

**SCOPE, TERMS & CONDITIONS FOR THERMAL INSULATION WORK**

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**SCOPE, TERMS & CONDITIONS FOR THERMAL INSULATION WORK****Introduction:**

IDMC Limited is executing projects for Dairy, Pharmaceuticals, Breweries and Beverages industries and require thermal insulation work for pipelines and equipment.

This scope, terms & conditions sheet is a part of Contract / Purchase orders awarded to Contractor for supply and erection of thermal insulation materials.

**Scope and Requirement of Work:**

The scope includes supply and erection of Hot & Cold insulation materials with all ancillaries' materials including consumables required for erection of insulation materials as per specifications, terms & conditions and other requirement from contractors as mentioned in this sheet. Erection work of insulation job shall be carried out at project site.

The scope involves the following:

- Contractor is required to provide all materials including insulation & cladding materials with all installation ancillaries and consumables silicon sealant, self-tapping screws, bitumen, black Japan paints, etc. and necessary labour team for schedule of quantity of insulation work provided in contract. This is turnkey job. All items required for satisfactory completion of insulation work for provided schedule of quantity as per specification in time bound manner is in the scope of contractor.
- Unloading & shifting of insulation materials to the desired storage location at project site is in the scope of contractor.
- Installation and leveling for Insulation material at project site.
- All statutory requirements shall be in the scope of Contractor.
- All tools and tackles, Air compressor, safety gadgets, electrical distribution boards, consumables like silicon sealant, self-tapping screws, bitumen, black Japan paints, etc.... required for insulation work shall be in scope of Contractor.
- Necessary scaffolding as required at project site for carrying out insulation work is in the scope of contractor.
- The safety & security of the installation equipment supplied at site including the materials shall also be the responsibility of contractor.
- The insulation work shall be carried out according to the availability of the front at

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project site which shall be made available to contractor by IDMC site in charge.

- The site needs to be maintained neat and clean. The area where work is completed or under progress is to be cleaned before the end of the day. All scraps shall be collected and kept in the scrap yard. A scrap register shall be maintained.
- After completion of the work, the Contractor shall assist in the Re- conciliation of balance materials.
- In case the insulation sweats or specified/required insulation properties are not attained, the entire insulation in that area/ region shall be redone with fresh material, entirely at Contractor's cost.
- Contractor should visit project site time to time to review the site progress and to take measurement s to verify the requirement.
- Left materials including scrap after completion of work shall be taken back by contractor, however the payment for both (supply and installation) shall be made as per the actual measurement of work. The Supplier Shall be liable to pay the "difference amount of Supplied quantity & Installed Measurement" in both cases (whether Installation is in scope of Supplier or another vendor) to IDMC.

### Technical Specifications:

Specifications for supply and erection of cold insulation for pipelines and equipment is as per specification sheet provided at the time of inquiry and with purchase orders.

### General Terms & Requirements:

- The supplier shall furnish the details of qualifications and experience of the supervisors and work force deputed to the site in writing to site in charge. The supplier shall furnish the details of qualifications and experience of the supervisors and work force deputed to the site in writing.
- The supplier shall furnish to the purchaser (IDMC) a fortnightly labour force report showing the number of employees engaged in the work. The supplier's employment records shall include any reasonable information as may be required by the purchaser. The supplier shall also display necessary information as may be required by statutory requirement.
- None of the supplier's supervisors, engineer, or work force may be withdrawn from the work without notice to the purchaser and further no such withdrawal shall be

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made if in the opinion of the purchaser, it will adversely affect the required pace of progress or successful completion of the work.

- The purchaser shall be at the liberty to object to any representative or person, skilled, semi-skilled or unskilled worker employed by the supplier in the execution of or otherwise about the work who shall, in the opinion of the purchaser misconduct himself or be incompetent, negligent or unsuitable and the supplier shall remove the person so objected to, upon receipt of notice in writing from the purchaser and shall provide in that place a competent representative at supplier's own expense within reasonable time.
- In the execution of the works no persons other than the supplier and their employees shall be allowed on the site except by the written permission of purchaser.
- The purchaser shall not be liable for or in respect of any damages or compensation payable at law in respect or in consequence of any accident or injury to any workman or other person in the employment of the supplier or any sub-supplier. The supplier shall indemnify and keep indemnified the purchaser against all damages, compensation and claims, proceeding costs and expenses whatsoever in respect thereof and in relation thereto.
- The supplier shall ensure against such liability with an insurer approved by the purchaser and shall submit to the purchaser or purchaser's representative such policy of insurance and the receipt for payment of the current premium.
- The contractor shall be a licensed contractor to operate in "Site Location".
- The contractor shall maintain all records as per the Contract Labour Act, the Factories Act and Provident Fund Act of 1952. These records shall be shown to the engineer in charge and a copy of this sent to our head office.
- The contractor shall arrange for the accommodation of their employees near "Site Location". Permission for staying within the site may not be granted.
- The successful contractor shall depute the complete team within a week after receipt of intimation from purchaser.
- Contractor shall maintain & submit following records: Attendance register, I- card register, Wages register, Wages slips, Employment register, etc. as per contract labour act/ PF/ ESI.
- Documents type: PF, WC, Site register / Muster, Company registration certificate,

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Service registration certificates etc. shall be regularized by contractor.

- Sole responsibility of manpower will be in contractor's scope. The Contractor shall arrange for the accommodation of their employees at "Site Location". Deputing manpower to site & PPE (Helmet, Goggles, Dust masks, Gloves, Safety shoes, Safety belts), Lodging & Boarding, Transportation & Conveyance charges to be borne by contractor.
- All workers shall be covered under the Workmen's Compensation policy. Documentary proof of this is to be provided.
- The quality of work shall adhere to project specification, as per approved drawings & to the expectation of client's representatives.
- All tools & tackles, Scaffoldings etc. for erection, installation & commissioning work is in scope of contractor.
- All materials / equipment supplied to the project shall be insured under Marine, Storage, Erection and commissioning policy by Contractor. IDMC shall not be responsible for any damage or loss.
- Lifting & shifting of materials to workplace from storage spaces shall be in scope of contractor.
- Hydro test of the pipelines shall be carried out by IDMC prior to handing over for insulation.
- IDMC reserves the right of assignment of some part of work to or all works to other contractor if the quality of workmanship and progress and quality of work found to be unsatisfactorily and not according to its quality policy / time schedule drawn.
- The contractor will be required to increase the number of skilled teams if the work so demand to keep the timeline of project schedule. Similarly, the contractor will be allowed to decrease the number of team at site if required in consultation with IDMC site engineer.
- The contractor shall depute the complete teams and arrange to send the tools, tackles & consumables at site within a week of official intimation.

