

बिड दस्तावेज़ / Bid Document

बिड विवरण / Bid Details	
बिड बंद होने की तारीख/समय / Bid End Date/Time	21-07-2026 16:00:00
बिड खुलने की तारीख/समय / Bid Opening Date/Time	21-07-2026 16:30:00
बिड पेशकश वैधता (बंद होने की तारीख से) / Bid Offer Validity (From End Date)	180 (Days)
मंत्रालय/राज्य का नाम / Ministry/State Name	Ministry Of Mines
विभाग का नाम / Department Name	Na
संगठन का नाम / Organisation Name	Jawaharlal Nehru Aluminium Research Development And Design Centre (jnarddc)
कार्यालय का नाम / Office Name	West
शिकायत निवारण के संपर्क विवरण / Contact details of Grievance redressal	HOD Email id :srinivasan@jnarddc.gov.in Buyer Email id: purchase@jnarddc.gov.in
कुल मात्रा / Total Quantity	2
वस्तु श्रेणी / Item Category	FABRICATION OF CHEMICAL AND FUME CLOSET
GeMARPTS में खोजी गई स्ट्रिंग्स / Searched Strings used in GeMARPTS	FABRICATION OF CHEMICAL AND FUME CLOSET
GeMARPTS में खोजा गया परिणाम / Searched Result generated in GeMARPTS	Category not available on GeM for the text string uploaded by the buyer
अधिसूचना के लिए चयनित प्रासंगिक श्रेणियाँ / Relevant Categories selected for notification	- Smoke Exhauster cum Blower OR Air Exhausters - Fume Exhaust System with Scrubber or Fume Hood with Scrubber - Fume Hood (FSSAI)
बिडर का न्यूनतम औसत वार्षिक टर्नओवर (3 वर्षों का) / Minimum Average Annual Turnover of the bidder (For 3 Years)	5 Lakh (s)
उन्हीं/समान सेवा के लिए अपेक्षित विगत अनुभव के वर्ष / Years of Past Experience Required for same/similar service	3 Year (s)
एमएसएमई के लिए अनुभव के वर्षों और टर्नओवर से छूट प्रदान की गई है / MSE Relaxation for Years of Experience and Turnover	No
स्टार्टअप के लिए अनुभव के वर्षों और टर्नओवर से छूट प्रदान की गई है / Startup Relaxation for Years of Experience and Turnover	No

बिड विवरण/Bid Details	
विक्रेता से मांगे गए दस्तावेज़/ Document required from seller	Experience Criteria,Past Performance,Bidder Turnover,Certificate (Requested in ATC),OEM Authorization Certificate,Additional Doc 1 (Requested in ATC),Compliance of BoQ specification and supporting document *In case any bidder is seeking exemption from Experience / Turnover Criteria, the supporting documents to prove his eligibility for exemption must be uploaded for evaluation by the buyer
क्या आप निविदाकारों द्वारा अपलोड किए गए दस्तावेजों को निविदा में भाग लेने वाले सभी निविदाकारों को दिखाना चाहते हैं? संदर्भ मेनू है/ Do you want to show documents uploaded by bidders to all bidders participated in bid?	Yes (Documents submitted as part of a clarification or representation during the tender/bid process will also be displayed to other participated bidders after log in)
बिड लगाने की समय सीमा स्वतः नहीं बढ़ाने के लिए आवश्यक बिड की संख्या। / Minimum number of bids required to disable automatic bid extension	3
दिनों की संख्या, जिनके लिए बिड लगाने की समय-सीमा बढ़ाई जाएगी। / Number of days for which Bid would be auto-extended	8
ऑटो एक्सटेंशन अधिकतम कितनी बार किया जाना है। / Number of Auto Extension count	2
विगत प्रदर्शन / Past Performance	80 %
बिड से रिवर्स नीलामी सक्रिय किया/ Bid to RA enabled	No
बिड का प्रकार/ Type of Bid	Two Packet Bid
तकनीकी मूल्यांकन के दौरान तकनीकी स्पष्टीकरण हेतु अनुमत समय / Time allowed for Technical Clarifications during technical evaluation	3 Days
निरीक्षण आवश्यक (सूचीबद्ध निरीक्षण प्राधिकरण /जेम के साथ पूर्व पंजीकृत एजेंसियों द्वारा)/ Inspection Required (By Empanelled Inspection Authority / Agencies pre-registered with GeM)	No
मूल्यांकन पद्धति/ Evaluation Method	Total value wise evaluation
वित्तीय दस्तावेज की आवश्यकता है / Financial Document Required	Yes
मध्यस्थता खंड/ Arbitration Clause	No
सुलह खंड/ Mediation Clause	No

