

Installation Requirements

These requirements pertain to PVC duct installed below raised floors and in or under a concrete slab. PVC duct conforming to the specifications contained herein shall not be used in exposed applications. PVC duct pipe and Black Max fittings shall be joined using the manufacturer's required adhesive,* or an approved equivalent.

1. PVC duct should be laid on level earthen surfaces. Large gaps under the pipe shall be filled with selected backfill material, free of sharp rocks or masonry material. Blocking under the pipe to achieve a level laying condition shall also consist of select backfill material. Do not use brick, rock or any other similar material to support or level duct runs.
2. Using the duct plan supplied by the builder, place the register boot boxes** at the locations designated on the plan and secure them to the stem wall to prevent movement during duct installation and backfill.
3. After the boxes are securely located, duct pipe and fittings can be laid from the boxes to the air source or plenum. PVC duct pipe and fittings should be joined, utilizing a heavy bodied, slow setting PVC cement. Cement should be applied to both pipe and fitting surfaces to insure a leak proof joint. Black to white connections shall be joined using the manufacturer's recommended adhesive,* or approved equivalent. Plastic fittings do not require concrete encasement.
4. A minimum of two (2) sheet metal or plastic screws should be run through the pipe and fitting walls to prevent movement of the joint during the installation and backfill. Screws should be located preferably at the top circumference of the pipe to provide maximum joint integrity. Screw heads shall be covered with PVC cement or one of the recommended sealants.
5. When duct runs and fittings installation is complete, and the duct is connected to the plenum. It is recommended that a flanged PVC start collar be used to effect this connection. The flanged start collar should be securely fastened to the wall of the plenum, utilizing PVC cement. It is suggested that screws be used to hold the start collar in place during installation. PVC duct pipe should be inserted inside the start collar, using PVC primer, cement, and screws to effect the connection.
6. A visual inspection shall now be conducted to determine that all joints and fittings are secure and properly located. Metal or wood construction stakes should be driven into firm ground adjacent to duct runs, in locations that will prevent lateral movement and floating of duct and fittings. This staking is essential and if properly located will prevent lateral movement when backfill material is mechanically unloaded.
7. Sand, gravel or other select backfill material should be employed to cover all duct and fittings. Normal site conditions allow duct and fittings to be completely covered by backfill material, however, in some cases the duct pipe will extend upward into the bottom of the slab. No special precautions need be employed in this instance, as PVC pipe and plastic fittings are sufficiently rigid to withstand the loading of the concrete. Backfill shall be accomplished by hand spreading or by light machinery (Bob Cat type). When machinery is used, care should be exercised to prevent such machinery from direct contact with duct and fittings. Particular care should be employed to insure that the connections and duct at the plenum are fully supported by backfill material. Tops on plastic boots** should be left intact until grilles are installed.
8. Raised floor installations for supports and insulation as per local code requirements.
9. General Plastics Black Max® and PVC products may also be used for Exhaust, Ventilation, Combustion, Make-Up air, and Products Transfer, as per local codes requirements.

**May Also be used as extensions 18-24" PVC Pipe must be beveled on ends for fittings or add couplings.

Repairs

Plenum Boxes; cracks or holes in PVC plenums can be field repaired with oversized pieces of PVC materials and IPS Primer, and 719 Adhesive, or approved equals, with screws to hold in place.

PVC Pipe; same size pipe can be cut and used as overlays with Weld-On primer and GP PVC cement, or approved equals, with screws to hold in place.



Manufacturer's Recommended Adhesives (Approved equivalent may be used per manufacturer instructions)

For Black Max® to PVC:

For PVC & Plenums:

For All Fittings:



IPS Weld-On 600



Surebond 190
For Saddle Boots
and L-Bar Hangers



GP PVC Cement



GP Weld-On P-70
Primer
Clear or Purple

Average Initial Set Schedule
Cements**

For WELD-ON PVC/CPVC Solvent

Temperature Range	Pipe Sizes 4" to 8"	Pipe Sizes 10" to 15"	Pipe Sizes 15"+
60° - 100°F	30 minutes	2 hours	4 hours
40° - 60°F	2 hours	8 hours	16 hours
0° - 40°F	12 hours	24 hours	48 hours

Note: Initial set schedule is the necessary time to allow before the joint can be carefully handled. In damp or humid weather allow 50% more set time. ** These figures are estimates based on our laboratory tests; extended set and cure times are required for chemical applications. Due to the many variables in the field, these figures should be used as a general guide only.

