

NATIONAL INSTITUTE OF SOLAR ENERGY

(An Autonomous Institute, Ministry of New & Renewable Energy, Government of India)



TENDER document for

Design, Development, Supply, installation, and commissioning of Ignitability test facilities for Solar PV Module as per IEC 61730-2:2016 (MST 24)/ ISO 11925-2 at National Institute of Solar Energy, Gurugram, Haryana -122003, India.

Tender No. LAB-1103/5/2020-LAB/ Ignitability Test Setup

Last Date of Submission: 01/09/2020

Dy. Director General (Admin)
National Institute of Solar Energy
Gurugram-Faridabad Road
Gwal Pahari, Gurugram – 122 003, Haryana, India

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National Institute of Solar Energy

Design, Development, Supply, installation, and commissioning of Ignitability test facilities for Solar PV Module as per IEC 61730-2:2016 (MST 24)/ ISO 11925-2 at National Institute of Solar Energy, Gurugram, Haryana -122003, India.

The important dates and information for quotation are given below in the table:

S.No	Description	Details
1.	Request for Tender (RFT) No.	LAB-1103/5/2020-LAB/ Ignitability Test Setup
2.	Tender Type (open/Limited/Auction/EOI/Single)	Open Tender (E-tender)
3.	Tender Category (Services/Goods/works/Supply)	Goods
4.	Scope of Work	Design, Development, Supply, installation, and commissioning of Ignitability tests facilities for Solar PV Module as per IEC 61730-2:2016 (MST 24)/ ISO 11925-2 at National Institute of Solar Energy, Gurugram, Haryana -122003,
5.	Earnest Money Deposit (EMD)	<p>₹ 50,000/- (Rupees Fifty Thousand Only) (refundable to the unsuccessful bidders without any interest) in digital mode to the account of NISE, Gurugram (for bank details, refer Annexure 5).</p> <p>**Relevant certificate shall be submitted with the bids in case bidder(s) is/are exempted from furnishing the EMD**</p> <p>Note 1: Based on Public Procurement Policy for Micro and Small Enterprises (MSEs) Order - 2012, and MSME Policy Circular No. 1(2)(1)/2016-MA dated 10th March 2016, MSME bidders are eligible for suitable relaxation on EMD upon production of valid MSME certificate.</p> <p>Note 2: The EMDs of unsuccessful bidders shall be returned on or before 30 days after the award of contract to the successful bidder.</p>
6.	Place of submission of quotation	<p>The scopes of work to be tendered are available in the complete bid documents, which can be viewed /downloaded from e-tender portal of http://www.tenderwizard.com/NISE. The bid should be submitted along with complied specifications concurrently duly digitally signed on the website http://www.tenderwizard.com/NISE. No claim shall be entertained on account of disruptions of internet service being used by bidders. Bidders are advised to upload their bids well in advance to avoid last-minute technical snags.</p> <p>2. All Corrigendum/Amendment/Corrections, if any, will be published on the website http://www.tenderwizard.com/NISE.</p>

		<p>3. All the applicants must have Class-III Digital Signature Certificate (in the name of the person who will sign the bid document) from any of the licensed certifying agency.</p> <p>4. It is mandatory for the applicants to get registered their firm/joint venture with the e-tendering portal of http://www.tenderwizard.com/NISE to have user ID & Password from M/s ITI Ltd. Phone: +91-124-285 3001</p>
7.	Period of validity of quotation	Bids shall be valid for at least 120 days from the last date of bid submission.
8.	Pre-bid meeting	<p>The pre-bid meeting will be held on 10th August 2020 online. Vendors interested in attending the pre-bid meeting shall send their detail contact id and comments on the technical specifications, if any, to birinchibora09@gmail.com, birinchi.bora@nise.res.in on or before 9th August 2020. Further details of the meeting will be communicated thereafter through e-mail.</p> <p>Based on the discussion during the pre-bid meeting, NISE reserves the right to issue amendment for this tender.</p>
9.	Last date & time of submission of Tender	12:00 Hrs. on 01/09/2020 (Tuesday)
10.	Technical Bid Opening date & time	15:00 Hrs. on 01/09/2020 (Tuesday)
	Financial Bid Opening date	The time & date for opening of the financial bid will be intimated to the technically qualified bidders
11.	Time of Supply & Completion	Within 5 months upon the issue of Purchase Order
12.	Note	<p>(i) The bidder should be well-versed in designing and supplying such a system.</p> <p>(ii) Bids submitted without EMD or MSME Exemption certificate shall not be considered for Bid Evaluation.</p> <p>(iii) The vendor may visit the PVTF lab, NISE for a better understanding of the requirement</p>
13.	The bidder must fill Annexure-1, 2, 3 and 7.	<p>Annexure 1: Performance Statement Form</p> <p>Annexure 2: Price Bid format</p> <p>Annexure 3: Format for submission of Bidder/ Vendor Data</p> <p>Annexure 7: Certificate as per Rule 144 (xi) of the General Financial Rules (GFRs), 2017</p>

1. INTRODUCTION

The National Institute of Solar Energy (NISE), an autonomous institution of the Ministry of New and Renewable (MNRE), is the apex National R&D institution in the field of Solar Energy. The Government of India has converted the 25-year-old Solar Energy Centre (SEC) under MNRE to an autonomous institution on 23rd September 2013 to assist the Ministry in implementing the National Solar Mission and to pursue research, technology development, and other related works in the field of solar energy. The institute is involved in demonstration, standardization, interactive analysis, training, and testing of solar technologies and systems. It is an interface between the Government and academic institutions, industry & user organizations for the development, promotion, and widespread utilization of solar energy in the country.

2. INVITATION FOR TENDER

On behalf of the Director-General, National Institute of Solar Energy, Gurugram, technical and financial bids are invited from the technically capable vendors for “**Design, Development, Supply, installation, and commissioning of Ignitability test facilities for Solar PV Module as per IEC 61730-2:2016 (MST 24)/ ISO 11925-2,**” at the National Institute of Solar Energy, Gwal Pahari, Gurugram, Haryana, India.

3. INSTRUCTIONS TO BIDDERS

3.1 Eligibility of Bidders

A. Bidders must have sales tax and income tax registration. Copy of PAN Card and GST/ Sales Tax Registration should accompany the quotation. Bidder must have required facilities/expertise to manufacture the necessary items for which the bid is submitted.

B. Restrictions under rule 144 (xi) on General Financial Rules (GFRs), 2017 order F. No. 6/18/2019-PPD dated 23rd July, 2020

B1. Any 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.

B.2. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.

B.3. "Bidder from a country which shares a land border with India" for the purpose of this Order means: -

- a. An entity incorporated, established or registered in such a country; or
- b. A subsidiary of an entity incorporated, established or registered in such a country; or
- c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
- d. An entity whose beneficial owner is situated in such a country; or

- e. An Indian (or other) agent of such an entity; or
- f. A natural person who is a citizen of such a country; or
- g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above

B.4. The beneficial owner for the purpose of (iii) above will be as under:

1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

Explanation—

- a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent. of shares or capital or profits of the company;
 - b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
 3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
 4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
 5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

B.5. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.

