

Chemical Resistant Coated Ductwork – Long Seam Welded

Contractor Responsibilities:

1. The final design for this ductwork shall be a delegated design and complete submittals shall be provided for the Engineer's review and approval prior to commencing any fabrication.
2. A complete set of detailed and coordinated drawings for all Chemical Resistant Coated Ductwork shall be provided to the Engineer for review and approval prior to commencing any fabrication.
3. Air leakage testing shall be performed by a certified TAB contractor, witnessed by the Engineer, and tested at a minimum 10 iwg positive pressure. The maximum allowable air leakage is 4 cfm regardless of the size of the system tested.

Materials:

1. Base metal shall be G90 galvanize.
2. Epoxy coating shall be an electrostatic applied and baked on 3M™ Scotchkote™ Fusion-Bonded Epoxy Coating 135 (light gray) applied at a minimum 3 mil minimum inside and out.
3. Transverse connections shall be:
 - a. 0.1875 thick 100% expanded PTFE gasket (W.L. Gore) and a self-adhesive strip
 - b. Fully welded to the duct
 - c. Vanstone to the fittings
 - d. Flange-to-flange mechanical connection: Stainless steel (type 316) nuts, bolts, and washers.

Construction Methods:

1. Fittings:
 - a. All seams exposed to the airstream shall be either gore locked, swedged, lapped, and fully welded with a minimum 75% weld penetration. Fillet welds, stitch welds, spot welds, punch welds, screws, rivets, or other attachment methods will not be permitted.
 - b. Metal gauge for the fittings are to be the same gauge as the adjoining duct.
 - c. Stamped fittings will not be permitted.
2. Long seam welded duct:
 - a. Systems are for Duct Class 1 or Class 5 as defined by SMACNA Round Industrial Duct Construction Standards (1999).
 - b. Minimum gauges for the duct and fitting shall be in accordance with SMACNA HVAC Duct Construction Standards (2005) for the specified pressure (specify requirement between -10 iwg to +10 iwg) however, not less than 20 gauge will be used. For negative pressure systems operating at pressures less than -10 iwg refer to SMACNA Round Industrial Duct Construction Standard (1999) for guidance on gauges and reinforcement.
 - c. For negative pressure applications, if reinforcement is required, angle rings will be factory installed prior to the application of the epoxy coating.
3. NO internal sealants shall be used.
4. Touchup to damaged coating shall be an industrial quality 2 part epoxy brush or spray applied following the manufacturer's application recommendations.