any alteration to terms mentioned by BHEL will be considered as tampering and bidder's offer shall be liable for rejection.
4. **Bidders are advised to only fill the unprotected cells (shaded cells) by dropdown or writing the comments as applicable as their confirmation. Bidders are advised to submit duly filled & signed 'PDF' file as techno-commercial (Part-I) bid!** Failure on the part of bidder in not returning this duly filled-up techno-commercial bid and / or submitting incomplete replies may lead to rejection of bidder's quotation.
5. All the commercial terms and conditions shall be indicated by vendor in this format only and nowhere else in his quotation. However, in case the space for vendor's reply is not sufficient against a particular question, the vendor shall furnish same by way of separate annexure / sheet attached to this questionnaire, indicating cross-reference of respective clauses.

**BIDDER's DETAILS**

<b>Sr. No.</b>	<b>Elements</b>	<b>Remarks</b>	
1	Name of the Firm / Company		
2	Registered Address		
3	Quotation reference no. & date		
4	Contact person Details	Name / Designation Contact Number Email ID (can be more than one)	
6	Bidder Type (Indian / Foreign):		
7	Type of Ownership	Select from drop down list	
8	Company's Nature of Business	Select from drop down list	
9	Year of commencement of Business		
10	PAN No.		
11	GST No.		
12	Whether company is registered under MSMED Act 2006 as Micro / Small / Medium Enterprise category. <i>(If yes, please attach valid certificate as per latest MSME guidelines)</i>	Yes (Valid Certificate attached)	If yes, mention UDYAM registration number Here
13	If Yes, Please specify the Enterprise Category	Select from drop down list	
14	Ownership status of MSE Bidder	Select from drop down list	
15	BHEL IVP vendor code	If available, mention Vendor code Here	
16	BHEL Trichy vendor code	If available, mention Vendor code Here	
17	BHEL Bhopal vendor code	If available, mention Vendor code Here	

**TECHNICAL CONDITION DETAIL**

<b>Sr. No.</b>	<b>Elements</b>	<b>Response</b>	<b>Remarks</b>
1	Technical : Supply of Fasteners GVFST as per tender documents (if selected 'Accepted with deviation', please mention the deviation clearly)	Select from drop down list	

**COMMERCIAL CONDITIONS & DETAILS**

<b>Sr. No.</b>	<b>Elements</b>	<b>Response</b>	<b>Remarks (if any)</b>
1	Delivery term: FOR BHEL IVP Goindwal (refer tender terms & conditions)	Select from drop down list	
2	IGST supply (%)	Select from drop down list	
3	SGST supply (%)	Select from drop down list	
4	CGST supply (%)	Select from drop down list	
5	Validity: 75 days from techno commercial bid opening. (refer tender terms & conditions)	Select from drop down list	

**PART-I (TECHNO-COMMERCIAL BID)**  
**(To be filled by bidder & submit with offer as pdf file only)**

<b>Tender Enquiry No. &amp; Date</b>	<b>2526-084E Dt. 10.02.2026</b>
<b>Tender Description</b>	<b>Supply of Fasteners GVSFT</b>

Bidder must note following points:

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3. Any alteration to terms mentioned by BHEL will be considered as tampering and bidder's offer shall be liable for rejection.
4. **Bidders are advised to only fill the unprotected cells (shaded cells) by dropdown or writing the comments as applicable as their confirmation. Bidders are advised to submit duly filled & signed 'PDF' file as techno-commercial (Part-I) bid!** Failure on the part of bidder in not returning this duly filled-up techno-commercial bid and / or submitting incomplete replies may lead to rejection of bidder's quotation.
5. All the commercial terms and conditions shall be indicated by vendor in this format only and nowhere else in his quotation. However, in case the space for vendor's reply is not sufficient against a particular question, the vendor shall furnish same by way of separate annexure / sheet attached to this questionnaire, indicating cross-reference of respective clauses.

