

Internal

डेनरा बैंक केनरा बैंक Canara Bank   
भारत सरकार का उद्यम भारत सरकार का उपक्रम A Government of India Undertaking

 सिन्डिकेट सिन्डिकेट Syndicate

**TENDER DOCUMENT FOR**  
**AIR CONDITIONING WORK AT PREMISES OF**  
**REGIONAL OFFICE VADODARA**

Tower A, 4<sup>th</sup> Floor , Office No. 03 & 04, Akshar Pavillion , Gotri Vadodara-390001

Architect:- WISTAAR

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## CANARA BANK CIRCLE OFFICE, AHMEDABAD.

Sealed tenders on item rate basis are invited in enclosed form from empanelled Interior Decorators having sound Technical & financial capacity for the work of

01. Last date of issue of tender document : **24.02.2025 up to 3.00PM**
02. Last date of receipt of tender document : **24.02.2025 up to 3.15 P.M.**
  02. A. Last date for sending pre bid : **17.02.2025**
  - Queries
  - 02 B . Pre Bid Meeting : **18.02.2025**
03. Date & Time of opening : **24.02.2025 at 3:30 P.M.**
04. Place of submission of bids : **Canara Bank Circle office, Ahmedabad.**
05. Date of commencement : **Immediately on receiving work order.**
06. Expected cost (Branch + ATM) : **Rs. 20.97 Lakh Exclusive of GST**
07. Date of completion of work : **45 days from issue of work order.**
08. Period for settlement of final bill : **30 days from date of issue of completion certificate by the Architect.**
09. Retention percentage : **5% ( Five percent) from each running bill.**
10. Earnest money deposit : **Rs. 32000/- (Rs. Thirty Two Thousand Only) (Demand Draft in the favor of Canara Bank payable at Ahmedabad)**
11. Security deposit : **@ 3 % of contract value after awarding the work.**
12. Release of retention money/ Security money : **Security money after completion of work and certification of final bill. Retention money after defect liability period.**
13. Value of work for interim certificate : **Not Applicable**
14. Liquidated damages for non completion of work within the date of completion : **1.0% of the value of work for every week if the work remains unfinished after the date of completion or the date extended subject to maximum of 10% of the value of work.**
15. Defect liability period : **12 months from the date of completion certificate issued by the Bank Architect.**
16. Cost of Tender document : **Nil**
17. Interested bidder may obtain further information from the office of consultant / Bank Architect.
18. Bank reserves the right to reject wholly or part of any or all tenders received without Assigning any reason whatsoever, Also Bank reserves the right to split the work and place the order to more than one party.

**Contractor's Signature**

**GENERAL RULES AND INSTRUCTIONS FOR THE GUIDANCE OF TENDERER**

Sealed Tenders on item rate basis are invited from competent TENDERERS, on behalf of the Canara Bank, hereinafter known as the Employer and also as Bank, for carrying out the work of **Air Conditioning work at Premises of REGIONAL Office Vadodara as** per the specifications and the drawings furnished by the Bank.

1. The site for the works is at

<b>REGIONAL OFFICE VADODARA</b>
<b>Tower A, 4<sup>th</sup> Floor , Office No. 03 &amp; 04, Akshar Pavillion , Gotri Vadodara-390001</b>

and same is available for immediate commencement of work or shall be made available on the date of commencement of the works.

2. Contract document consists of Notice inviting the tender ( NIT ) , General rules and instructions for the guidance of the tenderer, General conditions of the contract, Schedule of quantities with specifications, Tender Drawings ,Form of tender, Form of agreement and Approved makes to be complied by the tenderer.
3. Tenders, which should always be placed in sealed cover, with the name of the work / project written on the envelope will be received by the **Manager, General Administration Section, Circle Office Ahmedabad, at 7th Floor, GIFT CITY, TOWER-1, Gandhinagar-382355, Gujarat up to 3.15 P.M. on 24.02.2025 and will be opened same day at 3.30 P.M.**
4. The tenders received after the last **date** and **time** stipulated for submission of the tenders shall be rejected.
5. The Bank shall not be responsible for any delay in receipt of the tenders received by post or courier. Therefore, the tenderer shall ensure that his tenders are submitted well in advance.
6. The time allowed for carrying out the work will be 45 (**forty five**) days. **Liquidated damages will be imposed strictly for delay.**
7. The tenderer should quote the rate in figures as well as in words and amount tendered by them. The amount for each item should be worked out and the requisite totals be given.
8. The rates quoted shall be inclusive of rates for the item of work described, including materials, labor, tools & plant, carriage & transport, supervision overheads & profits, mobilizing and other charges, taxes, whatsoever including any anticipated or un-anticipated difficulties etc. complete for proper execution of the work as per drawings and specifications and claim whatsoever for any extra payment shall not be entertained.
9. When a tenderer signs a tender in an Indian language the tendered amount and the total amount tendered should also be written in the same language. In the case of illiterate tenderers, the rates and the amounts tendered should attested by a witness.
10. EARNEST MONEY DEPOSIT (EMD) is to be submitted in the form of DD favouring Canara bank , Payable at Ahmedabad. However, L1 contractor has to deposit security money of 3% of the quoted cost.
11. The security Deposit shall be collected and repayable as detailed in clause No.11 of the General Conditions of the Contract.
12. The successful tenderer to whom the contract is awarded, will have to deposit as initial security deposit a further sum to make up 3% of the value of accepted tender including the Earnest Money as detailed in clause No. 11 of the General Conditions of the Contract.

13. The acceptance of a tender will rest with the Employer that does not bind itself to accept the lowest tender, and reserves its right to accept or to reject any or all of the tenders received without assigning any reason.
14. All tenders in which any of the prescribed conditions are not fulfilled or are incomplete in any respect are liable to be rejected.
15. THE BANK RESERVES THE RIGHT TO ACCEPT THE TENDER IN FULL OR IN PART AND THE TENDERER SHALL HAVE NO CLAIM FOR REVISION OF RATES or OTHER CONDITIONS IF HIS TENDER IS ACCEPTED IN PARTS.
16. The Bank does not bind itself to accept the lowest or any tender and reserves to itself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.
17. Canvassing in connection with tenders is strictly prohibited and the tenders submitted by the tenderers who resort to canvassing will be liable for rejection.
18. All rates shall be quoted on the proper form of the tender alone. Quoted rates and units different from prescribed in the tender schedule will be liable for rejection.
19. Special care should be taken to write the rates in figures as well as in words. The total amount should be written both in figures and in words. In case of figures, the words `Rs.' should be written before the figure of rupees and words `P' after the decimal figures, e.g. Rs.2.15 "P" and in case of words, the word `Rupees' should precede and the word `Paise' should be written at the end, unless the rate is in whole rupees and followed by the words `only' it should be invariably be up to two decimal places. While quoting the rate in schedule of quantities, the word `only' should be written closely following the amount and it should not be written in the next line. However, if a discrepancy is found.
20. i). the rates which correspond with the amount worked out by the tenderer shall unless otherwise proved be taken as correct. (OR)
21. ii). if the amount of an item is not worked out by the tenderer or it does not correspond with the rates written either in figures or in words then the rate quoted by the tenderer in words shall be taken as correct. (OR)
22. iii). where the rates quoted by the tenderer in figures and in words tally but the amount is not worked out correctly, the rates quoted by the tenderer will unless otherwise prove be taken as correct and not the amount.
23. All corrections such as cuttings, interpolations, omissions and over-writings shall be number as `c', `i', `o' and `ow' and initialed and total of such c, i, o and ow on each page certified at the end of the page with grand total at the end of the bill/schedule of quantities.
24. Sales tax, work contract tax, Value added tax or any other tax, any royalties, duties, levies, cess, entry tax, Octroi, profession tax, Sales Tax, purchase tax, turnover tax, service tax or any other tax on material or finished work in respect of this contract shall be payable by the tenderer and the Employer will not entertain any claim whatsoever in respect of the same, and nothing extra shall be paid/reimbursed for the same subsequently. Only GST as applicable will be borne by bank.
25. The tenderer shall give a list of his relatives, if any, working with the Employer along with their designations and addresses.
26. No employee of the employer is allowed to work as a tenderer for a period of two years of his/her retirement from the employer services, without the previous permission of the employer. This contract is liable to be canceled if either the tenderer or any of his employees is found at any time to be such a person who had not obtained the permission of the employer as aforesaid before submission of the tender or engagement in the tenderer's service.
27. The tender for the works shall remain open for acceptance for a period of 90 days from the date of opening of tenders. If any tenderer withdraws his tender before the said period or makes any modifications in the terms and conditions of the tender that are not acceptable to the Employer,

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then the Employer shall, without prejudice to any other right or remedy, be at liberty to forfeit full value of the earnest money as aforesaid.

28. The tender for the work shall not be witnessed by a tenderer or contractors who himself / themselves has / have tendered or who may and had/have tendered for the same work. Failure to observe this condition would render tenders of the contractors tendering as well as witnessing the tender liable to summary rejection.
29. It will be obligatory on the part of the tenderer to tender and sign the tendered documents for the entire component parts, all pages and that, after the work is awarded, he / they will have to enter into an agreement for each component with the competent authority of the Employer.
30. Further the tenderer shall agree that until a formal agreement on stamp paper is prepared and signed, this tender shall constitute a binding contract between the tenderer and the Employer.
31. The tenderer, apart from being a competent contractor must associate himself with agencies of appropriate class who are eligible to tender for other related works like electrical, air-conditioning connected directly or indirectly with the contract and employed by the employer.
32. Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tenders as to the nature of the site and dimensions, the means of access to the site, and obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed. Submission of a tender by a tenderer implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and local conditions and other factors bearing on the execution of the work.
33. On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Employer shall be communicated to the Employer.

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34. Payment of equipments shall be made against Performa invoice
35. The right of waiver of LD, acceptance of goods after expiry of delivery period, acceptance of excess or short deliveries and to treat contract as closed etc. lies with the purchase committee.
36. All the contents of the Tender document shall form a part of the contract document. The successful tenderer/contractor, on acceptance of his tender by the Accepting Authority, shall within 7 days from the date of acceptance, sign on a stamp paper the contract consisting of :-
  - (a) Standard form of Agreement on stamp paper.
  - (b) Notice inviting tender, all the components and documents including tender drawings, if any, forming the tender as issued at the time of Invitation of tender and acceptance thereof together with any correspondence leading thereto. General Conditions, Schedules leading to Technical Specification, Special Conditions, Tender drawings, Technical Brochures in schedules submitted by the tenderer etc.
  - (c) Price Bid / Schedule of Quantities with rates.  
for & on behalf of the Employer.

Signature of the Competent Authority.

Signature of the Tenderer  
with Name, Constitution & Seal.

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**(Documentary proof for each item is to be furnished with Tender document)**

1. The firm shall be in the business of Supply, installation, testing, commissioning and maintenance of VRV/VRF, Air conditioners etc for the last 5 years. (A copy of certificate of incorporation/registration shall be furnished along with the bid in support of above)

2. The firm should have successfully completed the Design, Supply, installation, testing, commissioning of at Least 5 (Five) number of VRV/VRF, Air conditioners etc capacity not less than 20 HP VRV/VRF and Air conditioners for the Government / Semi-Government / Government of India Undertaking / Corporate Bodies/Industries/Business Houses in Gujarat State. During last five years with effective from 01 – 04 – 2020 to 31 – 03 – 2025.

A copy of the Work order / Contract / Agreement and Commissioning certificate of the each plant is to be attached along with Tender.

The Completion Certificates from the Client giving the below mentioned details for each VRV/VRF project completed is also to be submitted along with the Tender

- a) Capacity of the installed VRV/VRF and air conditioning units commissioned and installed
- b) Location and Address of the VRV/VRF installed
- c) Date of Commissioning of the work
- d) Value of completed work.
- e) Name and Contact Details of the Owner of the unit installed

3. The Tenderer shall be financially sound and should have achieved an average annual financial turnover of Rs. 100.00 Lakh in last three consecutive financial years ending on 31.03.2025. (Copies of audited profit and loss accounts statement accompanied by relevant schedules for turnover figures is to attached along with the Tender).