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Night work will be permitted only with prior approval of the IDMC / customer. IDMC may also direct the Contractor to operate extra shifts over and above normal day shift to ensure completion of contract as per schedule.

**Lighting:**

Adequate lighting wherever required should be provided by the Contractor at no extra cost. The Contractor should employ qualified electricians and wiremen for these facilities. In case of Contractor's failure to provide these facilities and personnel, the IDMC has the right to arrange for such facilities and personnel and to charge the cost thereof to the Contractor.

**Electrical Power & Water:**

IDMC shall provide 3 phase electrical power at one place within the plant area. The contractor is required to provide local distribution boards and panels with all safety measures. Similarly, water for testing shall be provided at one place with the premises and the contractor shall make its own arrangement for distribution of water at various areas for testing purpose.

**Accommodation and conveyance:**

Contractor shall make its own arrangement for living accommodation and conveyance for their engineers, supervisors and all manpower deployed near to the project site but outside the work premises. All other expenses for traveling, Meals, overtime allowance etc., for the contractor's manpower shall be borne by the contractor till handing over of the project to the end customer.

Contractor shall plan to depute manpower considering the ongoing and future pandemic situations and quarantine rules followed by local government. Contractor shall not be paid separately for quarantine period of deputed manpower.

**Statutory Requirement:**

The contractor is required to maintain all statutory documents which are to be fulfilled before execution works / mobilization of manpower at site as described at ANNEXURE – 2. This is a mandatory requirement.

The contractor shall have to take workman's compensation policy for all the persons engaged at site. PF A/c No., PAN No., ESI No., service tax registration No. & insurance policy shall be required and submitted to IDMC site in charge. The contractor shall only be

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responsible for any type of loss due to negligence & accident at site. The contractor shall be required to fulfill any other statutory requirement as per local rules & regulation including Labour license.

Maintaining statutory records at site for manpower engaged at site is the responsibility of the contractor.

Labour license will be taken in IDMCCL name but all documents and verification of relevant documents by labour inspector will be managed by Contractor. IDMCCL will reimburse the official fees at actual to the contractor against submission of original documentary proof. Any labor / statutory clearances required to work at site will be in scope of contractor.

### **Health and Safety Requirement:**

Please Refer ANNEXURE – 1 for details

The Contractor shall promptly notify IDMC of any health and safety hazards which may arise in connection with the performance of the work.

At installation premises, the contractor shall comply with health and safety measures to be implemented by the IDMC in respect of staff and other persons working on the site premises.

The contractor shall notify IDMC immediately in the event of any incident occurring in the performance of the Agreement on the premises where that incident causes any personal injury or damage to property which could give rise to personal injury.

The contractor shall comply with all the statutory requirement of health and safety and another acts, regulations and codes of practice relating to health safety, which may apply to staff and other persons working on the premises in the performance of the agreement.

Each team shall be equipped with all safety tools & gadgets like safety belts, safety shoes and safety helmets etc.

The contractor shall ensure that all workmen medical tests are done, and records of the test shall be maintained at site.

The contractor must follow quarantine rules / guidelines for their workman issued from time to time by Government and as per the local regulations at his own expenses.

There should be total ban on non-essential visitors at sites and the consumption of gutka, tobacco, alcohol etc. and splitting in project premises should be strictly prohibited.

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Joint Measurement Sheets (JMS) shall be made strictly as per purchase order. The Purchase Order Sr. number to be mentioned in the JMS. The contractor may raise the bills by every 25th of month. However, IDMC shall make payment as per PO terms based on the actual quantity of work executed and duly certified by IDMC's site in charge. IS Code or any other mode of measurement is not applicable.

**Mode of Measurement:**

The measurement of pipeline will be on square meter basis including bend, tee, reducer, dummy, flanges, valves and other fittings and accessories. No extra JMS quantity will be given for pipe fitting, flanges & valves. No factor of multiplication for valves and fittings is accepted.

For equipment insulation work, the payment shall be on square meter basis. The dimension of the equipment has been indicated. The supplier shall indicate the surface area considered in his offer.

The bills are to be certified as per actual JMS at site for both supply and labour charges and the balance material or scrap it to be return back to contractor.

Incase insulation sweats or the specified/required insulation properties are not attained, the entire insulation in such area shall be removed and to be redone with fresh material entirely at supplier's cost.

The payment shall be on actual quantity of work done. Not for the supply of material. Final reconciliation bill will be done on the basis of certified JMS and excess amount paid will be deducted from the final bill.

**Payment:**

All the payments for supply and erection shall be made based on unit rate of contract / purchase order as per agreed payment terms. After completion of work contractor shall prepare JMS (Joint measurement sheet) and same to be submitted to the IDMC's site engineer for their certification. After certification of JMS, contractor will make their invoice and same to be submitted at IDMC, Anand for the payment.

The bills are to be certified as per actual JMS at site for both supply and labour charges and the balance material or scrap it to be return back to contractor.



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The payment shall be made on actual quantity of work done. Not for the supply of material. Final reconciliation of bill shall be done on the basis of certified JMS and excess amount paid if any, will be deducted from the final bill.

All extra work of pipelines (those which do not have the unit price) shall be claimed only after the work has been completed. The prices shall be worked out in line with the same basis as has been used for arriving at the price indicated in the contract / purchase order. Documentary proof of the extra work and the price basis is to be provided with the claim for extra work.

Left material after completion of work shall be taken back by Supplier including scrap, however the payment for both (supply and installation) shall be made as per the actual measurement of work.

The Supplier Shall be liable to pay the “difference amount of Supplied quantity & Installed Measurement” in both cases (whether Installation is in scope of Supplier or another vendor) to IDMC.

**Assignment and subcontracting:**

The Contractor shall not assign, sub-contract or in any other way dispose of the Agreement or any part of it without the prior approval of IDMC. Sub- contracting any part of the work shall not relieve the contractor of any obligation or duty attributable to the contractor under the contract.

The Contractor shall be responsible for the acts and omissions of its sub- contractors as though they are the principals.

Where IDMC has consented to the placing of sub-contracts, copies of each sub-contract shall, at the request of IDMC, be sent by the Contractor to the IDMC within 5 working days of such request.

Sub-contracting, if entered by the Contractor with the permission of IDMC shall take due cognizance of statutory provisions to be adhered by the sub- contractor and shall indemnify IDMC in this regard.

All subcontracting to comply with regulation of contract labour (Regulation& Abolition) Act, 1970 if applicable.