6	Delivery period: Within 90 Days from placement of PO / LOI. (refer tender terms & conditions). Quotation of bidder not accepting delivery terms, shall be rejected.		Select from drop down list	
7	Submission of Certificate of Registration or UDYAM Certificate or Self Declaration by Bidder : It is hereby declared that Bidder is 'manufacturer of Fasteners' (Refer special terms S2.1)		Select from drop down list	
8	Documents regarding Purchase Order/s of 'Fasteners' from any customer with minimum cumulative value of Rs. 12,68,000.00 (Six twelve lacs sixty eight thousand only) along with the proof of execution (Refer special terms S2.2)		Select from drop down list	
9	Breach of contract, Remedies and Termination (Refer General Contract Conditions (GCC)).		Select from drop down list	
10	Conflict of Interest among Bidders / Agents (Refer General Contract conditions (GCC))		Select from drop down list	
11	LD clause: Penalty for late delivery will be applicable @ 0.5% per week or part thereof subject to a maximum of 10.0 %. (Refer General Contract Conditions (GCC)).		Select from drop down list	
12	Payment term: (Refer General Contract conditions (GCC))		Select from drop down list	
13	<b>Warranty Period:</b> Supplier shall give a warranty for a period of 18 months from the date of receipt. In case of non-acceptance of this term bid will be rejected. (Refer General Contract conditions GCC)		Select from drop down list	
14	Please attach valid MSE certificate latest MSME Guidelines (Refer General Contract conditions GCC)		Select from drop down list	
15	Make in India (MII) (Refer General Contract conditions GCC)	Local Content Declaration	Select from drop down list	
		Details of location at which local value addition will be made is as follows:	Select from drop down list	
16	Certificate regarding Restrictions Under Rule 144(XI) of The GFR, 2017 (Refer General Contract conditions GCC)	I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfils all requirements in this regard and is eligible to be considered.	Select from drop down list	
17	Firm Price: The quoted / finalised rates shall be firm till execution of the supplies.		Select from drop down list	
18	I have thoroughly gone through the attached tender terms & conditions and understood the above techno-commercial requirements		Select from drop down list	
19	Rates quoted are net of taxes & FOR BHEL IVP Goindwal basis		Select from drop down list	
20	If there is any deviation in reference to any of the tender term, kindly mention it <b>HERE</b> only. <b>Deviation specified elsewhere, will not be considered.</b>		Select from drop down list	

**Item detail**

Item Sl. no.	Material Code	Description	Qty (in nos.)	Quoted / not quoted
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**PART-I (TECHNO-COMMERCIAL BID)**  
**(To be filled by bidder & submit with offer as pdf file only)**

Tender Enquiry No. & Date	2526-084E Dt. 10.02.2026
Tender Description	Supply of Fasteners GVSFT

Bidder must note following points:

