

**Enquiry items along with quantities:**

Lengthy items along with quantities:			
Item No.	Size & Item description	Technical requirement	Quantity in kg- Maximum
1	25mm dia X 3000mm – 6000mm LG.	1.5% Ni-Cr-Mo, hot rolled, hardened and tempered steel round bars to material specification AA10501 Rev14. Original material test certificate covering all the chemical and mechanical properties as per BHEL spec AA10501 Rev14 shall be furnished along with supply. Inspection at source by BHEL or BHEL appointed third party shall be done as per QAP No.: QAP/TSD/FMS/10501 only. All other details as per specification AA10501 Rev 14.	8998
2	32mm dia X 3000mm – 6000mm LG.		5115
3	36mm dia X 3000mm – 6000mm LG.		5500
4	40mm dia X 3000mm – 6000mm LG.		5995
5	45mm dia X 3000mm – 6000mm LG.		5500
6	50mm dia X 3000mm – 6000mm LG.		16302
7	63mm dia X 3000mm – 6000mm LG.		34496
8	75mm dia X 3000mm – 6000mm LG.		29700
9	80mm dia X 3000mm – 6000mm LG.		20922
TOTAL			132528 kg

Quantity variation as per below:

**For item 1** - Supplies quantity are to be restricted between 8998 kg & 7362 kg.

**For item 2** - Supplies quantity are to be restricted between 5115 kg & 4185 kg.

**For item 3** - Supplies quantity are to be restricted between 5500 kg & 4500 kg.

**For item 4** - Supplies quantity are to be restricted between 5995 kg & 4905 kg.

**For item 5** - Supplies quantity are to be restricted between 5500 kg & 4500 kg.

**For item 6** - Supplies quantity are to be restricted between 16302 kg & 13338 kg.

**For item 7** - Supplies quantity are to be restricted between 34496 kg & 28224 kg.

**For item 8** - Supplies quantity are to be restricted between 29700 kg & 24300 kg.

**For item 9** - Supplies quantity are to be restricted between 20922 kg & 17118 kg.

**Pre-qualification criteria:**

Sl. No.	Description of pre-qualification requirement	Vendor Response	
		Complied (YES / NO)	Supporting Documents required to accept compliance
1	Manufacturer or their authorized dealer/distributor of Steel products- Round bars / Square / Flat / any section bars		Certificate of being manufacturer (for manufacturer).  Authorized representative has to submit valid authorization letter from original manufacturer. Original manufacturer name, address, email and contact no. from whom material is intended to be supplied to be furnished.
2	Offers of those parties will be considered who or their Manufacturer has supplied "Steel products – Round bars / Square / Flat / any section bars" of minimum cumulative value of <b>INR 47.15 Lakh</b> (INR FOURTY SEVEN LAKH & FIFTEEN THOUSANDS only) during last 05 (FIVE) years from the date of tender opening.		The relevant PO copies along with Proof of Supply (Invoice copy / GEM / CRAC / Completion certificate etc.) to be submitted with Technical offer.
3	Startups and Micro & Small Enterprises ( <b>Manufacturer of offered items</b> ) are exempted for submission of PO and proof of supply of prior experience.		

Note:

1. BHEL has right to verify information / confirmation furnished by asking additional documents, proof etc.

**ALL THE ABOVE POINT WISE PRE-QUALIFICATION REQUIREMENT ARE TO BE NECESSARILY ACCEPTED BY THE BIDDERS FOR THEIR OFFERS TO BE CONSIDERED FAILING WHICH OFFERS SHALL BE REJECTED.**

**MAKE IN INDIA format (to be filled by OeMs of the participating bidders)****BHARAT HEAVY ELECTRICALS LIMITED, BHOPAL****MATERIAL MANAGEMENT – STEEL DIVISION**

*For this Procurement, Government of India Public Procurement (Preference to Make in India), Order 2017 with its amendments and subsequent Orders issued by the respective nodal ministries shall be applicable even if issued after issue of this NIT but before finalization of contract/PO/WO against this NIT.*

*As per the Provisions of this order, please submit a **self-certification complying with the conditions below on company letterhead duly signed by competent authority.***

I ....., hereby declare on behalf of M/s. .... that we are participating in the Enquiry No. .... floated by BHEL, Bhopal (MP), India and shall comply with following:

Public Procurement (Preference to Make in India), Order 2017 *with its amendments* and subsequent Orders issued by the respective nodal ministries shall be applicable even if issued after issue of this NIT but before finalization of contract/PO/WO against this NIT.

