

**GOVERNMENT OF INDIA
DEPARTMENT OF SPACE
VIKRAM SARABHAI SPACE CENTRE (VSSC)
THIRUVANANTHAPURAM**

**Tender for Supply of chemicals required for metallisation of PTH,
additives for acid copper and solder plating of multilyared PCBs**

Bids to be submitted online

Tender No.: VSSC/PURCHASE UNIT II (AVN)/VS202100313501 dated 07-10-2021

A. Tender Details

Tender No : **VSSC/PURCHASE UNIT II (AVN)/VS202100313501**

Tender Date : **07-10-2021**

Tender Classification: **GOODS**

Purchase Entity : **PURCHASE UNIT II (AVN)**

Centre : **VIKRAM SARABHAI SPACE CENTRE (VSSC)**

Procurement of Supply of chemicals required for metallisation of PTH, additives for acid copper and solder plating of multilyared PCBs

Procurement of Supply of chemicals required for metallisation of PTH, additives for acid copper and solder plating of multilyared PCBs

A.1 Tender Schedule

Bid Submission Start Date : **05-10-2021 14:30**

Bid Clarification Due Date : **29-10-2021 11:00**

Bid Submission Due Date : **08-11-2021 10:30**

Bid Opening Date : **08-11-2021 11:00**

Price Bid Opening Date : **18-11-2021 14:00**

B. Tender Attachments

Technical Write-up/Drawings

Document : [Annexure](#)

Instructions To Vendors

C. Bid Templates

C.1 Technical Bid - Supply of chemicals required for metallisation of PTH, additives for acid copper and solder plating of multilyared PCBs

1. Cleaner conditioner

Item specifications for Cleaner conditioner

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Operating temperature	50 ± 5 deg C	Yes / No / Explain		
2	This shall condition the PTHs after desmearing and reduce surface tension to enable further processing		-		
3	Party shall provide make, model No./ Part No. and country of origin of the quoted items		-		
4	Party shall provide technical datasheet , process guidelinesand MSDS along with the item		-		
5	Party shall provide COC/ test reports along with the item		-		
6	All items shall have at least one year shelf life		-		
7	Manufacturing date and expiry date shall be mentioned in each container		-		
8	Party shall provide method of analysis followed by manufacturer for each constituent along with the COC.		-		
9	All items shall be accepted based on manufacturer's COC. VSSC will also analyse and confirm the parameters mentioned in COC.		-		

10	Party shall supply items for preparation of 300 L bath initially for trials. The remaining quantity shall be supplied only after the confirmation from VSSC		-		
11	Party shall share the list of customers using this metallisation chemistry for PCB fabrication for aerospace application along with the quote. [Mandatory]		-		
12	Satisfactory evaluation of customer for aerospace applications will be one of the criteria for accepting the technical quote		-		

2. Predip

Item specifications for Predip

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Operating temperature	30 ± 5 deg C	Yes / No / Explain		
2	This shall be chloride based salt or solution is intended to prevent carry over from previous stages and prepare the PCB surface and PTH for activation with Palladium-tin bases chemistry		-		
3	Party shall provide make, model No./ Part No. and country of origin of the quoted items		-		
4	Party shall provide technical datasheet , process guidelines and MSDS along with the item		-		

5	Party shall provide COC/ test reports along with the item		-		
6	All items shall have at least one year shelf life		-		
7	Manufacturing date and expiry date shall be mentioned in each container		-		
8	Party shall provide method of analysis followed by manufacturer for each constituent along with the COC.		-		
9	All items shall be accepted based on manufacturer's COC. VSSC will also analyse and confirm the parameters mentioned in COC.		-		
10	Party shall supply items for preparation of 300 L bath initially for trials. The remaining quantity shall be supplied only after the confirmation from VSSC		-		
11	Party shall share the list of customers using this metallisation chemistry for PCB fabrication for aerospace application along with the quote. [Mandatory]		-		
12	Satisfactory evaluation of customer for aerospace applications will be one of the criteria for accepting the technical quote		-		

3. Activator

Item specifications for Activator

SI No	Specification	Value	Compliance	Offered Specification	Remark
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1	Operating temperature	50 deg C	Yes / No / Explain		
2	This shall be tin-palladium based colloidal solution for activation of PTHs of multilayer PCBs upto 14 layer and 4 mm thickness		-		
3	Operating palladium concentraion	120-150 ppm	Yes / No / Explain		
4	Operating tin concentraion	4.5 - 6 g/L	Yes / No / Explain		
5	Party shall provide make, model No./ Part No. and country of origin of the quoted items		-		
6	Party shall provide technical datasheet , process guidelinesand MSDS along with the item		-		
7	Party shall provide COC/ test reports along with the item		-		
8	All items shall have at least one year shelf life		-		
9	Manufacturing date and expiry date shall be mentioned in each container		-		
10	Party shall provide method of analysis followed by manufacturer for each constituent along with the COC.		-		
11	All items shall be accepted based on manufacturer's COC. VSSC will also analyse and confirm the parameters mentioned in COC.		-		
12	Party shall supply items for preparation of 300 L bath initially for trials. The remaining quantity shall be supplied only after the confirmation from VSSC		-		