B.6. The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

Those who satisfy the above criteria shall apply according to the applicable format of self-declaration certificate given in Annexure 7.

3.2 Performance and Warranty

- a. The bidder will assume total responsibility for fault-free operation and performance as needed for ignitability test. The technical details are mentioned on the specification sheet.
- b. Bidder will assume full responsibility for its maintenance during the warranty period and provide necessary services as and when required, free of charge.
- c. The warranty must be valid for two years from the date of work completion.

3.3 Disqualification

- a. The Bidders/Vendors will be subject to disqualification if they do not meet the criteria given above or if they have made an untrue or false representation in the forms, statements, and attachments submitted in proof of the qualification requirements or have a record of poor performance of not properly completing the contract, causing inordinate delays in completion or having financial failures etc.
- b. Vendors should submit the client lists for similar supplied systems, accordingly, NISE may take feedback from the client. In case of unsatisfactory feedback, NISE reserves the right to disqualify the vendor.
- c. The bidder will be subject to disqualification if they do not meet the criteria described in section 3.1.B.

Note: Mere submission of bid does not suffice for the order to be placed on the bidder; all bids will be subjected to a strict scrutiny process for evaluation by the technical evaluation committee.

4. Technical Specifications of Design, Development, Supply, installation, and commissioning of Ignitability test facilities for Solar PV Module.

The purpose of this test is to determine the ignitability of PV modules by direct small flame impingement under zero impressed irradiance by external heat sources using vertically oriented test specimens. This test assesses ignitability, not flammability of outer surfaces of a module. The test method is based on ISO 11925-2. The test set up should comply with MST 24 of IS/IEC 61730: PART 2:2019/ IEC 61730-2: 2016.

Apparatus should comply with clause 4 of ISO 11925-2: 2010 with some modifications, for further clarification IEC 61730-2: 2016 and ISO 11925-2 should be referred. For diagrams and drawings, ISO 11925-2 should be referred, and ready reference is also provided with Annexure 6. The detailed specifications are as follows:

S. No	Parameters	Description	Vendors Response
1.	Burner / Igniting Source	A gas burner which can be used vertically or tilted at 45° to the vertical axis.	
		In addition, the burner shall be rotatable around its vertical axis so that the test flame can be applied to concealed specimen components (e.g. Frame parts).	
		The burner shall be mounted so that it can be moved towards and away from the specimen jerk free. During the flame application, the burner shall remain in a fixed position.	
		Burner spacer for edge flame impingement: removable, 16 mm long, which can be mounted at the	

		burner orifice to check the distance from the pre-set flame contact point on the specimen.	
		Burner spacer for surface flame impingement: removable, cone shaped, which can be mounted at the burner orifice to check the fixed distance of 5 mm between the burner edge and specimen surface.	
		The burner shall be fitted with a fine adjustment valve to ensure accurate control of the flame height. There should be provision for automatic ignition.	
Constructional Details of combustion chamber			
2.	Max. Dimensions of DUT (Specimen):	Maximum possible size of the module: 2.5 m x 1.4 m x 0.05 m. The provision should be made for the adjustment of any size of modules.	
3.	Test cabinet	Dimension (H × W × L): Minimum 3.2 m × 1 m × 2 m.	
		The combustion chamber shall be typically made of an enclosure, constructed from stainless steel sheets/any other better material, with heat resistant glazed doors for observation in the front and right side.	
		A suitable exhaust system should ensure the air speed 5 cm from the surface of the specimen is not more than 0.2 m/s in the vertical direction and 0.1 m/s in the horizontal direction. The cabinet should be equipped with a controlled airflow mechanism.	
		Temperature Range: 15 to 60 °C (Operation: 23 °C ± 5 °C) Relative Humidity Range: 20 to 90 %RH (Operation: 50 ± 20 %RH) Cabinet should be capable of regulating the temperature and relative humidity. The temperature and relative humidity should be uniform throughout the cabinet. Minimum 9 no.s of temperature sensors and 3 no.s of humidity sensors should be incorporated. The test cabinet should be capable of maintaining the desired temperature, relative humidity, and air circulation continuously for at least 3 days.	
4.	Anemometer	Hot wire/ or better anemometer shall be supplied, which enables to measure the air flow velocity in the upper outlet of the combustion chamber along its central axis.	
		There should be capability of measuring air flow velocity in vertical & horizontal direction at 50 mm from the surface of the module.	
		Measurement range: 0 -15 m/s. Resolution: 0.01 m·s ⁻¹ . Accuracy: ± 0.005 m·s ⁻¹ .	

5.	Ignition Source positioning and arrangement.	The burner shall be placed vertically or be tilted at 45° with respect to the vertical axis.	
		It is mounted on a linear rail and carriage so that it moves smoothly backward and forward in a horizontal plane (X-Y movement) of the combustion chamber.	
		There should be provision to control this movement from the outside with the distance of travel being pre-set by simply adjusting the position of the external collar.	
6.	Specimen Holder:	The specimen holder shall be constructed such that it allows the specimen to be safely fixed in a vertical position. The bottom side of the specimen shall have an exposed width of at least 30 cm for flame impingement. The specimen shall be placed so that the flame impingement can be determined reliably.	
		The specimen holder shall be able to accommodate specimens of various sizes in both lengthwise and crosswise orientation.	
		Specimen holder shall be constructed in such a way that it allows the specimen to be safely fixed in a vertical position, and consists of a double U-shaped frame constructed with stainless steel, of sufficient wide to accommodate DUT of 1 cm - 5 cm thick and should be adjustable.	
7.	Specimen Holder positioning and arrangement	The specimen holder shall be attached in such a way that it hangs vertically and exposes its open edge containing the specimen to the burner flame.	
		It should enable the specimen to be rotated through 90° when using the smaller specimen holder.	
8.	Surface Exposure:	The flame shall be able to apply at least 40 mm above the bottom edge of the specimen.	
9.	Edge Exposure:	The flame shall be applied to the bottom edge of the specimen. The flame application point is located 1.5 mm behind the leading edge. Test set up should be compatible to test frame adhesives of test sample.	
		For multi-layer products with unprotected edges, additional tests shall be performed. In this case the burner shall be rotated 90° around its vertical axis to apply the flame to the combustible layers at the side edges of the specimen.	
10.	Support	The rear side of the chamber shall have an arrangement of a linear rail (horizontal support rod) and carriage mounted in the horizontal plane.	
		A second linear rail and carriage shall also be provided with mounting on the horizontal carriage in the vertical plane and is fitted with a connection pin for the specimen holders.	