- (a) A supplier will be treated as “**Class-I Local Suppliers**”, if the items quoted by bidder have local content equal to or more than 50%.
- (b) ‘**Local Content**’ means the amount of value added in India, which shall be total value of item quoted (excluding net domestic indirect taxes) minus the value of imported content in the item (including all custom duties) as a proportion of the total value, **in percent**.

We hereby certify that the quoted items offered by us against above Enquiry No. is having local content of..... %

Further, to certify that the local content % certified above is in line with definition of Local content given in point no 2 of Public Procurement (Preference to Make in India), Order 2017 dated 19.07.2024 and we qualify as Class —I. (Class-I/ CLASS-II/Non-Local supplier-fill in one which is applicable) local supplier. It is also certified that Repackaging/ Refurbishment/ Rebranding of imported products and the license fees/royalties paid/ technical charges paid out of India are not considered for calculation of local content and there is no such locally-sourced imported items.

The above declaration does not include services such as transportation, insurance, installation, commissioning, training and after sales service support like AME/CMC etc. as local value addition. We also understand, false declarations will be in breach of the Code of Integrity under Rule 175(1) (i) (h) of the General Finance Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Finance Rules along with such other actions as may be permissible under law.

We further confirm that details of location(s) in India at which the local value addition is made will be at

- a. ....
- b. ....

I hereby declare that the details furnished above are true and correct to the best of my knowledge and belief and I undertake to inform you of any changes therein, immediately. In case any of the above information is found to be false or untrue or misleading or misrepresenting, I am aware that I may be held liable for it.

(.....)

For M/s. ....

(Seal & Sign)

## **Annexure-1**

### **DECLARATION (To be given by Bidder)**

**GeM Bid No.....**

**Item Description: .....**

With reference to above reference bid, we M/s..... (Bidder's Name)  
confirm/declare the following.

1. Quoted Make-.....
2. We are OEM or Reseller - .....
3. Valid OEM Authorization certificate with OEM's Contact Details attached (In case of reseller)  
- Yes / NA .....
4. We confirm Nil deviation from GeM bid document (NIT).

**Note:**

1. OEM details such as name, designation, address, e-mail Id and Phone number required to be furnished along with the technical bid. (also refer ATC clause).
2. Commercial Deviation/deviation in delivery shown separately or found hidden in the offer, will not be taken cognizance of.

**(Vendor's Seal & Sign)**

## STANDARD QUALITY PLAN

QAP NO:		QAP/TSD/FMS/10501		REV.00	Date: 02/01/2018					
CUSTOMER:		BHEL BHOPAL			VENDOR NAME:					
DESCRIPTION MATERIALS:		1.5% Ni-Cr-Mo HOT ROLLED/ FORGED STEEL BARS - H&T								
SPECIFICATION		AA10501		Rev. No.	14					
P.I./ENQ.NO. /P.O. NO.				Date:						
Sr. No.	Characteristics	Class	Quantum of check	Reference Document	Acceptance Norm	Type of record	Inspection Agency			Remarks
							P	W	V	
01	Chemical composition	Maj	Each melt	AA 10501	As per spec	TC	2	1	-	
02	Grain Size	Maj	Each melt	ASTM E112	ASTM E112	TC	2	-	1	
03	Nonmetallic Inclusion	Maj	Each melt	ASTM E45 Method A	ASTM E45 method A	TC	2	-	1	
04	Macro	Maj	Each melt	ASTM E381	ASTM E381	TC	2	-	1	
05	Visual Examination	Maj	100% of each lot/Melt	AA 10501	Free From surface defect & shall be smooth	TC	2	1	-	10% Witness by TPIA
06	Dimensional Inspection	Maj	10% of each lot/Melt	AA 10501	As per Spec	TC	2	1	-	
07	Heat Treatment	Maj	100% of each lot/Melt	AA 10501	As per spec	TC	2	-	1	HT Charts review per batch each melt
08	Identification of test sample	Maj	10% of each lot/Melt	AA 10501	As per spec	TC	2	1	-	As per Sample Requirement
09	Ultrasonic Test	Maj	100% of Bars	ASTM A388/BHEL Spec (Dia. 40 mm above)	As per spec	TC	2	1	-	
10	Mechanical properties (Tensile strength, Yield, Elongation hardness etc.)	Maj	Each Heat	AA 10501	As per spec	TC	2	1	-	Random Sample as per Spec.
11	Stamping & Marking	Maj	100% of Bars	AA 10501	As per spec		2	-	1	
12	Documentation: TC & Inspection Report	Maj	Verification	AA10501	As per spec		2	-	1	TC & Reports Endorsed by TPIA