13	Party shall share the list of customers using this metallisation chemistry for PCB fabrication for aerospace application along with the quote. [Mandatory]		-		
14	Satisfactory evaluation of customer for aerospace applications will be one of the criteria for accepting the technical quote		-		

4. Accelerator

Item specifications for Accelerator

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	This shall be fluoboric acid based		-		
2	It shall reduce excess tin content from the pth after activation and water rinses		-		
3	Operating temperature	30 ± 5 deg C	Yes / No / Explain		
4	Party shall provide make, model No./ Part No. and country of origin of the quoted items		-		
5	Party shall provide technical datasheet , process guidelines and MSDS along with the item		-		
6	Party shall provide COC/ test reports along with the item		-		
7	All items shall have at least one year shelf life		-		
8	Manufacturing date and expiry date shall be mentioned in each container		-		

9	Party shall provide method of analysis followed by manufacturer for each constituent along with the COC.		-		
10	All items shall be accepted based on manufacturer's COC. VSSC will also analyse and confirm the parameters mentioned in COC.		-		
11	Party shall supply items for preparation of 300 L bath initially for trials. The remaining quantity shall be supplied only after the confirmation from VSSC		-		
12	Party shall share the list of customers using this metallisation chemistry for PCB fabrication for aerospace application along with the quote. [Mandatory]		-		
13	Satisfactory evaluation of customer for aerospace applications will be one of the criteria for accepting the technical quote		-		

5. Organic additives for acid copper plating

Item specifications for Organic additives for acid copper plating

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	These items shall act as wetting agent, grain refiner, leveler and provide good throwing power and metal distribution		-		
2	Operating temperature	30±5 deg C	Yes / No / Explain		

3	It shall be used for both flash and pattern plating of PCBs		-		
4	It shall compatible to most of the commonly used plating resists of the industry.		-		
5	Anode / Cathode Area Ratio	1- 2 : 1	Yes / No / Explain		
6	Current Densities Cathodic	1.4- 3.5 A/dm ² (minimum)	Yes / No / Explain		
7	Current Densities Anodic	0.5- 2 A/dm ² (minimum)	Yes / No / Explain		
8	Rate of deposition	13.0 m copper per dm ² surface per Ah ((minimum)	Yes / No / Explain		
9	Party shall quote for complete components for copper plating from same manufacturer		-		
10	Party shall share the list of customers using this metallisation chemistry for PCB fabrication for aerospace application along with the quote		-		
11	Satisfactory evaluation of customer for aerospace applications will be one of the criteria for accepting the technical quote		-		

6. Organic additives for solder plating

Item specifications for Organic additives for solder plating

Sl No	Specification	Value	Compliance	Offered Specification	Remark
1	These items shall act as wetting agent, grain refiner, leveler and provide good throwing power and metal distribution		-		

2	Operating temperature	30±5 deg C (Mandatory)	Yes / No / Explain		
3	It shall be used for pattern plating of PCBs		-		
4	It shall compatible to most of the commonly used plating resists of the industry		-		
5	Current Densities Cathodic	0.5-1.5 A/dm ² (minimum)	Yes / No / Explain		
6	Current Densities Anodic	< 3 A/dm ² (minimum)	Yes / No / Explain		
7	The solder plating shall act as a etch resist for alkaline etching	Mandatory	Yes / No / Explain		
8	Party shall quote for complete components for solder plating and from same manufacturer		-		
9	Party shall share the list of customers using this metallisation chemistry for PCB fabrication for aerospace application along with the quote.		-		
10	Satisfactory evaluation of customer for aerospace applications will be one of the criteria for accepting the technical quote		-		

Common Specifications (Applicable for all items)

Sl No	Specification	Value	Compliance	Offered Specification	Remark
1	Sample for technical evaluation	Party shall provide minimum quantity (equivalent to prepare 100 L of each bath) of each item for technical evaluation at VSSC, if desired by VSSC	Yes / No / Explain		

Supporting Documents required from Vendor

- 1. Party shall provide make, model No./ Part No. and country of origin of the quoted items**
- 2. Party shall provide manufacturer's certificate of analysis (COA) along with the item**
- 3. Party shall provide technical datasheet, process guidelines and MSDS along with the quote**
- 4. Party shall provide method of analysis followed by manufacturer for each constituent along with the COA**

5 additional documents can be uploaded by the vendor

C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	All items shall have at least one year shelf life and items shipped shall be within 3 months from date of manufacturing.	Yes / No / Explain	
2	Party shall supply manufacturer's certificate of analysis (COA) along with the item. Party shall provide method of analysis followed by manufacturer for each constituent along with the COA	Yes / No / Explain	
3	All items shall be accepted based on manufacturer's certificate of analysis (COA). VSSC will also analyse and confirm the parameters mentioned in COA.	Yes / No / Explain	

C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
1	Cleaner conditioner	80.00 Litre		-		
2	Predip	320.00 KG		-		
3	Activator	20.00 Litre		-		
4	Accelerator	100.00 Litre		-		
5	Organic additives for acid copper plating	100.00 Litre		-		
6	Organic additives for solder plating	30.00 Litre		-		

Common charges (Applicable for all items)

Customs Duty	
IGST	