11.	Fuel supply	A supply of commercial propane 95% minimum purity shall be in the scope of the vendor. The fuel supply should be suitable to obtain flame stability with the burner tilted at 45° (minimum 3 cylinders). Cylinder holder racks should be provided for safe keeping and transportation of the gas cylinders.	
		The gas pressure shall be between 10 kPa and 50 kPa (0.1 bar and 0.5 bar, 1.5 psi and 7.3 psi). A suitable regulator must be fitted on the gas supply.	
12.	Gas hose	A suitable Gas hose shall be provided along with Flashback arrestor	
13.	Fuel Regulator	The burner shall be fitted with a fine adjustment needle valve to enable accurate control of the flame height and should also supplied with a flashback arrestor and tubing for connection to the laboratory propane supply.	
14.	Flame Height Measurement Device	There should be provision to measure the flame height with the help of the flame height measuring device, and should be located against a fixed point of the burner indicating the flame height.	
15.	Pressure gauge	There should be provision for indicating the pressure at fuel inlet upto 100 kPa.	
16.	Timing Device	The timing of all events shall be recorded using a stopwatch with 1/100 s divisions and should be displayed at the control panel.	
17.	Recording device	A camera with night vision capability is required, should have recording and display feature. Camera should be controlled by PC operated software.	
18.	Drip Tray	Aluminium foil is required for making the drip tray pan. A metal tray, moulded from Aluminum foil, with the DUT dimensions is positioned beneath the specimen holder.	
Control and operational elements			
19.	Display	LCD touchscreen preferably showing set and actual values of temperature, relative humidity, air flow speed, timer, gas flow pressure or any other parameters involved during testing.	
20.	Temperature, humidity and gas Flow rate Controller	PID controller or Microprocessor or PLC based or any latest suitable controller has to be provided.	
21.	PC Communication protocol, connectivity and software	RS-232/GPIB (cable need to be provided) and PC software enabling to control, monitor and Trend graph, datalog the results into the PC need to be provided.	
22.	Power supply and stabilizer	3-ph AC: 400V±10%, 50Hz±5% (preferable for higher wattage). Or 1-ph AC: 230V±10%, 50 Hz±5% (power rating must be specified).	

		A suitable Stabilizer of the required capacity must be supplied.	
Safety and Protection Features			
23.	Over temperature limiters	Adjustable over temperature cut-out Shall be provided.	
24.	AC Shock proof body	Shall be provided.	
25.	Low fuel & Over level cut-out	An acoustic visible and audible alarm shall be provided.	
26.	Leakage current Protection	Protection shall be provided against leakage current > 5mA.	
27.	Other features	<ul style="list-style-type: none"> a) Combustion chamber ignitor safety valve. b) Fire Extinguisher (specialized for propane). c) Smoke detecting Alarm (Visual & Audio). d) Propane Gas leakage detection. e) Emergency Stop. f) “Supply and installation of Air purging system: after completion of the test, the Test Space shall be purged with fresh air, suitable mechanism shall be incorporated to remove the odor of the Test condensate”. 	
Additional Supplies			
28.	Personnel protective Equipment	Fire Resistant Apron, Helmet and shoes along with the portable Breathable oxygen mask shall be supplied.	
Documentation			
29.	Declaration of conformity for the components used in the Ignitability Test Apparatus along with accessories	Each component/product used in the Ignitability Test Apparatus should have valid qualification certificate traceable to international standards clearly stating the conformance to manual and need to be signed, sealed by at least QA engineer manufacturer/test Engineer.	
30.	Certificate of Examination by manufacturer/company	<p>The inspection report shall be included the following things</p> <ul style="list-style-type: none"> i. Standards followed to design and built Ignitability Test Apparatus ii. Gas Leakage proof. iii. Fire Rating. iv. Min/max allowed temperature. v. Controller. vi. Volume. vii. Fire resistance of MAT. viii. Flame uniformity Distribution. ix. Safety & Protection class. 	
31.	Manual & Drawings	The Manual/drawings shall include the work instructions, controller configuration,	

		troubleshooting guidelines, Handling and Storage, Disposal instructions of Propane, mechanical layout and electrical connection diagrams, list of parts used, Operation and maintenance plan and safety features shall be provided.	
32.	Operating Environmental conditions	Temperature (10 to 50) $\pm 5^{\circ}\text{C}$ Humidity (10 to 90%) $\pm 5\%$ RH (non-condensing)	
33.	Calibration and Traceable certificate	The calibration certificate of all the sensors, measuring instruments and the complete set up should be provided from NABL accredited Testing Laboratory. All testing and measurements should be according to IEC/ ISO 17025. Validation of the calibration certificate should be 1 year from the date of supply.	
34.	Warranty	At least 02 years along with the critical spare parts should be provided. During this period, they should provide all services and spare parts required for repair and maintenance within 24 hrs of communication of such services.	
35.	Site Visits	The prospective bidders may survey the site and ask any clarification for sufficient understanding.	
36.	Any other additional items	Any other items which are needed to complete the scope of work should also be mentioned in the bid document.	

Other requirements

37.	<ul style="list-style-type: none"> • The vendor shall provide the modeling of the laboratory as visualized before/after installation and if any other building related modifications are required should mention during bidding. • Instruction manuals, guidelines and other plant-level regulatory documents related to fire safety. • Fire Safety Facilities under Construction - it establishes classification of constructions, materials, fire barriers, staircases, buildings and structures, as well as general requirements to personnel safety during fires and fire safety of constructive and space planning decisions; Vendor shall comply it as per Indian / international standard. • Fire safety regulations in organization: Vendor shall comply the fire safety regulation as per Indian rule & regulation. It shall establish fire safety requirements that are binding for all companies/organization. • Certifications & Release of licenses: Vendor shall take the clearance certificate from the Indian authority for this facility. NISE will assist for it. 	
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	<ul style="list-style-type: none"> • Daily fire safety monitoring and observance of the fire safety facilities: A check list should also be provided. • Basic requirements of fire protection of the construction: <ul style="list-style-type: none"> ➤ Reduce the development of the fire: Using non-combustible walls, floors and ceilings ➤ Avoid the spread of the fire: Using highly effective fire walls both internally and externally ➤ Ensure the speedy evacuation of occupants in relative safety.: Escape routes consisting of highly fire-resistant elements that can be used for long periods ➤ Facilitate the intervention of the fire service: Highly fire-resistant load-bearing structures that allow the fire to be tackled effectively within the building • The fire performance requirements of the building codes and IS standards. 	
NISE Scope of works		
38.	The infrastructure needed to house the complete equipment.	The vendor shall provide detailed drawings, technical details of building, and building material needed with a bill of material of the constructions which are required to house the ignitability test facilities that are not in their scope of works of vendors/bidders. The institute shall construct buildings/facilities as per available guidelines.
39.	AMC (Annual Maintenance Certificate)	Quotation for AMC for 3 years from the completion date of two year warranty. This may include: <ol style="list-style-type: none"> 1. Quarterly per year visits for maintenance activities 2. Three times per year break down/ Unscheduled on call emergency visits. 3. Yearly Calibration of the system from NABL accreditation laboratories only. The bid evaluation will include cost of AMC also.
40.	Inspection	The supplier should satisfy himself/herself that “Ignitability Test setup” with complete accessories at NISE is as per the above specifications and features along with options, accessories, conform to the specifications by carrying out complete pre-inspection of each component before dispatch

5. General Conditions of Contract

Inspections and Tests: All acceptance tests as per relevant specification shall be carried out by the bidder/ vendor at its works prior to dispatch of the set up to the NISE premises. During such tests, NISE reserves the right to depute its representatives to vendor’s works.