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### Clean up of work site:

The contractor shall not place the equipment, materials or erection tools on the driveway and passages and shall take care that their work in no way restricts or impedes traffic or passages of men and materials during erection. The contractor shall without any addition payment, at all-time keep the working and storage area used by them free from accumulation of dust or combustible materials, waste materials rubbish packing, wooden planks to avoid fire hazards and hindrance to other works.

The workplace needs to be cleaned by the contractors for scraps, wooden packing materials, plastic sheets etc. every day and failure to do so IDMC shall arrange the same and debit the cost of site cleaning from contractor's bill

### Modification and rectifications:

The alteration / modifications not specified in the contract/order and or minor in nature requiring not more than 24 man-hours, will be carried out by the contractor without any extra cost. However, if the modifications are of major nature and if not specified in the contract/order, the contractor shall be paid for such works based on the unit rates mentioned in the order or in case new items based on mutually acceptable rates.

During the course of installation there might be minor modification of already installed insulation due to customer's requirement and instructions, which shall be carried out by the contractor without any additional charge.

### Trials and Post-Commissioning Supports:

The contractor shall have to station at his own cost 1 team with all tools and tackles at site for post commissioning services after completion of water trails till the handover of project. Any complaints/ defects to be attended by the contractor during defect liability period, there will be no any extra man day will be paid for attending of such complaint or defect.

Reconciliation report after completion is compulsory. Without certified reconciliation report final bill will not be processed

Note: Definition of commissioning (completion of the scope of work): Final completion of scope of work shall be considered only after three consecutive days of final product with smooth/ trouble free operation all sections and duly certified by end customer/ IDMC.

### Variation in Schedule of quantities:

The purchaser shall make any variation of the form, quality or quantity of the works or any part thereof that may in his opinion be necessary and for that purpose or if for any other

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reason it shall, in his opinion be desirable, he shall have the power to instruct the Contractor shall do any of the following:

- Increase or decrease the quantity of any work included in the contract.
- Omit any such work.
- Change the levels, position of any part of the work.
- Execute additional work of any kind necessary for the completion of the work and no such variation shall be in any way vitiate or

All extra or additional work done, or work omitted by order of the Purchaser shall be valued at the rates and prices set out in the contract / purchase order.

All extra work of pipelines those which do not have the unit price in contract / purchase order shall be claimed only after the work has been completed. The prices shall be worked out in line with the same basis as has been used for arriving at the price indicated in the purchase order. Documentary proof of the extra work and the price basis is to be provided with the claim for extra work.

**Contractors Default:**

- Failure to comply with any of the conditions mentioned in this contract, IDMC shall be free to cater to all such requirement at the cost, risk, and responsibility of the contractor. All such charges shall be recovered from the bills of contractor.
- If the IDMC shall enter and expel the contractor, he shall not be liable to pay to the contractor any money on account of the Contract until the costs of execution and all other expenses incurred by the IDMC have been ascertained and the amount thereof certified. The contractor shall then be entitled to receive only such sum or sums, if any, as the IDMC may certify would have been payable to him upon due completion by him after deducting the said amount. If such amount shall exceed the sum which would have been payable to the contractor on due completion by him, then the contractor shall, upon demand, pay to the IDMC the amount of such excess and it shall be deemed a debt due by the contractor to the IDMC and shall be recoverable accordingly.

**Jurisdiction:**

For the settlement of any dispute arising out of the contract against this order, only the Courts at Anand shall have jurisdiction.

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**Annexure - 1**
**Occupational Health, Safety and Environmental-Terms and Conditions for contractors**
**1. Safety:**

- 1.1. Contractor shall have all required work authorization, licenses and permissions from respective government bodies and departments.
- 1.2. Contractor shall be responsible for safety and security of his labour and property.
- 1.3. Shall take work force attendance and do daily work management meeting, safety toolbox talks, discuss quality issues and work plan for 10-15 minutes. Display attendance on board towards head count at site.
- 1.4. Ensure that work area is barricaded and all relevant safety signages boards and instructions including emergency assembly point are displayed in local language at workplace/site.
- 1.5. All personnel protective equipment (PPEs) shall be provided such as safety shoes, gumboot (in rainy season and civil work in water, mud, concrete and in open land with grass), glow jacket, hand gloves, mask, ear plug, goggle and helmet mandatorily to every labour. Also, safety belt with hooking arrangement or lifeline or fall arrester shall be provided for working at 1.5-meter height or depth.
- 1.6. Persons working around dangerous gas equipment or confined space shall be provided with the self-contained breathing apparatus (SCBA) to get adequate oxygen for respiratory system.
- 1.7. Work permit shall be obtained from site in charge / production in charge for working at height above 1.5 meter, digging, excavation, confined space, electric work on HT line and on dangerous operations like metal cutting, welding, grinding, press or any other equipment or process. The work permit instructions shall be strictly followed, and close supervision shall be done by independent person. Work permit shall be periodically renewed.
- 1.8. Contractor shall use firm scaffoldings, scissor lift, trolley, work-man cage and ladder with handrail/cage to work at height. Contractor shall not use temporary arrangements to work at height.
- 1.9. The persons allocated dangerous operations and skilled work shall be qualified, experienced, and trained to do such work and also trained on firefighting.
- 1.10. Electric work shall be done through certified electrician only. Shall ensure operator has licenses like for operating crane, forklift, vehicle etc.

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- 1.11. Contractor shall ensure fire extinguishers, water bucket and sand buckets at hot work and hazardous material storages locations. Shall ensure that welding blankets and curtains are available at welding and cutting work areas to contain welding spatters, sparks, and dust to prevent fire. In absence of this work shall not be started.
- 1.12. Contractors using his own equipment such as welding machine, pressure vessels, boilers, all types of cranes, pulley block, lifts, lifter, stacker, chains, slings, rope, dangerous operations machines and equipment shall ensure that the testing of these is done by competent authority as per legal requirement before use and teste certificates are maintained at site. Compliance on a continuous basis shall be carried out at specified intervals.
- 1.13. Contractor shall provide adequate lighting at low natural light areas and night shifts.
- 1.14. Proper industrial plug and pin shall be used without cables joints for any electric work and hand tools. Open wires and joints are not permitted.
- 1.15. Use industrial lamp of 24 volt with protective guard and cable for working in confined space, vessels, tanks etc.
- 1.16. Follow lock-out and tag-out (LOTO) for electric lines, equipment erection/installation, maintenance work and static energy equipment areas as well as static energy to be discharged and utilities to be ensured for safe operation before starting work.
- 1.17. Shall ensure that work areas is to be free from any overhead/underground electric power supply lines, gas lines, chemical lines or any other fuel lines and tanks. Work shall not start unless these dangerous hindrances are removed or isolated. Contractor shall be responsible to ensure the same before start of work.
- 1.18. Shall ensure shutdown of all equipment, power supply and lighting is switch-off at end of each working shifts.
- 1.19. Contractor shall submit weekly and monthly safety performance report to site/ production in charge.

