



Insulate Supply Boots

Job Aid for Insulate Ducted Distribution System Badge

Aligns With Standard Work Specifications 5.0107.1, 5.0107.2

BEFORE YOU BEGIN



Exposed duct boots are a prime location for energy loss when ductwork is located in an unconditioned space.



Verify ducts are connected, supported, and air sealed properly.



Pull excess insulation tight to cover and insulate the exposed boot or measure and cut a new piece of duct wrap insulation to fit.



Secure the insulation in place, then seal around the boot to plenum connection with mastic to ensure a complete vapor retarder seal.



Checklist

Insulate ducted distribution system

DESIRED OUTCOME

Reduced conductive heat transfer of duct system and minimized condensation on the duct system.¹

Preparing for the work:

- ☐ Ducts are prepared and sealed according to "air seal ducted distribution system" guidelines.

General:

- ☐ Duct insulation has an attached and continuous vapor barrier.
- ☐ Duct insulation is mechanically fastened and sealed with no exposed ducts.
- ☐ All insulation seams are sealed.
- ☐ Ducts are adequately supported and support materials do not cause the interior dimensions of the ductwork to be smaller than specified.

Metal Ducts:

- ☐ Insulation is securely attached to the ducts with metal wire or rot-proof nylon twine.
- ☐ Pattern of wire or twine is sufficient to securely hold the duct insulation tight to the duct.
- ☐ Duct insulation vapor barrier seams are sealed with manufacturer approved tape.
- ☐ Duct insulation is minimum R-8.²

Flex Ducts:

- ☐ All metal fittings including boots, elbows, and take-offs are insulated separately using a duct wrap of the minimum acceptable R-value with vapor retarder.
- ☐ Insulation on metal fittings, boots, elbows, and take-offs is mechanically fastened (e.g., stitch staples, tie bands) and sealed with no exposed metal.
- ☐ Any replacement flex duct is sized accordingly.
- ☐ Interior liner of flex-to-metal connections is fastened with tie bands using tie band tensioning tool.³
- ☐ Interior liner of flex-to-metal connections is sealed with UL 181 B-M listed mastic.
- ☐ The exterior liner of the flex duct is fastened with tie bands using a tie band tensioning tool.
- ☐ Exterior liner connections are sealed with UL 181 B-M listed mastic.

1. Relevant Standards: 5.0107.1, 5.0107.2

2. If variance request has been approved, replace this with approved figure.

3. Or other appropriate mechanical fasteners as necessary.

The Weatherization Installer Job Aids were developed by Simonson Management Services under contract (GS-10F-0065U/89243422FEE400259) and published by the National Renewable Energy Laboratory under contract (DE-AC36-08GO28308) with the U.S. Department of Energy. These job aids were funded by the Weatherization Assistance Program with contributions from the weatherization training network.