Delivery: The system should be delivered to PVTf lab of NISE

Warranty: The bidder/ vendor shall provide warranty for a period of 24 months (two year) after completion of commissioning.

Payment: A maximum of 30% payment shall be made as an advance against a bank guarantee and the remaining 70% upon delivery, Installation & Commissioning and acceptance of the system to the entire satisfaction of NISE. Alternately 100% payment shall be made upon delivery, Installation & Commissioning and acceptance of the system to the entire satisfaction of NISE. AMC charges will be released after end of each year.

Performance Guarantee: The successful bidder should deposit 10% of contract value in the form of Demand Draft / FDR / Bank Guarantee from a commercial bank in India should be provided as performance Guarantee valid for a period of 60 days beyond the warranty period.

Taxes and Duties: The bidder/ vendor shall be entirely responsible for all taxes, duties, license fees, road permits, etc., incurred until delivery of the contracted Goods to the Purchaser. In case these are claimed, these have to be mentioned separately in the quotation.

Penalty Clause: For any delay beyond the period specified in the Contract, NISE shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, a penalty amounting to half percent of the contract price per week of delay subject to a ceiling of 5% of the contract price.

Applicable Law: The Contract shall be interpreted in accordance to the laws of the Union of India and all disputes shall be subject to place of jurisdiction in Gurugram, Haryana.

Rejection Terms: Incomplete/ conditional/ fax/ late quotation will be rejected summarily. Director General, National Institute of Solar Energy reserves the right to reject any or all the quotations at his discretion without assigning any reason thereafter.

The following forms/documents should provide by the bidder/vendor.

- (i) Performance Statement Form (As per the attached Format No.04)
- (ii) Certificate of experience of minimum two similar jobs / Client List.
- (iii) Price Bid (As per the attached Format No.05)
- (iv) Client feedback.
- (v) Certificate as per rule 144 (xi) on General Financial Rules (GFRs), 2017 of order F. No. 6/18/2019-PPD dated 23rd July, 2020

Site Survey: Interested Bidders/ Vendors are requested to inspect the work site at the address mentioned above and get them acquainted with the nature of work and local conditions that may have a bearing on the rates.

NOTES

- a) NISE, Gurugram will evaluate all the options and activities mentioned above and reserve the right to award the contract for the most technically feasible and cost effective option and activities.
- b) NISE, Gurugram reserves the right to accept or reject any or all applications without assigning any reasons.
- c) Offers with incomplete information are liable to be rejected, which may be noted.

The Deputy Director General (Admin)
National Institute of Solar Energy
Gurugram - Faridabad Road,
Gwal Pahari, Gurugram – 122 003
Haryana, INDIA

Annexure- 1

Performance Statement Form

(For the last one year)

Name of Bidder/Vendor: _____

Order No. & Date	Client	Contact Person/ Phone	Description & quantities of ordered items	Value of order (in Rs Lakhs)	Date of Completion		Satisfactory completed On
					As per Contract	Actual	

Signature and seal of the Bidder_____
Date

Price Bid Format

(On Company's Letterhead)

Ref No.

Date:

PRICE BID

The Deputy Director General (Admin)
National Institute of Solar Energy (NISE)
Gurugram – Faridabad Highway
GwalPahari; Gurugram – 122 003, INDIA

Sub: Design, Development, Supply, installation, and commissioning of Ignitability test facilities for Solar PV Module as per IEC 61730-2:2016 (MST 24)/ ISO 11925-2 at National Institute of Solar Energy, Gurugram, Haryana -122003,

Ref: Tender No LAB-1103/5/2020-LAB/ Ignitability Test Setup

S N o	Item	Basic Price (in Rs)	Other Charges (if any) (in Rs)	AMC charges for three years (in Rs)	Taxes (in Rs)	Total (in Rs)
	Total					

Amount in words (Rs.)

Signature:

Name of the Representative Submitting the Bid:

Designation:

Company Seal

Annexure-3

Format for submission of Bidder/ Vendor Data

1.	Name of vendor	
2.	Registered Address	
	Phone No.	
	Fax No.	
	Name of Proprietor/ CEO/Chairman	
	Phone/Mobile No.	
	Email id	
3.	Factory Address	
	Phone No.	
	Fax No.	
	Email id	
4.	Delhi/NCR Address (if any)	
	Phone No.	
	Fax No.	
	Email id	
5.	Correspondence Address	
6.	Name of Contact Person	
	Designation	
	Phone/Mobile no.	
	Fax No.	
	Email id	
7.	Website	

8.	Sales Tax related information/ GST	
	TIN No.	
	L.S.T. No.	
	C.S.T. No.	
	Sales Tax Exemption No. (if any)	
9.	Income Tax related information	
	PAN No.	
	PAN reference no. (in case PAN applied for)	
	PAN Status (in case PAN applied for)	
	Excise duty related information	
10.	ECC No.	
	Range	
	Collectorate	
11.	Registration No. with Directorate of Industries	
12.	SSI Reg. No. (if Small Scale Industrial Unit)	
13.	Bank related information	
	Bank name	
	Branch name	
	Bank address	
	Bank phone no.	
	Bank fax no.	
	Bank MICR Code (9 digit)	
	RTGS-IFC Code	
	Account type	
	Account no.	
	Swift Code	

I certify that the information given herein is correct to the best of my knowledge and belief.

Signature of
Proprietor/CEO/Chairman Seal
of the company/concern

Bank Guarantee Format for Bid Security

Bank Guarantee No.

Bank Guarantee Amount: ₹

Bank Guarantee Cover from: / / 2020 to / / 2020

Last Date of lodgement of Claim: / / 2020

FINANCIAL BANK GUARANTEE

To

The Director General
National Institute of Solar Energy
Gurugram – Faridabad Road
Gwal Pahari; Gurugram – 122 003
Haryana

Sub: Tender Document for Design, Supply & Installation of at National Institute of Solar Energy, Gurugram (LAB-1103/5/2020-LAB/ Ignitability Test Setup)

Dear Sir / Madam,

Whereas M/s (hereinafter called the “Tenderer”) has submitted their offer dated for the **Supply, Installation & Commissioning of at National Institute of Solar Energy, Gurugram** (hereinafter called the “Tender”) against the Purchaser’s **Tender No LAB-1103/5/2020-LAB/ Ignitability Test Setup**. KNOW ALL MEN by these presents that WE of having our registered office at..... are bound unto **M/s National Institute of Solar Energy, Gurugram** (hereinafter called the “Purchaser”) in the sum of ₹ (Rupees _____ Only) for which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents. Sealed with the Common Seal of the said Bank this day of 2020.

THE CONDITIONS OF THIS OBLIGATION ARE:

- 1) If the tenderer withdraws or amends, impairs or derogates from the tender in any respect within the period of validity of this tender.
- 2) If the tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity:-
 - a) If the tenderer fails to furnish the performance security for the due performance of the contract.