## 2 Occupational Health:

- 2.1. Contractor shall ensure the compliance to applicable labour laws and regulations from human resource and industrial relations point of view. Contractor shall ensure that all his labours/employees undergo health check-up before start of new site work and subsequently for any labour joining later. A periodic health checks shall be carried out every six months for operators in dangerous operations like welding, cutting, grinding and annually for others.

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- 2.2. Contractor shall not deploy physically unfit person at work. Also any labour which was on long seek leave shall not be re-joining duties without verification of registered doctor's physical fitness certificate.
- 2.3. Contractor shall not deploy person with phobia for height to work on tall structures and in deep pits.
- 2.4. Contractor shall provide first-aid box at workplace/site complying with factories act.
- 2.5. Contractors shall ensure that at least one person first aid is available on the site in each working shift.
- 2.6. Contractor shall ensure adequate lighting, ventilation, hygiene, and clean work environment.
- 2.7. Contractor shall strictly ensure that all personnel protective equipment is worn by the labour to prevent any occupational ill-health effect.

### 3. Environment:

- 3.1. Contractor shall follow environmental act and rules applicable at work site.
- 3.2. Contractor shall ensure prevention of pollution and protection of environment by controlling air, water & land pollution and minimizing generation of wastes.
- 3.3. Contractor shall focus on conservation of energy and natural resources.
- 3.4. Contractor shall segregate waste category-wise and dispose the same as per environmental act, rule and local body guidelines (Law of land).
- 3.5. Regular waste disposal and site clean-up shall be ensured.

### 4. Actions:

- 4.1. Contractor shall be bound to follow HSE Policy, terms & conditions, guidelines of respective customer including any other done communications from time-to-time.
- 4.2. Any major gap and indiscipline observed in HSE compliance shall lead to termination of contract with immediate effect.
- 4.3. Fines will be levied as follows.
  - 4.3.1. Rs.500 for minor gaps observed in first instance and one off-case.
  - 4.3.2. Rs.1000/- in case of same instance happening second time.
  - 4.3.3. Rs.5000/- for the same instance happening third time and thereafter.
 The above amount will be debited to contractor.

### Commercial terms & Conditions:

Price Basis	FOR project site Rajkoy, Gujarat project includes packing, freight & insurance, and unloading charges at the project site.
Packing Charges	Inclusive
Insurance	Inclusive – for supply as well as service parts.
Freight Charges	Inclusive
GST Tax	Extra for supply & service.  <b>Please confirm the applicable GST tax rate &amp; HSN code</b>
Payment Terms	<p><b>Supply:</b> 90% payment of invoice value in 45 days on safe receipt of goods at destination/site and the balance 10% payment shall be released in 30 days after successful completion of insulation work, duly certified by IDMC site in-charge, acceptance by end customer and on submission of performance bank guarantee for 10% of invoice value valid for 12 months from the date of acceptance by end customer.</p> <p><b>Installation:</b> 90% payment of invoice value against fortnightly RA bill and to be paid in 30 days from the date of receipt of RA bill and the balance 10% payment shall be released in 30 days after successful completion of insulation work, duly certified by IDMC site in-charge, acceptance by end customer.</p>
Delivery	<p>Tentative Material Supply Date: 2nd Week of September 2025</p> <p>Tentative application start: 3<sup>rd</sup> week of September 2025</p> <p>Delivery of all insulation material with accessories shall be made in a single supply. Staggered delivery is not acceptable.</p>
LD Clause	<u>Ld@0.5%</u> per week will be applicable in case of delay in delivery from confirmed delivery period. (maximum 7.5% for total supply value)
Specifications & other requirements	<ul style="list-style-type: none"> <li>Specifications, scope of work, make of insulation materials are as per the attached Technical Specification sheet.</li> <li>Scope, terms &amp; conditions and other requirements from the contractors are as per the sheet “Scope, Terms &amp; Conditions of Thermal Insulation Work for IDMC Insulation project”</li> </ul> <p>Please return us duly signed and stamped above sheets with your quote as a token of your acceptance.</p>
Statutory compliances	All statutory compliances with regard to provisions contained in the contract labor (regulation & abolition) act, 1972 industrial disputes



	<p>act 1948 , employees provident fund &amp; miscellaneous provisions act 1952, the factories act, 1948, minimum wages act 1948 ,workmen compensation act 1923 (and in the event of non-availability, personal accident insurance shall be obtained) , shall be completed/fulfilled by the contractor. The contractor shall ensure all statutory compliances and shall keep IDMC indemnified at all times. In addition to the above, any such compliance as mandated by law, shall be complied with diligently.</p>
Remark	<p>We also need your confirmation for following points.</p> <ol style="list-style-type: none"> <li>1. The contractor shall visit the project site before delivery of insulation of material and look at facility for the storage of the material and have to confirm that the storage has been identified and satisfactory in written.</li> <li>2. The contractor should be liable for any shortage/damage before completion of job.</li> <li>3. Contractor has to depute &amp; maintain the required manpower with a supervisor at the project site till completion of the job.</li> <li>4. Measurement as per IS standard is not acceptable. Measurement &amp; payment shall be made as per the terms &amp; conditions provided in the Specification and, terms &amp; conditions sheet.</li> <li>5. The price escalation clause is not acceptable. This fixed price contract and agreed prices shall remain fix till the completion of the contract.</li> <li>6. Bidders who do not fulfil all or any of the conditions laid down in the specifications, terms &amp; conditions documents are liable to be rejected at the sole discretion of IDMC. IDMC also reserves the right to reject any / all the offers, even of the lowest bidders.</li> <li>7. IDMC reserves the right to further negotiations with bidders and purchase materials from other than the lowest bidders, based on IDMC's/IDMC customer's requirement.</li> </ol>



## Qualifying criteria for thermal insulation work

**For the thermal insulation job, Contractors shall meet the following qualifying criteria as a minimum:**

a) The Contractor, in the same name and style, should be in business for at least **three years** at the time of bid opening. In case of a change of name of the Contractor by merger/acquisition/change in status, the Contractor may be eligible based on the documentary evidence.

