METHOD STATEMENT FOR HVAC DUCT WORK INSTALLATION

Project No:	

REVISION HISTORY	ISSUE DATE	DESCRIPTION	REVIEW / STATUS
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PREPARED BY:	**REVIEWED & APPROVED BY:**
QA QC ENGINEER	PROJECT ENGINEER

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1.0. PURPOSE

This methodology document highlight onsite installation of pre-fabricated duct-work systems manufactured from hot dipped galvanized steel sheet to S.M.A.C.N.A standards.

2.0. SCOPE OF WORK

This methodology document is to explain the method to be used to ensure that prefabricated ducting, bracketing, and in line equipment installation and final connections and workmanship are correct and acceptable, and conforming to the contract documents and General Specifications

3.0. RESPONSIBLE PERSONNEL

3.1. Construction Manager

- Oversee the overall planning, coordination, and execution of HVAC ductwork installation projects.
- Ensure the project is completed on time, within budget, and meets quality standards.
- Coordinate with the Mechanical Superintendent, subcontractors, and other stakeholders to ensure smooth workflow.
- Review and approve project schedules, resource allocation, and material procurement plans.
- Monitor progress and resolve any issues or delays that may arise during installation.
- Ensure compliance with project specifications, codes, and safety regulations.
- Conduct regular site meetings to review progress, address concerns, and provide updates to the team.
- Manage and report on project budgets, costs, and expenditures related to HVAC ductwork.
- Liaise with clients, consultants, and contractors to ensure alignment on project goals and deliverables.
- Ensure proper documentation and handover of completed work, including as-built drawings and reports.

3.2. Mechanical Superintendent.

- Supervise and direct the installation of HVAC ductwork systems on-site.
- Ensure all ductwork installations comply with design specifications, codes, and standards.
- Coordinate with the Construction Manager and subcontractors to ensure timely delivery of materials and equipment.
- Monitor the quality of workmanship and ensure adherence to approved shop drawings.
- Conduct regular site inspections to verify compliance with safety and quality standards.

- Resolve technical issues related to ductwork installation and provide guidance to the installation team.
- Ensure proper sequencing of work to avoid conflicts with other trades (e.g., electrical, plumbing).
- Maintain accurate records of daily progress, manpower, and equipment usage.
- Conduct toolbox talks and ensure all workers are trained and aware of safety protocols.
- Assist in the testing, commissioning, and handover of HVAC systems.

3.3. Q.C. Engineer/Inspector

- Inspect and verify that all materials used for HVAC ductwork meet project specifications and standards.
- Conduct quality checks at various stages of ductwork installation, including fabrication, assembly, and installation.
- Ensure compliance with approved shop drawings, codes, and industry standards (e.g., SMACNA, ASHRAE).
- Document and report any non-conformities or defects and ensure corrective actions are taken.
- Perform pressure tests and leak tests on installed ductwork systems to ensure integrity.
- Review and approve inspection and test plans (ITPs) for ductwork installation.
- Coordinate with the Mechanical Superintendent and subcontractors to address quality issues promptly.
- Maintain detailed inspection records and prepare quality reports for submission to the client or consultant.
- Ensure proper storage and handling of materials to prevent damage or contamination.
- Participate in final inspections and commissioning activities to ensure system readiness.

3.4. QHSE Officer

- Ensure all HVAC ductwork installation activities comply with health, safety, and environmental regulations.
- Conduct regular safety inspections and risk assessments to identify and mitigate hazards.
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- Monitor the use of personal protective equipment (PPE) and safe work practices on-site.
- Investigate and report any accidents, incidents, or near-misses related to ductwork installation.
- Provide safety training and toolbox talks to workers, focusing on hazards specific to ductwork installation.
- Ensure proper handling and disposal of materials to minimize environmental impact.
- Verify that all equipment and tools used for ductwork installation are in safe working condition.

- Collaborate with the Construction Manager and Mechanical Superintendent to enforce safety protocols.
- Maintain safety records, including permits, inspections, and training documentation.
- Promote a culture of safety and environmental awareness among all workers and subcontractors.