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1	964562600000	BOLT-1/2"x55 -B7-N073	300	Select from drop down list
2	964562790000	NUT -1/2" -2H-N073	300	Select from drop down list
3	964562620000	BOLT-5/8"x70 -B7-N001	600	Select from drop down list
4	964562800000	NUT -5/8" -2H-N025	600	Select from drop down list
5	412371206000	BOLT-M12x60 -8.8-IS1364P1	700	Select from drop down list
6	413200001200	NUT -M12 -CL8-IS1364P3	700	Select from drop down list
7	412371605000	BOLT-M16x50 -8.8-IS1364P1	300	Select from drop down list
8	964522410000	BOLT-M16x50 -B7-0008	600	Select from drop down list
9	412371606000	BOLT-M16x60 -8.8-IS1364P1	800	Select from drop down list
10	412371608000	BOLT-M16x80 -8.8-IS364P1	200	Select from drop down list
11	413200001600	NUT -M16 -CL8-IS1364P3	200	Select from drop down list
12	964533300000	BOLT-M16x90 -B7-0010	800	Select from drop down list
13	964523140000	BOLT-M20x55 -B7-0009	700	Select from drop down list
14	964521960000	BOLT-M20x60 -B7-0005	200	Select from drop down list
15	964650030000	BOLT-M24x75 -B7-0016	300	Select from drop down list
16	964531720000	BOLT-M24x85 -B7-0009	100	Select from drop down list
17	412370807500	BOLT-M8x75 -8.8-IS1364-P1	2000	Select from drop down list
18	964567490000	DE STUD-5/8"x115 -B7-N435	300	Select from drop down list
19	964562800000 (same as Sr. No.04)	NUT -5/8" -2H-N025	300	Select from drop down list
20	411011296000	DE STUD-M12x60 -6.6-IS1862-A-TL72-CAD	1500	Select from drop down list
21	411011605000	DE STUD-M16x50 -6.6-IS1862-A-TL66	100	Select from drop down list
22	413200001600 (same as Sr. No.11)	NUT -M16 -CL8-IS1364P3	100	Select from drop down list
23	411012010000	DE STUD-M20x100 -6.6-IS1862-A-TL120	100	Select from drop down list
24	413190002000	NUT -M20 -2H	200	Select from drop down list
25	964564270000	FT STUD-1"x135 -B7-1387	400	Select from drop down list

**PART-I (TECHNO-COMMERCIAL BID)**  
**(To be filled by bidder & submit with offer as pdf file only)**

<b>Tender Enquiry No. &amp; Date</b>	<b>2526-084E Dt. 10.02.2026</b>
<b>Tender Description</b>	<b>Supply of Fasteners GVSFT</b>

Bidder must note following points:

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26	964562820000	NUT -1" -2H-N065	800	Select from drop down list
27	964562760000	FT STUD-1"x158 -B7-N065	200	Select from drop down list
28	964562820000 (same as Sr. No.26)	NUT -1" -2H-N065	400	Select from drop down list
29	964562290000	FT STUD-1"x170 -B7-N224	2500	Select from drop down list
30	964562820000 (same as Sr. No.28)	NUT -1" -2H-N065	5000	Select from drop down list
31	964656350000	FT STUD-1/2"-13UNC-2A-80-B8M	800	Select from drop down list
32	964656480000	HEX NUT-1/2"-13UNC-2B-GR.8M	1600	Select from drop down list
33	964562680000	FT STUD-1/2"x80 -B7-N081	4500	Select from drop down list
34	964562790000 (same as Sr. No.02)	NUT -1/2" -2H-N073	9000	Select from drop down list
35	964536650000	FT STUD-1-1/2"x220 -B7-N827	200	Select from drop down list
36	964536680000	NUT -1-1/2" -2H-N827	400	Select from drop down list
37	964567040000	FT STUD-1-1/4"x150 -B7-N361	500	Select from drop down list
38	964566830000	NUT -1-1/4" -2H-F505	1000	Select from drop down list
39	964566800000	FT STUD-1-1/4"x215 -B7-F505	500	Select from drop down list
40	964566830000 (same as Sr. No.38)	NUT -1-1/4" -2H-F505	1000	Select from drop down list
41	964566820000	FT STUD-1-1/4"x250 -B7-F507	300	Select from drop down list
42	964566830000 (same as Sr. No.40)	NUT -1-1/4" -2H-F505	600	Select from drop down list
43	964565730000	FT STUD-1-1/8"x180 -B16-N309	300	Select from drop down list
44	964565800000	NUT -1-1/8" -GR7-N309	600	Select from drop down list
45	964562770000	FT STUD-1-1/8"x180 -B7-N105	4000	Select from drop down list
46	964562830000	NUT -1-1/8" -2H-N105	8000	Select from drop down list
47	964566810000	FT STUD-1-1/8"x220 -B7-F506	700	Select from drop down list
48	964562830000 (same as Sr. No.46)	NUT -1-1/8" -2H-N105	1400	Select from drop down list
49	964567430000	FT STUD-1-3/8"x190 -B7-N437	100	Select from drop down list
50	964536670000	NUT -1-3/8" -2H -N848	200	Select from drop down list

