



INDIAN INSTITUTE OF INFORMATION TECHNOLOGY DESIGN AND MANUFACTURING KURNOOL Jagannathagattu, Kurnool-518008.

Date: 18.12.2024

Sub: Invitation for quotation for procurement of Printing of metal micro lattice honeycomb and bcc coupons - Reg.

Indian Institute of Information Technology Design and Manufacturing Kurnool invites bids for procurement of **“Printing of metal micro lattice honeycomb and bcc coupons”**.

A. Quotation submission procedure:

The bid is to be submitted in soft copy by Email in Pdf Protected files at the following mail id chandrasekhar@iiitk.ac.in & hod_me@iiitk.ac.in & also to the thread email attached.

No manual document will be accepted. All documents should be submitted by email Password Protected PDF File. The subject of the mail should be **“Bids for procurement of Printing of metal micro lattice honeycomb and bcc coupons”**. The covering mail should indicate the contact details i.e. Mobile Number of the bidder. The password will have to be revealed only on communication from IIITDM mail (Above mentioned email ids) on the date & time of Opening of bid. The mail will be sent by either Indenter or Chairman of LPC in the thread email for password at the time of opening of bids. The bids shall be opened on 26th December 2024 at Faculty Cabin in the Mechanical Engineering, and if there is a change of date, the same will be communicated at the earliest. Interested bidders may attend the opening of the bid. The bids will be opened and evaluated by the Committee appointed by Institute.

B. Terms and conditions :

1. The bidders need to send the Quotations by email to above mentioned emails.
2. The soft copy of the quote should be password protected. The mobile number of the signatory on the quotation should be mentioned in the email, who will be contacted for the password at the time of opening of the quotation. Passwords will not be revealed before that by the bidder.
3. Last date & time for submission of quotations is on or before 26th December at 9.00 AM.
4. Eligibility Criteria:
 - a) Bidder shall have supplied defence products/parts with similar or in defence make by order specifications to at least one CFTI/DRDO Laboratories/National Laboratories/Ministry of Defence/CSIR Laboratories. Copy of Contract/P.O. shall be submitted as proof along with the quotations.
 - b) Bidder shall submit a copy of self-attested GST Registration certificate.
 - c) Compliance of the Technical Specifications and terms & conditions: A self-declaration on the letterhead of the bidder stating that they comply with all the required technical specifications and the terms & conditions.
 - d) Bidders shall have OEM Authorization to manufacture or produce the part or print the part using metal powder and a self-attested copy is to be attached.
 - e) Compliance of GFR Rule 144 (xi): The bidder shall not be from a country sharing land border with India and if the bidder is from a country sharing land border with India the bidder should have been registered with the competent authority as per orders of DIPP OM No. F. No. 6/18/2019-PPD dated 23rd July 2020, and MoCI Order No. P-45021/112/2020-PP (BE II) (E-43780) dated 24th August 2020 and subsequent amendments/orders. A declaration shall be submitted with the bid as per format given in Annexure-1.
 - f) Compliance of Make in India Policy: A certificate from the OEM to be submitted along with the bid regarding the percentage of the local content and the details of locations at which the local value addition is made as per the format given in Annexure-2. **(Not applicable where estimated value of procurement is less than Rs. 5 lakh)**

C. Additional Terms and conditions :

- a. Scope: **Supply**
- b. **Warranty: 1 Year**
- c. Offer validity: **21 days**
- d. Material to be delivered within **19** days from the day of issue of P.O. LD charges@1% per week or part thereof for delay in supply shall be applicable when Delivery Period extension is given.
- e. Prices shall be inclusive of all taxes & charges for IIITDM Kurnool.
- f. Original GST Invoice duly signed and stamped are to be submitted.
- g. Payment will be made **within 15 days** from the date of final acceptance of the material.
- h. For evaluation of offers, **Total wise comparison** will be carried out.
- i. Bidders shall submit their quote considering scope and all the terms & conditions, additional charges of any kind will be paid.
- j. **This bid is also governed by latest GTC issued by GeM.**

D. Format of Quotation: Bidders shall submit quotation as per given format in Annexure – 3.

(To be given on the letterhead of the bidder)

No. _____

Dated: _____

CERTIFICATE

(Bidders from India)

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and hereby certify that Our Company/I am not from such a country.

