

MECHANICAL CODE DISCUSSION

Venting Materials



“I’m trying to find what material can be used to vent a residential bathroom exhaust fan. I can’t find it. I’ve looked in the residential code, mechanical code and manual D; where is it?”

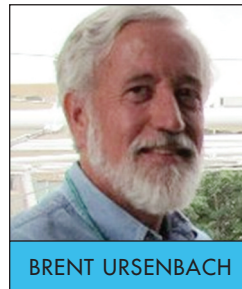
I’ve received similar questions four times in the past few months. All the questions have been based on the use of uninsulated flex products. The 2012 IRC reads specifically for factory made flex duct products:

M1506.1 Ducts. *Where exhaust duct construction is not specified in this chapter, construction shall comply with Chapter 16.*

M1601.1.1 Above-ground duct systems.

2. Factory-made air ducts shall be constructed of Class 0 or Class 1 materials as designated in Table M1601.1.1(1).

Per UL-181, the Standard for factory ducts and related products and the standards requiring such things as listed duct tape:



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Class 0 - Air ducts and air connectors having surface burning characteristics of zero.

Class 1 - Air ducts and air connectors having a flame-spread index of not over 25 without evidence of continued progressive combustion and a smoke-developed index of not over 50.

What does this mean to the HVAC industry? If you use a flex duct product it must have a sticker on each length identifying the listing/rating on the duct. You will find a sticker identifying if it is its Class and if it is a **duct** or a **connector**.

What is the difference between Flexible Air Ducts and Flexible Air Connectors? UL (Underwriters Laboratories) in their UL 181 Standard for FactoryMade Air Ducts and Air Connectors, defines two categories of flexible “ducts”.

The UL Listed Flexible Air Duct must pass all of 15 tests in the UL 181 Standard. Air Ducts are labeled with a square or rectangular label - showing their respective listing. There is no limitation on the length of runs when using UL Listed Air Ducts.

The UL Listed Flexible Air Connector must pass only 12 of the 15 tests of the UL 181 tests, and is labeled with a round shaped label, which states “for installation lengths not over 14 feet”. An installer may not increase the 14-foot limitation by using a splice between 14’ sections of Air Connectors. This length limitation is set by the requirements in NFPA 90A & 90B Standards.

Many have understood in the past that there is a connector length limit of 5’. This is not a code requirement, rather a generally accepted length limit mechanical engineers place on systems they design. If the approved stamped plans include this requirement, the code official can and should enforce it.

Warning! If the 2015 Codes are adopted by the legislature, effective July 1, 2016, 3” flex duct will not be an accepted material for venting 50 CFM bathroom fans. The friction is too high in the installation, resulting is a fan that fails to perform. More on this in a future issue.

Thanks for the questions, Brent ■