4.0. METHOD – PRE-INSTALLATION

- All materials drawings and other documentation relevant to a particular section of works will be checked by the Construction Department prior commence of work ensuring that these are of the correct type as reviewed by the Client.
- Before commencing any construction works, pre-inspections will be carried out on all materials prior to them leaving the storage area
- Prior to the commencement of any construction works, areas and access will be inspected by the Construction Team to ensure that they are in a suitable condition for construction works to commence. The Client will be invited to attend this inspection at his discretion.
- A close co-ordination with other trades will be carried out on site prior to commence work.
- A safe and protective storage area will be allocated on site, in close co-ordination with the employer.

5.0. METHOD OF INSTALLATION

- Supervisor will instruct tradesmen regarding the execution of the works and will distribute all necessary approved construction drawings of the latest revision.
- The supervisor will also check that tools and equipment available are in compliance with the contract requirements.
- Ensure horizontal ductwork is adequately supported at equal distances in accordance with Construction Drawings with all brackets fixed to the vertical face of ribbed beams of the structure.
- Care will be taken during setting out, that ductwork runs between ceiling module lines so as to maintain maximum flexibility for any future relocation of lighting fixtures or other services.
- Ductwork supports unless otherwise indicated will be installed to provide a minimum space of 15mm between finished covering and adjacent work, and 100mm clearance from suspended ceiling.
- Supports or hangers will be placed within 300mm of any 45° – 90° bend.
- Screwed drop rods will have thread adjustment in either direction available after leveling of ductwork and associated plenum boxes.
- Ducts will be supported within 300mm of mating flanges or joints.

- As indicated on relevant approved construction drawings where more than one duct can be supported on one hanger – the size of the hanger will be assessed on the sum of the maximum widths.
- Ductwork passing through non fire rated walls and floors will be adequately supported on either side.
- All locknuts are tightened correctly. At all open end's check for debris then cover with suitable material to prevent any ingress of debris vermin, or moisture.
- Supervisor to ensure that there are no dents, distortion or buckling of ducting during installation being aware that damaged sheet metal work will be rejected.
- Supports are to be fixed at correct levels checking the bracket material is compatible with the installation and the correct method used for thermal insulation.
- Ducting to be installed allowing sufficient space for expansion/contraction and thermal insulation.
- Fixing of flanges to ductwork will be by the approved details and in compliance with the specification requirements: a) Clean both flange faces to be joined. b) Add gasket jointing material to flanges to be mated. c) Using only undamaged rust free bolts nuts and washers join mating flanges together and tighten bolts. d) Clean any excess jointing material from flanges.
- Continuously check horizontal and vertical alignment of ductwork and compliance with contractor's drawings and specification requirements by using spirit level plumb or other suitable instrument.
- In line equipment is to be independently supported from main structure and not block work walls or sub-structure.
- Silencers, fire dampers, balancing dampers & other plant items will be installed as per contractor's drawings, and will be supported adequately.
- Supervisor to check before end of work day's by recording in his diary (as necessary) that: a) The correct type supports installed, b) Supports are adequately supporting the ductwork and associated plant equipment.
- Test holes to be provided and plugged ready for commissioning and control equipment.
- Ensure terminal equipment is installed as specified.
- Supervisor to ensure that all completed installations look neat and tidy, and that there is adequate spacing between ductwork and in line equipment allowing access for operation and ease of maintenance, to approved contractors drawings and manufacture's recommendations.
- The supervisor in charge and the QC officer shall continuously monitor the activities (by recording the defects or snags into his House Process Inspection List) to ensure that all components indicated on the approved contractors drawings have been installed and that the installation is in accordance with the contract requirements.

6.0. SAFETY AND ENVIRONMENTAL CONSIDERATION

7.0. RECORDS

Ductwork check list.

8.0. REFERENCE DOCUMENTS

- Particular Technical Specification for Mechanical
- S.M.A.C.N.A .Specification for Ductwork Construction and Installation 1985
- Painting & Identification
- Construction Quality Plan on Site Ductwork Manufacture