- b) Fails or refuses to accept/execute the contract.

We undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing the occurrence of one or both the two conditions, specifying the occurred condition or conditions. This guarantee will remain in force up to and including 45 days after the period of tender validity and any demand in respect thereof should reach the bank not later than the above date. Signature of the authorized officer of the bank Name and designation of the officer Seal, name and address of the Bank and address of the Branch.

“Not withstanding anything contained herein;

- Our liability under this Bank Guarantee shall not exceed ₹
- This Bank Guarantee shall be valid up to / / **2020**.
- We are liable to pay the guarantee amount or any part thereof under this Bank Guarantee only if you serve upon us a written claim or demand on a before / / **2020** (date of expiry of Guarantee).”

Banker’s Authorized Representative(s)

Date:

Place:

Annexure – 5

Bank Details for the purpose of issuing EMD in the form of FDR / BG / On-Line Transfer

Account Holder Name: National Institute of Solar Energy (NISE)
Gurugram - Faridabad Highway, Gwal Pahari
Gurugram - 122 003, Haryana
Tel: +91 124 285 3056; 3060

Bank Name: **State Bank of India**
Branch: **State Bank of India – Sector 56, Gurgaon**

Address: 45-49 Centum Plaza, Sector 53
Gurgaon - 122 002, Haryana

SB Account No. **33843408697**
IFSC Code: **SBIN0011443**
MICR Code: 110002460
SWIFT Code: SBININBB
Branch Code: 11443

Annexure – 6

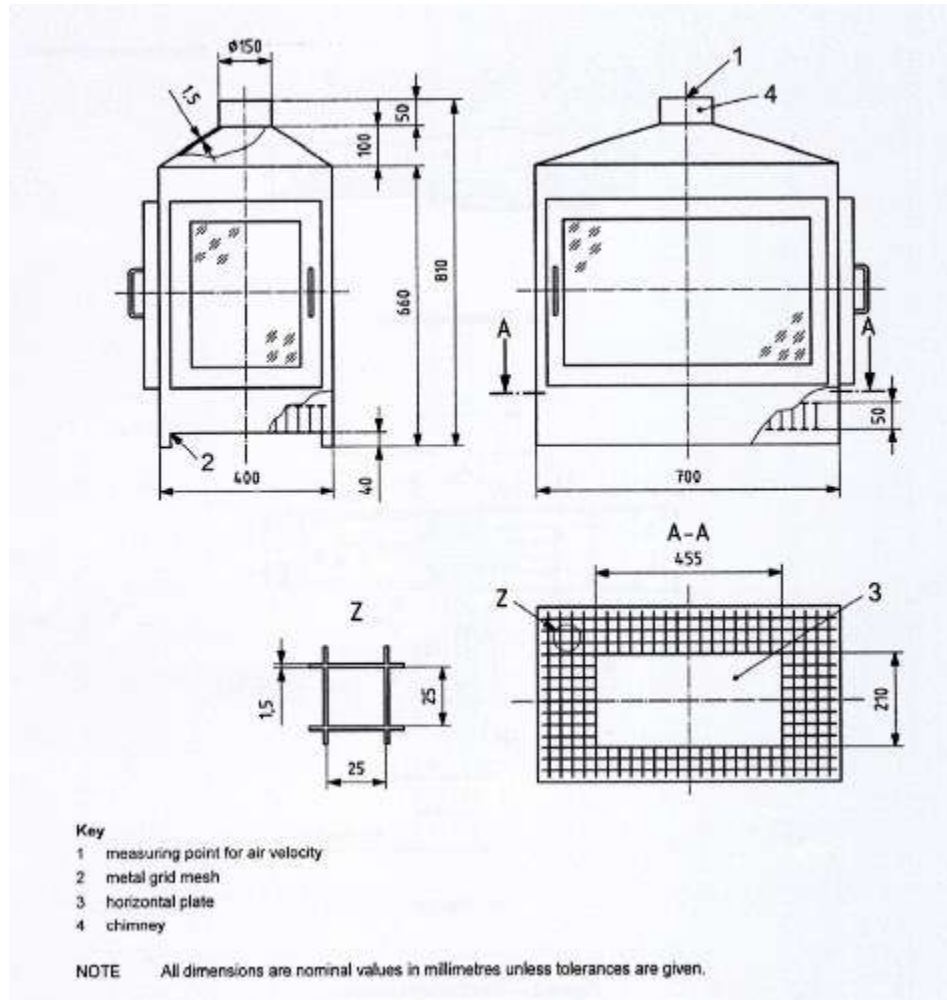
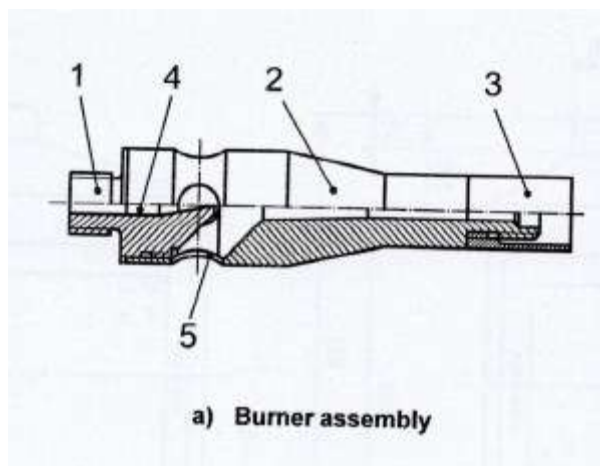
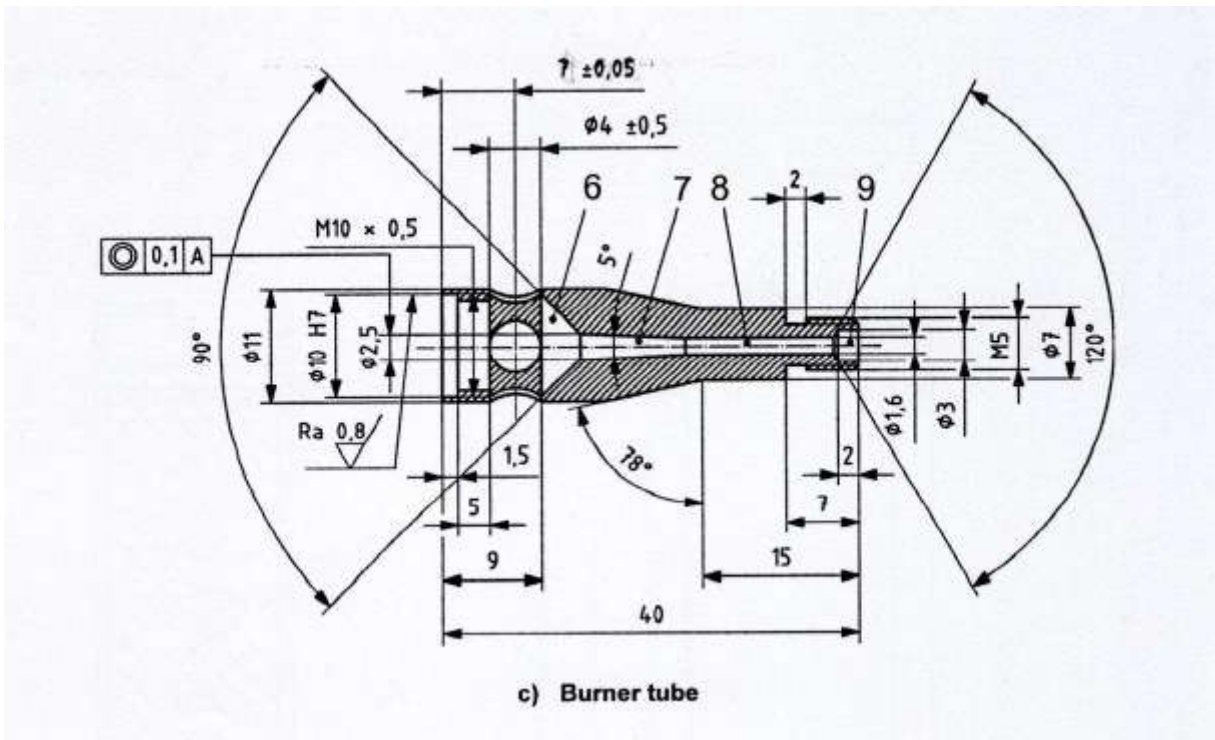
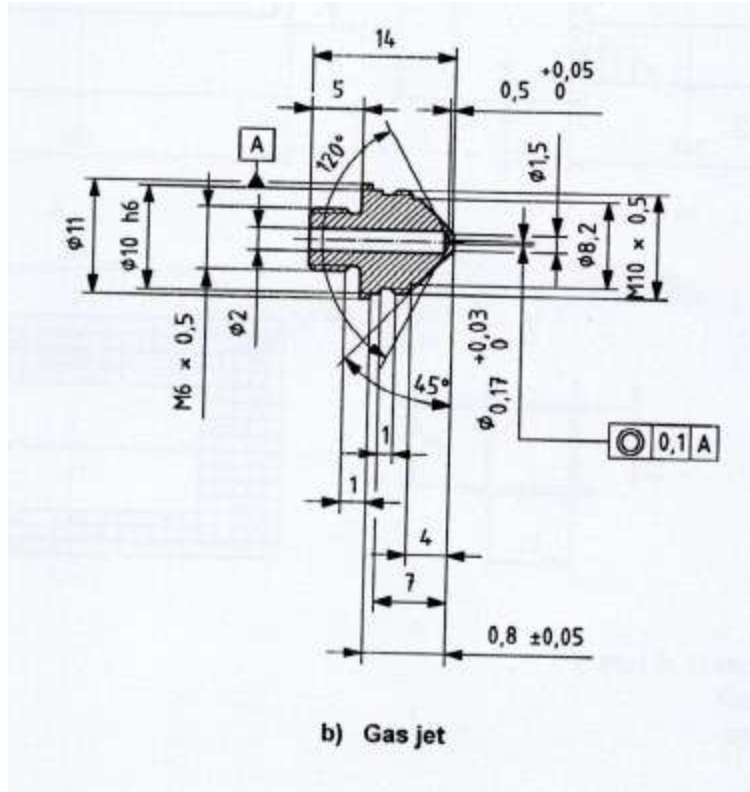
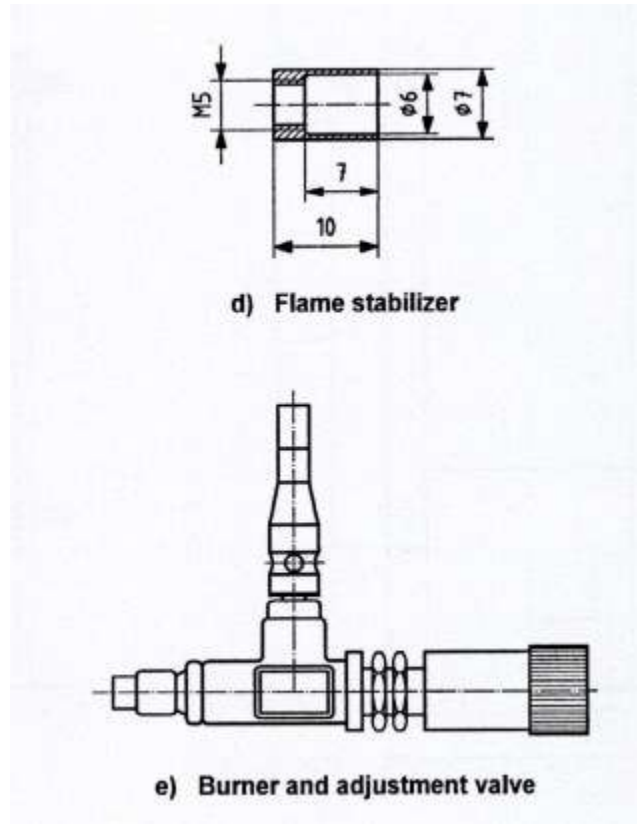


