Knox County Code Administration, Building Inspection & Code Enforcement

2018 IRC – DUCT INSTALLATION & INSULATION

Rev. 022019

2018 International Residential Code ®
INSULATION N1103.3 Ducts.

N1103.3.1 Insulation. Supply and return ducts in attics shall be insulated to a minimum of R-8 for ducts 3” in diameter and larger and not less than R-6 for ducts less than 3” in diameter. Supply and return ducts in other portions of the building shall be insulated to a minimum of R-6 for ducts 3” in diameter and larger and not less than R4.2 for ducts smaller than 3” in diameter. **Exception:** Ducts or portions thereof located completely inside the building thermal envelope.

N1103.3.2 Sealing. Ducts, air handlers, filter boxes and building cavities used as ducts shall be sealed. Joints and seams shall comply with Section M1601.4.1.

N1103.3.3 Building cavities. Building framing cavities shall not be used as supply ducts.

DEFINITIONS

BUILDING THERMAL ENVELOPE. The basement walls, exterior walls, floor, roof and any other building elements that enclose conditioned space or provides a boundary between conditioned space and exempt or conditional space.

CONDITIONED SPACE. For energy purposes, space within a building that is provided with heating and/or cooling equipment or systems capable of maintaining, through design or heat loss/gain, 50°F (10°C) during the heating season and 85°F (29°C) during the cooling season, or communicates directly with a conditioned space. For mechanical purposes, an area, room or space being heated or cooled by any equipment or appliance.

GARAGE DUCT INSTAIIATION

R302.5.2 Duct penetration. Ducts in the garage and ducts penetrating the walls or ceilings separating the dwelling from the garage shall be constructed of a minimum No. 26 gage (0.48 mm) sheet steel or other approved material and shall have no openings into the garage.

R302.5.3 Other penetrations. Penetrations through the separation required in Section R302.6 shall be protected as required by Section R302.11, Item 4.