



**BHARAT HEAVY ELECTRICALS LIMITED**  
**HEEP: HARDWAR-249 403 (UK)**  
**Fax: 01334-226462, Phone: 01334-284570**  
**E-mail: ajaykumar.gupta@bhel.in**

**Tender no: PPX-F&HE/EOI/WT/2019-20/002**

**Due Date: 21.08.2019**

**Notice for Expression of Interest for empanelment of New Vendors**

The Heavy Electrical Equipment Plant (HEEP) located in Haridwar, is one of the major manufacturing plants of BHEL. The core business of HEEP includes design and manufacture of large steam and gas turbines, turbo generators, hydro turbines and generators and so on.

**We are looking for reputed vendors having capability for supplying following materials-**

SN	MAT.CODE	Description	Average annual Consumption (In no.)
1	AA7710503225	E CoCrE (Stellite-Gr.21) Size 3.15 x 350 MM	600
2	AA7710503292	E CoCrE (Stellite-Gr.21) Size 4 x 350 MM	3500
3	AA7710503365	E CoCrE (Stellite-Gr.21) Size 5 x 350 MM	500
4	HW7799994886	GMAW Wire ERCOCR-E Spec- ASME-Sec-IIC Dia 1.2 mm spool of 12 kg to 18 kg	400 Kg
5	HW7799994894	GTAW Wire ERCOCR-E Spec- ASME-Sec-IIC size 1.6 x 1000 mm	50 kg

**Contact persons:**

Mr. Vinay Kumar Soni  
Designation: Dy. Mgr (PPX-F & HE)  
Email: vinaysoni@bhel.in  
Phone No: +91 1334-281478  
Mobile: +91 9889111161

The offers received will be technically evaluated by BHEL & successful short listed parties will be asked to submit their detailed Techno-Commercial offers through formal NIT/Enquiry for our future requirements. Vendors shall confirm that there is no deviation with respect to BHEL Specifications. However deviations, if any are to be listed as a separate attachment. The offers that do not meet the substantial requirements of our specifications are liable to be ignored.



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**Following documents are to be necessarily filled and submitted along with the technical offer:**

- 1.** Details/ Documents in support of Specification/PQR (**Annexure-I up-loaded**)
- 2.** Supplier/Vendor Registration Form- Go through online supplier registration portal <https://supplier.bhel.in>. After filling the online registration form send the copy of same along with your offer within due date.
- 3.** Details of Manufacturing Facility
- 4.** Company Profile.
- 5.** Financial report of the company.
- 6.** Past experience along with documentary proof.



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Only Technical BID along with the documents mentioned above should be sent and the envelope containing the offer shall be duly sealed and super scribed as **“Technical Offer for (ITEM NAME) AGAINST Tender No. PPX-F&HE/EOI/WT/2019-20/002**

**Due Date-21.08.2019, SUBMITTED BY (Name of company)”**

- This notification shall be published on [www.bhel.com](http://www.bhel.com), and [www.bhelhwr.co.in](http://www.bhelhwr.co.in)
- Last date for downloading tender documents shall be 20.08.2019 till 1700 Hrs.(IST). Tenders will be received up to 13:45 Hrs. (IST) on 21.08.2019 will be considered and opened on the same day at 14:00 Hrs. (IST) in the Tender Room BHEL HEEP, Haridwar.
- Technical Offers complete in all respect must be addressed to “Shri A K Gupta, AGM (AIX and PPX- F)”.
- EMD & Tender fee are not applicable.
- The Quotation should be from the Principal / Original Manufacturer, failing which the quotation may likely to be ignored. In Case the quotation is submitted through agent, the quotation must accompany original authorization letter.
- Late offers will not be considered in any case. BHEL will not be responsible for any type of postal delay / incomplete information from vendor.
- Amendments / Corrigendum, if any, will be hosted on our web site only.

