



## Dryer Exhaust Ducts In Fire-Resistance Rated Construction Interpretation

<b>Issue Date</b>	April 21, 2015
<b>Code/Section</b>	IMC 504.2, IMC 504.8, IMC 607.6.1, IBC 714, IBC 717
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**Issue:**

Customers and staff have questioned whether IMC 504.2 Exhaust penetrations, allows clothes dryer exhaust ducts to be constructed within floor/ceiling assemblies that are required to be fire-resistance rated.

City of Phoenix received verbal and written confirmation from ICC that the intent and purpose of IMC 504.2 Exhaust penetrations, is not to allow clothes dryer exhaust ducts to be constructed within floor/ceiling assemblies that are required to be fire-resistance rated.

**Interpretation:**

A careful reading of IMC 504.2 along with the commentary shows that a code compliant design is not achieved by simply specifying an appropriate material and thickness when penetrating or constructing dryer ducts in fire-resistance rated assemblies. The commentary to 2012 IMC 504.2 states the following:

*“The difficulty and expense of maintaining the fire resistance rating of assemblies penetrated by clothes dryer exhaust ducts are an obvious justification for avoiding these penetrations wherever possible. The requirements of this section, combined with Section 504.6, make a compelling case for always placing clothes dryers against outside walls to avoid long duct runs and penetrations of other than exterior walls.”*

This indicates that designers may choose a cheap and effective solution by using location or architectural chases and soffits to run dryer ducting through the protected space without penetrating fire-resistance rated assemblies.

When penetrations of fire-resistance rated assemblies are unavoidable the IMC provides detailed descriptions for two code compliant designs.

- Section 504.8 Common exhaust systems for clothes dryers located in multistory structures, contains provisions for conveying exhaust from multiple clothes dryers through multiple stories.
- The exception to Section 607.6.1 Through penetrations, permits a duct to penetrate three floors without a fire damper at each floor level and without using a shaft.

If the concealed floor/ceiling space is protected with sprinklers the dryer duct may be installed in the floor/ceiling space as long as it is separated from combustible construction with a one hour listed gypboard or duct insulation assembly and meets all other requirements of the code.