

PART 1 GENERAL

1.1 REFERENCE STANDARDS

- .1 American Conference of Governmental Industrial Hygienists (ACGIH)
 - .1 ACGIH 2097 (Latest Edition), Industrial Ventilation: A Manual of Recommended Practice for Design.
- .2 ASTM International
 - .1 ASTM C 700 (Latest Edition), Standard Specification for Vitrified Clay Pipe, Extra Strength, Standard Strength and Perforated.
- .3 National Fire Protection Association (NFPA)
 - .1 NFPA 91 (Latest Edition), Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Noncombustible Particulate Solids.

1.2 ACTION AND INFORMATIONAL SUBMITTALS

- .1 Submit in accordance with Section 01 33 00 - Submittal Procedures.
- .2 Product Data:
 - .1 Submit manufacturer's instructions, printed product literature and data sheets for inlets, hoses, ducts, and fans and include product characteristics, performance criteria, physical size, finish and limitations.
- .3 Shop Drawings:
 - .1 Indicate following:
 - .1 Fan performance curves.
 - .2 Inlet details.

1.3 MAINTENANCE MATERIAL SUBMITTALS

- .1 Extra Materials:
 - .1 Submit in accordance with Section 01 78 00 - Closeout Submittals.
 - .2 Submit list of manufacturer's recommended spare parts for equipment such as bearings and seals, and addresses of suppliers, together with list of specialized tools necessary for adjusting, repairing or replacing, for placement into operating manual.

1.4 DELIVERY, STORAGE AND HANDLING

- .1 Deliver, store and handle materials in accordance with Section 01 61 00 - Common Product Requirements and with manufacturer's written instructions.
- .2 Delivery and Acceptance Requirements: deliver materials to site in original factory packaging, labelled with manufacturer's name and address.
- .3 Storage and Handling Requirements:

- .1 Store materials off ground indoors in dry location and in accordance with manufacturer's recommendations in clean, dry, well-ventilated area.
- .2 Store and protect exhaust systems from nicks, scratches, and blemishes.
- .3 Replace defective or damaged materials with new.

PART 2 PRODUCTS

2.1 INLETS

- .1 Type of inlets: overhead as indicated.

2.2 HOSES

- .1 125 mm diameter silicone coated glass fabric flexible hose complete with plug-in ends and tail pipe adapter including vise grip connection, rated for 650°C.
 - .1 Overhead system: four hoses, 7.5 m long with recoil balancer, hanger point for balancer and rubber or steel elbow hose saddle.

2.3 DUCTS

- .1 Above floor: galvanized steel 1.2 mm thick with welded joints.

PART 3 EXECUTION

3.1 EXAMINATION

- .1 Verification of Conditions: verify that conditions of substrate previously installed under other Sections or Contracts are acceptable for exhaust systems installation in accordance with manufacturer's written instructions.
 - .1 Visually inspect substrate in presence of Departmental Representative.
 - .2 Inform Departmental Representative of unacceptable conditions immediately upon discovery.
 - .3 Proceed with installation only after unacceptable conditions have been remedied and after receipt of written approval to proceed from Departmental Representative.

3.2 INSTALLATION

- .1 Install in accordance with NFPA 91, and to manufacturer's instructions.
- .2 Follow ACGIH industrial ventilation details, print VS-907.
- .3 Slope ducting to low point.
- .4 Install pump out sump on underground ducts at low point.
- .5 Install drain from low point in overhead ducts to floor drain.
- .6 Make joints watertight and airtight when subjected to 1.5 kPa pressure.

- .7 Install duct supports to manufacturer's recommendations.

3.3 TESTING

- .1 Test assembled and sealed ductwork from fan inlet to suction inlets under 2.5 kPa pressure for 30 minutes.
 - .1 Leakage not to exceed 1% of design total air flow.
- .2 Test apparatus to include calibrated orifice and manometer.

3.4 CLEANING

- .1 Progress Cleaning: clean in accordance with Section 01 74 11 - Cleaning.
 - .1 Leave Work area clean at end of each day.
- .2 Final Cleaning: upon completion remove surplus materials, rubbish, tools and equipment in accordance with Section 01 74 11 - Cleaning.

END OF SECTION