## STANDARD QUALITY PLAN

Legends: Maj = Major, V= Verification, P=Perform, W=Witness, TC= Test Certificate. 1=BHEL/BHEL appointed TPIA, 2= Vendor/Sub/Vendor

Prepared By

*Anand*

~~Checked By~~

Approved By

जी. एस. नेताम / G. S. NETAM  
उप प्रबंधक (त.से.) / Dy. Manager (T.S.)  
तकनीकी सेवा विभाग / Tech. Services Deptt.  
बी.एच.ई.एल., भोपाल / BHEL, BHOPAL





## CORPORATE PURCHASING SPECIFICATION

AA10501

Rev No. 14

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### 1.5% NICKEL-CHROMIUM-MOLYBDENUM HOT ROLLED/FORGED STEEL BARS- H & T

#### 1.0 GENERAL:

This specification governs the quality requirements of 1.5% Nickel-Chromium-Molybdenum Hot rolled/forged Steel Bars, Gr: 40Ni6Cr4Mo3 in Hardened and Tempered condition.

#### 2.0 APPLICATION:

For the manufacture of bolts, studs and various components of machines.

#### 3.0 CONDITION OF DELIVERY:

Hot Rolled / Forged; Hardened and tempered.

**Note:** Sizes up to 100mm in hot rolled  
>100 to 180mm in hot rolled or forged  
above 180mm in forged

The ends of bars shall be reasonably square and true.

The bars shall be supplied in straight lengths without twists and bends.

#### 4.0 COMPLIANCE WITH NATIONAL STANDARDS:

The material shall comply with the requirements of the following National standard and also meet the requirements of this specification.

IS: 5517 – 1993 Gr: 40Ni6Cr4Mo3, Type: J  
Hardened & Tempered

Steels for Hardening and Tempering -  
Specification

#### 5.0 DIMENSIONS AND TOLERANCES:

**5.1 Sizes:** Bars shall be supplied to the dimensions specified on the order.

**5.1.1 Length:** Unless otherwise specified, hot rolled bars shall be supplied in 3 to 6 metres length or in multiples with maximum 10%, shorts down to 1 metre.

Forged bars shall be supplied in lengths of 1.5 to 3.0 metres

#### Revisions:

Revised as per email dt 18.12.08 from Shri Gopal Bhatt from Bhopal.

#### APPROVED:

INTERPLANT MATERIAL RATIONALISATION  
COMMITTEE – MRC(S&GPS)

Rev No.14

Amd No.

Reaffirmed

Prepared

Issued

Dt. of 1<sup>st</sup> Issue

Dt:18-12-2008

Dt:

Ycar:2014

8

HEP, Bhopal

Corp.R&amp;D

April, 1977



# CORPORATE PURCHASING SPECIFICATION



## 5.2 Tolerance:

**5.2.1 Hot rolled bars:** The bars shall not vary from specified diameter or distance across flats by more than  $\pm 2\frac{1}{2}$  %.

**5.2.2 Forged bars:** The tolerance on the forged bars shall be as follows.

<u>Diameter, mm</u>	<u>Tolerance, mm</u>
50 mm to 175 mm	+ 8.0 mm
Above 175 mm	+ 12.5 mm

**Note:** (Hot rolled & forged bars).

Insignificant surface defects in the form of dent and ripple marks are permissible provided their depth does not exceed half the tolerance on each size.

## 6.0 MANUFACTURE:

Material shall be manufactured from fully killed steel.

## 7.0 HEAT TREATMENT:

The recommended heat treatment is as follows:

Harden in oil / water from a temperature of 830 – 850°C.

Temper at a suitable temperature between 550 – 660°C.

## 8.0 FREEDOM FROM DEFECTS:

The bars shall be sound, straight and free from internal and surface defects, such as seams, laps, cracks or any other defects which may impair the end use.