Figure 1. Combustion Chamber.





**Key**

1 gas jet
 2 burner tube
 3 flame stabilizer

4 choke tube
 5 notch fitted during
 assembly

6 gas mixing zone
 7 acceleration section

8 conduction section
 9 outlet

Figure 2. Gas burner

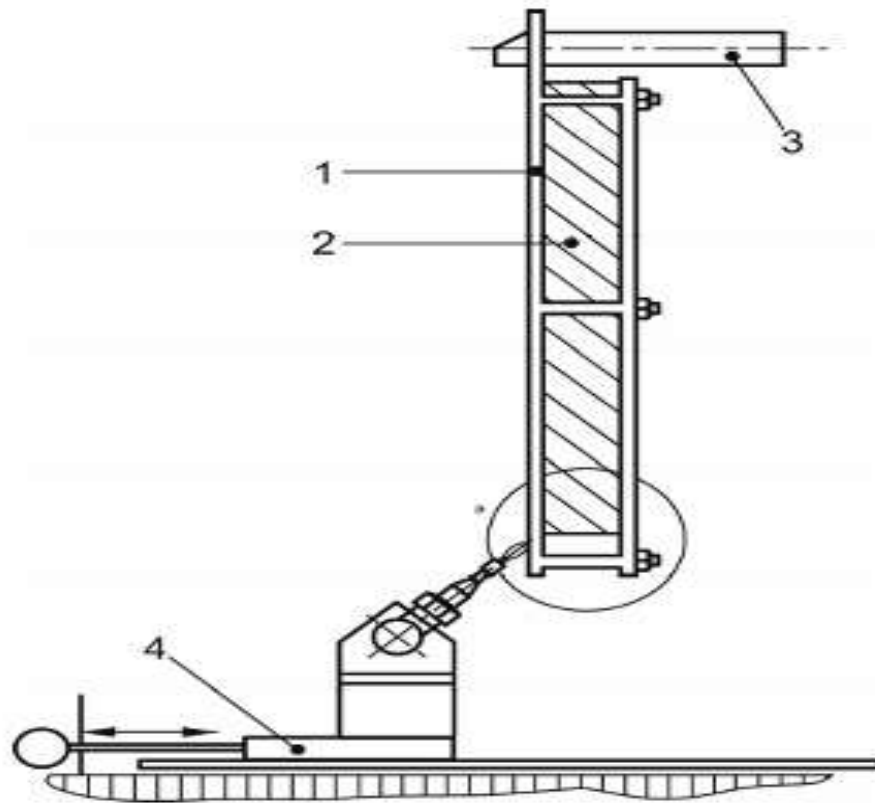


Figure 3. Typical Arrangement of Burner and sample holder.