4. The firm shall have valid GST Registration Certificate.

5. The firm shall have valid PAN.

6. Firm shall have a local Office in local Office in the state of GUJARAT of reasonable size with necessary equipment and supporting staff. Details of the local office set up with necessary documents are to be submitted along with the Tender.

7. Firm shall not be blacklisted or debarred as on the date of submission of RFP by any Government Department /Financial Institution/ Public sector Units/Scheduled Commercial bank in India.

8. The firm must have their office in Gujarat region.

**Note:** any certificate from the chartered accountant must have valid UDIN number

Before submission of the offer, the Bidders are requested to read all the instructions and the terms and conditions.

The Bidder registered/ Empaneled with Public Sector Bank's/ Scheduled Commercial Bank's/ FI's/RBI related to Rooftop Solar Photo Voltaic Power Plants should submit a valid certificate from the respective authorities.

Assistant General Manager  
General Administration Section,  
Circle Office  
Ahmedabad

**(II) TENDER - OFFER**

I/We have read and examined the Notice Inviting Tender, General Rules and Instructions, General Conditions of Contract, Specifications, Schedule of quantities, drawings and all other documents referred to in the conditions of contract and all other contents in the tender document for the work.

I/We hereby tender for the execution of the work specified for the Employer within the time specified at the rates specified in the schedule of quantities and in accordance in all respects with the specifications, designs drawings and instructions in writing referred to in the General Rules and Instructions, General Conditions of Contract and in all respects in accordance with, such conditions so far as applicable.

In the event of my / our failure to commence the work on the specified date after award I/We agree that the Bank shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely otherwise the said earnest money shall be retained by it towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein.

I/We agree that should I/We fail to deposit the full amount of initial security deposit and/or fail to commence the work specified in the above memorandum, an amount equal to the amount of the earnest money shall be absolutely forfeited to the Employer and the same may at the option of the Employer without prejudice to any other right or remedy available in law.

I/We hereby declare that I/We treat the tender documents, drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived there from to any persons other than a person to whom I/We am /are authorized to communicate the same or use the information in any manner prejudiced to the safety of the State / the Employer.

I/We fully understand that you are not bound to accept the lowest or any tender you may receive.

I/We agree that until a formal agreement on stamp paper is prepared and signed, this tender with your written acceptance thereof shall constitute a binding contract between us.

Dated the: .....day of 2025

Signature of Tenderer

Name & address:

WITNESS:

Full Postal Address including  
Pin Code No. & Telephone No.

1.

2.

## Checklist for Enclosures (Bidder should fill up YES or NO without fail)

SNo	Bid Enclosures	YES or NO
1.	Whether the Tender is submitted in <b>sealed single cover containing two separate envelopes Viz Technical cum commercial bid with EMD in Envelope – 1 and Price Bid in Envelope – 2 ?</b>	
2.	<b>Whether Technical &amp; Price Bid contains the following</b>	
3.1	Bidder's undertaking covering letter in the Letter Head shall be signed by the authority, stamped and submitted.	
3.2	Signed and stamped Letter of Authorization or Power of Attorney for signing the Tender document shall be submitted.	
3.3	All sections covered in the Tender document in full shall be signed by the authority, stamped and submitted	
3.4	Whether Earnest Money Deposit (EMD) amount as specified in the Tender shall be submitted	
3.4a	In case of claiming exemption from EMD, valid document/certificate for exemption of EMD from NSIC/Similar Government authorities shall be submitted	
4.	Price Bid with signature and stamp in all headings shall be submitted	
	a) Whether corrections or overwriting if any is attested?	

**IMPORTANT TERMS AND CONDITIONS OF THE TENDER**

PARTICULARS	DETAILS
Date of Pre bid meeting	18.02.2025 at 3.00 PM
Last date and time for submission of the tender	24.02.2025 upto 3.15 PM
Date and time of Opening of the Tender (Technical cum commercial bid )	24.02.2025 at 3.30 PM
Contact No	
Time of Completion	As per the tender terms and conditions
Defect Liability period	5 year from the date of installation and commissioning of the UNITS AND EQUIPMETS
Date of commencement	24 hours after issuing work order
Liquidated damages for delay	As per the tender terms and conditions
Payment terms	As per the tender terms and conditions
Earnest Money Deposit, Security Deposit & Retention money	As per the tender terms and conditions
Price variation	No IEEMA or any other Price variation clause shall be applicable in this contract.
Arbitration	As per the tender terms and conditions



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Note: Request for alteration in the PRICE terms of the tender will not be entertained. Tenders which do not comply the PRICE terms of the tender are liable to be summarily rejected.

**SIGNATURE OF THE CONTRACTOR WITH SEAL**

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**III) ACCEPTANCE**

The above tender (as modified by us or negotiations as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the Employer for a sum of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_)

The letters referred to below shall also form part of this contract agreement:

a)

b)

c)

Dated this \_\_\_\_\_ day of 2025

For & on behalf of the Employer

Signature : \_\_\_\_\_ Internal \_\_\_\_\_

Designation: \_\_\_\_\_

## **GENERAL CONDITIONS OF CONTRACT**

Except where provided for in the description of the individual items in the schedule of quantities and in the specifications and conditions laid down hereinafter and in the Drawings, the work shall be carried out as per standard specifications and under the direction of the Employer.

### **1. DEFINITIONS / INTERPRETATIONS:**

- i. The 'Contract' means the documents forming the tender and acceptance thereof and the agreement duly executed between the Employer and the Contractor, together with the documents referred to therein including those conditions, the specifications, schedule of quantities, tender agreement, designs, drawings and instructions issued from time to time by the Engineer-in-Charge. All these documents taken together, shall be deemed to form one contract and shall be complementary to one another.
- ii. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them :-
  - a) The 'Tenderer' or 'Supplier' or 'Contractor' shall mean the individual Kartha, or Manager of HUF, firm or Company, whether incorporated or not, undertaking the works and shall include the legal heirs/representatives of such individual or the partners composing firm and their legal heirs and successors, or company's authorized and constituted attorneys/agents and permitted assignees of such firm or company.
  - b) The 'Employer' or 'Bank' means any officer of the Canara Bank, who is specifically authorized to enter into contracts in respect of the above works.
  - c) The 'Engineer-in-Charge' means the Senior Manager, or Officer, / Engineer and/or Site Engineer who shall supervise and be in-charge of the work or any other authorized representative or person specifically deputed by the Employer and / or the Consultants wherever they are employed from time to time by the Employer.
  - d) "Engineer-in-Charge/Consultant/Architect": This term shall mean any authorized representative or person specifically deputed by the Employer wherever they are employed from time to time by the Employer.
  - e) 'Contract Price' shall mean the final accepted rates in the Price Bid hereto.
  - f) 'Date of Contract' means the 'Calendar date on which the Employer and Contractor have signed the Agreement on the Stamp Paper.
  - g) "Accepting Authority" shall mean The Assistant General Manager of the Canara Bank (the Employer).
  - h) 'Approval' wherever used in the specifications or schedule of Quantities shall mean, respectively, approved by or approval of the 'Accepting Authority' in writing.
  - i) 'Appellant Authority' shall mean The General Manager, of the Bank ( the Employer ). Who shall also be the authority to consider any extension of time or compensation as defined in clause hereunder.
  - j) 'Notice in writing' or 'written notice' shall mean a notice in writing typed or printed characters delivered to or sent by registered post to the last known address private or business address or registered office address, and shall be deemed to have been received when in ordinary course of post it would have been delivered, and/or delivered personally, or otherwise proved to have been received.
  - k) 'virtual completion' shall mean that the work/installation is complete in all respects in the opinion of the Employer and for which the completion/clearance certificate has been issued by the Engineer -in-charge / Consultant and the installation is fit for usage.

- l) 'Drawings' shall mean all drawings and/or design drawings furnished by the contractor / sketches duly signed by the authorized Engineer-in-charge or the Consultant on behalf of the Employer before commencement or during the progress of the work.
- m) 'Letter of Acceptance' shall mean an intimation by a letter issued by the Accepting Authority of the Employer to tenderers that his tender has been accepted in accordance with the provisions in the said letter.
- n) **"Defect Liability Period" shall mean a period of TWELVE months from the certified date of virtual completion issued by the Consultant/Engineer-in-charge and accepted by the Employer.**
- o) " Schedule of quantities" shall mean the schedule of quantities as specified and forming part of this contract.
- p) "Priced Schedule of Quantities" shall mean the schedule of quantities duly priced with the accepted quoted rates of the contractor.
- q) "The work" shall mean the work or works to be executed or done under this contract.
- r) "Act of Insolvency" shall mean any act defined by the Presidency Towns Insolvency Act or in Provincial insolvency Act or any amending statutes.

- 2. SCOPE OF WORKS TO BE CARRIED OUT:** The work consists of Interior and furnishing and minor civil works in accordance with the "drawings" and "schedule of quantities". It includes providing all the materials, wastage of material, labor, transport, tools & equipments and management necessary for and incidental to the completion of the work. All work during its progress and upon completion shall conform to the lines, elevations and grades as shown on the drawings furnished by the Employer. Should any detail essential for efficient completion of the work be omitted from the drawings and specifications it shall be the responsibility of the contractor to inform the employer so that upon completion of the work the same will be acceptable and ready for use.

If there are varying or conflicting provisions made in any one or more document(s) forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on contractor.

Any error in description or quantity or rate in Schedule of Quantities or any omission there from shall not vitiate the Contract or release the contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the Contract.

Employer or their authorized representative may in their absolute discretion issue further drawings and/or written instructions, details, directions & explanations which are, hereafter collectively referred to as " The employer's instructions" in regard to:

- a) The variation or modification of the design quality or quantity of works or the addition or omission or substitution of any work.
- b) Any discrepancy in drawings or between the schedule of quantities and/or drawings and/or specifications.
- c) The removal from the site of any defective material brought thereon by the contractor and substitution of any other material thereof.
- d) The demolition, removal and re-execution of any work executed by the contractor/s.
- e) The dismissal from the work of any persons employed thereupon.
- f) The opening up for inspection of any work covered up.
- g) The rectification and making good of any defects under clauses hereinafter mentioned and those arising during the defect liability period(retention period).

The contractor shall forthwith comply with and duly execute any work comprised in such Employer's or his agent/Engineers instructions, provided always that verbal instructions, directions and explanations given to the contractor or his representative upon the works by the employer or his agent shall, if involving a variation, be confirmed in writing to the contractor/s within seven days. No works for which rates are not specifically mentioned in the priced schedule of quantities, shall be taken up without written permission of the employer or his agent. Rates of items not mentioned in the priced schedule of quantities shall be fixed by the employer as provided in clause "variation".

Regarding all factory made products for which ISI marks are available, only products bearing ISI marking shall be used in the work.

Materials of approved makes as prescribed in tender shall only be used and also colours to be as advised by the employer.

3. **TENDERER SHALL VISIT THE SITE:** The Tenderer shall visit the site and make himself thoroughly acquainted with the local site conditions, nature and requirements of the works, facilities of transport condition, effective labor and materials, access and storage for materials and removal of rubbish. Tenderer shall provide in their tender for cost of carriage, freight and other charges as for any special difficulties and including the police restriction for transport etc. For proper execution of works as indicated in the drawings. The successful tenderer will not be entitled to any claim of compensation for difficulties faced or losses incurred on account of any site condition which existed before the commencement of the work or which in the opinion of the Employer or his agent/engineer might be deemed to have reasonably been inferred to be so existing before commencement of work.
4. **TENDERS:** The entire set of tender paper issued to the tenderer should be submitted fully priced and also signed on the last page together with initials on every page. Initials/signature will indicate the acceptance of the tender papers by the tenderer (Also see General Rules and instructions for the guidance of Tenderers).

