

**NC Department of Insurance
Office of the State Fire Marshal - Engineering Division
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Dryer Duct Rated Assembly Membrane Penetrations

Code: 2018 NC Building Code
Section: 717.6.2

Date: September 6, 2018

Code: 2018 NC Mechanical Code
Section: 504.2 & 607.6.2

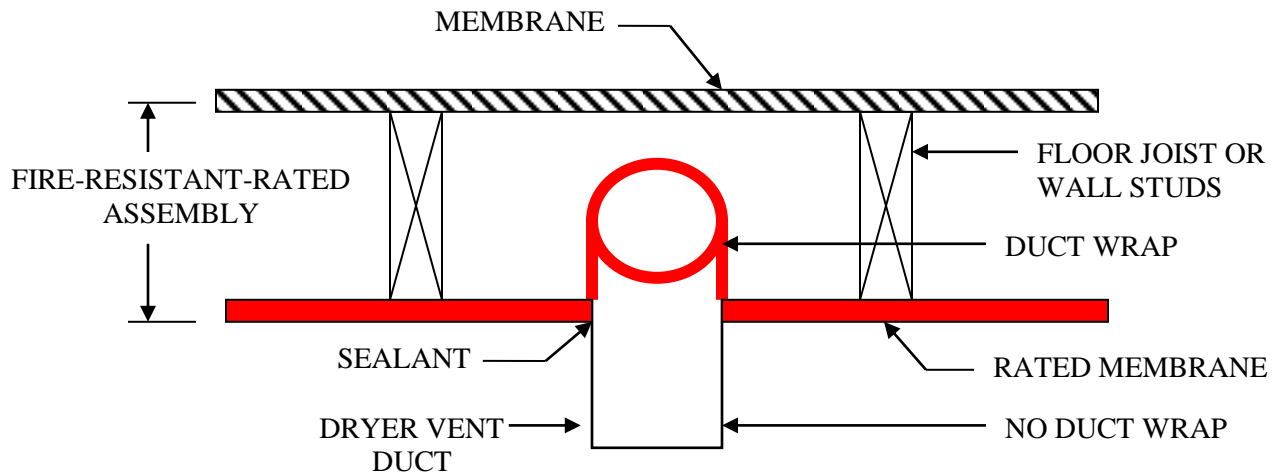
Question:

Since Section 504.2 of the NC Mechanical Code prohibits the placement of fire dampers and smoke dampers in dryer ducts, can a dryer duct penetrate the membrane of a rated floor/ceiling, roof/ceiling, or wall assembly?

Answer:

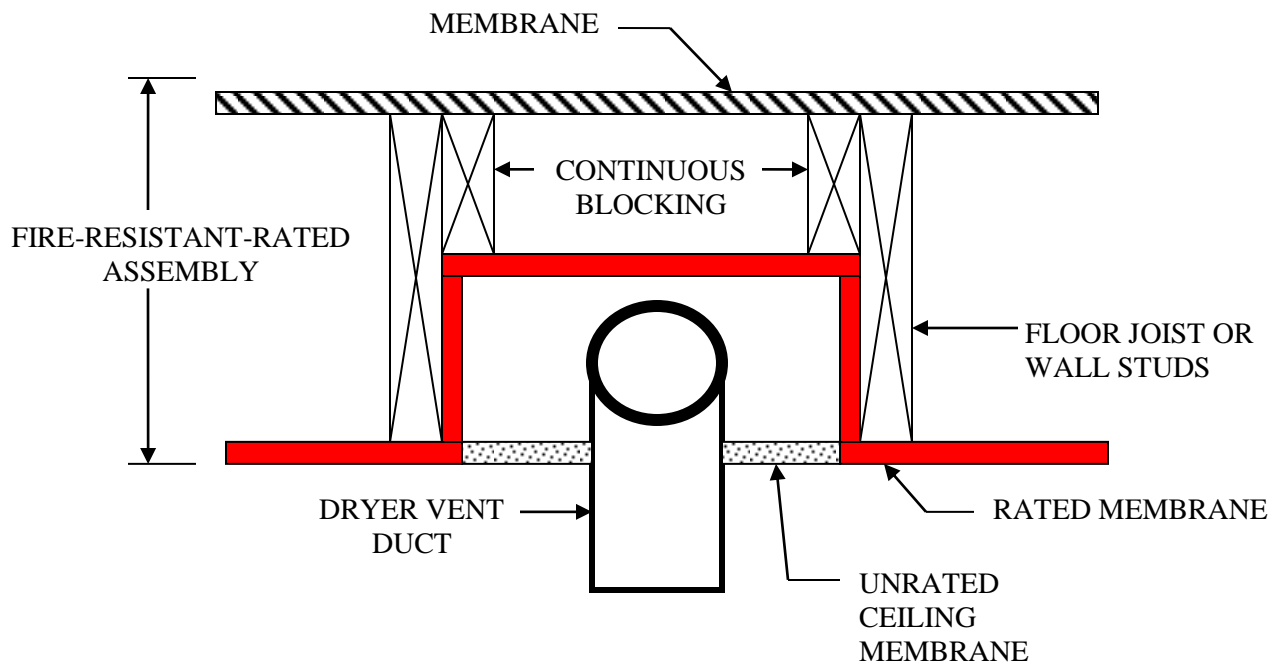
Yes. Items 1, 2, and 3 below are examples of two possible methods to penetrate the rated assembly. Item 4 shows how one might run the duct without penetrating the rated assembly. Other methods unknown at the time of this publication may be possible.

- 1) The duct can be wrapped with rated duct wrap from the point that the duct enters the rated assembly to the point where it leaves the rated assembly (see Section A). The duct wrap must be listed and labeled for the specific intended use. The duct wrap must be rated the same as the floor/ceiling assembly, roof/ceiling, or wall assembly. The penetration must be sealed to prevent the passage of smoke or flame.



**DRYER DUCT DETAIL
SECTION A**

- 2) If the rated floor/ceiling, roof/ceiling, or wall assembly test report indicates that penetrations of the assembly membrane by ducts is acceptable, then the dryer duct may pass through the assembly membrane as prescribed in the test report unless the report requires dampers. Dampers are never allowed.
- 3) A letter of engineering judgment from a NC registered engineer with expertise in the area of passive fire protection or from an International Accreditation Service (IAS) approved testing agency is an acceptable method for penetrating the membrane.
- 4) Relocate the membrane of the rated floor/ceiling, roof/ceiling, or wall assembly such that the duct is not within the assembly (see Section B).



DRYER DUCT DETAIL SECTION B

Keywords:

Horizontal assembly, horizontal assemblies, fire-resistance-rated, fire resistant-rated