OR (*whichever is applicable*)

(Bidders from a Country which shares a land border with India)

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and hereby certify that I from _____ (Name of Country) and the Company has been registered with the Competent Authority. I also certify that I fulfil all the requirements in this regard and is eligible to be considered. *(Copy/ evidence of valid registration by the Competent Authority is to be attached)*

Place:

Date:

Stamp

Signature of the Tenderer

Name & Address of the Tenderer with Office

FORMAT FOR AFFIDAVIT OF SELF-CERTIFICATION UNDER PREFERENCE TO MAKE IN INDIA

This letter should be on the letterhead of the OEM and should be signed by a competent authority. Non-submission of this will lead to Disqualification of bids.

Tender Reference Number:

Name of the item / service:

Date: _____

I/We _____ S/o, D/o, W/o, _____ Resident of

Hereby solemnly affirm and declare as under:

That I will agree to abide by the terms and conditions of the Public Procurement (Preference to Make in India) Policy vide GoI Order no. P-45021/2/2017-PP (B.E.-II) dated 15.06.2017 (subsequently revised vide orders dated 28.05.2018, 29.05.2019 and 04.06.2020) MOCI order No. 45021/2/2017-PP (BE II) Dt.16th September 2020 & P-45021/102/2019-BE-II-Part (1) (E-50310) Dt. 4th March 2021 and any subsequent modifications/Amendments, if any and

That the local content for all inputs which constitute the said item/service/work has been verified by me and I am responsible for the correctness of the claims made therein.

Tick (✓) and Fill the Appropriate Category

<input type="checkbox"/>	I/We _____ [name of the manufacturer] hereby confirm in respect of quoted items that Local Content is equal to or more than 50% and come under “ Class-I Local Supplier ” category.
<input type="checkbox"/>	I/We _____ [name of the manufacturer] hereby confirm in respect of quoted items that Local Content is equal to 20% but less than 50% and come under “ Class-II Local Supplier ” category.
<input type="checkbox"/>	I/We _____ [name of the manufacturer] hereby confirm in respect of quoted items that Local Content is less than 20% come under ‘ Non – Local Supplier ’ category

- The details of the location (s) at which the local value addition is made and the proportionate value of local content in percentage

Address _____ Percentage of Local content: _____ %

For and on behalf of (Name of firm/entity)

Authorized signatory (To be duly authorized by the Board of Directors)

<Insert Name, Designation and Contact No.>

Note: In case of procurement for a value in excess of Rs. 10 Crores, the bidders shall provide this certificate from statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

Quotation format

(ON letterhead of vendor)

Name of the Vendor:

GST No.:

Address:

Contact No.

Email ID:

S. No.	Description of the required items with specifications	Product Quoted (Make and Model along with Specifications)	Quantity	Unit Price exclusive of GST	GST%	Unit Price Inclusive of GST	Total Price Inclusive of GST
1	Metal Additive Manufacturing of AM A286 honeycomb coupon (As per Annexure A)	Metallic 3D Printed Structure	10				
2	Metal Additive Manufacturing of AM A286 BCC coupon (As per Annexure A)	Metallic 3D Printed Structure	10				
Total Price (In figures):							
Total Price (In words):							

- Attach a separate sheet if required

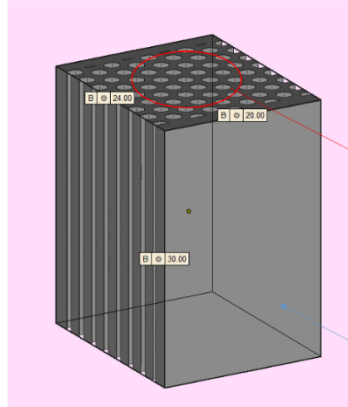
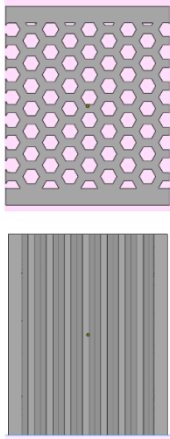
Sign & Stamp of vendor