The schedule of quantities shall be filled as follows

- a) The "Rate" column to be legibly filled in ink in both English figures and English words.
- b) Amount column to be filled in for each item and the amount for each subhead as detailed in the schedule of quantities.
- c) All corrections to be initialed.
- d) The "Rate" column for alternative items shall be filled up.
- e) The "Amount" column for alternative items of which the quantities are not mentioned shall not be filled up.
- f) In case of any errors/omissions in the quoted rates, the rates given in the tender marked "Original shall be taken as correct Rates.

No modifications, writings or corrections can be made in the tender papers by the tenderer, but he may at his option offer his comment modifications in a separate sheet of paper attached to original te papers.

The employer reserve the right to reject the lowest or any tender and also to discharge any or all of the tenders for each section or to split up and distribute any item of work to any specialist firm or firms, without assigning any reason.

The tenderers should note that the tender is strictly on item rate basis and their attention is drawn to the fact that the rates for each and every item should be correct, workable and self-supporting. If called upon by the Employer / Consultant, detailed analysis of any or all the rates shall be submitted. The Employer / Consultant shall not be bound to recognize the contractor's analysis.

The works will be paid for as "measured work" on the basis of actual work done and not as "lump sum" contract, unless otherwise specified.

All items of work described in the schedule of quantities are to be deemed and paid as complete works in all respects and details including preparatory and finishing works involved, directly, related to and reasonably detectable from the drawings, specifications schedule of quantities and no further extra charges will be allowed in this connection. In the case of lump-sum charges in the tender in respect of any item of works, the payment such items of work will be made for the actual work done on the basis of lump-sum charges as will be assessed to be payable by the Employer/Consultant.

The Employer has power to add to, omit from any work as shown in the drawings or described in the specifications or included in schedule of quantities and intimate the same in writing but no addition, omission or variation shall be made by the contractor without authorization from the Employer. No variation shall vitiate contract. Please also refer Para 9 hereinafter.

The tenderer shall note that his tender shall remain open for consideration for a period of **90 days** from the date of opening of the tender.

5. **AGREEMENT:** The successful contractor, shall be required to sign the contract agreement, the proforma of which is enclosed and shall pay for all stamps and legal expenses, incidental thereto.
6. **PERMITS AND LICENSES:** Permits and licenses for release of materials or its purchases which are under Government control will be arranged by the contractor. The employer will render necessary assistance, Sign any forms or applications that may be necessary.

It may be clearly understood that no compensation or additional charges can be claimed by the contractor for non-availability of such materials in due time on this account or according to his own requirements.

The contractor may, however, be eligible to a proportionate extension of time on this account that in the opinion of the Employer is reasonable.

7. **GOVERNMENT AND LOCAL RULES:** The contractor shall conform to the provisions of all local bye-laws and acts relating to the work and to the regulations etc. of the Government and Local Authorities. The contractor shall give all notices required by the said Act, Rules, Regulations and bye-laws etc and shall indemnify the Employer against such liabilities and shall defend all actions arising from such claims or liabilities.

#### 8. **GST as applicable will be paid extra.**

The contractor shall keep necessary books of accounts and other documents for the purpose of this **condition** as may be necessary and shall allow inspection of the same by a duly authorized representative of the Employer and / or the Engineer-in-charge and further shall furnish such other information / document as the Employer may require from time to time.

8. **QUANTITY OF WORK TO BE EXECUTED:** The quantities shown in the schedule of quantities are intended to cover the entire works as per the drawings / scope of work, and therefore the contractor is bound to complete the works at the same quoted rates in the event of quantity exceeding the specified bill of quantity, but the Employer reserves the right to execute only a part or the whole or any excess thereof without assigning any reason therefore.
9. **OTHER PERSONS OR AGENCIES ENGAGED BY THE EMPLOYER:** The Employer reserves the right to execute any part of the work included in this contract by other agency or persons and contractor shall allow reasonable facilities and use of his facilities for the execution of such work. The main contractor shall extend all co-operation in this regard.

10. **EARNEST MONEY, INITIAL SECURITY DEPOSIT, RETENTION MONEY & TOTAL SECURITY DEPOSIT:** The successful tenderer to whom the contract is awarded will have to deposit as Initial Security Deposit a further sum to make up 3% (three percent) of the value of the accepted tender including the Earnest Money. The Initial Security Deposit will have to be made within 07 days from the date acceptance of tender failing which the employer at his discretion may revoke the letter of acceptance and forfeit the Earnest Money Deposit furnished along with the tender. The Initial security deposit may be furnished in the form of Demand Draft payable to the Employer or by way of Bank guarantee of any Nationalized / schedule Bank other than Canara Bank for the duration of the contract period. The contractor will have to deposit the specified amount in the form of Bank Draft drawn in favour of **GENERAL ADMINISTRATION SECTION, CANARA BANK, CIRCLE OFFICE, AHMEDABAD** at the time of successful allotment of work.

Apart from the Initial security Deposit made above, retention money shall be deducted from the progressive running bills @ 5% (FIVE percent) of the Gross value of each running bill shall until the Total Security Deposit

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**Total retention money will 5 % of final bill and will be kept for a period of one Year i.e up to Defect Liability Period.**

The Total Security Deposit amount will be refunded to the contractor 14 days after the end of defects liability period provided he has satisfactorily carried out all the work and attended to all defects in accordance with the condition of contract. No interest is allowed on retention money. In lieu of the Total Security Deposit, Bank Guarantee from the Bank other than Canara Bank for the period of defects liability is also accepted.

**11. CONTRACTOR TO PROVIDE EVERYTHING NECESSARY:** The contractor shall provide everything necessary except mentioned in para 42 below for the proper execution of the work according to the intent and meaning of the drawings, technical specifications, and schedule of quantities taken together whether the same may or may not be particularly shown or described therein provided that the same can be reasonably inferred there from, and if the contractor finds any discrepancies therein, he shall immediately and in writing, refer the same to the employer whose decision shall be final and binding.

The rates quoted against individual items will be inclusive of everything necessary to complete the said items of work within the contemplation of contract, and beyond the unit price no extra payment will be allowed for incidental or contingent work, labor and/or materials inclusive of all taxes and duties whatsoever except for specific items, if any, stipulated in the tender documents.

The contractor shall supply, fix and maintain at his own cost, for the execution of the work, all tools, tackles, machineries and equipments and other required facilities for execution of work including the safety aspects.

The Employer on no account shall be responsible for storage of materials or loss or pilferage or theft either in respect of the material stored or material already built and paid for by the Employer.

The contractor shall at all times give access to workers employed by the Employer.

Any facilities available at site shall be utilized only with prior permission of the Employer or the in-charge of the site / building owner and cannot be taken as granted and for such services utilized the Employer is entitled to charge. No extra charges shall be paid over and above what has been quoted for any of the above or for similar such services.

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**12. TIME OF COMPLETION, EXTENSION OF TIME & PROGRESS CHART ::**

i). **Time Of Completion** : The entire work is to be completed in all respects within stipulated period. The work shall be deemed to be commenced within 07 days from the date of acceptance letter or date of handing over site whichever is later. Time is the essence of the contract and shall strictly observed by the contractor.

The work shall not be considered as complete until the Employer/ Consultant have certified in writing that the work has been virtually completed and defect liability period shall commence from the date such certificate.

ii). **Extension of Time** :: If in the opinion of the Employer **a)** by reason of any exceptionally inclement weather, or **b)** by reason of instructions from the employer in consequence of proceedings taken or threatened by or disputes with adjoining or neighbouring owners or **c)** by the works, or delay, of other contractors or trades men engaged or nominated by the employer and not referred to in the specification or **d)** by reason of authorized extra and additions or **e)** by reason of any combination of workmen or strikes or lockout affecting any of the building trades or **f)** from other causes which the employer may consider being beyond control of the contractor, the employer at the completion of the time allowed for the contract shall make fair and reasonable extension of time for completion in respect thereof. In the event of employer failing to give possession of site upon the day specified above the time of completion shall be extended suitably.

In case of such strikes or lock-outs, as are referred to above, the contractor shall, immediately give the employer, written notice thereof. Nevertheless the contractor shall use his best endeavors all that to prevent delay and shall do all that may be reasonably required to the satisfaction of the employer to proceed with the works and on his doing so that it will be ground of consideration by the employer for an extension of time as above provided.

The decision of the Employer as to the period to be allowed for an extension of time for completion hereunder ( which decision shall be final and binding on the contractor) shall be promulgated on completion of the work or at the conclusion of such events based on which the extension of time was sought by the contractor, and the Employer shall then, in the event of an extension being granted,

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determine and declare the final completion date. The provision in clause 14 with respect to payment of liquidated damages shall in such case, be read and construed as if the extended date fixed by the employer were substituted for and the damage shall be deducted accordingly.

iii). **Progress of Work:** During the period of work, the contractor shall maintain proportionate progress on the basis of a **program chart submitted by the contractor before the commencement of work**. Contractor should also include planning for procurement of scarce materials well in advance and reflect the same in a program chart so that there is no delay on the part of the contractor in completion of the project.

- 13. LIQUIDATED DAMAGES : Time is the essence of the contract.** Hence the contractor shall be aware that non completion of the work will affect the Banks committed programs and thus the loss by way of delayed services / completion of related works etc, are valuable and cannot be easily quantified. Therefore, it is part of the agreed terms that in the event of any delay in completion of the work, the Bank is liable to charge the contractor without the necessity of providing for any details of such losses suffered by the Bank.

Hence if the work is not completed as per the contract terms or to the satisfaction of the employer within the stipulated period, the contractor shall be bound to pay to the employer a sum of amount calculated **at 1( one ) percent of the accepted contracted sum per week of delay subject to a ceiling of 10% of the accepted contract sum** by way of liquidated damages and not as penalty during which the work remains un-commenced or unfinished after the expiry of the completion date.

For this purpose the term 'Contract sum' shall be value at the tender rates of the work as ordered / accepted.

Therefore the contractor is required to maintain progress in terms of the contract to complete the work within the stipulated period.

The Employer shall have the right to adjust/set-off against any sum payable to the contractor under this or any other contract with the Employer anywhere in India/outside India.

- 14. TOOLS, STORAGE OF MATERIALS, PROTECTIVE WORKS AND SITE OFFICE REQUIREMENTS:** The contractor shall provide, fix up and maintain his establishment in an approved position at site and clear away on completion of the works and make good all works disturbed.

The contractor shall not fix or place any placards or advertisement of any description or permit the same to be fixed or placed in or upon any hoarding, gantry, building structure other than those approved by the Employer.

Tools : Theodolite level, prismatic compass, steel tape, threads and all other instruments found necessary on the works shall be provided by the contractor for the due performance of the contract as instructed by the employer.

All suitable scaffolding, ladders and stools that may be required for safe taking of the measurements shall be supplied by the contractor.

Storage of materials : The contractors shall provide and maintain proper enclosures for the storage and adequate protection of materials, tools at the space allocated for the purpose including their watch & ward arrangements shall be the responsibility of the contractor.

Protective Measures: The contractor shall make suitable arrangements for watching and protecting the works and materials. The contractor shall indemnify the employer against any possible damage to the building, roads and members of public in course of the execution of the work.

The contractor should cover in his rates for making provisions for all the above and reasonable facilities for the use of his scaffolding, tools and plant etc., for their work.

- 15. NOTICE AND PATENTS OF APPROPRIATE AUTHORITY AND OWNERS:** The contractor shall conform to the provisions of any Acts of the Legislature relating to the work, and to the regulations and bye-laws of any authorities, and or other Companies (Indian or International) and / or Statutory Authorities, with whose system and design or technical know how are/were proposed to have connection with this work.

So also the contractor shall before making any variations from the drawings or specification that may be associated to so conform, give the Employer / Consultant written notices specifying the



variations proposed to be made and the reasons for making them and apply for instruction thereon. The Employer / Consultant on receipt of such intimation, shall give a decision within a reasonable time.