## 9.0 CHEMICAL COMPOSITION:

The melt analysis of steel and the permissible variation in the composition of the finished product from the melt analysis shall be follows:

Element	Melt analysis percent		Permissible variation, percent, in product analysis
	Min.	Max.	
Carbon	0.35	0.45	$\pm 0.02$
Silicon	0.10	0.35	$\pm 0.03$
Manganese	0.40	0.70	$\pm 0.04$
Nickel	1.25	1.75	$\pm 0.05$
Chromium	0.90	1.30	$\pm 0.05$
Molybdenum	0.20	0.35	$\pm 0.03$
Sulphur	---	0.035	+ 0.005
Phosphorus	---	0.035	+ 0.005



## CORPORATE PURCHASING SPECIFICATION

AA10501

Rev No.14

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### 10.0 TEST SAMPLES:

10.1 One sample shall be taken from each melt for chemical analysis.

10.2 One sample shall be taken from each heat treatment batch for testing of mechanical properties. Test pieces for mechanical tests shall be taken in the longitudinal direction of the piece.

For ruling section up to & including 40mm, the test piece shall be machined coaxially from the test bars. For ruling section above 40mm the longitudinal axis shall be at least 12.5 mm from surface of the test bars.

Test methods for determining mechanical properties shall be as per IS: 1598 (For IZOD impact test)/IS: 1757 (For impact test in ISO-V Charpy) and IS: 1608 (For tensile test) or any other reputed International Standard.

10.3 For ruling section above 200mm, tensile test samples can be taken in tangential or transverse direction.

### 11.0 MECHANICAL PROPERTIES (In Hardened and Tempered Condition):

Ruling section, mm	Tensile strength, N/mm <sup>2</sup>	0.2%PS/YS N/mm <sup>2</sup> min	%E $5.65\sqrt{S_0}$ min	* IZOD impact J, min	Hardness ** BHN
up to 30	1200, min	1000	10	30 (25)	360 – 420
> 30 to = 63	1100 – 1250	880	11	41 (35)	330 – 390
> 63 to = 100	1000 – 1150	800	13	48 (42)	300 – 350
>100 to = 150	900 – 1050	700	15	55 (50)	270 – 300
>150	800 – 950	600	16	55 (50)	240 – 285

\* Average of 3 samples applicable for sizes above 16 mm ruling section only. Values in bracket are in ISO - V Charpy.

\*\* Hardness shall be reported for information only.

### 12.0 ULTRASONIC TEST:

12.1 Each bar above 100 mm shall be tested ultrasonically in accordance with BHEL standard AA0850118 to ensure freedom from internal defects.

The norms of acceptance shall be as per category 2 of the above standard.

12.2 **Optional tests:** If specified on order, each bar > 40 to 100 mm shall be tested ultrasonically in accordance with BHEL standard AA0850118 to ensure freedom from internal defects and the norms of acceptance shall be as per category 2.



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### 13.0 TEST CERTIFICATES:

Three copies of test certificates shall be supplied, unless otherwise stated on the order. In addition, the supplier shall ensure to enclose one copy of the test certificate along with their dispatch documents to facilitate quick clearance of the material.

The test certificate shall bear the following information:

**BHEL References:**

AA10501, Rev.No.14: 1.5% Nickel-Chromium-Molybdenum Hot Rolled/Forged Steel Bars- H&T  
BHEL order No,

**Supplier's References:**

Name:

Identification No:

Melt No:

Details of heat treatment:

**Result of Tests:**

Dimensional inspection.

Results of chemical analysis, mechanical and & Ultrasonic tests.

### 14.0 PACKING AND MARKING

The bars shall be suitably packed in bundles to prevent corrosion and damage during transit.

Each bar equal to or greater than 50 mm in diameter or of equivalent cross sectional area shall be stamped with 'AA10501' and melt number on the side near the end or on the face.

Bars below 50 mm shall be bundled together and tied with wire at 3 to 4 places along the length of the bars.

A metal label shall be securely attached to each bundle and shall bear the following information:

AA10501: 1.5% Nickel-Chromium-Molybdenum Hot Rolled/Forged Steel Bars- H & T.

BHEL Order No.:

Consignment/Identification No.:

Melt No.:

Size and Weight:

Supplier's Name:

### 15.0 REFERRED STANDARDS (Latest Publications Including Amendments):

1. IS: 1598

2. IS: 1608

3. IS: 1757

4. IS: 5517

5. AA0850118