b) The Contractor should have valid registration under various Acts that may be applicable to the contract proposed. This shall include, but not be limited to, Income Tax, Companies Act, GST, the building & other construction workers' welfare cess act, Employee State Insurance, Contract Labour, Provident Fund, etc.

c) The Contractor's financial turnover in the same name and style during each of the **last three financial years (22-23; 23-24; 24-25)** ending 31st March should **not be less than 60% of the estimated contract value**.

d) The Contractor should have a positive net worth in the last two financial years.

e) The Contractor should have a cash profit in any two financial years out of the last five financial years

**f) The Contractor in the same name & style shall have successfully executed /completed contracts of a similar nature. Similar nature of work means supply and installation of thermal insulation jobs includes Hot insulation using LRB with aluminium / SS cladding and Cold insulation using in-situ method (PUF chemical Foaming) insulation jobs in Dairy/ Food or Beverage/Pharma/ Chemical/ Electronics/Frozen Semen station having clean room laboratory/Bio-Containment Laboratory/Bio-Gas/ETP plant during the last five years ending last day of the month previous to the month in which bid is opened, either of the following: -**

**I.** One contract/work of similar nature costing not less than 80% of the estimated value of the contract.

OR

**II.** Two contracts/works of similar nature, each costing not less than 50% of the estimated value of the contract.

OR

**III.** Three contracts/works of similar nature, each costing not less than 40% of the estimated value of the contract.

Notes:

a) The contract means the work done against one work order at a single location.

Contractor shall submit the following details to support their claim for meeting the minimum eligibility requirement -

1. Name / Names of the project to be considered for meeting the minimum eligibility criteria

2. Nature of each project/work completed.

3. Value of the work of each project/work completed.

4. Location of execution of each project/work completed. The copy of purchase order/work order, completion certificate and abstract sheet of the final bill/invoice showing the cumulative value of work done should be submitted in order to support aforesaid details. In case the final bill/invoice does not contain a cumulative value of work done, a copy of all the bills/invoices submitted prior to the final bill should be attached.

g) In addition to the above, the following information/documents should also be submitted along with the bid by the Contractors for evaluation/determination of their eligibility:

I. Copy of Income Tax Returns and audited balance sheet for **three** previous years in original or certified true copies, along with Permanent Account Number (PAN) for income tax purposes.

II. Copy of TDS certificate issued by the clients to substantiate the claim for the value of works executed in the private sector.

### **III. Copy of Form 26 AS for the last 3 financial Years**

h) Even though the Contractor meets the specified criteria, it may be disqualified if it has:

I. Made untrue or false declarations in the forms, statements and attachments submitted in proof of their qualification and/or

II. Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion or financial failure, etc.

**Specification for Cold insulation & hot insulation work on pipelines for  
NDDB Rajkot LMP Project**

**INTRODUCTION:**

IDMC is executing dairy project at AmulFed-II Dairy Plant, Rajkot, Gujarat and for this project, IDMC have to supply and apply **hot & cold (in-situ PUF insulation)** insulation for pipelines and equipment.

**Client:** National Dairy Development Board & AmulFed Gandhinagar.

**Site Address:**

Gujarat Coop. Milk Marketing Federation Ltd,  
AmulFed-II Dairy Plant (A Unit of GCMMF Ltd.)  
Survey No: 477 4/Paiki 11,  
Village: Gadhka,  
Taluka: Rajkot,  
District: Rajkot (Gujarat)

**Technical Specifications:**

**Specification for Cold Insulation:**

The insulation shall be done with polyurethane foam of minimum density 40 Kg/cum (not below than of 40) using high pressure in-situ injection method. For all the piping and equipment, the cold insulation shall be through in-situ injection after cladding.

Make of Chemical Injection: DOW/BASF reputed make, (specify in offer, Purchase shall take prior concern from project team for make prior to confirm the PO).  
Saddles for cold insulation: Supertherm (SUPERTHERM (LLOYD) / BEARDSELL). **Test certificates from manufacturer / authorized laboratories shall be provided in support of all physical properties of the insulating material.**

Chemical mixing and injection gun shall be supplied by contractor. Movable air compressor in good condition for air injection should also supplied by contractor. Piping surfaces shall be thoroughly de-rusted and cleaned before starting insulation application. The insulation material shall be injected under 3 bar pressure.

In case the insulation sweats or specified/required insulation properties are not attained, the entire insulation in that area/ region shall be redone with fresh material, entirely at Supplier's cost.

Hot Bitumen of 85/40 or 85/25 conforming to IS 702 should be applied uniformly @1.5 per sq. m. on the surface of pipes.

First test element shall be carried by contractor before injection in pipe line.

**Approved Make**

Sr. No.	Item	Make
(a)	Cold Insulation Material	LLOYDS / BEARDSELL / FRICK
(b)	Saddles for cold Insulation	SUPERTHERM (LLOYD) / BEARDSELL

**The application shall be carried out in the following manner:**

The surface of the pipelines shall be cleaned manually, and two coats of Polyurethane based primers shall be applied on the cleaned surface.

Fabricating and fixing of Polyurethane spacer block of size 50 mm \* 50 mm \* T where T is the thickness of insulation of the pipe at a distance of 450 mm center or lower as required. The density of the spacer block shall be minimum 40 kg/cum. The blocks shall be held in position with the help of suitable adhesive and it shall be further secured with the help of 25 mm \* 24 SWG SS / Aluminum bands.

Fabrication and fixing of SS / Aluminum cladding shall be done with proper grooves and overlaps to the satisfaction of our engineer. The overlaps and joints shall be sealed with elastomeric metal sealant. The sheet shall be held in position with the help of self-tapping screws.

Drilling pour holes/ vents holes on the sheet at equal distance to ooze out the chemicals being injected. Injection of metered quantity of PUF chemicals.

Cutting out the excess foam oozing from the holes and sealing the holes with the help of Nylon plugs. The finished insulated outer surface of the pipeline shall be clear of all impressions/ scratches / sealant marks / oozed out PUF etc. to the satisfaction of our site engineer/ client.

Every batch being injected shall be sampled for density in the presence of our

engineer/ client and only on their approval the pipe line is to be insulated. Random samples may also ask for during the operation. A copy of necessary test certificates from authorized laboratories shall be provided in support of all physical properties of the insulating materials as directed by the client/ site engineer.

#### **CLADDING OF COLD PIPE LINE:**

The cladding of pipelines shall be of SS of 24 gauge & Aluminum of 22 gauge sheet with proper grooves and overlaps and screwed in position with 12 mm self-tapping parker screw.