The contractor shall arrange to give all notices required for by the said Acts, regulations or Bye-laws to be given to any authority, and to pay to such authority or to any public officer all fees that may be properly chargeable in respect of the work and lodge the receipts with the Employer.

The contractor shall indemnify the Employer against all claims in respect of patent rights, royalties, damages to buildings, roads or members of public in course of execution of work and shall defend all actions arising from such claims and shall keep the Employer saved and harmless and indemnified in all respects from such actions, cost and expenses.

- 16. CLEARING SITE AND SETTING OUT WORKS :** The site shall be cleared of all obstructions, waste materials, rubbish of all kinds. All material damages at the site like on the walls, ceiling or flooring or on any other connected place/ equipments, materials or installations shall be re-done to maintain originality and shall be leveled at contractors own cost.

The contractors shall set out the works and shall be responsible for the true and perfect setting out the works and for the correctness of the positions, levels, dimensions and alignment of all parts thereof. If at any time, any error shall appear during the progress of any part of the work, the contractor shall at his own expenses rectify such error, if called upon to the satisfaction of the Employer.

The contractor shall further set out the works to the alternative positions at the site until one is finally approved and the rates quoted in his tender should include for this and no extra on this account will be entertained.

- 17. CONTRACTOR IMMEDIATELY TO REMOVE ALL OFFENSIVE MATTERS:** All waste materials and other matters of any offensive nature shall be taken out once the works are completed. The contractor shall keep the site free from dangerous materials like industrial gases, welding machines and any such devices or material of toxic and poisonous nature & shall not carry within the site or building any material which are explosive in nature. Any such offensive materials which are essentially required in course of work shall be undertaken with due written permission of the Employer provided such materials are permissible under Law.

- 18. ACCESS :** Any authorized representatives of the Employer shall at all reasonable times have free access to the works and / or to the workshops factories or other places where materials , or equipments are being fabricated or constructed for the work and also to any place where materials are lying or from where they are being obtained, and the contractor shall extend necessary facility to the Employer or their representatives for inspection examination and testing of the materials and workmanship.

Except the representatives of the Employer no person shall be allowed at any time without the written permission of the Employer.

The work shall be offered for inspection at every stage of the work and more specifically before painting, polishing and lamination.

- 19. MATERIALS, WORKMANSHIP, SAMPLES, TESTING OF MATERIALS :** All the works specified and provided for in the specifications or which may be required to be done in order to perform and complete any part thereof shall be executed in the best and most workmanlike manner with materials of the best and approved quality of the respective kinds in accordance with the particulars contained in and implied by the specifications and as represented by the drawings or according to such other additional particulars, and instructions as may from time to time be given by the Employer during the execution of the work, and to his entire satisfaction.

If required by the Employer the contractor shall have to carry out tests on materials and workmanship in approved material testing laboratories or as prescribed by the Employer at his own cost to prove that the materials etc. under test conform to relevant I.S. standards or as specified in the specifications. The necessary charges for sample material, transporting, testing etc. shall have to be borne by the contractor. No extra payment on this account should in any case be entertained.

All materials required for the full performance of the work under the contract must be provided through proper channels and must include duties, taxes, octries and other charges if any and must be best of their kind available and the contractor must be entirely be responsible for proper and efficient carrying out of the works. Samples of all the materials to be used must be submitted to the Employer / Consultant when so directed by the Employer.

Should the work be suspended by any reason, the contractor shall take all precautions necessary for the protection of work and at his own expenses shall make good any damages arising from any of these causes.

- 20. REMOVAL OF IMPROPER WORK :** The Employer shall during the progress of the work have power to order in writing from time to time the removal, from the work site within such reasonable time or times as may be specified in the order, of any materials which in the opinion of the Employer are not in accordance with specification or instructions, the substitution or proper re-execution of any work executed with materials or workmanship not in accordance with drawings and specifications or instructions.

In case the contractor refuses to comply with the order the Employer shall have the power to employ and pay other agencies to carry out the work and all expenses consequent thereon or incidental thereto as certified by the Employer shall be borne by the contractor or may be deducted from any money due to or that may become due to the contractor.

No certificate which may be given by the Architects/Consultants/Bank shall relieve the contractor from his liability in respect of unsound work or bad materials.

- 21. SAFETY PRECAUTIONS :** The contractor shall follow all necessary safety precautions with respect to the work. All necessary safety equipments / gadgets shall be used by the workmen. The contractor shall comply and ensure the enforcement of rules and regulations relating to the safety precautions. The arrangements be made by the contractor shall be open for inspection by any statutory authorities.

- 22. CONTRACTOR'S EMPLOYEES ::** The contractor shall employ technically qualified and competent supervisors for the work who shall be available (By turn) throughout the work and shall participate during site meetings and be available to take and comply with instructions of the Employer. The contractor shall employ in connection with the work persons having the appropriate skill or ability to perform their job efficiently. Any laborers supplied by the contractor to be engaged on the work on day work basis either wholly or partly under the direct order or control of the Employer or his representative shall be deemed to be a person employed by the contractor.

**CHILD LABOUR:** No Laborers below the age of sixteen years and who is not an Indian national shall be employed on the work.

**LABOUR LEGISLATION:** The contractor shall comply with the provisions of the payment of all legislation including the requirement of The payment of Wages Act, 1936, Minimum Wages Act, 1948, Employer's Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits Act, 1961, and the Contract Labor (Regulation and Abolition) Act 1970, Apprentices act 1961, or the modifications thereof or any other laws relating thereto and the rules made there under from time to time.

The contractor shall keep the Employer saved harmless and indemnified against claims if any of the workmen and all costs and expenses as may be incurred by the employer in connection with any claim that may be made by any workmen.

The contractor shall arrange to provide first-aid treatment to the laborers engaged on the works. He shall within 24 hours of the occurrence of any accident at or about the site or in connection with execution of the works, report such accident to the Employer and also to the Competent Authority where such report is required by law.

The contractor shall indemnify and keep indemnified the Employer against payments to be made under and for the observance of the laws aforesaid and the Contractors' Labor Regulations. The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.

**Compliance of Labor Regulations:** The Contractor shall at his own expense arrange for all the safety provisions for the safety of all workers and employees directly or indirectly employed on the work by the contractor.

The contractor shall be fully responsible for compliance at his own expense all the labor regulations and rules to be observed by him. The Contractor shall fully indemnify the Employer against any action by the state and/or Central Government for any default or alleged default by the Contractor, subcontractor or Employer of any of such rules and regulations. If, due to any default of the contractor or his sub-contractors, the Employer has to incur any expenditure for compliance of the rules and regulations or for any other reason connected with such default, the Employer shall be entitled to recover from the contractor all such expenditure in full from any payment due to the contractor.

**23. DISMISSAL OF WORKMEN :** The contractor shall on request of the Employer immediately dismiss from works any person employed thereon by him, who may in the opinion of the Employer be unsuitable or incompetent or who may misconduct himself. Such discharge shall not be the basis of any claim for compensation or damages against the Employer or any of their officer or employee.

**24. ASSIGNMENT ::** The whole of the works included in the contract shall be executed by the contractor and the contractor shall not directly or indirectly transfer, assign or underlet the contract or any part, share or interest therein nor, change in constitution and no subletting shall relieve the contractor from the full and entire responsibility of the contract or from active superintendence of the work during their progress.

**25. INJURY TO PERSONS AND DAMAGE TO PROPERTY - INSURANCE ::**

The Contractor shall be responsible for all injury to the work or workmen to persons, animals or things and for all damages to the structural and/or decorative part of property which may arise from the operations or neglect of himself or his employees, whether such injury or damage arise from carelessness, accident or any other cause whatsoever in any way connected with the carrying out of this contract.

The clause shall be held to include interalia, any damages to buildings whether immediately adjacent or otherwise, and any damage to roads, streets, footpaths or ways as well as damages caused to the buildings and the works forming the subject of this contract by rain, wind or other inclemency of the weather.

The contractor shall indemnify the employer and hold harmless in respect of all and any expenses arising from such injury or damages to persons or property as aforesaid and also in respect of any claim made in respect of injury or damage under any acts of compensation or damage consequent upon such claim.

The contractor shall reinstate all damage of every sort mentioned in this clause, so as to deliver the whole of the contract works complete and perfect in every respect and so as to make good or otherwise satisfy all claims for damages to the property or third parties.

The contractor shall effect the insurance necessary and indemnify the employer entirely from all responsibility in this respect. The insurance must be placed with a company approved by the employer and must be effected jointly in the name of the contractor and the employer and the policy lodged with the latter. The scope of insurance is to include loss or damage to the work and workmen due to carelessness, accident including fire, earthquake, floods, etc., damage or loss to the contract itself till this is made over a complete state. Insurance is compulsory and must be effected from the very initial stage. The contractor shall also be responsible for anything which may be excluded from damage to any property arising out of incidents, negligence or defective carrying out of this contract.

The employer shall be at liberty and is hereby empowered to deduct the amount of any damages, compensations, costs, charges and expenses arising or occurring from or in respect of any such claim or damages from any sums due or to become due to the contractor.

Unless otherwise instructed the contractor shall insure the works and keep them insured until the virtual completion of the contract against loss or damage by fire and/or earthquake, flood. The insurance must be placed with a company approved by the Employer, in the joint names of the Employer and the contractor for such amount and for any further sum if called to do so by the employer, the premium of such further sum being allowed to the contractor as an authorized extra.

The contractor shall insure the works and keep them insured until the virtual completion of the contract against loss or damages by fire and/or earthquake, flood. The insurance must be placed with a company approved by the Employer, in the joint names of the employer and the contractor for such

amount and for any further sum if called to do so by the employer and lodge receipts of premiums paid with the employer within 21 days from the date of issue of letter of acceptance unless otherwise instructed.

The contractor shall deposit the policy and receipt for premium paid with the Employer within 21 (twenty one) days from the date of issue of work order unless otherwise instructed. In default of the contractor insuring as provided above, the Employer on his behalf may so insure and may deduct the premiums paid from any money due, or which may become due to the contractor. The contractor shall as soon as the claim under the policy is settled or the work reinstated by the Insurance Company should they elect to do so, proceed with due diligence with the completion of the works in the same manner as though the fire has not occurred and in all respects under the conditions of the contract. The contractor in case of rebinding or reinstatement after fire shall be entitled to extension of time for completion as the Employer may deem fit.

**26. ACCOUNTS RECEIPTS & VOUCHERS :** The contractor shall, upon the request of the Employer furnish them with all the invoices, accounts, receipts and other vouchers that they may require in connection with the works under this contract. If the contractor shall use materials less than what is required under the contract, the value of the difference in the quantity of the materials that was required to use and that actually used shall be deducted from his dues. The decision of the Employer shall be final and binding on the contractor as to the amount of materials the contractor is required to use for any work under this contract.

**27. MEASUREMENT::** Measurements of completed works shall be as per Bureau of Indian Standards code IS-1200 & its relevant parts.

Before taking any measurement of any work, the Employer shall give reasonable notice to the Contractor. If the contractor fails to attend at the measurements after such notice or fails to countersign or to record the difference within a week from the date of measurement in the manner required by the Employer then in any such event the measurements taken by the Employer or by the subordinate deputed by him as the case may be is final and binding on the contractor and the contractor shall have no right to dispute the same.

The measurements particularly concealable in nature shall be jointly taken and recorded and such statement of measurement shall be enclosed along the bill or running bills.

The works will be paid for as "measured work" on item rate basis ie. On actual work done. All items of work described in the schedule of quantities are to be deemed and paid as complete works in all respects and details including preparatory and finishing works involved, directly, related to and reasonably detectable from the drawings, specifications and schedule of quantities and no further extra charges will be allowed in this connection. The work shall be strictly according to the design / dimensions given in the drawings. The payment will be restricted to the design dimensions and no payment will be made due to increase in thickness/ depth/width. All the dismantling items shall be PREMEASURED and APPROVAL of the employer shall be sought before dismantling.

