

**Enquiry items along with quantities:**

It. no.	Size & Item description	Technical requirement	Quantity in kg
1	30(+2/-0)mm tk X100 (+5/-0)mm width X2000mm – 4000mm LG.	HCHCR Steel D2 Grade Flat as per Spec. BP10890.	525
2	50(+2/-0)mm tkX(180-200) (+5/-0)mm width X 2000mm – 4000mm LG.		1050
3	40(+2/-0) mm dia X 2000 mm – 4000 mm LG.	HCHCR Steel D2 Grade Round Bar as per Spec. BP10890.	525
4	20(+2/-0) mm dia X 2000 mm – 4000 mm LG.		105
5	16(+2/-0) mm dia X 2000 mm – 4000 mm LG.		105
6	12(+2/-0) mm dia X 2000 mm – 4000 mm LG.		105
TOTAL			2415 kg

Quantity variation as per below:

**For item 1** - Supplies quantity are to be restricted between 525 kg & 475 kg.

**For item 2** - Supplies quantity are to be restricted between 1050 kg & 950 kg.

**For item 3** - Supplies quantity are to be restricted between 525 kg & 475 kg.

**For item 4** - Supplies quantity are to be restricted between 105 kg & 95 kg.

**For item 5** - Supplies quantity are to be restricted between 105 kg & 95 kg.

**For item 6** - Supplies quantity are to be restricted between 105 kg & 95 kg.

**Pre-qualification criteria:**

S. No.	Description of pre-qualification requirement	Vendor's Response	
		Complied (YES/NO)	Supporting Documents/Information required to accept compliance
1	For Manufacturer.		Confirmation from bidder that he is manufacturer
2	For Non-manufacturer		Authorization certificate from OEM, clearly indicating the validity period (should be valid at bid opening date). Details of OEM address, email and contact number to be furnished.
3	High Carbon High Chromium Steel as per BP10890.		Confirmation required
4	<b>Supply Experience-</b> Bidder (themselves / through OEM / through resellers) should submit at least one past supply experience of supplying "HCHCr Steel" of offered make on or after 01/04/2020 and before the bid opening date to any organization.		(1) Un-priced copy of at least one executed PO (2) Confirmation from PO consignee for supply of product of offered make, if make is not mentioned in PO (for non-manufacturer only). (3) Any one of the following documents- (a) GeM CRAC/Invoice (b) Store receipt note/voucher (c) Customer acceptance note/voucher  (PO date may be before 01.04.2020 but supply proof of same PO should be after 01.04.2020 and before bid opening date)
5	Submission of Test report/ Conformity report of OEM along with consignment.		Confirmation required
6	Guarantee certificate for 1 year		Confirmation required

**Note-**

- i) Clause by clause confirmation to PQR or signed & sealed copy of PQR symbolizing compliance to be submitted. Compliance to above pre-qualification requirements is mandatory. In absence of compliance to above requirements, vendor's offer is liable to be rejected.
- ii) BHEL reserves the right to verify the information submitted by the vendor or seek for clarification additional documents, proof etc. In case the information submitted is found false or incorrect, the offer is liable to be rejected.

**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:

1. 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**.

2. I hereby declare that our firm qualifies as **Class-I Local Suppliers**.

**a. The Local Content in the items quoted under this Enquiry is ..... Percent**

**b. Details of location(s) in India where this value addition shall be done, is/are as follows:**

- (a) .....
- (b) .....
- (c) .....

(.....)

For M/s. ....

(Seal & Sign)



## PLANT PURCHASING SPECIFICATION BHOPAL

BP 10890

Rev. No. 01

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**AISI D2 HIGH CARBON HIGH CHROMIUM TOOL STEEL BARS  
ANNEALED (MAT. No. < 1.2379 > EN/DIN X153CrMoV12- AISI D2)**

**SUPERSEDES  
BP 10890 Rev.00**

FOR INTERNAL USE ONLY  
REMOVE THIS PREFACE BEFORE ISSUE TO SUPPLIERS

### EQUIVALENT STANDARDS

- |             |   |   |
|-------------|---|---|
| 1. INDIAN   | : | IS : 3748-1990<br>Gr : XT160Cr12 (annealed) |
| 2. AMERICAN | : | AISI : D2                                   |
| 3. BRITISH  | : | B.S. : 4659 :1989<br>GR. : BD 2             |
| 4. JAPANESE | : | JIS: G4404 : 1983<br>GR. SKD11              |
| 5. GERMAN   | : | WERK STOFF : 1.2379                         |

### ACCEPTABLE COMMERCIAL GRADE SUPPLIERS :

BOHLER EDELSTAHI GMBH & CO KG  
MARIAZELLER STRABE 25  
A-8605 KAPFENBERG/AUSTRIA

### HIGH CARBON HIGH CHROMIUM TOOL STEEL BARS

1. **GENERAL :**  
The Specification governs the quality of high carbon high chromium tool steel Bars, Annealed.
2. **APPLICATION :**  
High performance cutting tools (DIES & PUNCHES), blanking & punching tools, wood working tools, shear blades for cutting light-gauge material, the thread rolling dies, drawing, deep drawing & extrusion tools.
3. **CONDITION OF DELIVERY :**  
Cold rolled/forged and annealed  
The bar shall be supplied in straight square and true.

