

## Installation Instructions

### Handling and Storage

PureGuard II duct is to be handled and stored with great care so as to prevent damage to the ECTFE coated surfaces.

Particular care should be taken to avoid direct contact with the coated flanged ends and any surface or object that might damage the coating on these exposed ends. All PureGuard II assemblies are shipped from the factory with the ends sealed. These sealed ends should not be opened until the installer is prepared to use the duct or fitting item.

Whenever possible, store duct and fittings indoors to protect against dirt and debris, avoid stacking one section directly on top of another (end on end) without an abrasive barrier shield such as cardboard, plywood or rubber between them, and never nest smaller diameter sections inside larger diameter sections.

Duct and fittings with bolted end connections may be stored either vertically or horizontally as described above. Duct and fittings set up for Quick Clamp (QC) connections should be stored vertically, to minimize the possibility of deforming the concentricity of duct and backing rings.

PureGuard II duct and fittings are available with bolted ends (available all sizes) or clamped ends (available up to 18" diameter only). PureGuard LLC will generally ship all required gasket, bolting and clamping hardware with the duct or fittings. Upon receipt of shipment, properly inventory any hardware items for future installation work.

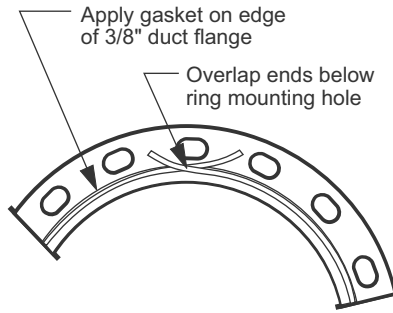
### Joining Duct - Bolted Ends:

1. Inspect the duct for any damage, especially the interior coated surface and the other flange surfaces. Do not install duct that has visible damage to the ECTFE coating. Wipe away any foreign matter on the coated surface using a soft, lint free cloth.
2. Bring the loose angle ring flange on the end of the duct to be joined against the rolled duct flange. If the angle ring is welded to the duct, as is standard on larger sizes, this step is not necessary.
3. Select the proper size gasket material based upon the diameter of the sections to be joined. Gasket sizes are as follows:

| Joint Diameter      | Width     | Thickness |
|---------------------|-----------|-----------|
| less than 12 inch   | 0.18 inch | 0.12 inch |
| less than 42 inch   | 0.25 inch | 0.12 inch |
| 42 inch and greater | 0.38 inch | 0.12 inch |

4. Measure and cut the expanded PTFE gasket to the correct length.
5. Slowly peel the backing from the gasket to reveal the adhesive side.
6. Install the gasket around the rolled duct flange, overlapping at the cut ends by at least 1 inch, as shown below.

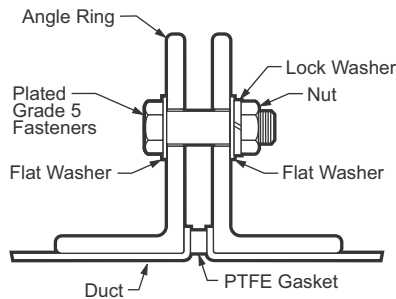
7. Apply gaskets to the duct flange ends as wrinkle free as possible. Run a finger over the gasket to assure proper uniform adhesion to the duct flange.



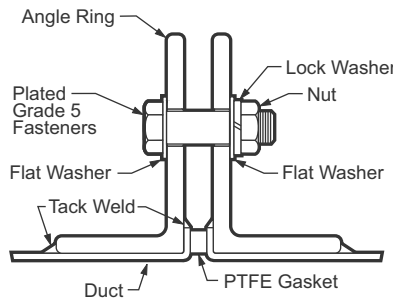
8. Align the mating section of duct or fitting and its angle ring flange up to the end of the first piece of duct with the PTFE gasket on it.

9. Recheck the alignment between sections prior to tightening bolts or clamps. Be careful not to disturb the gasket when doing this.

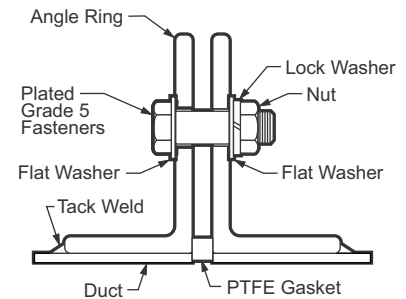
10. Bolt the mating sections of duct together, using SAE Grade 5 fasteners (unless otherwise specified) for the installation. Each bolt should be installed with a flat washer beneath both the bolt head and the nut, and a lock washer between the nut and flat washer. See the typical bolting arrangement below for standard flange configurations.



**LOOSE ANGLE RINGS  
STANDARD ON 4" - 30" DIAMETER**



**TACK WELDED ANGLE RINGS  
STANDARD ON 32" - 48" DIAMETER**



**FIXED ANGLE RINGS  
STANDARD ON 50" - 132" DIAMETER**

11. Tighten all bolts in a star pattern, first finger tight, and then by a calibrated torque wrench until the desired torque has been evenly reached on all bolts. Do this in several increments of the torque value. For 3/8" diameter plated SAE Grade 5 fasteners, tighten to a final (maximum non-lubricated) torque of 36 ft.-lb. See the table below:

| Bolt Diameter | Max. Torque | Material             |
|---------------|-------------|----------------------|
| 5/16 inch     | 22          | Plated Grade 5 Steel |
| 3/8 inch      | 36          | Plated Grade 5 Steel |

### Joining Duct - Quick Clamp Ends:

1. Inspect the duct for any damage, especially the interior coated surface and the outer flange surfaces. Do not install duct that has visible damage to the ECTFE coating. Wipe away any foreign matter on the coated surface using a soft, lint free cloth.

2. Press the backing ring evenly against the rolled duct flange (this step is not necessary for the 2" and 3" diameter sizes as the backing ring is internal with the duct ends for these sizes).

3. Apply the adhesive backed PTFE gasket tape to the duct or fitting end, so that the gasket tape covers the rolled duct flange and wraps over the backing ring, locking the backing ring in place. Overlap the ends of the gasket by 1/2" - 1" prior to cutting the tape.
4. Ensure that the gasket is firmly and evenly seated on the duct end.
5. Repeat steps #1-4 above for the mating section of duct or fittings.
6. Bring the gasketed ends together taking care not to cut or crimp the gasket surfaces. Hold the duct joint in place using locking pliers or other means.
7. Position the clamp on the joint. Using both hands to open the clamp, then locate on the joint, and close. The clamp, when properly installed, should rest evenly on the angled groove.
8. Insert the clamp bolt in the bolt carrier and tighten on the lock nut. Remove jigs or pliers as required to complete the tightening, taking care to ensure that the joint is evenly pulled up. Proper torque for Quick Clamps are shown below:

| Joint Size | Bolt Size | Torque required (ft/lbs) |
|------------|-----------|--------------------------|
| < 6"       | 1/4"      | 6.25                     |
| 6" - 14"   | 5/16"     | 10.00                    |
| 16" - 18"  | 5/16"     | 18.33                    |

### Hangers and Supports

Hang or support duct as recommended by SMACNA.

### Drains

Duct should be installed per SMACNA guidelines, pitched to a low point drain.



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