

METHOD STATEMENT FOR INSULATION OF CHILLED WATER PIPING

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1. PURPOSE AND SCOPE

The purpose of this method statement is to outline the methodology to be implemented for insulation for chilled water piping system activities of Worker Hospital & Integrated Health Centre at Mesaieed Industrial city to ensure that all works are carried out in accordance with the approved construction drawings and project specification.

This Method Statement covers all related insulation for chilled water piping system activities which include:

- a) Insulation for Chilled water pipe works, Fittings, Valves and accessories.

2. OBJECTIVES

This document provides a method statement for insulation of Chilled water piping system in accordance with the Contract Scope of work.

The work will be carried out as per approved planning sequence of work and project schedule with adequate resources to meet target.

The methodology contains the construction procedures, the requirements of materials, equipment and management thereof.

The work shall consist of Insulation for Chilled water piping system along with accessories about the installation procedure with respect to project specifications, approved shop drawing and the manufacturer recommendations.

3. REFERENCE DOCUMENTS

- 3.1 Project Specifications Sec.(15081)
- 3.2 Tender/ Contract documents.
- 3.3 Project IFC Drawings.
- 3.4 Approved Shop Drawing
- 3.5 Project Quality Plan.
- 3.6 HSE Plan.
- 3.7 QCS-2010 References

4. GENERAL

- a) Ensure that the insulation for Chilled water pipes, fittings, valves and accessories are correct and as per project specification and approved material submittal before commencing the installation works.
- b) Prior to commencing any works, a risk assessment must be conducted, taking into account all possible risks and the appropriate precautions put in place, i.e. Fire Extinguishers, Fire Blankets, Safety Harnesses, etc. Refer to the risk assessment/risk management section of this method statement.
- c) Ensure that shop drawing used on site are approved and latest prior to commencing works on site.

5. PRE WORKS

- a) Installation procedure shall be as per manufacturer's recommendations.
- b) All workers shall attend safety induction training on the safe installation methods by the safety department.
- c) Ensure that chilled water insulation materials received are inspected; found acceptable as per approved materials submittal.
- d) Ensure that all related materials are of approved make and are available before carrying out any work.
- e) Prior to commencement of work, inspect areas and access to confirm that the site is ready for commencing the work.
- f) Material shall be stored appropriately and stacked on wooden blocks and placed on level ground in the lay-down area.
- g) Material shall be stored appropriately to prevent damage. Material shall not place directly on the ground.
- h) Manufacturer's instructions with regard to storage requirements shall form the basis for material storage and preservation.
- i) Chilled water insulation shall be protected from direct sunlight and foreign debris and stored as per Manufacturer's recommendation.
- j) All relevant documentation (drawings) and materials applicable to particular section of works will be checked by site engineer prior to commencement of work and ensure that shop drawings are as of latest revision approved.
- k) MEP site engineer/ site supervisor will give necessary instructions to tradesmen (Pipe Insulator) and provide necessary construction shop drawings of latest revision.
- l) MEP site supervisor/ foremen will also check that proper insulation tools like cutter/Knife and other equipment are available to carry out the work and are in compliance with manufacturer's recommendations and safety policy.
- m) MEP site supervisor and safety officer will explain to the tradesmen regarding safety precautions to be observed.

6. WORKS

6.1 Insulation for chilled water piping system

6.2 Chilled water insulation shall be as per approved Material Submittal, Shop drawings, Project specifications

6.3 All works shall be undertaken in a neat and workman ship manner to ensure the quality of insulation installation.

6.4 Ensure that the insulation size, thickness and other aspects are as per approved material submittals.

6.5 Insulation material will be installed over clean, dry pipe at ground level without covering joints.

6.6 Insulation should be protected from moisture and weather before applications as per manufacturer's recommendations.

6.7 All Insulation section shall be trimmed and tight to avoid gaps or open joints. The insulation application shall be fitted and proper tightness should be ensured.

6.8 The joints will be insulated after the installation and pressure testing of pipes. All joints should be insulated properly to avoid condensation and follow manufacturer's recommendations for joining.

6.9 The tapes/Glue around the ends/joints of pipe shall be as per manufacturer's recommendations.

6.10 Insulation for valves/strainers & other accessories shall be carried out with more precaution, ensure that the surface is free from dust, water or grease particles.