**PART-I (TECHNO-COMMERCIAL BID)**  
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<b>Tender Enquiry No. &amp; Date</b>	<b>2526-084E Dt. 10.02.2026</b>
<b>Tender Description</b>	<b>Supply of Fasteners GVSFT</b>

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51	964656390000	FT STUD-3/4"-10UNC-2A-120-B8M	500	Select from drop down list
52	964656500000	HEX NUT-3/4"-10UNC-2B-GR.8M	1000	Select from drop down list
53	964656400000	FT STUD-3/4"-10UNC-2A-133-B8M	400	Select from drop down list
54	964656500000 (same as Sr. No.52)	HEX NUT-3/4"-10UNC-2B-GR.8M	800	Select from drop down list
55	964562740000	FT STUD-3/4"x120 -B7-N041	600	Select from drop down list
56	964562810000	NUT -3/4" -2H-N057	1200	Select from drop down list
57	964562750000	FT STUD-3/4"x133 -B7-N089	2000	Select from drop down list
58	964562810000 (same as Sr. No. 56)	NUT -3/4" -2H-N057	4000	Select from drop down list
59	964656370000	FT STUD-5/8"-11UNC-2A-105-B8M	1000	Select from drop down list
60	964656490000	HEX NUT-5/8"-11UNC-2B-GR.8M	2000	Select from drop down list
61	964656380000	FT STUD-5/8"-11UNC-2A-118-B8M	700	Select from drop down list
62	964656490000 (same as Sr. No.60)	HEX NUT-5/8"-11UNC-2B-GR.8M	1400	Select from drop down list
63	964656360000	FT STUD-5/8"-11UNC-2A-86-B8M	700	Select from drop down list
64	964656490000 (same as Sr. No.64)	HEX NUT-5/8"-11UNC-2B-GR.8M	1400	Select from drop down list
65	964562710000	FT STUD-5/8"x105 -B7-N009	7000	Select from drop down list
66	964562800000 (same as Sr. No.19)	NUT -5/8" -2H-N025	14000	Select from drop down list
67	964562720000	FT STUD-5/8"x118 -B7-N017	500	Select from drop down list
68	964562800000 (same as Sr. No.66)	NUT -5/8" -2H-N025	1000	Select from drop down list
69	964562690000	FT STUD-5/8"x86 -B7-N025	1500	Select from drop down list
70	964562800000 (same as Sr. No.68)	NUT -5/8" -2H-N025	3000	Select from drop down list
71	964564560000	FT STUD-7/8"x150 -B7-N212	2000	Select from drop down list
72	964564310000	NUT -7/8" -2H-N206	4000	Select from drop down list
73	411171612000	FT STUD-M16x120 -B7	2500	Select from drop down list
74	413190001600	NUT -M16 -2H	5000	Select from drop down list
75	411171609000	FT STUD-M16x90 -SA193B7	600	Select from drop down list

**PART-I (TECHNO-COMMERCIAL BID)**  
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<b>Tender Enquiry No. &amp; Date</b>	<b>2526-084E Dt. 10.02.2026</b>
<b>Tender Description</b>	<b>Supply of Fasteners GVSFT</b>

