

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

**Code:** 2012 NC Building Code  
**Section:** 716.6.2

**Date:** December 20, 2011

**Code:** 2012 NC Mechanical Code  
**Section:** 504.2 & 607.6.2

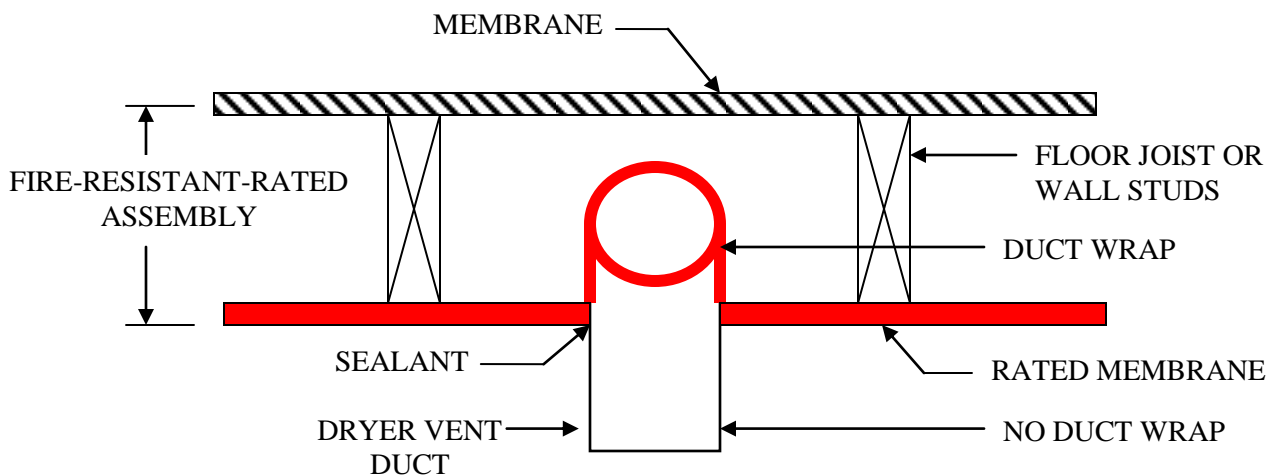
**Question:**

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:**

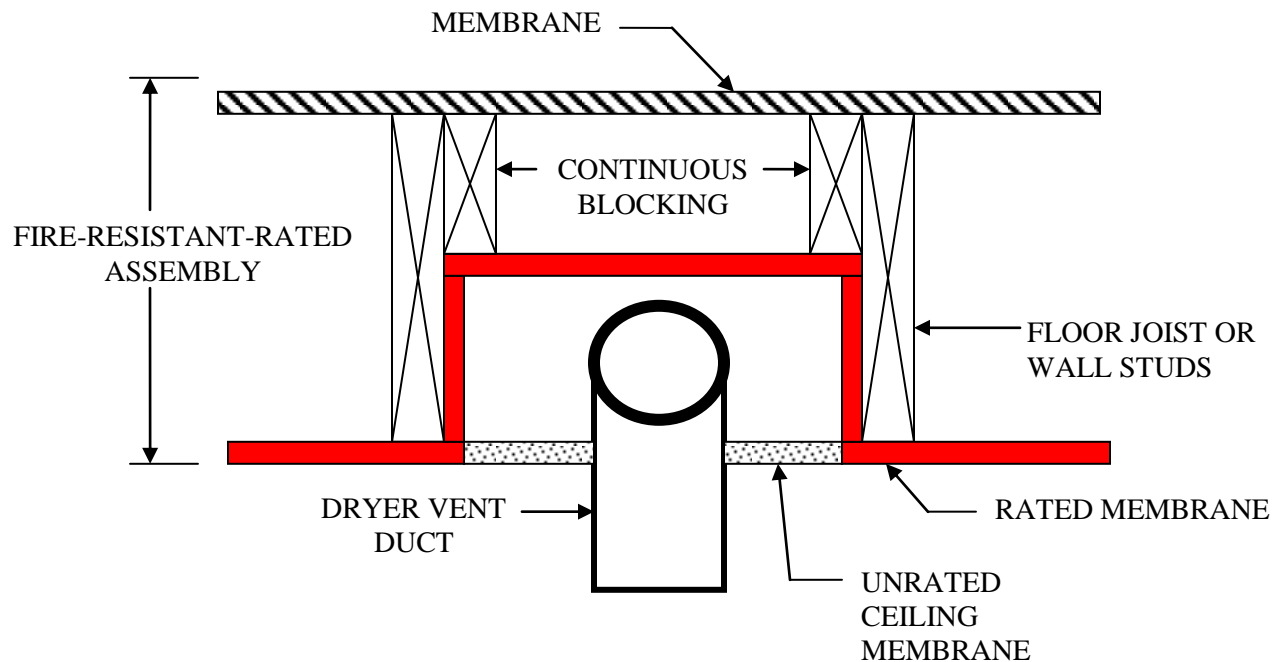
Yes. Items #1 and #2 below are examples of two possible methods to penetrate the rated assembly. Item #3 shows how one might run the duct without penetrating the rated assembly.

- 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) 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