ईएमडी विवरण/EMD Detail

एडवाइजरी बैंक/Advisory Bank	IDBI Bank
ईएमडी राशि/EMD Amount	55000

ईपीबीजी विवरण /ePBG Detail

एडवाइजरी बैंक/Advisory Bank	IDBI Bank
ईपीबीजी प्रतिशत (%) /ePBG Percentage(%)	5.00
ईपीबीजी की आवश्यक अवधि (माह) /Duration of ePBG required (Months).	14

(a). जेम की शर्तों के अनुसार ईएमडी छूट के इच्छुक बिडर को संबंधित कैटेगरी के लिए बिड के साथ वैध समर्थित दस्तावेज़ प्रस्तुत करने है। एमएसई कैटेगरी के अंतर्गत केवल वस्तुओं के लिए विनिर्माता तथा सेवाओं के लिए सेवा प्रदाता ईएमडी से छूट के पात्र हैं। व्यापारियों को इस नीति के दायरे से बाहर रखा गया है।/EMD EXEMPTION: The bidder seeking EMD exemption, must submit the valid supporting document for the relevant category as per GeM GTC with the bid. Under MSE category, only manufacturers for goods and Service Providers for Services are eligible for exemption from EMD. Traders are excluded from the purview of this Policy.

(b). ईएमडी और संपादन जमानत राशि, जहां यह लागू होती है, लाभार्थी के पक्ष में होनी चाहिए। / EMD & Performance security should be in favour of Beneficiary, wherever it is applicable.

(c). ईएमडी और संपादन जमानत राशि लाभार्थी के पक्ष में होनी चाहिए। / Earnest Money Deposit (EMD) shall also be accepted by the buyer in the form of a surety bond.

लाभार्थी /Beneficiary :

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Jawaharlal Nehru Aluminium Research Development and Design Centre (JNARDDC), Ministry of Mines
(Jnarddc, Nagpur)

बोली विभाजन लागू नहीं किया गया/ Bid splitting not applied.

एमआईआई के लिए आरक्षित / Reserved for Make In India products

एमआईआई के लिए आरक्षित / Reserved for Make In India products	Yes
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एमएसई खरीद वरीयता/MSE Purchase Preference

एमएसई खरीद वरीयता/MSE Purchase Preference	Yes
सूक्ष्म और लघु उद्यम मूल उपकरण निर्माताओं/सेवा प्रदाता को खरीद में प्राथमिकता, यदि उनका मूल्य $L1+X\%$ / Purchase Preference to MSE OEMs/ Service Provider available upto price within $L1+X\%$	15
सूक्ष्म और लघु उद्यम मूल उपकरण निर्माता/सेवा प्रदाता को खरीद में प्राथमिकता के लिए बिड की मात्रा का अधिकतम प्रतिशत / Percentage of Bid quantity/amount for MSE OEMs/ Service Provider Purchase preference	25

1. The minimum average annual financial turnover of the bidder during the last three years, ending on 31st March of the previous financial year, should be as indicated above in the bid document. Documentary evidence in the form of certified Audited Balance Sheets of relevant periods or a certificate from the Chartered Accountant / Cost Accountant indicating the turnover details for the relevant period shall be uploaded with the bid. In case the date of constitution / incorporation of the bidder is less than 3-year-old, the average turnover in respect of the

completed financial years after the date of constitution shall be taken into account for this criteria.