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76	413190001600 (same as Sr. No.74)	NUT -M16 -2H	1200	Select from drop down list
77	411172012000	FT STUD-M20x120 -B7	500	Select from drop down list
78	413190002000 (same as Sr. No.24)	NUT -M20 -2H	1000	Select from drop down list
79	411172013000	FT STUD-M20x130 -B7	1500	Select from drop down list
80	413190002000 (same as Sr. No.78)	NUT -M20 -2H	3000	Select from drop down list
81	411172013900	FT STUD-M20x130 -B7-CAD	3000	Select from drop down list
82	413010092000	NUT -M20 -CL6-IS1364P3-CAD	6000	Select from drop down list
83	964526850000	FT STUD-M20x197 -B7-0005	200	Select from drop down list
84	413190002000 (same as Sr. No.84)	NUT -M20 -2H	400	Select from drop down list
85	411172414000	FT STUD-M24x140 -B7	700	Select from drop down list
86	413190002400	Hex Nut M24 - 2H Gr B 425 BPS 41319	1400	Select from drop down list
87	411172415000	FT STUD-M24x150 -B7	200	Select from drop down list
88	413190002400 (same as Sr. No86)	Hex Nut M24 - 2H Gr B 425 BPS 41319	400	Select from drop down list
89	964654870000	FT STUD-M30x3.5X240-B7	200	Select from drop down list
90	413190003000	NUT -M30 -2H	400	Select from drop down list
91	964524410000	FT STUD-M30x3x185 -B7-0001	400	Select from drop down list
92	964606450000	NUT -M30x3 -2H-0008-H30	800	Select from drop down list
93	964608300000	FT STUD-M30x3x200 -B7-Z022	200	Select from drop down list
94	964606450000 (same as Sr. No.92)	NUT -M30x3 -2H-0008-H30	400	Select from drop down list
95	964527060000	FT STUD-M30x3x270 -B16-0031	100	Select from drop down list
96	964523100000	NUT -M30x3 -GR7-0010-H24	200	Select from drop down list
97	964658920000	HEX.BOLT-M12 X1.75X60-B8M	200	Select from drop down list
98	964658440000	NUT-M12-8M	200	Select from drop down list
99	931068450000	PLUG-5196	100	Select from drop down list
100	931068440000	PLUG-5199	100	Select from drop down list

**PART-I (TECHNO-COMMERCIAL BID)**  
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<b>Tender Enquiry No. &amp; Date</b>	<b>2526-084E Dt. 10.02.2026</b>
<b>Tender Description</b>	<b>Supply of Fasteners GVSFT</b>

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101	930595160000	STUD M10X45-2899	300	Select from drop down list
102	413200001000	NUT -M10 -CL8-IS1364P3	600	Select from drop down list
103	931017180000	STUD M16X50-S661	1000	Select from drop down list
104	413020001600	THIN NUT-M16 -CL5-IS1364P4	2000	Select from drop down list
105	930595170000	STUD M16X55 -1135	500	Select from drop down list
106	413190001600 (same as Sr. No.76)	NUT -M16 -2H	500	Select from drop down list
107	930596020000	STUD M8X30 -S833	500	Select from drop down list
108	413020000800	THIN NUT-M 8 -CL5-IS1364P4	1000	Select from drop down list
109	931019960000	STUD-M16X70 -2961	100	Select from drop down list
110	413190001600 (same as Sr. No.106)	NUT -M16 -2H	100	Select from drop down list

We further, confirm that we have quoted the rates in the tender considering Inter-alia the

1. Tender Document(s)
2. Additional Document(s) (if any)
3. BOQ Document (Price Bid Format-Part-II)
4. Corrigendum (if any)
5. Pre Bid Meeting Minutes (if any)

We hereby certify that we have fully read and thoroughly understood the tender requirements and accept all terms and conditions of the tender including all corrigendum/addendum issued (if any). Our offer is in confirmation to all the terms and conditions of the tender including all corrigendum/addendum (if any) and minutes of the pre-bid meeting (if any). In the event our offer is found acceptable and Order is placed /Contract is awarded to us, the complete tender document shall be considered for constitution of Order / Contract Agreement.