6.11 Insulation shall be measured and cut as required.

6.12 Identifications/Labels for Chilled water pipe works as follows:

- a. Identifications Labels for Chilled water pipe works services should be as per Approved Material submittal/Shop Drawings, Project Specifications and Manufacturers recommendations.
- b. Identifications labels shall with stand climatic conditions. The Size, Font and Colours should be as per Approved Material Submittal, Project Specifications and Manufacturers recommendations.
- c. Chilled water (Supply/Return) should have their own identifications with flow direction marked on the label.
- d. The insulated surface where the label is going to be placed should be cleaned to ensure it is free from dust.
- e. The identification label is of self-adhesive type and it should be installed on the cleaned surface indicating the correct direction of flow.

7. RESPONSIBILITY

All personnel engaged in the Insulation of Chilled water piping System activity shall be of adequate experience in their respective discipline

- a) **Construction Manager** is responsible for the overall works.
- b) **Site Engineer, Surveyor and Foreman** is responsible for the installation activities in accordance with the scope of work, approved drawings, related specification and HSE requirements implementation.
- c) **QA/QC Engineer** shall ensure that all works are carried out strictly in accordance with approved method statement, and Inspection and Test plan.
- d) **Safety Engineer, Safety Officer, Safety Assistant** shall ensure that works are carried out in accordance to approved method statement, risk assessment and control measures.

8. ENGINEERING

- a) Ensure that the Shop Drawings issued to site are approved and latest.
- b) Shop drawings shall follow the IFC drawings, Project Specification requirements and Local Authorities Codes and regulations.

9. MATERIALS

- a) The following material shall be used for chilled water pipe insulation:
 - I. Insulation sheet or tube
 - II. Tape/Glue for joining.
- b) Material will be delivered at site in undamaged condition, in Manufacturer's packaging , with identifying labels intact and legible.
- c) All related documents i.e. delivery notes, country of origin, bill of landing and test certificates shall be available along with materials.
- d) Materials will be off loaded according to manufacturer's recommendations.
- e) Chilled water insulation will be offloaded in our lay down area prior to transport to site.
- f) Delivery of Chilled water insulation will be checked / Inspected by MEP QC engineer to ensure all items on the delivery note are correct prior to signing. Any shortage or damaged items should be recorded on the delivery note and damaged Materials will store separate with identification tag or shall be removed from site.
- g) Upon delivery of materials at contractor's site stores, inspection will be offered for Consultant approval.

10. PLANT AND EQUIPMENT

- a) Measuring Tape.
- b) Step Ladders, Scaffolding.
- c) Pipe insulator standard tool box
- d) Screw driver
- e) Knife/Cutter
- f) Rough Cotton Clothes
- g) Plain plate for pressing insulation

11. HEALTH, SAFETY & WELFARE

- a) All safety rules & regulation for the project shall be adhered to at all times. Third Party certified equipment's and competent personnel to be deployed. Required Permit to be secured. Risk assessment and risk control measures are to be in place.
- b) All site personnel shall be properly equipped with protective clothing and tools appropriate for their duties and shall ensure that work area facilities are safe prior to The commencement of work activities.
- c) All individual tasks mentioned in this method statement will be subject to individual, risk assessments and toolbox talks by safety officer in site before work commence on a daily basis.
- d) No refuelling whilst equipment is running. To be done only at designated area on the field.
- e) Provide banks man or spotter during equipment manuvering and during hauling of excavated materials.
- f) All lifting tackle will be inspected before use.
- g) All personnel will have to undergo the applicable safety training and wear PPE i.e., Safety Helmet, Steel-Toed safety Boots or Shoes, Safety Glasses and coveralls as The minimum requirement and gloves and High Vests where necessary.
- h) For dusty working environment dust masks shall be used.

12. ENVIRONMENT

Works will proceed under controlled environment. Control measures identified in the risk assessment to be in place. Significant aspect highlighted to dust and contamination during dewatering. Dust suppression by means of water sprinkling and dewatering method statement to be followed.

13. COMMUNICATION AND TRAINING

After approval of this method statement, a pre-construction meeting to be held among the supervisory staff involved. Trainings mentioned in the risk assessment to be followed.

14. QUALITY CONTROL

Significant stages of work shall be monitored and ensured to be enforced by the concerned as per the Inspection and Test Plan attached to this document. Inspection request to be submitted to the Engineer a day prior to inspection schedule.