

Linx Safe® Double Wall Round versus the Competition



Linx's unique double wall gasketed design offers the owner, engineer, and installing contractor benefits of built-in quality and minimum lifetime cost of ownership.

The Unique Design

Double wall ductwork construction consists of perforated liner on the spiral pipe, a solid liner on the fittings, a layer of fiberglass insulation, and a solid outer pressure shell. A perforated inner liner is provided on spiral pipe (solid on fittings) with a retaining fabric wrapped between the perforated inner liner and the glass fiber insulation. This fabric prevents fiberglass from entering the airstream while providing acoustical attenuation. Both the inner and outer spiral pipe is fabricated with spiral lock seam construction and furnished with a recessed inner liner and foam insulation stop. Fittings are fabricated with the inner shell flush with the outer shell and a foam insulation stop to insure thermal integrity between the pipe/fitting connections. The outer shell connection is a gasketed Linx Safe® connection.

1. Fiber fabric – provides sound attenuation and prevents fiberglass from entering the airstream
2. To ensure complete coverage, the fiber fabric is manufactured integral to the inner liner as it is applied when the inner liner pipe is spun locking the fabric into the lock seam.
3. Foam insulation stop maintains the integrity of insulation across the transverse joints
4. Stand-off clips are provided to maintain concentricity of the inner liner/spiral pipe and prevent it from slipping. The clips also prevent the crushing of insulation due to the weight of the inner liner resting on the insulation.
5. The single slip fit insures a clean exterior appearance without flanges or sealing mastic.
6. Available with 1-inch or 2-inch insulation thickness.
7. The complete installed system is provided with a 10 year warranty to satisfy ASHRAE Class 3 leakage requirements.
8. Linx's calibrated manufacturing tolerances results in ductwork that correctly fits and seals on every project.

Competitive Options

Options available in the marketplace, other than the Linx gasketed system, is a double slip fit, single face flange, or a double face flange connection.

1. Double slip fit means that both the connections of the duct work inner shell and outer shell are slipped over each other. In the process, the installer is responsible for insuring the integrity of the insulation across the joint. The joint will be mechanically connected with screws and sealing mastic will be applied to prevent air leakage.
2. A single face flange is applied to the outer shell only. The inner liner is slip fit as above, however the outer shell is connected by a flange to prevent air leakage. The integrity of the insulation across the joint is still the responsibility of the installer.
3. Double face flange covers both the inner liner and the outer shell. The flanges are mated face-to-face with a sealing gasket inserted between them and then mechanically fastened together.
4. To the best of our knowledge, there are no flange manufacturers that neither rate their flange connection for air leakage nor provide warranties of any kind.
5. Flanges must be "sealed" to the ductwork and is subject to manufacturing or contractor quality control.
6. A flanged connection requires at least 2 inches additional vertical clearance.

Installation Considerations

Material cost for Linx Safe® with a gasket is approximately 15% - 20% less expensive than factory installed double face flanges. In addition, installation time is approximately 10% - 40% more efficient with the single slip fit versus flanging considering:

1. If flanges are not installed square to the pipe and fittings, the ductwork will not be visually straight.
2. A slip fit connection allows for minor adjustments to the ductwork alignment to accommodate minor offsets.
3. If a field cut is required on flanged ductwork, either a slip fit and sealed connection will result, or the contractor will need to order additional flanges to be field installed. It is difficult to remove already installed and sealed flanges particularly if they were tack welded to the ductwork.
4. Flanged connections require the contractor to furnish and install a gasket between the mating flanges.
5. A flanged connection requires more mechanical fasteners than Linx's slip fit connection.
6. For field installed flanges, the contractor is required to attach and seal each flange to the ductwork.
7. There is no testing or long term documentation for the performance of duct sealing mastic materials to prevent duct leakage.