For any further details please log on to [www.bhel.com](http://www.bhel.com) or [www.bhelhwr.co.in](http://www.bhelhwr.co.in)

**(A K Gupta)**  
**AGM (AIX & PPX-F)**



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## **ANNEXURE-I**

### **Pre-qualification requirement (PQR)**

#### **1. Covered electrodes for hard facing “ECoCr-A” & “ECoCr-E” as per ASME Section-IIIC, SFA 5.13 (Size- Diameter 3.15, 4.0 & 5.0mm)**

- a) Vendor to submit sample of welding consumable to BHEL, WRI, Trichy for chemical & mechanical testing as per ASME Sec-IIIC, SFA 5.13  
Note- For hardness, refer appendix clause A7.2.5 of SFA 5.13
- b) Vendor to submit this successful test report to BHEL, Hardwar.
- c) Based on successful chemical & mechanical test at WRI, BHEL, Trichy, development order will be placed for checking usability of welding consumable at shop floor.
- d) After satisfactory shop performance feedback of the welding consumable based on development order, vendor will be enlisted as approved vendor at BHEL, Hardwar.

#### **2. GMAW wire “ERCoCr-E” as per ASME, SEC-IIIC, SFA 5.21 (Size-diameter 1.2mm)**

- a) Vendor to submit sample of welding consumable to BHEL, WRI, Trichy for chemical & mechanical testing as per specification (ASME, SEC-IIIC, SFA 5.21, size- dia 1.2mm.  
Note- For hardness, refer appendix clause A7.2.7 of SFA 5.21
- b) Vendor to submit this successful test report to BHEL, Hardwar.
- c) Based on successful chemical & mechanical test at WRI, BHEL, Trichy, development order will be placed for checking usability of welding consumable at shop floor.
- d) After satisfactory shop performance feedback of the welding consumable based on development order, vendor will be enlisted as approved vendor at BHEL, Hardwar.



# CORPORATE STANDARD

AA 771 05 03

Rev. No. 01

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## COVERED ELECTRODE FOR STELLITE HARD FACING (STELLITE Gr. 21)

### 1.0 GENERAL:

This standard covers the quality of general purpose cobalt based hard surfacing welding electrodes STELLITE Gr.21 of AWS: ECoCr-E, SFA-5.13 ASME – II C – 2010.

### 2.0 APPLICATION:

These electrodes are used for hard facing components subjected to wear and operate at high temperature.

### 3.0 CHEMICAL COMPOSITION OF UNDILUTED WELD METAL DONE ON PAD:

C	–	0.15 to 0.4%
Cr	–	24 to 29%
Fe	–	5.0% max
Ni	–	2% to 4%
Mn	–	1.5% max
Si	–	2% max
W	–	0.5% max
Co	–	Remainder
Other elements	–	1% max.

Note: - S and P content each shall not exceed 0.03%.

### 4.0 MECHANICAL PROPERTIES:

Hardness value (for multilayered welding): 20 – 32 HRC.

### 5.0 METHOD OF MANUFACTURE:

The welding rod may be manufactured by any methods that yield a product conforming to the requirement of this standard.

### 6.0 STANDARD FORMS, TOLERANCE & FINISH

- 6.1 Standard size will be 2.5, 3.15, 4 & 5 mm.diameter.
- 6.2 The diameter of the core wire shall not vary more than  $\pm 15\%$  from the normal for wrought and 0.8mm from nominal for cast. Length of core wire shall not vary more than  $\pm 6.4$ mm from the nominal.
- 6.3 Core wire and coverings shall be free of defects which would interfere with uniform performance of the electrodes.
- 6.4 Electrodes coverings shall be concentric.
- 6.5 One end of each electrode (grip end) shall be bare for a distance of 20 mm to 30 mm to provide for electrical contact with the holder.
- 6.6 The covering shall be such that it is not readily damaged by ordinary handling.
- 6.7 The covering shall be such that heating of the electrode during welding shall not cause blistering or flaking of the covering within the ranges of current recommended by the manufacturer.