[Validate](#)[Print](#)[Help](#)

### Item Wise BoQ

Tender Inviting Authority: BHEL IVP Goindwal Sahib

Name of Work: Supply of Fasteners GVFST

Contract No: 2526-084E Dated 10.02.2026

Name of the Bidder/ Bidding Firm / Company :							
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#### PRICE SCHEDULE

(This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only )

NUMBER #	TEXT #	TEXT #	NUMBER #	TEXT #	TEXT #	NUMBER #	NUMBER #
Sl. No.	Item Description	Item Code / Make	Quantity	Units	Quoted Currency in INR / Other Currency	BASIC RATE In Figures To be entered by the Bidder in Rs. P	TOTAL AMOUNT excluding taxes in Rs. P
1	BOLT-1/2"x55 -B7-N073	964562600000	300	No.	INR		0.00
2	NUT -1/2" -2H-N073	964562790000	300	No.	INR		0.00
3	BOLT-5/8"x70 -B7-N001	964562620000	600	No.	INR		0.00
4	NUT -5/8" -2H-N025	964562800000	600	No.	INR		0.00
5	BOLT-M12x60 -8.8-IS1364P1	412371206000	700	No.	INR		0.00
6	NUT -M12 -CL8-IS1364P3	413200001200	700	No.	INR		0.00
7	BOLT-M16x50 -8.8-IS1364P1	412371605000	300	No.	INR		0.00
8	BOLT-M16x50 -B7-0008	964522410000	600	No.	INR		0.00
9	BOLT-M16x60 -8.8-IS1364P1	412371606000	800	No.	INR		0.00
10	BOLT-M16x80 -8.8-IS1364P1	412371608000	200	No.	INR		0.00
11	NUT -M16 -CL8-IS1364P3	413200001600	200	No.	INR		0.00
12	BOLT-M16x90 -B7-0010	964533300000	800	No.	INR		0.00
13	BOLT-M20x55 -B7-0009	964523140000	700	No.	INR		0.00
14	BOLT-M20x60 -B7-0005	964521960000	200	No.	INR		0.00
15	BOLT-M24x75 -B7-0016	964650030000	300	No.	INR		0.00
16	BOLT-M24x85 -B7-0009	964531720000	100	No.	INR		0.00
17	BOLT-M8x75 -8.8-IS1364-P1	412370807500	2000	No.	INR		0.00
18	DE STUD-5/8"x115 -B7-N435	964567490000	300	No.	INR		0.00
19	NUT -5/8" -2H-N025	964562800000 (same as Sr. No.04)	300	No.	INR		0.00
20	DE STUD-M12x60 -6.6-IS1862-A-TL72-CAD	411011296000	1500	No.	INR		0.00
21	DE STUD-M16x50 -6.6-IS1862-A-TL66	411011605000	100	No.	INR		0.00
22	NUT -M16 -CL8-IS1364P3	413200001600 (same as Sr. No.11)	100	No.	INR		0.00
23	DE STUD-M20x100 -6.6-IS1862-A-TL120	411012010000	100	No.	INR		0.00
24	NUT -M20 -2H	413190002000	200	No.	INR		0.00
25	FT STUD-1"x135 -B7-1387	964564270000	400	No.	INR		0.00
26	NUT -1" -2H-N065	964562820000	800	No.	INR		0.00
27	FT STUD-1"x158 -B7-N065	964562760000	200	No.	INR		0.00
28	NUT -1" -2H-N065	964562820000 (same as Sr. No.26)	400	No.	INR		0.00
29	FT STUD-1"x170 -B7-N224	964562290000	2500	No.	INR		0.00
30	NUT -1" -2H-N065	964562820000 (same as Sr. No.28)	5000	No.	INR		0.00
31	FT STUD-1/2"-13UNC-2A-80-B8M	964563500000	800	No.	INR		0.00
32	HEX NUT-1/2"-13UNC-2B-GR.8M	964656480000	1600	No.	INR		0.00
33	FT STUD-1/2"x80 -B7-N081	964562680000	4500	No.	INR		0.00
34	NUT -1/2" -2H-N073	964562790000 (same as Sr. No.02)	9000	No.	INR		0.00
35	FT STUD-1-1/2"x220 -B7-N827	964536650000	200	No.	INR		0.00
36	NUT -1-1/2" -2H-N827	964536680000	400	No.	INR		0.00
37	FT STUD-1-1/4"x150 -B7-N361	964567040000	500	No.	INR		0.00
38	NUT -1-1/4" -2H-F505	964566830000	1000	No.	INR		0.00
39	FT STUD-1-1/4"x215 -B7-F505	964566800000	500	No.	INR		0.00
40	NUT -1-1/4" -2H-F505	964566830000 (same as Sr. No.38)	1000	No.	INR		0.00
41	FT STUD-1-1/4"x250 -B7-F507	964566820000	300	No.	INR		0.00
42	NUT -1-1/4" -2H-F505	964566830000 (same as Sr. No.40)	600	No.	INR		0.00