ANNEXURE A

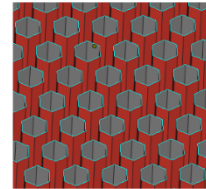
Item 1: Honeycomb

Honeycomb-Lattice

Material : HRS

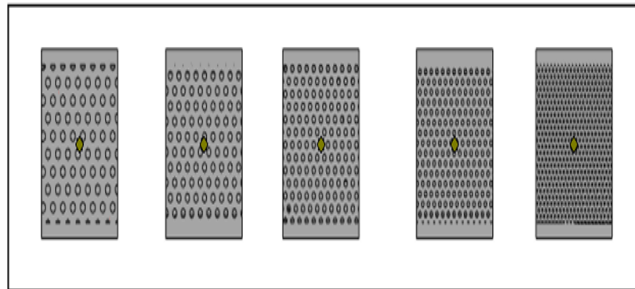


Detailed View



Outer wall thickness
2mm

Size 24*20*30 mm3

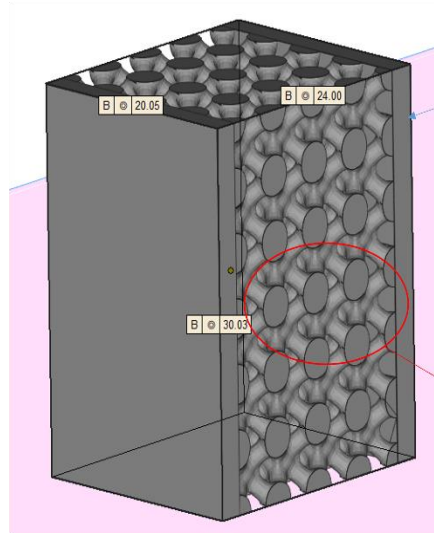
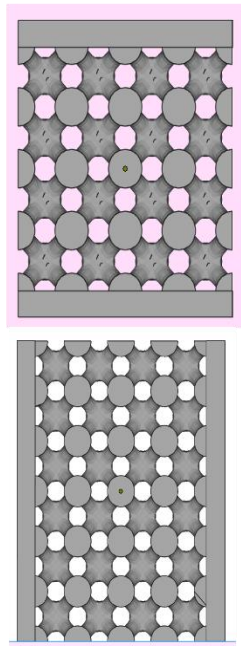


Honeycomb structure	Honeycomb structure	Honeycomb structure	Honeycomb structure	Honeycomb structure
Wall thickness (a) 2,000 mm	Wall thickness (a) 2,000 mm	Wall thickness (a) 2,000 mm	Wall thickness (a) 2,000 mm	Wall thickness (a) 2,000 mm
Detail size 1,000 mm	Detail size 1,000 mm	Detail size 1,000 mm	Detail size 1,000 mm	Detail size 1,000 mm
Hole diameter (b) 1,400 mm	Hole diameter (b) 1,200 mm	Hole diameter (b) 1,000 mm	Hole diameter (b) 0,800 mm	Hole diameter (b) 0,500 mm
Infill thickness (c) 1,400 mm	Infill thickness (c) 1,200 mm	Infill thickness (c) 1,000 mm	Infill thickness (c) 0,800 mm	Infill thickness (c) 0,500 mm
Infill direction Normal to marked area	Infill direction Normal to marked area	Infill direction Normal to marked area	Infill direction Normal to marked area	Infill direction Normal to marked area
<input checked="" type="checkbox"/> Delete marked triangles	<input checked="" type="checkbox"/> Delete marked triangles	<input checked="" type="checkbox"/> Delete marked triangles	<input checked="" type="checkbox"/> Delete marked triangles	<input checked="" type="checkbox"/> Delete marked triangles
<input type="checkbox"/> Perforations	<input type="checkbox"/> Perforations	<input type="checkbox"/> Perforations	<input type="checkbox"/> Perforations	<input type="checkbox"/> Perforations
Diameter 1,000 mm	Diameter 1,000 mm	Diameter 1,000 mm	Diameter 1,000 mm	Diameter 1,000 mm
Interval 1,000 mm	Interval 1,000 mm	Interval 1,000 mm	Interval 1,000 mm	Interval 1,000 mm
Ok Close	Ok Close	Ok Close	Ok Close	Ok Close

