

THE BLUEDUCT® SPECIFICATION

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:

- 1. Underground Ducts

1.3 ACTION SUBMITTALS

- A. Provide Product Data: For each type of the following products, furnished specialties and accessories.

- 1. Underground Ducts
 - 2. Sealants and Gaskets

- B. Shop Drawings: For underground ducts. Include plans, elevations, sections, details, and attachments to other work.

- 1. Detail equipment assemblies and indicate dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
 - 2. Burial and supports, including methods for duct burial and internal and external bracing if recommended by the manufacturer.

1.4 CLOSEOUT SUBMITTALS

- A. Installation and Maintenance Data: For underground ducts include installation and maintenance manuals.

- 1. Instructions for joining ducts
 - 2. Instructions for proper backfilling and precautions.

1.5 QUALITY ASSURANCE

- A. ASHRAE Compliance: Applicable requirements in ASHRAE 62.1, Section 5 - "Systems and Equipment" and Section 7 - "Construction and System Start-Up."

PART 2 PRODUCTS – UNDERGROUND DUCTWORK

A. ACCEPTABLE MANUFACTURERS:

1. The BlueDuct® by AQC Industries, Roseville, MN 55126, (877-783-1520).
www.aqcind.com and e-mail: team@aqcind.com

B. UNDERGROUND DUCT SYSTEM

1. Complete duct system (including: plenums, round duct, run-outs, diffuser boots, etc.) must be from one manufacturer and be of the same material, construction and connection method throughout. Field made duct components are NOT acceptable.
2. Include the complete underground duct system including plenums and diffuser boots.
3. Unless otherwise noted, all duct and fittings shall be constructed per SMACNA's Duct Construction Standards (+10 w.g.).
4. Provide elbows, duct, diffusers, plenum, clamp & gasket, boots, saddle registers, caulk as required by drawings for underground installation.
5. Ductwork shall be closed cell plastic material that is recyclable, does not emit volatile organic compounds, and conforms to ASTM-D2412. Ductwork shall be resistant to mildew, mold (UL 181B), and radon gas (BSS 7239-88). Ductwork shall not rust or crack under external stress or strain. Ductwork shall have R-10 thermal insulation value without the use of external insulation.
6. All joints shall be gasket and sealed. Clamps and gaskets shall be used on ductwork without flanges. Clamps shall be polyethylene with stainless steel plates and stainless-steel screws. Gaskets shall comprise of ¼" thick butyl rubber sealant tape that is water and UV resistant and shall not stain. Gaskets shall comply with ASTM-E84 for flame and smoke spread.
7. Flanged joints and duct branches shall use a co-polymer adhesive caulking sealant that is water and UV resistant. Flanges shall be connected with stainless steel bolts.
8. Assembled ductwork shall be able to maintain +/- 10" static pressure with no leakage.
9. Duct system shall be installed by an AQC Industries' trained installer.
10. Fiberglass style ductwork or PVC coated galvanized steel ductwork shall NOT be acceptable.
11. Duct system performance shall exceed SMACNA's Leakage Class 3 requirements at the system design static pressure.
12. Duct system shall carry a 10-year Limited Warranty.

PART 3 EXECUTION

A. Installation

1. Follow manufacturer's installation instructions. 10 Year Manufacturer's warranty requires all installing contractors to be certified by AQC Industries prior to installation.
2. Excavate a trench evenly as per The Blue Duct Installation Manual. No bedding is required except for cases of bedrock or clay where sand or light aggregate may be used.
3. Backfill material must consist of pea gravel or dry silica sand.
4. The sealant and gasket material provided by AQC Industries must be used as directed. The use of non-approved sealant or gasket will void warranty.

B. Testing

1. Complete underground duct system shall be tested for leakage after final assembly.
2. Follow SMACNA air duct leakage test standard.
3. Allow 24 hours for The BlueDuct sealant to cure after final assembly before testing the duct system. Additional curing time may be required in high ambient conditions.

C. Cleaning

1. Remove dust and debris from ductwork prior to occupancy.