43	FT STUD-1-1/8"x180 -B16-N309	964565730000	300	No.	INR	0.00
44	NUT-1-1/8" -GR7-N309	964565800000	600	No.	INR	0.00
45	FT STUD-1-1/8"x180 -B7-N105	964562770000	4000	No.	INR	0.00
46	NUT-1-1/8" -2H-N105	964562830000	8000	No.	INR	0.00
47	FT STUD-1-1/8"x220 -B7-F506	964566810000	700	No.	INR	0.00
48	NUT -1-1/8" -2H-N105	964562830000 (same as Sr. No.46)	1400	No.	INR	0.00
49	FT STUD-1-3/8"x190 -B7-N437	964567430000	100	No.	INR	0.00
50	NUT -1-3/8" -2H -N848	964536670000	200	No.	INR	0.00
51	FT STUD-3/4"-10UNC-2A-120-B8M	964656390000	500	No.	INR	0.00
52	HEX NUT-3/4"-10UNC-2B-GR.8M	964656500000	1000	No.	INR	0.00
53	FT STUD-3/4"-10UNC-2A-133-B8M	964656400000	400	No.	INR	0.00
54	HEX NUT-3/4"-10UNC-2B-GR.8M	964656500000 (same as Sr. No.52)	800	No.	INR	0.00
55	FT STUD-3/4"x120 -B7-N041	964562740000	600	No.	INR	0.00
56	NUT -3/4" -2H-N057	964562810000	1200	No.	INR	0.00
57	FT STUD-3/4"x133 -B7-N089	964562750000	2000	No.	INR	0.00
58	NUT -3/4" -2H-N057	964562810000 (same as Sr. No. 56)	4000	No.	INR	0.00
59	FT STUD-5/8"-11UNC-2A-105-B8M	964656370000	1000	No.	INR	0.00
60	HEX NUT-5/8"-11UNC-2B-GR.8M	964656490000	2000	No.	INR	0.00
61	FT STUD-5/8"-11UNC-2A-118-B8M	964656380000	700	No.	INR	0.00
62	HEX NUT-5/8"-11UNC-2B-GR.8M	964656490000 (same as Sr. No.60)	1400	No.	INR	0.00
63	FT STUD-5/8"-11UNC-2A-86-B8M	964656360000	700	No.	INR	0.00
64	HEX NUT-5/8"-11UNC-2B-GR.8M	964656490000 (same as Sr. No.64)	1400	No.	INR	0.00
65	FT STUD-5/8"x105 -B7-N009	964562710000	7000	No.	INR	0.00
66	NUT -5/8" -2H-N025	964562800000 (same as Sr. No.19)	14000	No.	INR	0.00
67	FT STUD-5/8"x118 -B7-N017	964562720000	500	No.	INR	0.00
68	NUT -5/8" -2H-N025	964562800000 (same as Sr. No.66)	1000	No.	INR	0.00
69	FT STUD-5/8"x86 -B7-N025	964562690000	1500	No.	INR	0.00
70	NUT -5/8" -2H-N025	964562800000 (same as Sr. No.68)	3000	No.	INR	0.00
71	FT STUD-7/8"x150 -B7-N212	964564560000	2000	No.	INR	0.00
72	NUT -7/8" -2H-N206	964564310000	4000	No.	INR	0.00
73	FT STUD-M16x120 -B7	411171612000	2500	No.	INR	0.00
74	NUT-M16 -2H	413190001600	5000	No.	INR	0.00
75	FT STUD-M16x90 -SA193B7	411171609000	600	No.	INR	0.00