Revisions:

As per clause no. 16.5 of MOM of WG-W

APPROVED:

INTERPLANT STANDARDIZATION  
COMMITTEE – WG (W)

Rev. No.01

Amd. No.

Reaffirmed

Prepared

Issued

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

Dt:27-06-2013

Dt:

Year:

HARDWAR

Corp. R&amp;D

June '94

14/10/13

CS-1322

## CORPORATE STANDARD

**7.0 IDENTIFICATION:**

At least one legible imprint of AWS classification and brand name shall be provided on the electrode covering nearest to the gripping end which will not get erased even after baking.

**8.0 TEST REQUIREMENTS:**

The following tests are prescribed to determine the mechanical properties and soundness of weld deposit.

- The tests are to be conducted in as welded condition.
- Hardness test.
- Chemical analysis.
- Any other test as specified by the purchasers.

**9.0 TEST CERTIFICATES:**

The supplier shall submit 5 copies of test certificate giving the following information.

- i) Purchase order number.
- ii) Suppliers name, band name and size.
- iii) Batch no.
- iv) Chemical composition.
- v) Mechanical properties.

**10.0 ACCEPTANCE:**

At the option and expense of the purchaser any or all the test requirements given in this standard may be used for acceptance of the product covered by this standard.

**11.0 PACKING:**

Electrodes shall be suitably packed to ensure against damage during shipment and storage under normal conditions. The package weights shall be agreed upon by the supplier and the purchaser.

**12.0 MARKING:**

Each individual carton shall have the following information printed on them.

- i) Brand name.
- ii) Size.
- iii) Batch no. and date of manufacture.
- iv) Quantity and net weight.

**13.0 CORPORATE RATIONALIZED SIZES AND CODES:**

All dimensions in mm.

SIZE DIA.X LENGTH	SUB-CODE
2.0 x 300	128
2.5 x 350	160
3.15 x 350	225
4.0 x 350	292

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CORPORATE STANDARD

AA 7710503

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(ANNEXURE - I)

## RECORD OF CHANGES

REV. CODE	NO. OF CHGS	DOCU NO	SHEET NO.	SIGN	DATE	REV. CODE	NO. OF CHGS	DOCU NO	SHEET NO.	SIGN	DATE
THIS CORPORATE STANDARD SUPERSEDES THE OLD PS NO. HW 7710599 AS PER CHANGE ADVICE No. TSX(WT)-94-161											
24/11/94 (KISHAN LAL) TSX											
THIS CORPORATE STANDARD SUPERSEDES BY OLD CORPORATE STANDARD. CHANGE ADVICE No. TSX-CS-LB-106											
12/10/13											

## DISTRIBUTION OF PRINTS

DEPTT	TGE	STE	AME	DME	HGE	HTE	ACE	HXE	MTE	CPL	IN-SUL SYS	HLE	TSX	THC	PPX	MCX	CSX
DEPTT	AIX	OSX	CCX	FAX	TFX	TLX (J&T)	TTX-GTX	TTX-ST	TTX-HT	TTX-EM	WT	QAX	QCX	PCM	WC 202	WC 205	WC 227
DEPTT	FBM BL 11	HTM WC276	STM WC236	TLM WC832	ACM WC291	CIM WC330	FCM WC 356 /361	SUM WC370	WWM WC385	HXM WC390	WEX WC 8100	ESX	TRX	TAX	AVP	GTE	
REVISION																	
DRAWN																	
WORKED											KISHAN LAL  23-11-94						
CHECKED											R. BHATIA  24-11-94						

SIGN. &amp; DATE

INVENTORY NO. SUPERSEDES

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The information on this document is the property of Bharat Heavy Electricals Limited.  
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SIGN. &amp; DATE

INVENTORY NO.

Singam Sindh  
29/11/94

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