



PVC Ductwork

General

Fabrication and construction of PVC ductwork shall comply with SMACNA (Sheet Metal and Air Conditioning Contractors National Association) Thermoplastic Duct Construction Manual.

Materials

Sheet : Pressed grey unplasticized rigid polyvinyl chloride (UPVC) sheet.
Pipe : Where possible use extruded PVC pipe for circular ducts.

Welding

Continuously weld all joints, including seams, stiffeners, flanges, corners of fabricated bends and tees, and the like. Weld stiffeners on both sides. Black weld slip socket joints. Butt Welding: Vee type, using hot air equipment, as follows:

In 3mm and 4mm material: 1 run of 3mm welding rod.
In material thicker than 4mm: Triple welding rod or 3 runs of 3mm rod.

Solvent welding : Use a continuous PVC H-section jointing sockets, heat formed or circular duct cross joints. Use solvent welding only in locations inaccessible for butt welding.

Bending

Immediately before bending sheet material, heat both sides to avoid thinning and high stress concentrations. Heat bend the corners of rectangular ductwork to an inside radius equal to the material thickness or 5mm, whichever is the greater.

Seams

Keep longitudinal seams to a minimum. Locate welded seams away from the corners, preferable in the middle of a short side.

Cross Joints

Flanged: Weld flanges to the ductwork, and connect by bolting at 25mm centers with 6mm diameter stainless steel bolts. Provide soft plasticized PVC gaskets or non-setting compound appropriate to the application.

Slip socket: Heat form the socket or make it by welding a PVC collar on to the adjoining duct section. Solvent weld overlapping duct sections before back welding.



Fittings

Form bends and tee pieces from the same material as the duct, and make an airtight joint to the duct by welding.

Lobster back bends. To circular ductwork provide lobster back bends with at least five segments, butt welded, and with a centerline radius not less than 1.5 x duct diameter.