*Abstract: This document is an abbreviated engineering specification template for the Q Duct Pre-Insulated Outdoor Duct System. There are product specifications that are* ***(Optional)*** *and they are shown in red. Please make sure to remove unrequired product specifications from this document when finalizing your specification.*

1. PRODUCTS
   1. MANUFACTURERS
      1. Basis of Design
         1. Q Duct by AQC Industries; 2920 Centre Pointe Dr, Roseville, MN 55113; Tel: (651)-209-0050; Email: team@aqcind.com; Web: [www.aqcind.com](http://www.aqcind.com)
   2. PRE-INSULATED OUTDOOR HVAC DUCTWORK SYSTEM
      1. Pre-Insulated Outdoor HVAC Ductwork system:
         1. Q Duct System by AQC Industries
            1. Q Duct System for HVAC supply, return, and exhaust air ductwork as shown on layout drawings.
            2. System shall include pre-insulated panels, coupling systems, sealants, cladding and accessories to meet the following performance criteria.
         2. Ductwork Materials
            1. Pre-Insulated Duct Panels: UL 181 listed rigid thermoset phenolic duct panel

Minimum internal facing: 2.3 mil (60 micron) embossed aluminum

Minimum external facing: 7.9 mil (200 micron) embossed aluminum

* + - 1. Duct Connections
         1. Interlocking duct connections must exceed SMACNA Leakage Class 1.
         2. Connections that cannot meet or exceed SMACNA Leakage Class 1 (TDC/TDF, 4-Bolt Flange) are not permitted.
      2. Duct R-Value, Insulation Panel Layers, Nominal Wall Thickness
         1. R-12: Double Panel, 2.50” wall thickness: ***+ additional R-8.6 Sloped Roof Insulation***
         2. ***R-18: Triple Panel, 3.75” wall thickness: + additional R-8.6 Sloped Roof Insulation***
         3. ***R-24: Quad Panel, 5.00” wall thickness: + additional R-8.6 Sloped Roof Insulation***
      3. Design Pressure Reinforcement Specification
         1. Duct shall be reinforced to meet +/- 4” (1000 Pa) WG Pressure Class
         2. ***Duct shall be reinforced to meet +/- 7” (1750 Pa) WG. Pressure Class***
      4. Warranty
         1. Manufacturer shall provide a 10-year limited warranty for the Pre-Insulated Outdoor HVAC Ductwork system.
      5. Mounting System
         1. Factory supplied & attached external support rails on all straight ducts longer than 24” & depth greater than 24” and on all straight ducts with vertical rise greater than 6’.
         2. ***Factory supplied & attached external universal support rails on all straight ducts.***
      6. **Sloped Roof Water Shed** 
         1. **Roof Slope: Minimum roof slope of ½” per 1’**
         2. **Roof Insulation: Minimum R-8.6 at 1.5” insulation thickness.**
         3. **Roof Cladding: UL 181 listed multi-layered 19.5 mil aluminum laminate cladding**
      7. Air Leakage Testing:
         1. Test in accordance with SMACNA HVAC Air Duct Leakage Test Manual on at least 10% of the total installed duct area, after all duct has been secured to the duct supports. Ensure duct system exceeds SMACNA Air leakage Class 1.