2. Experience Criteria: In respect of the filter applied for experience criteria, the Bidder or its OEM of the product offered in the bid {themselves or through reseller(s)} should have regularly, manufactured and supplied same or similar Category Products to any Central / State Govt Organization / PSU for number of Financial years as indicated above in the bid document before the bid opening date. Copies of relevant contracts and delivery acceptance certificates like CRAC to be submitted along with bid in support of having supplied some quantity during each of the Financial year. In case of bunch bids, the category of primary product having highest value should meet this criterion.

3. Bid reserved for Make In India products: : Procurement under this bid is reserved for purchase from Class 1 local supplier as defined in public procurement (Preference to Make in India), Order 2017 as amended from time to time and its subsequent Orders/Notifications issued by concerned Nodal Ministry for specific Goods/Products. However, eligible micro and small enterprises will be allowed to participate. The minimum local content to qualify as a class 1 local supplier is denoted in the bid document. All bidders must upload a certificate from the OEM regarding the percentage of the local content and the details of locations at which the local value addition is made along with their bid, failing which the bid is liable to be rejected. In case the bid value is more than Rs 10 Crore, the declaration relating to percentage of local content shall be certified by the statutory auditor or cost auditor, if the OEM is a company and by a practicing cost accountant or a chartered accountant for OEMs other than companies as per the Public Procurement (preference to Make-in -India) order 2017 dated 04.06.2020 . In case Buyer has selected Purchase preference to Micro and Small Enterprises clause in the bid, the same will get precedence over this clause.

4. **Purchase preference to Micro and Small Enterprises (MSEs):** Purchase preference will be given to MSEs having valid Udyam Certificate and whose credentials are validated online through Udyam Registration portal as defined in Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012 dated 23.03.2012 issued by Ministry of Micro, Small and Medium Enterprises and its subsequent Orders/Notifications issued by concerned Ministry. If the bidder wants to avail themselves of the Purchase preference, the bidder must be the manufacturer / OEM of the offered product on GeM. In respect of bid for Services, the bidder must be the Service provider of the offered Service. Traders are excluded from the purview of Public Procurement Policy for Micro and Small Enterprises and hence resellers offering products manufactured by some other OEM are not eligible for any purchase preference. Relevant documentary evidence in this regard shall be uploaded along with the bid in respect of the offered product or service, and Buyer will decide eligibility for purchase preference based on documentary evidence submitted in case of product bids, whereas in case of services the eligibility is automatically validated. If L-1 is not an MSE and MSE Seller (s) has / have quoted price within L-1+ 15% (Selected by Buyer) of margin of purchase preference /price band defined in relevant policy, such MSE Seller shall be given opportunity to match L-1 price and contract will be awarded for 25% (selected by Buyer) percentage of total quantity. The buyers are advised to refer the [OM No.1 4 2021 PPD dated 18.05.2023](#) for compliance of Concurrent application of Public Procurement Policy for Micro and Small Enterprises Order, 2012 and Public Procurement (Preference to Make in India) Order, 2017. Benefits of MSE will be allowed only if seller is validated on-line in GeM profile as well as validated and approved by Buyer after evaluation of documents submitted.

5. Past Performance: The Bidder or its OEM {themselves or through re-seller(s)} should have supplied same or similar Category Products for 80% of bid quantity, in at least one of the last three Financial years before the bid opening date to any Central / State Govt Organization / PSU. Copies of relevant contracts (proving supply of cumulative order quantity in any one financial year) to be submitted along with bid in support of quantity supplied in the relevant Financial year. In case of bunch bids, the category related to primary product having highest bid value should meet this criterion.

FABRICATION OF CHEMICAL AND FUME CLOSET (2 Unit)

(Minimum 50% Local Content required for qualifying as Class 1 Local Supplier)

तकनीकी विशिष्टियाँ /Technical Specifications

क्रेता विशिष्टि दस्तावेज़ /Buyer Specification Document	Download
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प्रेषित/रिपोर्टिंग अधिकारी तथा मात्रा/Consignees/Reporting Officer and Quantity

क्र.सं./S.N o.	प्रेषिती/रिपोर्टिंग अधिकारी /Consignee Reporting/Officer	पता/Address	मात्रा /Quantity	डिलीवरी के दिन/Delivery Days
1	Lalit Mohan	440023,Opp Wadi Police Station Amarawati Road	2	60