<b>Sr. No</b>	<b>Item</b>	<b>Make</b>
<b>1.</b>	Aluminum Sheet- 22 Gauge	JSL / Equivalent
<b>2.</b>	SS Sheet - 24 gauge	JSL / Equivalent

#### **SPECIFICATION FOR HOT INSULATION:**

Mineral glass wool or equivalent resin bonded pipe section of specified thickness shall be used for hot line insulation. Density of mineral glass wool should not be less than 100-120 kg/cum.

<b>Sr. No.</b>	<b>Item</b>	<b>Make</b>
	<b>Acceptable make of Hot insulation</b>	
<b>(a)</b>	Resin bonded mineral Wool	LLOYD / UP TWIGA / ROCKWOOL

#### **The insulation shall be carried out as follows:**

Clean the surfaces properly to be insulated. Apply a coat of red oxide primer and fix glass wool / mineral wool / resin bonded pipe section of specified thickness, tightly to the pipes, butting all joints and tie with lacing wire. It should be covered with GI wire netting of 20 mm x 24 SWG.

In case of insulation does not have the desired insulation properties, the entire insulation will have to be redone at the Contractor's cost to give the desired results.

#### **CLADDING OF HOT PIPE LINE:**

The cladding of pipe lines shall be of SS of 24 gauge & Aluminum of 22 Gauge sheet with proper grooves and overlaps and screwed in position with 12 mm self-tapping parker screw.

<b>Sr. No</b>	<b>Item</b>	<b>Make</b>
<b>1.</b>	Aluminum Sheet- 22 Gauge	JSL / Equivalent
<b>2.</b>	SS Sheet - 24 gauge	JSL / Equivalent

Cost of cladding sheet shall be including in cost of hot and cold insulation material supply. No extra money shall be payable for cladding sheet.

Detailed Scope of Supply & Erection, Terms & Conditions for Thermal Insulation work is as per "Scope, Terms & conditions of Thermal Insulation Sheet." This Sheet is a part of specification sheet.

# ANNEXURE - 2

Contractors Statutory Requirements					
Sr.No	Forms / Registers	Rule / Clause	Legislation	Complied / Not complied	Remarks
1	Personal Files: (Appointment and Joining Letter, Medical Checkup, ESI, PF declarations, awareness on Grievance redressal policy, Age and Address Proof)	Personal File to be maintained by contractor to comply with various Labour Laws requirements	Factories Act 1948, ESI Act 1948, EPF Act 1952		
2	Labour License (Form 6)	Section 12(1) & Rule No: 21 Application for a license	Contract Labour (Regulation & Abolition) Rules, 1971		
3	Notice of commencement / completion of work (Form 6A)	Rule 25 (2) (viii) : Notice Of Commencement / Completion Of Contract Work by the Licensee	Contract Labour (Regulation & Abolition) Rules, 1971		
4	Form - XIII (Register of workmen by contractor)	Rule 75 : Register Of Workman employed by Contractor	Contract Labour (Regulation & Abolition) Rules, 1971		
5	Contract Employee ID cards	ID card Mandatory to Contract workman identity at Site	-		
6	Form - XIV [Employment Card]	Rule 76: Every contractor shall issue an employment card in Form XIV to each worker within three days of the employment of the worker.	Contract Labour (Regulation & Abolition) Rules, 1971		

## ANNEXURE - 2

Contractors Statutory Requirements					
Sr.No	Forms / Registers	Rule / Clause	Legislation	Complied / Not complied	Remarks
7	Form - XV (Service Certificate)	Rule 77: On termination of employment for any reason whatsoever the contractor shall issue to the workman whose services have been terminated a Service Certificate in Form XV	Contract Labour (Regulation & Abolition) Rules, 1971		
8	Form XVI (Muster roll)	Rule 78 (1)(a)(i) : maintain a Muster Roll and a Register of Wages in Form XVI and Form XVII respectively: Provided that a combined Register of Wage-cum-Muster Roll in Form XVIII shall be maintained by the contractor where the wage period is a Fortnight or less	Contract Labour (Regulation & Abolition) Rules, 1971		
9	Payment of Minimum Rate of wage to Contract workmen	Rule No: 25 (2) (IV) the rates of wages payable to the workmen by the contractor shall not be less than the rates prescribed under the Minimum Wages Act, 1948	Contract Labour (Regulation & Abolition) Rules, 1971		



# ANNEXURE - 2

Contractors Statutory Requirements					
Sr.No	Forms / Registers	Rule / Clause	Legislation	Complied / Not complied	Remarks
10	Form XVII (Register of Wages)	Rule 78(1)(a)(i) : maintain a Muster Roll and a Register of Wages in Form XVI and Form XVII respectively: Provided that a combined Register of Wage-cum-Muster Roll in Form XVIII shall be maintained by the contractor where the wage period is a Fortnight or less	Contract Labour (Regulation & Abolition) Rules, 1971		
11	Compliance to payment of wages within stipulated period	Sec 5(1): Any factory or industrial or other establishments upon or in which the total number of employed persons is less than one thousand, must receive his wages before the expiry of the seventh day from the last day of the wage period for which the wages are payable.	Payment of Wages Act 1936		
12	Compliance to Paid Holidays	Employees are entitled for national holidays and five festival holidays in each calendar year.	National and Festival Holidays act 1963		
13	Form XX (Register of Damages or Loss)	Rule 78 (1)(a)(ii): maintain a Register of Deduction for damage or loss in Form XX	Contract Labour (Regulation & Abolition) Rules, 1971		

## ANNEXURE – 2

Contractors Statutory Requirements					
Sr.No	Forms / Registers	Rule / Clause	Legislation	Complied / Not complied	Remarks
14	Form XXI (Register of Fines)	Rule 78 (1)(a)(ii): maintain a Register of Fines and Register of Advances in Form XXI	Contract Labour (Regulation & Abolition) Rules, 1971		
15	Form XXII (Register of Advances)	Rule 78 (1)(a)(ii): maintain a Register of Advances in Form XXII	Contract Labour (Regulation & Abolition) Rules, 1971		
16	Form XXIII (Register of Overtime)	Rule 78 (1)(a)(iii): maintain a Register of Overtime in Form XXIII recording therein the number of hours of, and wages paid for, overtime work	Contract Labour (Regulation & Abolition) Rules, 1971		
17	Form XIX (Wage slip)	Rule 78 (1)(b): Every contractor shall, where the wage period is one week or more, issue wage slips in Form XIX, to the workmen at least a day prior to the disbursement of wages	Contract Labour (Regulation & Abolition) Rules, 1971		