**28. PAYMENTS:** All bills shall be prepared by the contractor in the form agreed or furnished by the Employer based on the accepted measurements. Normally one interim bill shall be prepared each fortnight subject to minimum value of Rs 7 ( seven ) lakhs. The interim bills shall be in proper forms must be duly accompanied by detailed measurements in support of the quantities of the work done and must show deductions for all previous payments.

The Employer shall issue a certificate after due scrutiny of the contractors' bill stating the amount due to the contractor from the Employer and the contractor shall be entitled to payment thereof, within the seven days from the date of the receipt of the interim bill. In case of delay due to some reasons in the processing of such bills for payment, an adhoc advance of 75% of the billed amount may be paid on the request of the contractor for the smooth progress of the work.

The amount stated in an interim certificate shall be the total value of work properly executed and 75% of invoiced value of material brought to site for permanent incorporation into the work up to the date of the bill less the amount to be retained by the Employer as retention money vide clause 11 of these conditions and less installments previously paid under these conditions, provided that such certificate shall only include the value of said material and goods as and from such time as they are reasonably, properly and not prematurely brought to or placed adjacent to the work and then only if adequately protected against weather or other casualties.

The Employer will deduct retention money as described in clause 11 of these conditions. The refund of retention money will be made as specified in the said clause.

All interim payments accepted by the Contractor shall be regarded as payments by way of advances against final payment only. These shall not preclude requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected or be considered as an admission of the due performance of the contract or any part

thereof in any respect or approving of any claim nor shall conclude, determined or affect in any way the power of the employer under these conditions for any of them as to the final settlement and adjustment of the accounts or otherwise or in any other way vary or affect the contract.

All payments are subject to statutory deductions of Income Tax & its Surcharge, Sales tax deductions or any other statutory deductions as notified by respective State/Central Government/Authority and any such instructions conveyed from time to time. From the interim bills, the retention money as detailed elsewhere in this tender shall also be deducted.

The final bill shall be submitted by the contractor within 1 (one) month from the date of completion of work or from the date of certification of virtual completion certified by the employer. No further claims shall be made by the contractor after submission of the final bill.

The final bill shall be accompanied by a certificate of completion from the Employer. Payments of final bill shall be made after deduction of all previous payments and Retention Money as specified in clause 11 of these conditions, which sum shall be refunded after the completion of the Defects Liability Period after receiving the Employer certificate that the contractor has rectified all defects to the satisfaction of the Employer. The acceptance of payment of the final bill by the contractor would indicate that he will have no further claim in respect of the work executed.

**29. VARIATION / DEVIATION :** The Employer shall have power to make alteration in, omissions from, additions to or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the employer. Such alterations, omissions, additions or substitution shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided.

(a) No work which radically changes the original nature of the contract shall be ordered by the employer as a deviation.

(b) The price of all such additional items / non tendered items will be worked out on the basis of rates quoted for similar items in the contract wherever existing or on engineering rate analysis based on prevalent fair price of labor, material and other components as required.

The tendered rates, shall hold good for any increase or decrease in the tendered quantities up to variation of 25% and as stipulated elsewhere for legitimate completion of works as per original design or scope of work and on account of any modification or alteration suggested and where the variation is for the respective item is beyond 25%, the rate for the respective item may be reviewed on mutually agreed terms.

In the event of any deviation being ordered which in the opinion of the contractor changes the original nature of the Contract, he shall within fifteen days of having been so ordered bring this to the notice of the Employer with the reasons but nevertheless carry it out and the disagreement as to the nature of work and the rate to be paid therefore shall be resolved in accordance with Clause under caption "SETTLEMENT OF DISPUTES AND ARBITRATION".

**30. SUBSTITUTION ::** Should the contractor desire to substitute any materials and workmanship, he must obtain the approval of the Employer in writing for any such substitution well in advance. In respect of Materials whose makes are not specified in the tender, specific approval of the Employer has to be obtained in writing before their usage.

- 31. PREPARATORY WORK FOR UTILIZATION OF THE FACILITY AFTER COMPLETION:** The whole of the work shall be thoroughly inspected by the contractor and deficiencies & defects, if any shall be set right. On completion of such inspection, the contractor shall inform the Employer that they have completed the work and it is ready for inspection.

On completion the contractor shall clean all the area and its surroundings, equipments etc. and will leave the entire area clean and ready for immediate usage to the satisfaction of the Employer.

- 32. CLEARING SITE ON COMPLETION ::** On completion of the works the contractor shall clear away and remove from the site all construction materials, plant & equipments, tools, surplus materials, scraps, rubbish and temporary works of every kind and leave the whole of the site and the works clean and in a workmanlike condition to the satisfaction of the Employer.

- 33. DEFECT AFTER COMPLETION ( defect liability period )::** The contractor shall make good at his own cost and to the satisfaction of the Employer all defects, or other faults which may appear within **12 months** after completion of the work( defect liability period). In default, the Employer may employ and pay other agency or persons to amend and make good such damages, losses and expenses consequent thereon or incidental thereto such expenses shall be made good and borne by the contractor and such damages , loss and expenses shall be recoverable from the payment due to the contractor and in the event of amount retained being insufficient, recover the balance from the contractor from the amount retained under clause No 11. together with any expenses the Employer may have incurred in connection therewith.

- 34. CONCEALED WORKS ::** The contractor shall give due notice to the Employer wherever any work is to be buried or concealed in the building in the earth, flooring, walls or otherwise becoming inaccessible later on, in order that the work may be inspected and correct dimensions or measurements taken before such burial. In default whereof the same shall, in the opinion of the Employer / Consultant be either opened up for measurement at the contractors expenses or no payment may be made for such materials. Should any dispute or difference arise after the execution of any work as to measurements etc. or other matter which cannot be conveniently tested or checked, the notes of the employer shall be accepted as correct and binding on the contractor.

- 35. ESCALATION ::** The rate quoted shall be firm throughout the tenure of the contract (including extension of time, if any granted) and will not be subject to any fluctuation due to increase in cost of materials, labor, sales tax, Octroi or any other reason. No escalation is allowed.

- 36. IDLE LABOUR::** Whatever the reasons may be, no claim for idle labor, additional establishment cost of hire and labor charges of tools and plants would be entertained under any circumstances.

- 37. SUSPENSION OF WORKS ::** If the contractor except on account of any legal restraint upon the Employer preventing the continuance of the work or in the opinion of the Employer shall neglect or fail to proceed with due diligence in the performance of his part of the contract or if he shall more than once make default, the Employer shall have the power to give notice in writing to the contractor requiring the work to be proceeded within a reasonable manner and with reasonable dispatch, such notice purport to be a notice under this clause.

After such notice shall have been given the contractor shall not be at liberty to remove from the site of the works or from any ground contiguous thereto any plant or materials to subsist from the date of such notice being given until the notice shall have been complied with. If the contractor fails to start the work within seven days after such notice has been given to proceed with the works as therein prescribed, the Employer may proceed as provided in **clause 39** (Termination of Contract by Employer).

- 38. TERMINATION OF CONTRACT BY EMPLOYER ::** If the contractor being a company go into liquidation whether voluntary or compulsory or being a firm shall be dissolved or being an individual shall be adjudicated insolvent or shall make an assignment or a composition for the benefit of the greater part, in number of amount of his creditors or shall enter into a Deed or arrangement with his creditors, or if the Official Assignee in insolvency, or the Receiver of the contractor in insolvency, shall repudiate the contract, or if a Receiver of the contractor's firm appointed by the court shall be unable, within fourteen days after notice to him requiring him to do so, to show to the reasonable satisfaction of the employer that he is able to carry out and fulfill the contract, and if so required by the employer to give reasonable security therefore, or if the contractor shall suffer execution to be issued, or shall suffer any payment under this contract to be attached by or on behalf of and of the creditors of the contractor, or shall assign, charge or

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encumber this contract or any payments due or which may become due to the contractor, there under, or shall neglect or fail to observe and perform all or any of the acts matters of things by this contract, to be observed and performed by the contractor within three clear days after the notice shall have been given to the contractor in manner hereinafter mentioned requiring the contractor to observe or perform the same or shall use improper materials or workmanship in carrying on the works, or shall in the opinion of the employer not exercise such due diligence and make such due progress as would enable the work to be completed within due time agreed upon, and shall fail to proceed to the satisfaction of the employer after three clear days notice requiring the contractor so to do shall have been given to the contractor as hereinafter mentioned, or shall abandon the contract, then and in any of the said cases, the Bank may notwithstanding previous waiver determine the contract by a notice in writing to the effect as hereinafter mentioned, but without thereby effecting the powers of the employer of the obligations and liabilities of the contractor the whole of which shall continue in force as fully as if the contract, had not been so determined and as if the works subsequently executed had been executed by or on behalf of the contractor (without thereby creating any trust in favour of the contractor) further the employer or his agent, or servants, may enter upon and take possession of the work and all plants, tools, scaffolding, sheds, machinery, steam and other power, utensils and materials lying upon premises or the adjoining lands or roads and sell the same as his own property or may employ the same by means of his own servants and workmen in carrying on and completing the works or by employing any other contractors or other persons or person to complete the works, and the contractor shall not in any way interrupt or do any act, matter of thing to prevent or hinder such other contractors or other persons or person employed from completing and finishing or using the materials and plants for the works when the works shall be completed, or as soon thereafter as conveniently may be, the employer shall give notice in writing to the contractor to remove his surplus materials and plants and should the contractor fail to do so within a period of 14 days after receipt by him the employer may sell the same by Public Auction and shall give credit to the contractor for the amount so realized. Any expenses or losses incurred by the employer in getting the works carried out by other contractors shall be adjusted against the amount payable to the contractor by way of selling his tools and plants or due on account of work carried out by the contractor prior to engaging other contractors or against the Security Deposit.

### **39. SETTLEMENT OF DISPUTES AND ARBITRATION :**

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All disputes or differences of any kind whatsoever which shall at any time arise between the parties hereto touching or concerning the works or the execution or maintenance thereof of this contract or the rights touching or concerning the works or the execution of maintenance thereof of this contract or the construction remaining operation or effect thereof or to the rights or liabilities of the parties or arising out of or in relation thereto whether during or after determination foreclosure or breach of the contract (other than those in respect of which the decision of any person is by the contract expressed to be final and binding) shall after written notice by either party to the contract to the other of them and to the Employer hereinafter mentioned be referred for adjudication to a sole Arbitrator to be appointed as hereinafter provided.

For the purpose of appointing the sole arbitrator referred to above, the employer will send within thirty days of receipt of the notice, to the contractor a panel of three names of persons who shall be presently unconnected with the organization for which the work is executed.

The contractor shall on receipt of the names as aforesaid, select any one of the persons name to be appointed as a sole Arbitrator and communicate his name to the employer within thirty days of receipt of the names. The employer shall thereupon without any delay appoint the said person as the sole Arbitrator. If the contractor fails to communicate such selection as provided above within the period specified, the competent authority shall make the selection and appoint the selected person as the Sole Arbitrator.

If the employer fails to send to the contractor, the panel of three names as previously mentioned within the period specified the contractor should send to the employer a panel of three names of persons who shall all be unconnected with either party. The employer shall on receipt of the named as previously mentioned select any one of the person's names and appoint him as the Sole Arbitrator. If the Employer fails to select the person and appoint him as the Sole Arbitrator within thirty days of receipt of the panel and inform the contractor accordingly, the contractor shall be entitled to appoint one of the persons from the panel as the Sole Arbitrator and communicate his name to the employer.

If the Arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever another Sole Arbitrator shall be appointed as aforesaid.

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The work under the contract shall, however, continue during the arbitration proceedings and no payment due or payable to the contractor shall be withheld on account of such proceedings.