क्रेता द्वारा जोड़ी गई बिड की विशेष शर्तें/Buyer Added Bid Specific Terms and Conditions

1. Generic

OPTION CLAUSE: The Purchaser reserves the right to increase or decrease the quantity to be ordered up to 25 percent of bid quantity at the time of placement of contract. The purchaser also reserves the right to increase the ordered quantity up to 25% of the contracted quantity during the currency of the contract at the contracted rates. The delivery period of quantity shall commence from the last date of original delivery order and in cases where option clause is exercised during the extended delivery period the additional time shall commence from the last date of extended delivery period. The additional delivery time shall be $(\text{Increased quantity} \div \text{Original quantity}) \times \text{Original delivery period (in days)}$, subject to minimum of 30 days. If the original delivery period is less than 30 days, the additional time equals the original delivery period. The Purchaser may extend this calculated delivery duration up to the original delivery period while exercising the option clause. Bidders must comply with these terms.

2. Generic

Bidders are advised to check applicable GST on their own before quoting. Buyer will not take any responsibility in this regards. GST reimbursement will be as per actuals or as per applicable rates (whichever is lower), subject to the maximum of quoted GST %.

3. Generic

Actual delivery (and Installation & Commissioning (if covered in scope of supply)) is to be done at following address

Jawaharlal Nehru Aluminium Research Development and Design Centre
JNARDDC
Opposite Wadi Police Station
Amravati Road, Wadi
Nagpur - 440023

4. Generic

Data Sheet of the product(s) offered in the bid, are to be uploaded along with the bid documents. Buyers can match and verify the Data Sheet with the product specifications offered. In case of any unexplained mismatch of technical parameters, the bid is liable for rejection.

5. Generic

Experience Criteria: The Bidder or its OEM {themselves or through reseller(s)} should have regularly, manufactured and supplied same or similar Category Products to any Central / State Govt Organization / PSU for 3 years before the bid opening date. Copies of relevant contracts to be submitted along with bid in support of having supplied some quantity during each of the year. In case of bunch bids, the primary product having highest value should meet this criterion.

6. Generic

Installation, Commissioning, Testing, Configuration, Training (if any - which ever is applicable as per scope of supply) is to be carried out by OEM / OEM Certified resource or OEM authorised Reseller.

7. **Generic**

Manufacturer Authorization:Wherever Authorised Distributors/service providers are submitting the bid, Authorisation Form /Certificate with OEM/Original Service Provider details such as name, designation, address, e-mail Id and Phone No. required to be furnished along with the bid

8. **Generic**

Scope of supply includes Training: Number of employees to be trained

02

, Place for Training

JNARDDC,Nagpur

and Duration of training

02

days.

9. **Generic**

Supplier shall ensure that the Invoice is raised in the name of Consignee with GSTIN of Consignee only.

10. **Generic**

The successful bidder has to supply all essential accessories required for the successful installation and commissioning of the goods supplied. Besides standard accessories as per normal industry practice, following accessories must be part of supply and cost should be included in bid price:

All are Including

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11. **Generic**

While generating invoice in GeM portal, the seller must upload scanned copy of GST invoice and the screenshot of GST portal confirming payment of GST.

12. **Warranty**

Warranty period of the supplied products shall be 1 years from the date of final acceptance of goods or after completion of installation, commissioning & testing of goods (if included in the scope of supply), at consignee location. OEM Warranty certificates must be submitted by Successful Bidder at the time of delivery of Goods. The seller should guarantee the rectification of goods in case of any break down during the guarantee period. Seller should have well established Installation, Commissioning, Training, Troubleshooting and Maintenance Service group in INDIA for attending the after sales service. Details of Service Centres near consignee destinations are to be uploaded along with the bid.

13. **Forms of EMD and PBG**

Bidders can also submit the EMD with Account Payee Demand Draft in favour of

Jawaharlal Nehru Aluminium Research Development and Design Centre

payable at

Nagpur

.