# ANNEXURE - 2

Contractors Statutory Requirements					
Sr.No	Forms / Registers	Rule / Clause	Legislation	Complied / Not complied	Remarks
18	Form XXIV (Half yearly Return)	Rule 82 (1): Every contractor shall send half yearly return in Form XXIV (in duplicate) so as to reach the Licensing Officer concerned not later than 30 days from the close of the half year.	Contract Labour (Regulation & Abolition) Rules, 1971		
19	Bonus - Form - A, B, C & D	Rule 4&5: Every employer shall prepare and maintain the A, B, C registers and shall send a return in Form D to the Inspector so as to reach the said form to the Inspector within 30 days after the expiry of the time limit specified in Sec. 19 for payment of bonus.	PAYMENT OF BONUS RULES, 1975		
20	Compliance to Leave Encashment	Section 79: Every worker who has worked for a period of 240 days or more in a factory during a calendar year shall be allowed during the subsequent calendar year (i) if an adult, one day for every twenty days of work performed by him during the previous calendar year	Factories Act 1948		

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# ANNEXURE - 2

Contractors Statutory Requirements					
Sr.No	Forms / Registers	Rule / Clause	Legislation	Complied / Not complied	Remarks
21	PF Monthly Challan	Employer Should pay contributions as per timelines	Employee Provident Funds and Miscellaneous Provisions Act 1952		
22	ESI Monthly Challan	Rule No: 31: Employer Should pay contributions as per timelines	Employee State Insurance Act 1948		
23	PF Inspection Book	Inspection Book should be maintained by employer	Employee Provident Funds and Miscellaneous Provisions Act 1952		
24	Accident Register – ESI	Rule No: 66 Every Employer Shall maintain Maintenance accident book	Employee State Insurance Act 1948		
25	ESI Inspection Book	Rule 102 A: Inspection Book should be maintained by Principal employer	Employee State Insurance Act 1948		
26	Register of ESI benefits availed by contract employees	To Track the Benefits availed by Employees	Employee State Insurance Act 1948		
27	Labour Welfare Fund Returns - Form F	Rule 6: Labour Welfare Fund to be paid by Establishment	AP Labour Welfare Fund Act 1987		
28	Unpaid Accumulations Form-E	Rule 4 (2): Unpaid accumulations to be declared	AP Labour Welfare Fund Act 1987		

[illegible]

NDDB Rajkot LMP Project_Hot Insulation Summary																						
Working Fluid	Cladding MOC	Pipe Size	Insulation Thickness (mm)	Pipe OD in (mm)	Insulation Thickness + Pipe OD (MTR.)	circumference x 1 Mtr lenth (m2)	Pipe (Mtr)	M2	Bend(Nos)	Multi.Fact or	M2	PID(Nos)	M2	Piston Valve (Nos)	M2	Strainer (Nos)	M2	Omega Bend(Nos )	M2	On/Off Valve (Nos)	M2	Total M2
LP Steam- CS Pipe	22 Gauge Al	15NB	25	21	0.071	0.223047	96	21.4	43	0.5	21.5	0	0	19	19	0	0	0	0	0	0	62
LP Steam- CS Pipe	22 Gauge Al	20NB	25	26	0.076	0.238754	0	0.0	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0
LP Steam- CS Pipe	22 Gauge Al	25NB	25	33	0.083	0.260745	200	52.1	90	0.5	45	0	0	19	19	0	0	0	0	0	0	116
LP Steam- CS Pipe	22 Gauge Al	40NB	25	48	0.098	0.307867	174	53.6	30	0.5	15	0	0	3	4.5	3	4.5	0	0	3	4.5	82
LP Steam- CS Pipe	22 Gauge Al	50NB	50	60	0.16	0.50264	18	9.0	10	0.6	6	0	0	0	0	0	0	0	0	0	0	15
LP Steam- CS Pipe	22 Gauge Al	65NB	50	73	0.173	0.54348	174	94.6	70	0.6	42	0	0	1	1.5	1	1.5	0	0	1	1.5	141
LP Steam- CS Pipe	22 Gauge Al	80NB	50	89	0.189	0.593744	37	22.0	18	0.6	10.8	0	0	0	0	0	0	0	0	0	0	33
LP Steam- CS Pipe	22 Gauge Al	100NB	50	114	0.214	0.672281	170	114.3	50	1	50	0	0	2	3	2	3	0	0	2	3	173
LP Steam- CS Pipe	22 Gauge Al	125NB	50	141	0.241	0.757102	84	63.6	20	1	20	0	0	3	4.5	3	4.5	0	0	3	4.5	97
LP Steam- CS Pipe	22 Gauge Al	150NB	50	168	0.268	0.841922	132	111.1	13	1	13	0	0	3	4.5	3	4.5	0	0	3	4.5	138
LP Steam- CS Pipe	22 Gauge Al	200NB	75	219	0.369	1.159214	259	300.2	19	1	19	0	0	2	3	2	3	0	0	2	3	328
LP Steam- CS Pipe	22 Gauge Al	250NB	75	273	0.423	1.328855	60	79.7	9	1	9	0	0	0	0	0	0	0	0	0	0	89
Condensate- CS Pipe	22 Gauge Al	20NB	25	26	0.076	0.238754	48	11.5	30	0.5	15	0	0	0	0	0	0	0	0	0	0	26
Condensate- CS Pipe	22 Gauge Al	25NB	25	33	0.083	0.260745	72	18.8	45	0.5	22.5	0	0	0	0	0	0	0	0	0	0	41
Condensate- CS Pipe	22 Gauge Al	40NB	25	48	0.098	0.307867	80	24.6	50	0.5	25	0	0	0	0	0	0	0	0	0	0	50
Condensate- CS Pipe	22 Gauge Al	50NB	25	60	0.11	0.345565	97	33.5	13	0.6	7.8	0	0	0	0	0	0	0	0	0	0	41
Condensate- CS Pipe	22 Gauge Al	65NB	25	73	0.123	0.386405	365	141.0	42	0.6	25.2	0	0	0	0	0	0	0	0	0	0	166
Condensate -CS Pipe	22 Gauge Al	80NB	25	89	0.139	0.436669	421	183.8	45	0.6	27	0	0	0	0	0	0	0	0	0	0	211
HP Steam-CS Pipe	22 Gauge Al	15NB	25	21.4	0.0714	0.224303	306	68.6	102	0.5	51	0	0	0	0	0	0	0	0	0	0	120
HP Steam-CS Pipe	22 Gauge Al	20NB	25	26	0.076	0.238754	0	0.0	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0
HP Steam-CS Pipe	22 Gauge Al	25NB	25	33	0.083	0.260745	0	0.0	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0
HP Steam-CS Pipe	22 Gauge Al	65NB	50	73	0.173	0.54348	0	0.0	0	0.6	0	0	0	0	0	0	0	0	0	0	0	0
HP Steam-CS Pipe	22 Gauge Al	80NB	100	89	0.289	0.907894	0	0.0	0	0.6	0	0	0	0	0	0	0	0	0	0	0	0
HP Steam-CS Pipe	22 Gauge Al	100NB	100	114	0.314	0.986431	0	0.0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
HP Steam-CS Pipe	22 Gauge Al	150NB	100	168	0.368	1.156072	48	55.5	6	1	6	0	0	1	1.5	0	0	0	0	0	0	63
HP Steam-CS Pipe	22 Gauge Al	200NB	100	219	0.419	1.316289	512	673.9	46	1	46	0	0	4	6	0	0	18	27	0	0	753
Product- SS Pipe	22 Gauge Al	SS 304 101.6	30	101.6	0.1616	0.507666	735	373.1	102	1.6	163	0	0	0	0	0	0	0	0	0	0	536
Product- SS Pipe	22 Gauge Al	SS 304 76.2	30	76.2	0.1362	0.427872	862	368.8	294	1.6	470	0	0	0	0	0	0	0	0	0	0	839
Product- SS Pipe	22 Gauge Al	SS 304 63.5	30	63.5	0.1235	0.387975	132	51.2	64	1.6	102	0	0	0	0	0	0	0	0	0	0	154
Product- SS Pipe	22 Gauge Al	SS 304 50.8	30	50.8	0.1108	0.348078	0	0.0	0	2.6	0	0	0	0	0	0	0	0	0	0	0	0
Product- SS Pipe	22 Gauge Al	SS 304 25.4	30	25.4	0.0854	0.268284	0	0.0	0	3.6	0	0	0	0	0	0	0	0	0	0	0	0