The arbitrator shall be deemed to have entered on the reference on the date he issued notice to both the parties fixing the date of the first hearing.

The arbitrator may from time to time with the consent of the parties enlarge the time for making and publishing the award.

The arbitrator shall give a separate award in respect of each dispute or differences referred to him. The arbitrator shall decide each dispute in accordance with the terms of the contract and give a reasoned award. The venue of arbitration shall be such place as may be fixed by the arbitrator in his sole discretion.

The fees, if any, of the arbitrator shall if required to be paid before the award is made and published be paid half and half by each of the parties. The cost of the reference and of the award including the fees, if any, of the Arbitrator who may direct to and by whom and in what manner, such costs or any part thereof shall be paid and may fix or settle and amount of costs to be so paid.

The award of the arbitrator shall be final and binding on both the parties.

Subject to aforesaid the provisions of the Indian Arbitration Act, 1992 or any statutory modification or re-enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause.

The employer and the contractor hereby also agree that arbitration under clause shall be a condition precedent to any right to action under the contract with regard to the matters hereby expressly agreed to be so referred to arbitration.

**40. CO -ORDINATION OF WORKS:** The contractor shall execute the works in co-ordination with the other agencies like air-conditioning, electrical etc., involved in the works. The work site shall be neatly cleaned as and when necessary so that the works of other agencies can be carried out. Failure on part of the contractor to clean the work site will empower the employer to engage other agencies and recover the cost from the contractor.

**41. ELECTRICAL POWER, WATER AND TOILET FACILITIES:** The electrical power required for the works shall be supplied at one single point in the floor as per meter reading cost and the contractor shall make his arrangements to draw the same to the required work spots. The contractor shall engage a licensed electrician to carryout and maintain his electrical system. In case of power failure the contractor at his own cost, has to make his own arrangements by hiring or installing the DG set. The employer shall not entertain any charges for engaging the DG set. The work shall not be stopped on account of power failure. Further, no extension of time shall be permissible on account of the power failure.

Water shall be provided free of cost at one point.

Common toilet facility is available at the work site and the contractor shall maintain the same hygienically clean.

**42. TENDERED VALUE:** The lowest tendered value shall be the total of all the items including the buyback items.

**43. The work should be carried out with full co-ordination / co-operation of occupants without damaging any permanent structures or furniture belonging to them. If any damage occurs, the cost of same will have to be reimbursed by the Contractor**

**44. THE WORK SHALL BE CARRIED OUT WITHOUT AFFECTING THE BRANCH FUNCTIONING. The working hours to carry out the interior work extend beyond the normal working hours.**

SIGNATURE OF CONTRACTOR

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**FORM OF AGREEMENT**

This agreement made the \_\_\_\_\_ day of the month of \_\_\_\_\_ in the year 2025 BETWEEN, Canara Bank a body corporate constituted under the Banking Companies ( Acquisition and Transfer of undertakings Act, 1970, having its Circle office, at **General Administration Section, Circle Office Ahmedabad, at 7th Floor, GIFT CITY, TOWER-1, Gandhinagar-382355, Gujarat** represented by its duly constituted attorney (hereinafter referred to as the Employer / Bank) on the ONE PART; and

\* Shri \_\_\_\_\_ S/D/o \_\_\_\_\_ resident of \_\_\_\_\_ the sole proprietor of M/s \_\_\_\_\_ having office at the following address \_\_\_\_\_

\* M/s. \_\_\_\_\_ the partnership firm having an administrative/principal office at \_\_\_\_\_ represented by its Managing/duly authorized partner.

\* M/s. \_\_\_\_\_ company/body corporate incorporated under the provisions of the Companies Act 1956 having its registered office at the following address \_\_\_\_\_, duly represented at \_\_\_\_\_ duly represented by its constituted and authorized Managing Director, Shri \_\_\_\_\_ and (hereinafter called the Contractor which term shall also be called the Supplier or the Contractor ) on the other part

WHEREAS THE Employer / Bank is desirous that certain Interior and furnishing works should be executed as detailed in the Notice inviting tender for their Branch at .....and called for invitation to tender and the tender dated \_\_\_\_.2025 furnished by the contractor for execution of such works has been accepted by the Employer on the terms and conditions as set out therein and interlaid others.

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this agreement words and expression shall have the same meanings as are respectively assigned to them in the conditions of contract hereinafter referred to.

2. The following documents not inconsistent with these presents shall be deemed to form and be read and construed as part of this agreement viz;

- a) Notice inviting Tender
- b) General Rules and Instructions for the guidance of tenderers.
- c) The Tender, Letter of Acceptance, Letters from & to the tenderer, if any, leading to and prior to acceptance letter.
- d) General Conditions of contract and clauses of contract along with Annexures thereto.
- e) Tender drawings, Approved makes.

[Note: \* Strike off whichever is not applicable]

f) Schedule of quantities with specifications including Prices and tendered amount .  
3. In consideration of the payments to be made by the Employer to the contractor, the contractor hereby covenants and agrees with the Employer to execute and complete the works in conformity in all respects as per the para ( 2 ) above and as per the aforesaid documents which shall form part of this agreement.

In witness whereof the parties hereto have hereunto set their respective hands and seals the day and year first above written.

Signed, sealed and delivered by the said contractor, \_\_\_\_\_

to the Employer \_\_\_\_\_ in the presence of:

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Signature of Contractor (with seal)

Signature of Authorized representative  
of the Employer / Accepting Authority.

Witness (Signature, Name & Address):

1).

2).

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**INDEMNITY BOND**

(To Be Submitted by the Successful Contractor in stamp paper)

THIS DEED OF INDEMNITY BOND is made on this -----day of ----- month of year two thousand Twenty Five (2025)By M/s----- duly represented by one of its partners/proprietor-----,aged--years, son of Sri-----,residing at-----.

\* M/s.....the partnership firm having administrative/ principal office at represented by its Managing/duly authorized partner.

\* M/s. ....company/body corporate in corporate under the provisions of the Companies Act 1956 having its registered office at the following address ,duly represented by its constituted and authorized Managing Director, Shri..... and (herein after called the Tenderer which term shall also be called the Supplier or the Tenderer) on the other part

Whereas My Firm/Company was short listed for issue of tenders and my company became successful in securing the subject work through competitive tendering and for carrying ..... work has been awarded in favour of my Firm/ company by Canara Bank, Circle Office, 7th Floor, Gift One Tower, Gift City, Gandhinagar, 382355.

And whereas for undertaking the contract .....work has entered into contract agreement on 2025.

Now this Deed Witnessed that in pursuance of the aforesaid contract agreement dt...2025 and inconsideration of Canara Bank having agreed to make payments after the successfully completion of the work, I hereby undertake to indemnify and keep harmless the Canara Bank and its officials from any damages, prosecution, other legal suits and claims arising out of any mishaps occurring at the site due to faulty work, faulty construction and for violating rules and regulations, as specified by Canara Bank from time to time, for which I shall be solely responsible.

The contractor shall indemnify the bank for any loss occurred to the bank by any act of commission & omission made by the contractor & or his employees and it includes against any claim under the Payment of Wages Act, 1936, and/or the Minimum Wages Act, 1948, Workman"s Compensation Act ,Factories Actor any statutory obligations arising out of any other Actor Acts or on behalf of any person employed by him."

Signature of Contractor with seal & signature

Name of work : **Proposed furnishing work for RO BARODA, Baroda.**

**TECHNICAL SPECIFICATION FOR HIGH WALL (SPLIT) AC UNITS & CASSATTE UNITS****2101 UNITARY REFRIGERATION EQUIPMENT****1. SCOPE**

- 1.1. The scope under this section shall cover the unitary refrigeration equipments such as Window air conditioners, split units and packaged units.

**2. STANDARDS**

- 2.1 The following standards shall be applicable

- |    |             |  |
|----|-------------|--|
| a) | IS:369:2019 | Hot air fans                                     |
| b) | IS:6272     | Industrial cooling fans                          |
| c) | IS:1391     | Room Air Conditioners                            |
| d) | IS:8148     | packaged Air Conditioners                        |
| e) | IS:2997     | Air Circulator type electrical fan and regulator |

**3. GENERAL REQUIREMENTS**

- 3.1 The unitary air conditioners shall include refrigeration compressor, drive motor, air cooled condensing unit, evaporator, refrigeration piping automatic control system enclosure etc.
- 3.2 The equipment assembly shall be well balanced to achieve minimum vibration and noise. The condensing unit mounted outdoor shall be suitable for the climate and atmosphere Condition prevailing to avoid / minimize corrosion. Necessary anti corrosive treatments shall be provided for the metallic components.
- 3.3 The equipment shall met the requirements indicated in the equipment data and shall meet the cooling load specified at the outdoor design data furnished and the distance/ static

**4. EQUIPMENTS****4.0 Assembled Units**

- 4.1 The unitary air-conditioning unit shall of factory assembled and tested and of the following category as indicated on the drawing and bill of materials.

- a) Window air conditioners having single unit to house compressor, condenser, evaporator refrigerant piping and control system.
- b) Split air conditioners having compressor and condenser housed in one unit located outdoor. evaporator and controls house in another unit located indoor Refrigerant piping and power/control wiring interconnecting condensing unit and evaporators laid externally.
- c) Packaged air conditioners having compressor and control evaporated houses in one unit and located indoor and condenser housed in another unit located outdoor. The refrigerant piping and power/control cabling interconnecting condenser and the indoor unit laid externally.

1. The components for the various equipment assembly shall be as specified in the following section.

**a. COMPRESSORS**

- b. The compressors shall preferably be hermetically sealed scroll / rotary permanently lubricated.

**4.3 CONDENSERS**

- a. The condenser shall be air cooled consisting of copper coils with aluminum fins, propeller

fan with motor, sheet steel enclosure with air inlet and exhaust louvers mounting frame, platform /brackets etc.

- b. The condenser and all its components shall be provided with suitable anticorrosive treatment. The enclosure shall be GI / Aluminum powder coated.

#### **4.4 EVAPORATOR**

- a. The evaporators shall be ducted or non-ducted concealed or exposed as indicated in the drawing and bill of materials. The evaporators shall include coils with aluminum fins, expansion valve, centrifugal fan with motor return air filter, supply and return air grilles and louvers, automatic control panel with thermostat and enclosure. The enclosure for concealed unit shall be of GI powder coated whereas that for exposed units shall be of ABS plastic.
- b. The filters shall be antibacterial washable and shall be of minimum 20 micron filtration. The filters shall be easily removable for cleaning without.

#### **4.5 CONTROLS**

- a. The controls shall be automatic digital electronic LCD display having the following minimum requirements.
  - a) Automatic capacity control
  - b) Temperature and fan speed control with digital display
  - c) Timer control
  - d) Corded /corded remote control wherever specified.

### **5. SUPPORTS & PIPING**

#### **5.0. SUPPORTS & BRACKETS**

- 5.1. The equipment's shall be properly supported with brackets, hangers, platforms base frame etc. depending upon the type, location and capacity of the unit.
  1. The supports shall be MS fabricated duly treated and painted for anticorrosion. The outdoor condensing unit shall be properly supported on MS frame work/ platform properly grouted to the RCC slab / brick walls using bracket.
  2. The floor mounted packaged unit shall be provided with base frame and pedestals with necessary ant vibration pads. The ceiling suspended evaporator shall be supported using anchor fasteners and suspension rods. The wall-hung evaporators shall have GI stenciled back plate for mounting the unit, grouted to the wall/ beam using anchor fasteners.

#### **5.2 REFRIGERANT PIPING**

1. Refrigerant copper piping Suction /Liquid line to be insulated with 13mm electrometric nitrile rubber insulation. Aluminum foil membrane shall be applied to provide resistance against breakdown due to UV radiation for exposed portion of the rubber insulation. DISCHARGE LINE to be painted with epoxy/ anticorrosive paint.