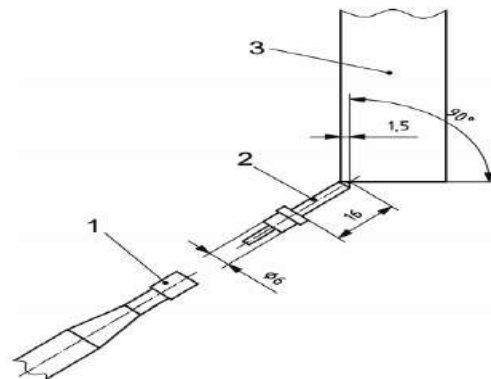


Figure 4. Edge Exposure Impingement Arrangement of ignitability Test.

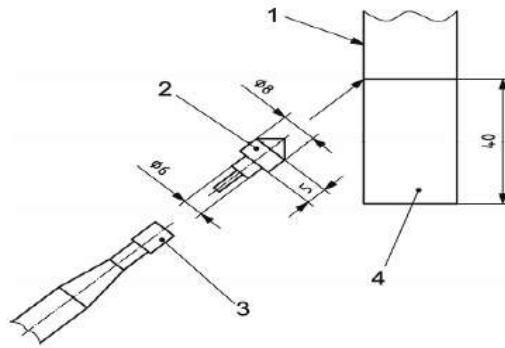


Figure 5. Surface Exposure Impingement Arrangement of ignitability Test.

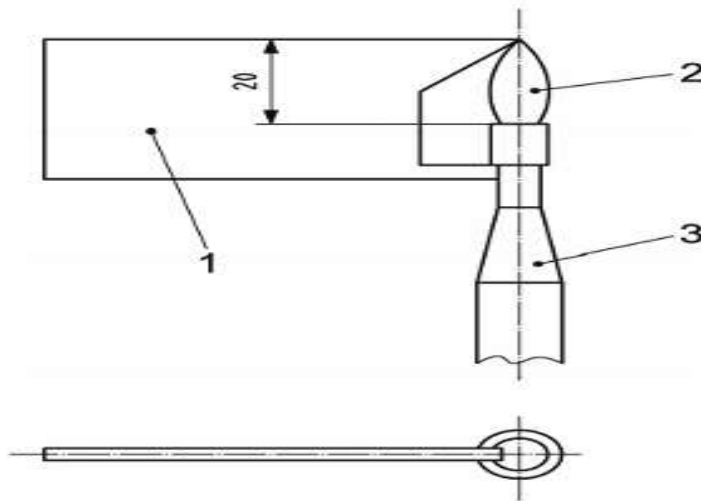


Figure 6. Typical flame height measuring device.

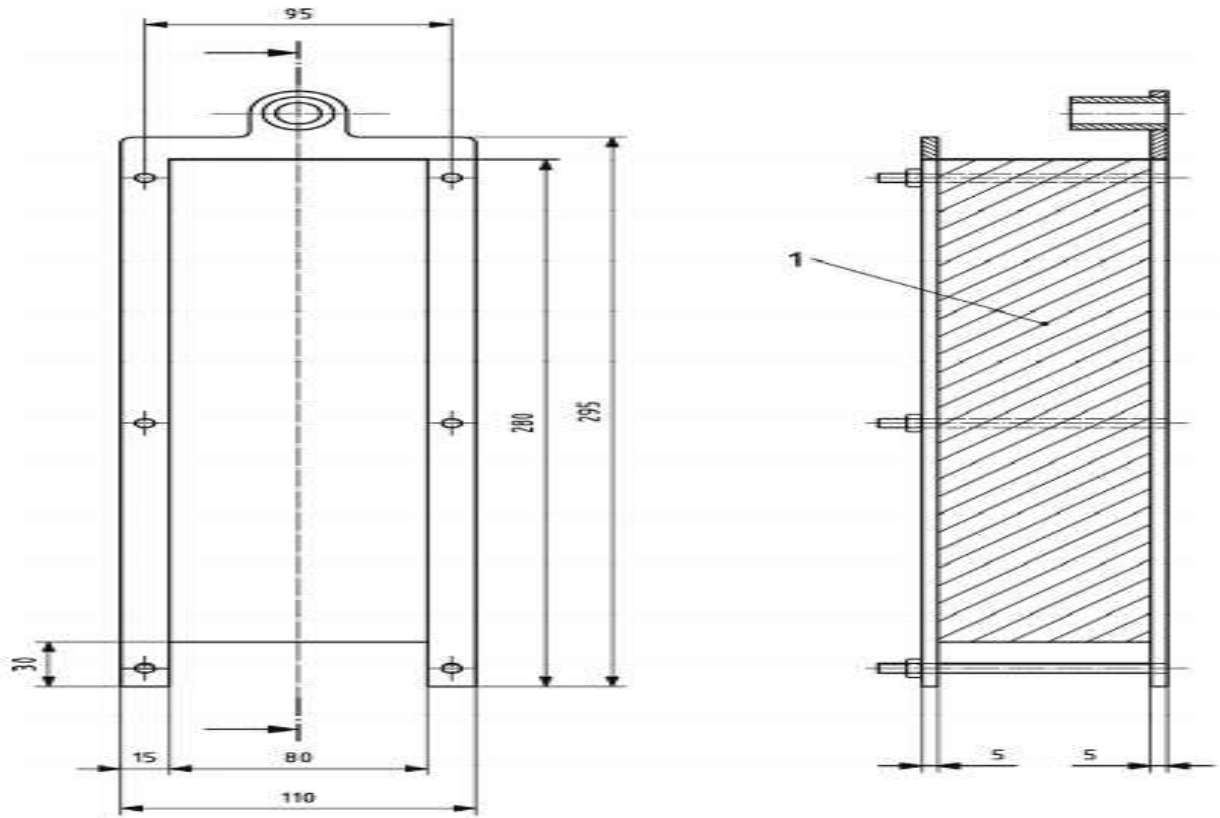


Figure 7. Typical Sample Holder for small size sample

(Suitable Sample holder shall be provided for holding module of size 2.5 m x 1.4 m x 0.05 m)