76	NUT -M16 -2H	413190001600 (same as Sr. No.74)	1200	No.	INR	0.00
77	FT STUD-M20x120 -B7	411172012000	500	No.	INR	0.00
78	NUT -M20 -2H	413190002000 (same as Sr. No.24)	1000	No.	INR	0.00
79	FT STUD-M20x130 -B7	411172013000	1500	No.	INR	0.00
80	NUT -M20 -2H	413190002000 (same as Sr. No.78)	3000	No.	INR	0.00
81	FT STUD-M20x130 -B7-CAD	411172013900	3000	No.	INR	0.00
82	NUT -M20 -CL6-IS1364P3-CAD	413010092000	6000	No.	INR	0.00
83	FT STUD-M20x197 -B7-0005	964526850000	200	No.	INR	0.00
84	NUT -M20 -2H	413190002000 (same as Sr. No.84)	400	No.	INR	0.00
85	FT STUD-M24x140 -B7	411172414000	700	No.	INR	0.00
86	Hex Nut M24 - 2H Gr B 425 BPS 41319	413190002400	1400	No.	INR	0.00
87	FT STUD-M24x150 -B7	411172415000	200	No.	INR	0.00
88	Hex Nut M24 - 2H Gr B 425 BPS 41319	413190002400 (same as Sr. No86)	400	No.	INR	0.00
89	FT STUD-M30x3.5X240 -B7	964654870000	200	No.	INR	0.00
90	NUT -M30 -2H	413190003000	400	No.	INR	0.00
91	FT STUD-M30x3x185 -B7-0001	964524410000	400	No.	INR	0.00
92	NUT -M30x3 -2H-0008-H30	964606450000	800	No.	INR	0.00
93	FT STUD-M30x3x200 -B7-Z022	964608300000	200	No.	INR	0.00
94	NUT -M30x3 -2H-0008-H30	964606450000 (same as Sr. No.92)	400	No.	INR	0.00
95	FT STUD-M30x3x270 -B16-0031	964527060000	100	No.	INR	0.00
96	NUT -M30x3 -GR7-0010-H24	964523100000	200	No.	INR	0.00
97	HEX.BOLT-M12 X1.75X60-B8M	964658920000	200	No.	INR	0.00
98	NUT-M12-8M	964658440000	200	No.	INR	0.00
99	PLUG-5196	931068450000	100	No.	INR	0.00
100	PLUG-5199	931068440000	100	No.	INR	0.00
101	STUD M10X45-2899	930595160000	300	No.	INR	0.00
102	NUT -M10 -CL8-IS1364P3	413200001000	600	No.	INR	0.00
103	STUD M16X50-S661	931017180000	1000	No.	INR	0.00
104	THIN NUT-M16 -CLS-IS1364P4	413020001600	2000	No.	INR	0.00
105	STUD M16X55 -1135	930595170000	500	No.	INR	0.00

106	NUT -M16 -2H	413190001600 (same as Sr. No.76)	500	No.	INR		0.00
107	STUD M8X30 -S833	930596020000	500	No.	INR		0.00
108	THIN NUT-M 8 -CLS-IS1364P4	413020000800	1000	No.	INR		0.00
109	STUD-M16X70 -2961	931019960000	100	No.	INR		0.00
110	NUT -M16 -2H	413190001600 (same as Sr. No.106)	100	No.	INR		0.00
<b>Total in Figures</b>							<b>0.000</b>