Refrigerant piping running along the partition wall shall be concealed in the wall with necessary chasing in the wall and closing the same with sand cement plastic with chicken wire mesh.

#### **5.3 DRAIN PIPING**

1. Providing and fixing in position the following pipes cut to required lengths with necessary drain trap and fittings with 6mm insulation terminated drain point available for each indoor unit gravity flow.
2. 32mm dia rigid(ISI MARKED) PVC pipe. Duly insulated with 6mm elastomeric nitrile rubber.

### **2102 AIR DISTRIBUTION**

#### **1. Scope**

- 1.1. The scope under this section covers air distribution system consisting of:

- a) Sheet metal ducting
- b) Dampers & Air balancing
- c) Grilles & diffusers

## 2. STANDARDS

2.1. The following standards shall be applicable:

- a) IS :655 Metal air duct
- b) IS :CP352 Mechanical ventilation and air conditioning in buildings
- c) IS :2629 Recommended practice for hot – dip galvanizing of iron & steel
- d) SMACNA Standard for low-pressure duct construction

## 3. MATERIAL

- 3.1. The material for sheet metal ducting shall be cold rolled sheets continuous galvanize with Zinc coating of total 120gm per sq.mt for conforming to IS :277.
- 3.2. The gasket for duct joints shall be 3mm formed rubber or expanded polyethylene. The bonding material shall be mastic sealant.
- 3.3. The duct flanges and supporting material shall be mild steel structure steel section.
- 3.4. All duct hangers shall be mild rod with full threaded with adjustable/ lock nuts for leveling.
- 3.5. The material for various applications shall be as follows:

APPLICATION	MATERIAL
1. Ducting for Air-conditioning	Cold rolled sheets continuous galvanized with a zinc coating of 120g/sq.m conforming to IS :277 a) Indoor – class 4 b) Outdoor insulated –class 4 c) Outdoor UN insulated – class3
2. Duct for ventilation & exhaust	-----do-----
3. Kitchen exhaust	C.R.C.A sheet
4. Supports & duct flanges	Galvanized mild steel structural steel sections
5. Gasket	Nearopin rubber 3.2mm( 1/8")
6. Bonding	Master sealant

- 3.6. All galvanized plain sheets shall be reasonably flat and free from twist. The zinc coating shall be clean, even and free from un galvanized spots. Sheets shall not crack or peel during bending or fabrication. All sheets shall be procured from approved manufactures.

## 4. GENERAL REQUIREMENTS

- 4.1. The steel metal ducting shall be done for the proper distribution of air conditioned/ventilated space. The ducting shall be designed on the basis of equal pressure drop and shall incorporate necessary accessories like reducers, bends, splitters, dampers and guide vanes for proper control and smooth air flow.
- 4.2. The selection of air diffusing attachments and their location shall be done to achieve uniform air distribution. The grilles and diffusers shall be painted M.S. or aluminum as specified shown on the drawing.
- 4.3. The ducting shall be supported by means of hangers from the ceiling slab using anchor bolts and shall not rest on the false ceiling.
- 4.4. Duct crossing walls and slabs shall be encased in wooden frame work and the opening shall be closed properly unless indicated on the drawing for the purpose of return air.
- 4.5. Volume control dampers of splitter or louvered type shall be provided as shown on the drg. Additional dampers if req. shall be provided for proper balancing of the air distribution system.
- 4.6. Fire dampers shall be provided at the AHU outlet and return air inlet to the air –handling. Equipments/room additional fire dampers shall be provided as per the codes of local fire authorities.
- 4.7. Access door shall be provided adjacent to the fire, splitter and louvered dampers.
- 4.8. Air outlets shall be selected based on the air quantity, throw and aerodynamic noise power not exceeding NC 30. The location size and shape of the air outlets shall be co-ordinate with interior and false ceiling scheme.

## 5. DUCT FABRICATION

- 5.1 Duct shall be rectangular or circular as indicated on the drawing. The duct shall be made of either galvanized steel sheet as specified in the BOQ and conform to IS : 655. The galvanized steel sheet shall conform to IS :277. Aluminum sheet shall conform to IS :737. The duct construction shall be as follow:

a) **Rectangular Duct Construction:**

MAX. SIDE THICK.GSS Mm		TYPE OF JOINT BRACKING sheet	BRACKING (S.W.G)
Up to 750		25mm GSS flanges	
751 to 1500		25mm x3mm	25mm x3mm
1501 to 2250	20G	ms angle flange 40mmx3mm	ms angle 40mmx3mm
2251 to above	18G	Ms angle flange 50mmx3mm Ms angle flange	ms angle at 1.24 center 50mmx3mm ms angle at 1.24 center

b) **Hanger for Duct**

Duct size mm	spacing Not exceeding m	size of ms angle mmxmm	size of Rod dia. mm
up to 750	2.5	25x25x3	6
751 to 1500	2.5	40x40x3	6

- 5.2. The companion flanges and girth angles shall be metered and welded at corners and riveted to the duct at 75 mm centers. The longitudinal seams shall be inside groove or pits burg type. The flanged joints shall be made air tight with 3mm rubber or 6mm felt gasket and secured with 10mm GI bolts at 150mm centers. Ducts shall not be cross-broken, if insulated. The seams and joints shall be rendered air tight with mastic sealant.

- 5.3 The elbows shall have a minimum R/D ratio of 1:3. The elbows of R/D rate of less than 1;3 and square elbows wherever provided due to site condition, shall be with equally spaced guide vanes for smooth flow. Splitter dampers shall be provided for all LCB splits. All branches, feeding more than two outlets shall be provided with control dampers.

- 5.4 Capped air flow connections shall be provided, wherever shown, for testing and balancing for air distribution.

## 6.0 DAMPERS & GUIDE VANES

- 6.1. The GUIDE VANES shall be provided as shown below:

- At every non-split LCB take off
- At every bend/ elbow of less than 1.3 R/D ratio
- At first 4 collars after the fans and first two collar after every bends.

The vanes shall be double walled and properly curved for smooth air flow and change indirection of flow and shall be fabricated out of 0.8 mm GI sheets. The vanes shall be fixed to the side runners at equidistant and riveted/bolted to the ducts.

- 6.2. The splitter dampers shall be double walled aerofoil blade fabricated out 1.6mm (16 SWG) GI sheet. The damper shall be complete with flanged sheet metal enclosure to suit the upstream and downstream duct connections, hinge at the downstream and operating rod at the upstream end. The GI enclosure shall be one size thicker than the upstream duct.

- 6.3 The louvered dampers shall be multi blade aerofoil construction with opposed/parallel blades of maximum 250x1200mm size. The blades shall be mounted on 50mm channel with suitable gang operated linkage and operating rod. The operation rod shall be terminated in a locking quadrant with position indicator.

- 6.4. The fire dampers shall be rated for 2 hrs. fire resistance conforming to BS : 476-1 and CP – 413 and shall be housed in as GI sheet enclosure flanges at both ends and shall include the damper blades, fusible link, holding spring. Manual adjustable handle etc.

The material for fabrication of fire dampers shall be as shown below:

- Damper blades -3mm(10 SWG) galvanized sheet steel

- b. Casing – 2mm (14 swg)
- c. Bearing – Sintered
- d. Spring – SS 304
- e. Fusible link – set for 7 deg C fusing temperature

6.5 All dampers larger than 1200 mm width shall be fabricated in multiple sections. The damper rods shall be MS epoxy coated with bronze at one end locking quadrant with damper position indicator at the other end. The damper rods shall extend beyond the enclosure frame and insulation wherein provided.

6.6. The access doors for dampers shall be 400 x 400mm steel bolted with rubber gasket.

## 7. AIR OUTLETS

7.1. The air outlets shall be grille or diffuser type as indicated on the drawing. The grilles and diffusers shall be MS painted, aluminum or aluminum powder coated as shown on the drawing and schedule of material.

7.2 Supply air grilles shall be double deflection type with horizontal face bars and vertical rear bars placed in rigid marginal frame. Bars shall be shaped and spaced at 18mm centers with swaged pivot pins positively holding the deflections setting under all conditions of velocity and pressure. All grilles shall be provided with integral opposed blade, grille face kept-operated dampers.

7.3. Return grilles shall have fixed face bars shaped and set at 18mm centers. Bars shall be set at 5 degree deflection for vision proof installation. The grilles shall be complete with rigid marginal frames and shall be matching with the supply grilles.

1. Ceiling diffusers shall be round / square/ rectangular face flush type horizontal air diffusion pattern. Diffusers shall have ample margins to minimize ceiling smudge.

Half diffusers shall be provided with face operated volume control dampers. Half diffusers shall be similar to full diffusers.

2. All MS grilles and diffusers shall be fabricated out of 1.0mm mild steel and painted with two coats of red oxide. All ducts collars terminating on to a grille or diffuser shall be given two coats of black paint for a length of 300mm.

7.4. Aluminum grilles and diffusers wherever specified shall be of extruded aluminum with margins & GSS butterfly dampers. Grilles shall have horizontal face bars only.

7.5. linear diffusers/grilles shall be die formed, flush mounted type with single or double directional airflow. The diffuser/ grille shall be in a frame with minimum 20mm margin. All linear air diffusing equipment shall be fitted with a distribution sheet metal plenum as shown on the drawings.

## 8. AIR INTAKES & EXHAUST OUTLETS

8.1. The outside air intakes and exhaust air outlets shall consists of louvers, bird screen and enclosure, the total assembly fitted in to wall with clear opening and the edges sealed with mastic sealant.

8.2. The sheet metal enclosure shall be made out of 1.25mm GI sheets flanged at both ends and with minimum 4 holds fast. The enclosure shall be minimum 250mm long or 100mm more than the width of the wall.

8.3. The louvers shall be 100mm wide mounted at 45 deg. And spaced at 100mm centers and shall be fabricated out of 1.25mm GI sheets.

8.4. The bird screen shall be made out of 15x15mm 1.0mm GI wire mesh inset with 0.8mm GI frame & bolted to the enclosure flange at 150mm centers using 12mm MS brass bolts and nuts.

## 9. INSTALLATION

- 9.1. The ducts shall be supported at the traverse joints as indicated as below:
  - a. Up to 1800mm 40 x40x3mm MS angle with 10mm tie rod
  - b. 1850 to 2550mm 40x40x6mm MS angle with 10mm tie rod.
  - c. 2550mm and above 50x50x6mm MS angle with 10mm tie rod.



- 9.2. Additional supports wherever considered necessary by the Engineer – in –charge shall be provided. Supports shall be taken from steel members grouted in the RCC work and fixing of steel members shall involve minimum damage. The entire supporting system shall be meet with the approval of the engineer –in-charge.
- 9.3. All duct supports, flanges hanger shall be given two coats of red-oxide before installation and one coat of aluminum paint after erection.
- 9.4. Where ducts are connected to the wall, such connections shall be made through mild steel frame fixed to the wall through suitable shear fasteners.
- 9.5. The ducts shall be routed as shown on the drawing or as instructed. Working drawing shall be got approved before taking up the fabrication and erection.
- 9.6. Ducts connecting to air moving apparatus shall be through 15 OZ mildew resistant double canvases directed by the engineer. On all circular spigots the flexible material is to be screwed or clip band with adjustable screw or toggle fitting. For rectangular ducts the material is to be flanged and bolted with backing flat or bolted to mating flange with backing flat. The flexible connection shall not be less than 75mm and not more than 200mm.

## 10. TESTING BALANCING

- 10.1 The entire air distribution shall be adjusted and balanced for delivery of design air quantities or as required for achieving design space condition. After all adjustments are made, the air readings shall be recorded on the drawings vis-à-vis the space conditions. All dampers after adjustment shall be set and locked in position. All air and static pressure measurements shall be done through problems type meters. Vane type meter readings are not considered reliable.

## 2103 THERMAL INSULATION

### 1. SCOPE

- 1.1. The scope under this section covers thermal insulation of pipes, ducting, roof and walls.