Item 2: BCC

BCC-Lattice

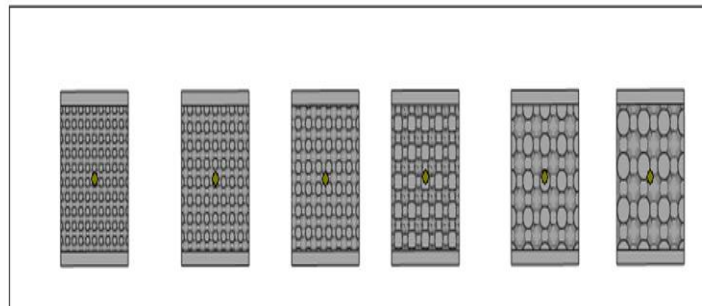
Material : HRS



Outer wall thickness
2mm

Detailed View

Size 24*20*30 mm3



Internal Lattice	Internal Lattice	Internal Lattice	Internal Lattice	Internal Lattice	Internal Lattice
Structure: body diagonals with nodes	Structure: body diagonals with nodes	Structure: body diagonals with nodes	Structure: body diagonals with nodes	Structure: body diagonals with nodes	Structure: body diagonals with nodes
X: 2.000 mm	X: 2.500 mm	X: 3.000 mm	X: 4.000 mm	X: 5.000 mm	X: 6.000 mm
Y: 2.000 mm	Y: 2.500 mm	Y: 3.000 mm	Y: 4.000 mm	Y: 5.000 mm	Y: 6.000 mm
Z: 2.000 mm	Z: 2.500 mm	Z: 3.000 mm	Z: 4.000 mm	Z: 5.000 mm	Z: 6.000 mm
<input checked="" type="checkbox"/> Keep Aspect Ratio	<input checked="" type="checkbox"/> Keep Aspect Ratio	<input checked="" type="checkbox"/> Keep Aspect Ratio	<input checked="" type="checkbox"/> Keep Aspect Ratio	<input checked="" type="checkbox"/> Keep Aspect Ratio	<input checked="" type="checkbox"/> Keep Aspect Ratio
Sample data to process: 223.0 MB	Sample data to process: 118.9 MB	Sample data to process: 83.2 MB	Sample data to process: 33.4 MB	Sample data to process: 14.9 MB	Sample data to process: 11.9 MB

Standards and Specifications for ITEM 1 and ITEM 2

S. No.	Description	Specification
1.	Dimension	As per Figures attached for reference
2.	Standards 1. Powder Characterization 2. Chemical composition 3. Flow rate, Apparent and Tap Density 4. 3D printing of Metallic Structure 5. Cutting of lattice structure 6. Post process treatment	Specification 1. ASTM B215 2. ASTM E1019 and ICP-OES Method; AMS 5895 3. ASTM B213; ASTM B212 and ASTM B527 4. 1000 Watt Energy Source for LPBF 5. Wire-EDM, not affecting the lattice 6. Heat Treatment, Solution Treatment, Temperature 900-1100 Celsius for 60-120 Minutes, Oil Quenched further Precipitation hardening, 750 Celsius for time duration of 16 Hours followed by air cooling
3.	Material	A286 Powder
4.	Scope	Defence Project: ARMREB (Underbody structures)
5.	Warranty	1 Year
6.	Pre-bid requirement	NA

***Detailed documentation should be submitted along with Item 1 and Item 2 for all Standards as specified**

1. RAW MATERIAL - POWDER CHARACTERISATION

HRS-A286 powder as per ASTM B215.

2. Chemical Composition

Chemical analysis as per ASTM E1019 and the ICP-OES method. All the elements are within the specification limits as per AMS 5895. TABLE 1 shows the chemical composition maximum limits.

TABLE 1: Chemical composition (weight %) of HRS-A286

Element	Limits
Carbon	0.08 max
Manganese	0.35 max
Silicon	0.30 max
Phosphorus	0.020 max
Sulfur	0.010 max
Nickel	24.00-27.00
Chromium	13.50-16.00
Molybdenum	1.00-1.50
Vanadium	0.10-0.50
Aluminium	0.35 max
Titanium	1.90-2.35
Copper	0.50 max
Iron	Remainder

3. Flowability, Apparent & Tap Density

Flow rate, apparent density, and tap density tests need to be performed on HRS-A286 metal powder. Below TABLE 3 provides details on test methods to follow.

TABLE 3: Flowrate, apparent, and tap density test results

Test	Test Method
Flow rate	ASTM B213
Apparent density	ASTM B212
Tap density	ASTM B527

4. LASER POWDER BED FUSION PROCESS

HRS- A286 Lattice structure parts need to manufacture / 3D print through laser powder bed fusion (LPBF) technology.

5. WIRE EDM

Lattice structure parts will be separated from the build platform with a Wire Electrical Discharge Machining (EDM) process.

6. HEAT TREATMENT

Lattice structure parts will be subjected to Stress Relieving followed by Solution Treatment and Precipitation hardening.

7. Solution Treatment

Lattice structure parts will be Solutionized between 900-1100°C and held for a minimum of 60 minutes, followed by Oil Quenching.

8. Precipitation Hardening

Following the Solutionizing process, Lattice structure parts will be Precipitation hardened between 680-750 °C and held for a minimum of 16 hours, followed by air cooling.