NDDB Rajkot LMP Project_SS Insulation Summary																						
Working Fluid	Cladding MOC	Pipe Size	Insulation Thickness (mm)	Pipe OD in (mm)	Insulation Thickness + Pipe OD (MTR.)	circumference x 1 Mtr lenth (m2)	Pipe (Mtr)	M2	Bend(Nos)	Multi.Factor	M2	PID(Nos)	M2	Piston Valve (Nos)	M2	Strainer( Nos)	M2	Omega Bend(No s)	M2	On/Off Valve (Nos)	M2	Total M2
LP Steam-CS Pipe	22 Gauge SS	15NB	25	21	0.071	0.22	36	8.03	18	0.5	9	0	0	0	0	0	0	0	0	0	0	17
LP Steam-CS Pipe	22 Gauge SS	20NB	25	26	0.076	0.24	0	0.00	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0
LP Steam- CS Pipe	22 Gauge SS	25NB	25	33	0.083	0.26	44	11.47	19	0.5	9.5	0	0	0	0	0	0	0	0	0	0	21
LP Steam-CS Pipe	22 Gauge SS	40NB	25	48	0.148	0.46	0	0.00	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0
LP Steam- CS Pipe	22 Gauge SS	50NB	50	60	0.16	0.50	0	0.00	0	0.6	0	0	0	0	0	0	0	0	0	0	0	0
LP Steam-CS Pipe	22 Gauge SS	65NB	50	73	0.173	0.54	64	34.78	34	0.6	20.4	0	0	0	0	0	0	0	0	0	0	55
LP Steam-CS Pipe	22 Gauge SS	80NB	50	89	0.189	0.59	29	17.22	13	0.6	7.8	0	0	0	0	0	0	0	0	0	0	25
LP Steam-CS Pipe	22 Gauge SS	100NB	50	114	0.214	0.67	59	39.66	15	1	15	0	0	0	0	0	0	0	0	0	0	55
LP Steam-CS Pipe	22 Gauge SS	125NB	50	141	0.291	0.91	84	76.79	20	1	20	0	0	0	0	0	0	0	0	0	0	97
LP Steam-CS Pipe	22 Gauge SS	150NB	50	168	0.318	1.00	0	0.00	0	1	0	0	0	0	0	0	0	0	0	0	0	0
LP Steam- CS Pipe	22 Gauge SS	200NB	75	219	0.369	1.16	42	48.69	7	1	7	0	0	0	0	0	0	0	0	0	0	56
Condensate- CS Pipe	22 Gauge SS	20NB	25	26	0.076	0.24	0	0.00	0	0.5	0	0	0	0	0	0	0	0	0	0	0	0
Condensate- CS Pipe	22 Gauge SS	25NB	25	33	0.083	0.26	64	16.69	40	0.5	20	0	0	0	0	0	0	0	0	0	0	37
Condensate- CS Pipe	22 Gauge SS	40NB	25	48	0.098	0.31	40	12.31	25	0.5	12.5	0	0	0	0	0	0	0	0	0	0	25
Condensate- CS Pipe	22 Gauge SS	50NB	25	60	0.11	0.35	25	8.64	5	0.6	3	0	0	0	0	0	0	0	0	0	0	12
Condensate- CS Pipe	22 Gauge SS	65NB	25	73	0.123	0.39	0	0.00	0	0.6	0	0	0	0	0	0	0	0	0	0	0	0
Condensate -CS Pipe	22 Gauge SS	80NB	25	89	0.139	0.44	73	31.88	9	0.6	5.4	0	0	0	0	0	0	0	0	0	0	37
Chill W.-GI Pipe	22 Gauge Al	80NB	50	89	0.189	0.594	75	44.53	25	0.6	15	0	0	10	15	0	0	0	0	0	0	75

**Tentative BOQ:**

Sr. No.	Description	Cladding MOC	Insu. Thk. in MM	Qty. in M2	Unit rate for Supply	Unit rate for installation
1	Cold Insulation – In situ PUF with Aluminium cladding & fixing accessories as per specifications.	22 GAUGE ALU.	30	4,428		
2		22 GAUGE ALU.	50	2,244		
3		22 GAUGE ALU.	75	2,161		
4	Hot Insulation - Mineral Wool LRB with Aluminium cladding & fixing accessories.	22 GAUGE ALU.	25	757		
5		22 GAUGE ALU.	30	1,530		
6		22 GAUGE ALU.	50	368		
7		22 GAUGE ALU.	75	372		
8		22 GAUGE ALU.	100	816		
9	Hot Insulation - Mineral Wool LRB with SS 304 cladding & fixing accessories.	24 GAUGE SS304	25	159		
10		24 GAUGE SS304	30	229		
11		24 GAUGE SS304	50	56		