### 2. STANDARDS

- 2.1. The following standards shall be applicable:
- IS : 7240 COP for application and finishing of thermal insulation material at temp. between 80 degree C to 40 degree C.
  - IS : 7413 COP for application and finishing of thermal insulation material at temp. between 40degree C to 700 degree C.
  - IS : 10556 COP for storage and handling of insulation material.
  - IS : 3346 method of determination of thermal conductivity of thermal insulation material.
  - IS : 3690 specification for glass wool mats for thermal insulation.
  - IS : 4671 specification for expanded polystyrene for thermal insulation purpose.
  - IS : 8183 specification for bonded mineral wool.
  - IS : 702 specification for industrial bitumen.

### 3. GENERAL REQUIREMENTS

- 3.1. The material and thickness for insulation shall be as specified and shown on the bill of material.

The thermal conductivity and the equivalent thickness of insulation shall be as shown below:

SR.NO.	MATERIAL	DENSITY	K VALVE	EQUIVALENT THICKNESS			
		Kg/cum w/mk	mm	mm	mm	mm	mm

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1.	Resin bonded glass wool	32	0.037	125	100	50	30
2.	Expanded Polystyrene TF-quality	18	0.0326	100	75	50	25
3.	Expanded Polystyrene	32	0.025	80	40	40	20
4.	Rigid phenol foam	32	0.022	70	50	25	20
5.	Resin bonded <b>Mineral wool</b>	48	0.041	125	100	60	30
6.	Expanded Polyethylene foam	30	0.035	100	75	80	30

- 3.2. The insulation, bonding and the vapor barrier shall be suitable for the temperature of the surfaces to be insulated and the location.
- 3.3. All wooden bittens and plugs used shall be teak wood ant termite treated with 3 coats Shalimar clear liquid. All screws shall be of GI, brass or powder coated.
- 3.4. All surfaces to be insulated shall be thoroughly cleaned and dusted before applying the insulation and bonding material. The bonding material shall be applied to both surfaces to be bonded.
- 3.5. The pipe insulation shall be carried out using performed circular/ semi circular pipe sections of internal diameter matching the external diameter of the pipe.
- 3.6. Air pocket between the surface and insulation or between insulation shall not be acceptable. All joints shall be staggered and filled with bonding material.
- 3.7. Minimum 50mm overlapping shall be provided for joints in vapor barrier and cladding.

Internal

#### 4. MATERIAL

- 4.1. The material for cold insulation shall be as shown below:
- Fire inhibiting expanded polystyrene of density 18kg/cum having thermal conductivity not exceeding 0.035w/mk at 10deg. C mean temperature conforming to IS : 4671.
  - Expanded polyurethane foam of density 32 kg/cum having thermal conductivity not exceeding 0.025 w/mk at 10 deg. C means temperature conforming to specification.
  - Rigid phenol foam of density 32 kg/cum having thermal conductivity not 0.022 w/mk at 10deg. C mean temperature conforming to BS : 3927 with 50 micron aluminum foil fixing.
  - Expanded polyethylene foam of density 30 kg/cum having thermal conductivity not exceeding 0.035 w/mk at 10C mean temperature.
- 4.2. The material for hot insulation shall be as shown below:
- Resin bonded glass wool of density 32kg/cum having thermal conductivity not exceeding 0.037 w/mk 60deg C means temperature.
  - Expanded polyurethane foam of density 32 kg/cum having thermal conductivity not exceeding 0.025w/mk at 10 deg. C mean temperature conforming to BS specification.
  - Rigid phenol foam of density 32kg/cum having thermal conductivity not exceeding 0.022 w/mk at 10 deg. C mean temperature conforming to BS : 3927 with 50micron aluminum foil fixing.
  - Resin bonded mineral wool of density 48 kg/cum having thermal conductivity not exceeding 0.041 at 10 deg C mean temperature conforming to IS : 8183 with 50mm.
- 4.3. The material for fixing vapour barrier and other material shall be as shown below:

Internal

- a. BONDING MATERIAL
  - i. Industrial bitumen – 85/40 and 85/25 conforming to IS : 702
  - ii. GI chicken wire mesh - 20mm 24 SWG
  - iii. PRX compound
  - iv. 18 SWG GI binding wire
  
- b. VAPOUR BARRIER
  - i. Aluminum foil 50micron
  - ii. Aluminum cladding 28 SWG for pipe and 6 SWG for wall
  - iii. 2mm PYPKOTE with aluminum foil finish for surface exposed to the weather.
  - iv. 4mm PYPKOTE polymeric corrosion tape for anticorrosion treatment for underground.
  
- c. FIXING MATERIAL
  - i. Bituminous wood balk 50 x50 mm thick insulation and 50x100 up to 150mm thick insulation.
  - ii. GI brass or powder coated.

## 5. INSULATION THICKNESS

5.1. The thickness of insulation and the cladding material for various utilities shall be as specified under each section.

### 5.2. REFRIGERANT PIPING

- a. The refrigerant piping shall be of half – hard copper Rs. 250 conforming to EN. 1057 Table Y. The fittings shall be of shot end capillary brazing conforming to EN 1254. The pipes shall be supplied on coils and cut to required length to achieve fall length without joints between the condenser and evaporator.
- b. The fittings for connection to the condenser evaporator expansion valve etc shall be through copper brass composite fitting. The brazing /soldering material shall conform to EN. 29453.
- c. The refrigerant lines shall be insulated with 9mm nitrile rubber tubing to prevent heat loss and condensation.

Refrigerant running along the partition wall shall be concealed in the wall with necessary chasing in the wall and closing the same with sand cement plastic with chicken wire mesh.

### 5.3. DRAIN PIPING

- a. The evaporator shall be piped to the nearest drain point / drain line using UPVC pipe conforming to IS : 4985. Necessary water seal trap shall be provided at the evaporator at the discharge point.
- b. Condensate from the evaporator unit shall be drained through properly installed drain piping designed to prevent any accumulation of condensate in the drain pan.
- c. Drain piping shall be made of 1.1/4” & 2” rigid PVC pipe of kg/cm<sup>2</sup> pressure rating with water tight threaded connection, leading from the room unit to a suitable drain point. Complete drain piping shall be made leak proof and water tight by means of precise installation and the use of leak proof sealant / adhesives. Insulation of drain piping by expanded polyethylene.

## 6. INSULATION OF DUCTING

### 6.1. THERMAL

Supply or return air duct shall be insulated with 75/50/25 mm thick fiber glass of density 24kg/cum. The fiber glass shall be factory packed aluminum foil.

Method of applying the insulation:-

## Internal

Clean the duct surface to be insulated.

Applying a thin layer of tar paint of shali coat / ticky tar.

Apply a thin coat of hot bitumen to stick the insulation.

Fix the insulation of specified thickness over the surfaces of the duct tightly and seal the joints with using BOPP tape.

Secure the insulation with 16 gauge GI wire or 10mm PVC box strapping at a distance of 300mm.

### 6.2. ACOUSTIC

Supply and fixing of acoustic lining inside sheet metal ducts with 25mm thick resin bonded fiber glass insulation of density 32 kg/cub.mtr after applying two coats of setting adhesive and covered with fiber glass tissue paper and finished with 0.6mm perforated aluminum sheet and reinforced with GI fasteners complete as required.

### 6.3. Method of applying the insulation:-

Applying thin layer of tar paint of shali coat/ ticky tar.

Fix –up fiberglass slab.

Cover up with R.P. tissue and perforated aluminum sheets with the help of GI screw washer.

## 7. CEILING/WALL INSULATION

### Internal

7.1. The ceiling/wall insulation shall be as shown below:

SL. NO.	SURFACE	LAYER X THICKNESS	MATERIAL	CLADING
1.	Exposed concrete roof	1x50	Expanded polystyrene	Plaster
2.	Over exposed concrete roof	1x30	polyurethane foam	by others
3.	Exposed GI or ACC roof	1x75	Expanded polystyrene	A/C sheet
4.	Exposed wall	1x50	Expanded Polystyrene	plaster by others
5.	False ceiling	1x50	Resin bonded Glass wool	fiber glass tissue
8.	RCC ROOF			

8.1. The thickness of insulation required is 50mm expanded polystyrene unless otherwise specified.

8.2. Make wooden framework at 600 to 750mm centers on ceiling slab by fixing 50 x50 wooden battens using 75mm long wooden screws and self expanding nylon tumbles. Clean the surface of slab and apply 3mm high softening grade R 85/25 bitumen. Apply one coat of bitumen on the bonding surface of the insulation and press against the slab till the bonding is achieved.

8.3. Fix 18 SWG 100x100mm GI washers at the junction of the wooden framework and made GI melting in cross binding pattern to hold the insulation.

8.4. The insulation provided above false ceiling and non visible areas need not have cladding unless otherwise specified. The insulation provided in the visible areas shall be plastered by other agencies after providing chicken wire mesh.

## 9. WALLS

### Internal

- 9.1. The thermal insulation for the walls shall be similar to RCC slab. The thermal insulation shall be provided on west, north west and east side exposed wall, if specified.
10. GI OR ACC ROOFING
- 10.1. The thickness of insulation required is 120mm resin bonded glass wool unless otherwise specified.
- 10.2. Weld 25 x 3 x 130mm MS flats with 6mm hole at the free end to the purlins at intervals not exceeding 750mm. Applying 3mm bitumen to the roofing material and one coat to the insulation. Press the insulation against the roof till bonding is achieved.
- 10.3. Make GI melting in cross bind pattern to hold the insulation. Clad the insulation with FRP tissue sheet or aluminum foil applying bitumen on the insulation as well as the cladding material.
- 10.4. Care shall be taken the close all opening especially for corrugated sheets to ensure stoppage of hot air through the opening/ corrugation space place ACC sheet, if required, shall be provided below the insulation to avoid entry of heat and to hold the insulation in position. The ACC sheets shall be considered as separate item unless otherwise indicated in the bill of material.

2104 MAKES OF MATERIAL

1. SCOPE
- 1.1. The scope of this section covers the recommended makes of equipments, material components. The final choice of makes shall be indicated at the time of finalization of the order.
- 1.2. The scope under this section covers the basic drawings and details to understand.
- a. **Scope of work**
  - b. **Location of equipments**
  - c. **General idea on the entire installation**
  - d. **Material requirements and labour force required for the completion of work in the stipulated time schedule.**
- 1.3. The reference drawings are basically schematic/ diagrammatic to give idea on general requirements prepared on the basis of preliminary requirements and data available. They are subject to undergo changes and modification subject to the finalization of details and requirements of the clients.
- 1.4. The detailed working drawings and the drawings required for the submission to statutory authorities shall be the responsibility of the contractor. Contractor shall submit minimum four copies of the drawings to the consultants for their scrutiny /approval before issuing to the statutory authorities and site for execution.

**Note:**

**This specification is of the general type only and must be used in conjunction with the drawing of the particular item being made. Anything shown on the drawing and not in the specification must be compiled with, and vice versa.**

**Signature with seal of the Vendor**

Internal  
**APPROVED MAKES**

SR.NO. ITEM / COMPONENT	APPROVED MAKES
A.C. UNITS	BLUE STAR/ HITACHI/ CARRIER/ DAIKIN/ MITSUBISHI
G. I. SHEETS	JINDAL / SAIL / ISPAT / NATIONAL
EXPNDDED POLYTYRENE	BEARDSELL / COOLINE
FIBREGLASS	UP TWIGA / KIMMCO. LLOYD
CABLES	FINOLEX/ POLYCAB/RR
ELECTRICAL COMPONENTS	SIEMENS / L&T / EE
METERING DEVICE	IMP / MECO / AE
INDICATING LAMPS	SIEMENS / L&T
MCB / ELCB / ELMCB	DATAR / MDS / HEGER
PVC PIPE	PRINCE / ZENITH / FINOLEX
EXHAUST FAN	SYMPHONY / GE / KHAITAN

Internal

**Signature with seal of the Vendor**

Internal