Bidder has to upload scanned copy / proof of the DD along with bid and has to ensure delivery of hardcopy to the Buyer within 5 days of Bid End date / Bid Opening date.

14. **Forms of EMD and PBG**

Bidders can also submit the EMD with Payment online through RTGS / internet banking in Beneficiary name

Jawaharlal Nehru Aluminium Research Development and Design Centre

Account No.

041104000192392

IFSC Code
IBKL0000041
Bank Name
IDBI Bank
Branch address
Gupta House, Rabindranath Tagore Road, Civil Lines, Nagpur - 440001

.
Bidder to indicate bid number and name of bidding entity in the transaction details field at the time of on-line transfer. Bidder has to upload scanned copy / proof of the Online Payment Transfer along with bid.

15. **Forms of EMD and PBG**

Successful Bidder can submit the Performance Security in the form of Account Payee Demand Draft also (besides PBG which is allowed as per GeM GTC). DD should be made in favour of

Jawaharlal Nehru Aluminium Research Development and Design Centre
payable at
NAGPUR

. After award of contract, Successful Bidder can upload scanned copy of the DD in place of PBG and has to ensure delivery of hard copy to the original DD to the Buyer within 15 days of award of contract.

16. **Forms of EMD and PBG**

Successful Bidder can submit the Performance Security in the form of Payment online through RTGS / internet banking also (besides PBG which is allowed as per GeM GTC). On-line payment shall be in Beneficiary name

Jawaharlal Nehru Aluminium Research Development and Design Centre
Account No.
041104000192392
IFSC Code
IBKL0000041
Bank Name
IDBI Bank
Branch address

Gupta House, Rabindranath Tagore Road, Civil Lines, Nagpur - 440001

. Successful Bidder to indicate Contract number and name of Seller entity in the transaction details field at the time of on-line transfer. Bidder has to upload scanned copy / proof of the Online Payment Transfer in place of PBG within 15 days of award of contract.

17. **Buyer Added Bid Specific ATC**

Buyer Added text based ATC clauses

1. The catalogue of the offered product if available must be submitted with the bid documents for technical evaluation.

2. If there is any deviation in the offered item from JNARDDC technical specifications, it must be mentioned in the technical compliance sheet.

3. Bidders have to submit 03 satisfied customers (Govt/PVT/PSU/Educational Institution) details where the bidder has sold this product. For this copy of the purchase order, along with the installation report to be submitted. Name of buyers, mobile no and e-mail address also to be submitted. Without this bid will be simply rejected.

4. Bidders have to supply all standard essential accessories required for the successful installation and commissioning of the goods supplied.

The Additional Terms and Conditions (ATC) have been incorporated by the Buyer after approval of their Competent Authority. The Buyer, is solely responsible for the impact of these clauses on the bidding process, its outcome, and consequences thereof including any restriction arising in the bidding process due to these ATCs and including the modification of technical specifications and / or terms and conditions governing the bid. All representations / grievances pertaining to the ATC clauses shall be raised with the buyer organization directly and not with GeM. If any of the clause(s) is/are incorporated by the Buyer regarding the following, the bid & resultant contract shall be treated as null & void. Further, GeM reserves the right, at its sole discretion, to cancel the bid forthwith, without issuance of any prior notice or intimation :-

