

## **Invited Domestic Tender notification for the procurement of CMSX-4 alloy powder for use in Direct Energy Deposition (Last date:21.01.2024)**

Dear Sir/Madam,

This is an invited domestic tender(refer to Annexure 2 for eligibility criteria). In order to accomplish the goals of a ARDB funded project we plan to acquire CMSX-4 alloy for additive manufacturing using the direct energy deposition process. In the following we list the specifications regarding the size, shape of the powder and the composition range of the elements.

- a) Size classification of powder +50/-90 micrometers
- b) Shape of the powder particles should be spherical
- c) The composition of the elements should be within the range mentioned in Annexure 3
- d) Quantity: 10Kgs

### **Terms and conditions**

1. Two-bid system (separate technical and financial bids) in sealed tenders.
2. The technical bid must clearly specify the prescribed technical specifications without including the prices. Please provide in detail the specifications under each subhead and bullet point. Unique characteristics may be highlighted.
3. Vendors who include price information in the technical bids will be automatically disqualified.
4. Technical bids will be opened first. IISc may seek clarifications after opening of technical bids and may ask vendors to perform some example experiments on the samples given by IISc to demonstrate the promised technical specifications. Vendors may be required to give presentations.
5. There are several items that require detailed information to be provided by the supplier. If information is not provided against any of these items, this will disqualify the supplier.
6. After technical evaluation by a committee, vendors may be asked to re-quote in a specific format to facilitate comparison of prices.
7. Price bids of only technically qualified vendors will be considered.
8. The price must be quoted in INR (Indian Rupee). Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor. The quotations should be on FOR-IISc Bangalore basis in INR only.
9. The price should be on FOR-IISc Bangalore basis in INR only.
10. IISc also reserves the right to cancel the tender at any time without assigning any reason whatsoever.
11. Indicate delivery period.
12. Order will be placed on lowest bid from technically qualified vendor.
13. The tender documents can be sent at the following address:

The Chairman  
Department of Materials Engineering  
Indian Institute of Science, Bangalore 560012  
Karnataka (INDIA)  
Attn: Prof. Abhik Narayan Choudhury

## **Annexure 2: Eligibility Criteria**

### **Prequalification criteria:**

- 1. The Bidder should belong to either class 1 or class 2 supplier distinguished by their “local content” as defined by recent edits to GFR. They should mention clearly which class they belong to in the cover letter.**
  - a) Class 1 supplier: Goods and services should have local content of equal to or more than 50%.**
  - b) Class 2 supplier: Goods and services should have local content of equal to or more than 20 % and less than 50%.**
- 2. Purchase preference as defined by the recent edits to GFR (within the “margin of purchase preference”) will be given to Class-1 supplier.**
- 3. MSME can seek exemption to some qualification criteria. IISc follows GFR2017 for such details.**
- 4. The Bidder must not be blacklisted/banned/suspended or have a record of any service-related dispute with any organization in India or elsewhere.**
- 5. Original Invoice, Original Warranty Certificate, Original Test Reports should be produced for all imported items from OEM (Original Equipment Manufacturer) at the time of supply of the equipments.**
- 6. Details of experienced service engineer including contact detail should be provided in tender document.**
- 7. Bidder shall have to submit audited accounts (Balance sheet profit and loss account) of financial year 2015-16, 2016-17 and 2017-18. Audited statement must be signed and stamped by qualified chartered accounted.**
- 8. Bidder must submit Income Tax return for assessment year – 2016-17, 2017-18 and 2018-19.**
- 9. Bidder must submit up to date sales tax or GST clearance certificate.**
- 10. Bidders offering imported products will fall under the category of non-local suppliers. They cannot claim themselves as Class-1 local suppliers/Class-2 local suppliers by claiming the services such as transportation, insurance, installation, commissioning, training, and other sales service support like AMC/CMC, etc., as local value addition.**

# Annexure 3: Alloy composition

## Alloy CMSX4, 100% Virgin

1. **Chemical Compositions:** The detailed chemical composition is given as below

i) **Alloying Elements:**

S. no.	Element	Minimum (wt.%)	Maximum (wt%)
01.	Al	5.45	5.75
02.	Cr	6.4	6.6
03.	Co	9.3	10.0
04.	Hf	0.07	0.12
05.	Mo	0.5	0.7
06.	Re	2.8	3.1
07.	Ta	6.3	6.7
08.	Ti	0.9	1.1
09.	W	6.2	6.6
10.	Nickel	Balance	

ii) **Residual Elements:**

S. no.	Element	Maximum (wt.%)	S. no.	Element	Maximum (ppm)
01.	Cu	0.005	07.	C	60
02.	Fe	0.15	08.	Cl	< 1
03.	Mn	0.01	09.	N	2
04.	Nb	0.10	10.	O	2
05.	Si	0.04	11.	P	2
06.	V	0.10	12.	S	2
			13.	Zr	75

iii) **Trace Elements:**

S. no.	Element	Maximum (ppm)	S. no.	Element	Maximum (ppm)
01.	Ag	2	11.	Na	20
02.	As	2	12.	Pb	2
03.	Au	2	13.	Sb	2
04.	Bi	0.2	14.	Se	0.5
05.	Cd	2	15.	Sn	10
06.	Ga	15	16.	Te	0.2
07.	Ge	2	17.	Th	5
08.	Hg	2	18.	Tl	0.3
09.	In	2	19.	U	5
10.	K	10	20.	Zn	5