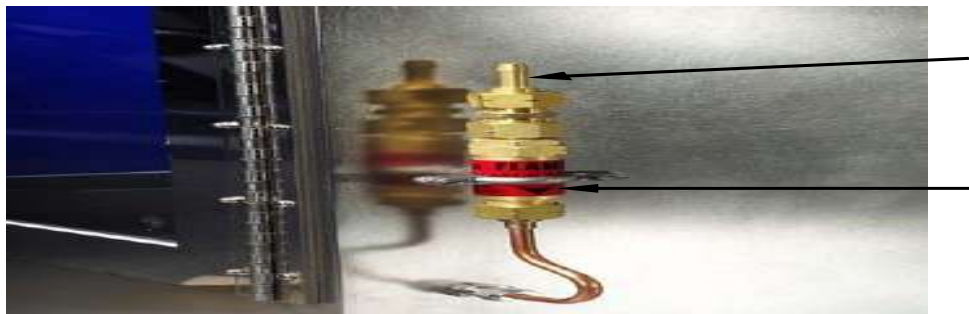


Figure 8. Flashback arrestor

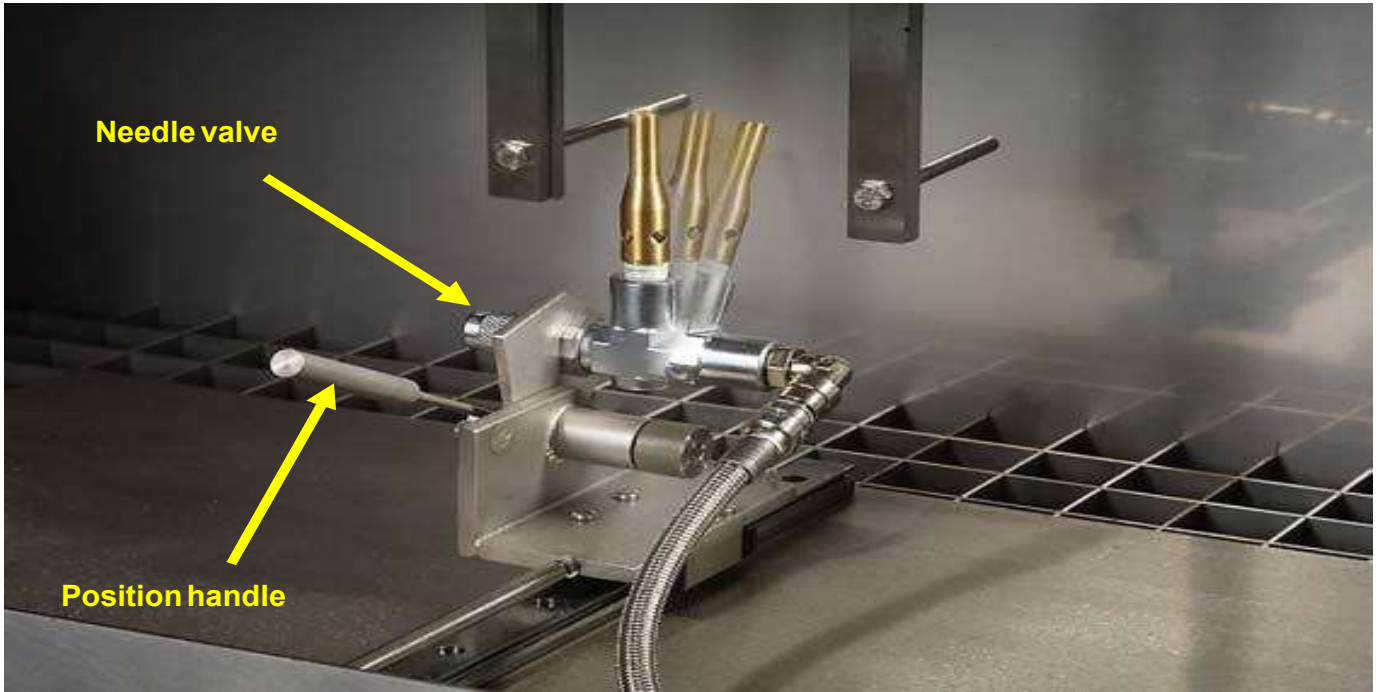


Figure 9. Ignition Burner

Air flow measured here

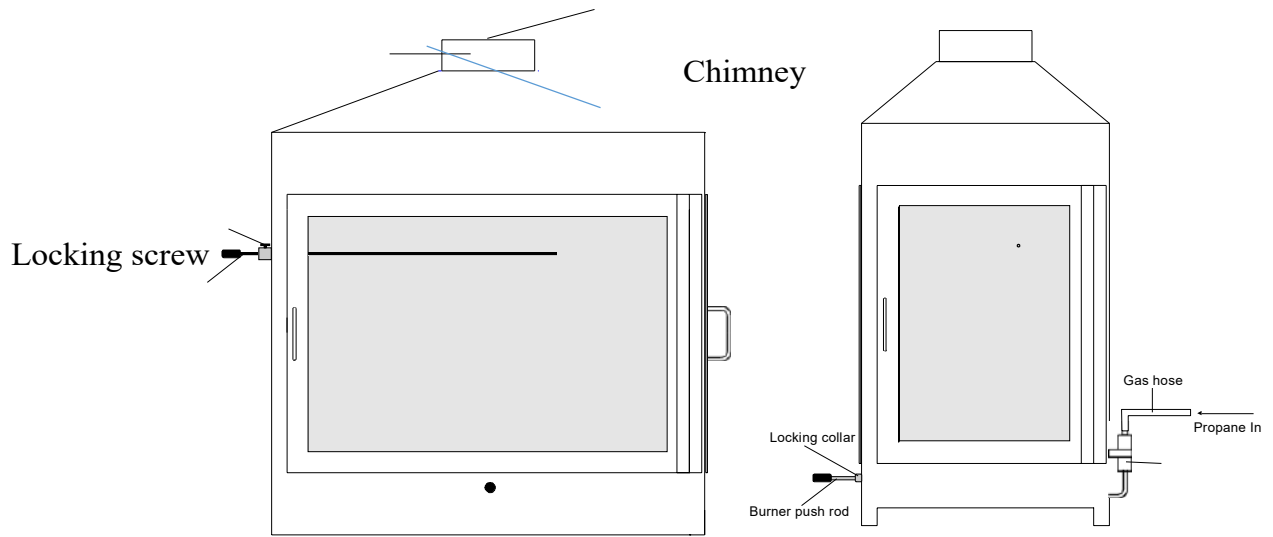


Figure 10. Schematic Diagram of test set up

Annexure – 7

Model Certificate for Tenders (for transitional cases as stated in para 3 of Order F. No. 6/18/2019-PPD dated 23rd July, 2020)

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I hereby certify that this bidder is not from such a country and is eligible to be considered."

Model Certificate for Tenders

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached]"

Model Certificate for Tenders for Works involving possibility of sub-contracting

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries; I certify that this bidder is not from such a country or, if from such a country, has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I hereby certify that this bidder fulfills all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]"

Model Certificate for GeM:

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that this vendor/ bidder is not from such a country or, if from such a country, has been registered with the Competent Authority. I hereby certify that this vendor/ bidder fulfills all requirements in this regard and is eligible to be considered for procurement on GeM. [Where applicable, evidence of valid registration by the Competent Authority shall be attached]"