1. Publishing Custom / BOQ bids for items for which regular GeM categories are available (unless such Custom / BOQ item is bunched with the major regular product Category Item).
2. Mandating procurement of / from specific Brand / Make / Model / Manufacturer / Dealer except in case of Single Bid / Proprietary Article Certificate (PAC) Buying.
3. Inclusion of disqualification criteria related to suspension of seller / service provider, where such suspension period has already expired.
4. Mandating submission of documents in physical form as a pre-requisite to qualify bidders.
5. Publishing bids on GeM for procurement of works.
6. Procurement of Goods by creating a Service bid on GeM & vice-versa.
7. Seeking sample with bid or approval of samples during bid evaluation process. However, trial / sample, as the case may be, shall be permitted in cases where trial / sample are allowed as per approved and published procurement policy of the Buyers' controlling Ministry / Department / State / Public Sector Enterprises Headquarters. If there is any violation of trial / sample clause with regard to approved policy of the Buyers' Ministry / Department / State / Public Sector Enterprises Headquarters, then this is to be determined and redressed by the concerned Buyer Organisation only.
8. Seeking experience from specific organization / department / institute only or from foreign / export experience.
9. Creating bid for items from incorrect categories.
10. Reference of conditions published on any external site or reference to external documents/clauses.
11. Asking for any Tender fee / Bid Participation fee, as the case may be.
12. Buyer added ATC Clauses which are in contravention of clauses defined in bid detail section, including specifications, EMD Detail, ePBG Detail and MII and MSE Purchase Preference sections of the bid, unless otherwise allowed by the applicable GeM GTC.
13. Any ATC clause in contravention with GeM GTC Clause 4 (xiii) (h) will be invalid. In case of multiple L1 bidders against a service bid, the buyer shall place the Contract by selection of a bidder amongst the L-1 bidders through a Random Algorithm executed by GeM system.
14. In a category based bid, adding additional items, through buyer added, additional scope of work/ additional terms and conditions/or any other document. If buyer needs more items along with the main item, the same must be added through bunching category based items or by bunching custom catalogues or bunching a BoQ with the main category based item, the same must not be done through ATC or Scope of Work.

Further, if any seller has any objection/grievance against these additional clauses or otherwise on any aspect of this bid, they can raise their representation against the same by using the Representation window provided in the bid details field in Seller dashboard after logging in as a seller. Buyer is duty bound to reply to all such representations and would not be allowed to open bids if he fails to reply to such representations.

All GeM Sellers/Service Providers shall ensure full compliance with all applicable labour laws, including the provisions, rules, schemes and guidelines under the four Labour Codes i.e. the Code on Wages, 2019; the Industrial Relations Code, 2020; the Occupational Safety, Health and Working Conditions Code, 2020; and the Code on Social Security, 2020 as and when notified and brought into force by the Government of India.

For all provisions of the Labour Codes that are pending operationalisation through rules, schemes or notifications, the corresponding provisions of the pre-existing labour enactments (such as The Minimum Wages Act, 1948, The Payment of Wages Act, 1936, The Payment of Bonus Act, 1965, The Equal Remuneration Act, 1976, The Payment of Gratuity Act, 1972, etc. and relevant State Rules) shall continue to remain applicable.

The Seller/ Service Providers shall, therefore, be responsible for ensuring compliance under:

- All notified and enforceable provisions of the new Labour Codes as mentioned hereinabove; and
- All operative provisions of the erstwhile Labour Laws until their complete substitution.

All obligations relating to wages, social security, safety, working conditions, industrial relations etc. and any other statutory requirements shall be strictly met by the Seller/ Service Provider. Any non-compliance shall constitute a breach of the contract and shall entitle the Buyer to take appropriate action in accordance with the contract and applicable law.

This Bid is governed by the General Terms and Conditions, conditions stipulated in Bid and Service Level Agreement specific to the Service, as the case may be, as provided in the Marketplace.

However, in case of Service, if any condition specified in General Terms and Conditions is contradicted by the conditions stipulated in Service Level Agreement specific to said Service, then it will over-ride the conditions in the General Terms and Conditions.

[यह बिड सामान्य शर्तों के अंतर्गत भी शासित है /This Bid is also governed by the General Terms and Conditions](#)

जेम की सामान्य शर्तों के खंड 26 के संदर्भ में भारत के साथ भूमि सीमा साझा करने वाले देश के बिडर से खरीद पर प्रतिबंध के संबंध में भारत के साथ भूमि सीमा साझा करने वाले देश का कोई भी बिडर इस निविदा में बिड देने के लिए तभी पात्र होगा जब वह बिड देने वाला सक्षम प्राधिकारी के पास पंजीकृत हो। बिड में भाग लेते समय बिडर को इसका अनुपालन करना होगा और कोई भी गलत घोषणा किए जाने व इसका अनुपालन न करने पर अनुबंध को तत्काल समाप्त करने और कानून के अनुसार आगे की कानूनी कार्रवाई का आधार होगा।/In terms of GeM GTC clause 26 regarding Restrictions on procurement from a bidder of a country which shares a land border with India, any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. While participating in bid, Bidder has to undertake compliance of this and any false declaration and non-compliance of this would be a ground for immediate termination of the contract and further legal action in accordance with the laws.