Revision :

Reviewed & No Technical. Change

Issued by :

STANDARDS AND MATERIALS GROUP  
TECHNICAL SERVICES DEPARTMENT

Rev No : 01

Date : 12.02.2020

Date of first issue : May, 2014



## 4. COMPLIANCE WITH NATIONAL STANDARDS :

The material shall comply with the requirement of

IS: 3748-1990

Gr XT160Cr12 (annealed)

Tool and die steel

## 5.0 DIMENSIONS & TOLERANCE :

### 5.1 Sizes :

Bars shall be supplied to be the dimension specified on the order.

### 5.2 Tolerance :

#### 5.2.1 Straightness For Cold Rolled Bars :

The permissible deviation shall not exceed 3 mm in any 1000 mm length of the bar.

#### 5.2.1.1 Dimensional Tolerances for Cold Drawn Bars — Rounds, Octagons, Quarter Octagons and Hexagons

Size Range Tolerance

SIZE RANGE IN MM	TOLERANCE IN MM
Over 6 up to. and including 12	$\pm 0.05$
Over 12 up to and including 25	$\pm 0.06$
Over 25 up to and including 68	$\pm 0.08$
Over 68	$\pm 0.1$

#### 5.2.1.2 Tolerances for Cold Drawn Square and Flat Bars

Size Range Tolerance

SIZE RANGE IN MM	TOLERANCE IN MM
Over 6 up to and including 18	$\pm 0.05$
Over 18 up to and including 38	$\pm 0.08$
Over 38	$\pm 0.1$

#### 5.2.2 Forged bars :

The tolerance on size for forged bars shall be  $\pm 1.5$  % of the size.

### 5.3 Length :

Bars shall be supplied in 2 to 4 meters length or in multiplies with maximum of 10 percent short down to 1 meter.

## 6. MANUFACTURE :

Material shall be manufactured from fully killed steel. Sufficient reduction and discard shall be made from each ingot to ensure freedom from piping, segregation and other defects.

The material shall be rough machined, chipped or ground to remove all surface Imperfections which are likely to produce defects in the finished product.

If the material is conditioned by grinding or chipping, depth of conditioning shall not exceed half the machining allowance per side and width of conditioning shall be at least four times its greatest depth.

## 7. FREEDOM FROM DEFECTS :

The material shall be free from defects such as seams, flakes, laps, cracks, pipes, bursts, excessive non-metallic inclusions and injurious metallic segregate.

Total decarburization shall be kept at the minimum level and in no case shall exceed 80 percent of the machining allowance.

## 8. CHEMICAL COMPOSITION :

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

ELEMENT	PERCENT		PERMISSIBLE PERCENT MAX.
	MIN.	MAX.	
Carbon	1.5	1.7	± 0.04
Silicon	0.10	0.35	± 0.03
Manganese	0.25	0.55	± 0.04
Chromium	11.0	13.0	± 0.15
Molybdenum		0.8	± 0.05
Vanadium		0.8	± 0.04
Tungsten		0.6	± 0.04
Sulphur		0.035	± 0.005
Phosphorus		0.035	± 0.005

Optional :

### Note :

Elements not quoted above shall not be added to the steel. Other than for the purpose of finishing the melt and shall not exceed the following limits:

ELEMENT	PERCENTAGE MAX.
NICKEL	0.25
COPPER	0.35
TIN	0.05
COBALT	0.10

## 9. TEST SAMPLES:

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

For hardness test 5 percent of the number of pieces in the charge up to a maximum of 10 and minimum of 2 covering all sizes shall be taken.

## 10. MECHANICAL PROPERTIES :

Hardness (Brinell) : **as received condition :**

When tested in accordance with IS: 1500 the test pieces shall show a Brinell hardness of 255 FIB maximum.





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### 11. RESPONSE OF HEAT TREATMENT :

Bars shall be capable of responding to the heat treatment specified below and the material must achieve a minimum Rockwell hardness of 60 HRC without showing any sign of overheating.

Pre-heat slowing to a temperature of 750-800°C raise the temperature to 980-1030°C and soak adequately. Quench in oil.

Temper at a suitable temperature between 150-300°C.

### 12. TEST CERTIFICATES :

Three pieces of heat certificates shall be supplied unless otherwise stated on the order.

Temper at a suitable temperature shall bear the following information:

BHEL references :

BP 10890, REV. NO. 01

Supplier's references :

Name.

Identification no.

Melt no.

Details of heat treatment.

Results of Tests :

Results of dimensional inspection.

Results of chemical analysis and hardness tests in annealed and hardened and tempered conditions.

### 13. PACKING & MARKING :

The bars shall be suitably packed in bundles to prevent corrosion and Damage during transit. Bars of size up to & inci. 45 mm shall be bundled together.

Bars above 45 mm in dia. or of equivalent cross section area shall be stamped BP 10890 and 'melt number" on the side near the end or on the end face.

A metal label shall be securely attached to each other bundle and shall bear the following Information.

**BP 10890 : HIGH CARBON HIGH CHROMIUM TOOL STEEL BARS-ANNEALED.**

BHEL ORDER NO

Consignment or identification no.:

Melt NO. :

Size & Weight.

Supplier Name :

## **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)**