---धन्यवाद/Thank You---

Technical Specification for Fabrication of Chemical and Fume Closet

A chemical and fume closet is essential in laboratories to ensure safety and compliance with regulatory standards. It protects personnel from exposure to hazardous fumes and vapours by providing effective ventilation and safely exhausting contaminated air. Additionally, the system limits the accumulation and spread of chemical vapours, thereby reducing the risk of fire and explosions when handling flammable substances. Overall, it plays a critical role in maintaining a safe and controlled laboratory environment.

Required technical specification for fume hood are as follows;

- 1) Internal dimension of the fume hood should be 1500 mm X 800 mm X 1500 mm. (size 5 ft)
- 2) Design Basis: Compliant with American design standard ASHRAE 110-1995, with all tests, including the Tracer Gas Containment Test, successfully passed. Also compliant with European design standard EN 14175-2003, with the Inner Plane Containment Test successfully passed.
- 3) Design Structure: Aerodynamic, Floor mounted
- 4) Construction (Exterior): Fabricated from heavy-duty GI (Galvanized Iron) sheets conforming to IS 277, with thicknesses of 1.2 mm and 1.0 mm. Finished with a durable powder coating of 70–80 microns in an attractive grey and blue color scheme, ensuring a rigid and robust structure.
- 5) Front Top Panel: Easily openable hinged top panel provided for convenient access to the flow control valve and electrical lighting fixtures, facilitating maintenance.
- 6) Construction (Interior): Designed for safe handling of acids and chemicals, featuring smooth-finish, easily cleanable panels. Interior surfaces consist of 1.2 mm thick stainless steel (SS 304) lining integrated with the work walls.
- 7) Airfoil: Aerodynamic airfoil fabricated from 1.2 mm thick SS 304, powder-coated, and mounted on the worktop.
- 8) Worktop: Acid-resistant, splash- and spillage-proof dished ceramic worktop with a thickness of 18–20 mm.
- 9) Wet and Dry Service Fittings: Remotely operated, colour-coded needle valves provided for precise control of utilities, compliant with DIN 12920. A total of 3 service valves are supplied with PU tubing (6 mm internal diameter), capable of withstanding pressure up to 15 kgf, along with brass fittings for gas connections. The system includes dedicated outlets for LPG (1 No.), Nitrogen (N₂) (1 No.), and Vacuum (1 No.), located

in the left-hand side corner post of the fume closet. Utility line taps are staggered within the fume closet to prevent intermingling of flexible tubes. The taps are tapered to accommodate flexible tubing ranging from ¼” to ½” in diameter, ensuring secure and versatile connections.

- 10) Chemical Storage Cabinet: Cabinet walls provided with internal lining of specially selected chemical-resistant material.
- 11) Exhaust Ports: Two exhaust ports provided, connected to the fume closet exhaust system.
- 12) Noise Level: Less than 70 dB measured at a distance of 1 meter from the fume closet.
- 13) Flow Control Valve: Provided for regulation of airflow.
- 14) Blower: Air suction capacity of 1800–2000 CFM, conforming to international face velocity norms of 0.5 m/s and designed to maintain a safe fume closet airflow pattern.
- 15) Motor: Crompton / LHP or equivalent make, 1440 RPM, 1.5 kW (2 HP), 3-phase TEFC motor with IP55 protection and Class F insulation. Direct drive type with continuous duty rating, compliant with IS 325.
- 16) Ducting: Chemical resistant PP 2.5 kg rigid and flexible ductwork from fume closet to exhaust stack point with weatherproof canopy. Total ducting with horizontal, vertical members, flanges, bends, bracketed supports and gooseneck exhaust stack. Duct diameter. 200 mm.
- 17) Safety: Door closed automatically in case of fire when temp. reaches above 70 °C