FIRE PREVENTION AND BUILDING SAFETY COMMISSION
Department of Homeland Security

Written Interpretation of the State Building Commissioner

Interpretation #: CEB-2020-26-2020 IRC-M1502.4.2

Building or Fire Safety Law Interpreted
675 IAC 14-4.4, 2020 Indiana Residential Code, Section M1502.4.2 Duct installation.

Issue
Whether UL 181B duct tape meets the dryer exhaust duct fastening requirement of Section M1502.4.2.

Interpretation of the State Building Commissioner
UL 181B duct tape does not meet the dryer exhaust duct mechanical fastening requirement of Section M1502.4.2. Whether it qualifies under the "approved method" provisions of that section cannot be determined from the information provided.

Rationale
Section M1502.4.2 states that joints in dryer exhaust vent ductwork "shall be sealed in accordance with Section M1601.4.1 and shall be fastened mechanically or by other approved methods." This statement references two separate and distinct operations that are done for the purpose of two separate and distinct effects – duct sealing in accordance with M1601.4.1 to prevent air leakage during use, and duct fastening to prevent separation when ducts are cleaned.

In the request, the interested person in this dispute refers to the inclusion of listed and labeled tape systems in Section M1601.4.1, with the implication that they are acceptable by virtue of that reference. However, the same distinction between fastening and sealing made in M1502.4.2 is made in M1601.4.1. When it discusses UL-labeled tape and mastic products, it does so only within the context of duct sealing, not fastening. Tapes are among materials and methods used for sealing duct transitions for air-tight performance, and not for securely fastening them together.

Further, ICC commentary on Section M1502.4.2 includes the following statement on this issue, in particular regard to the code's newly permitted 1/8" protrusion depth for fasteners (emphasis below added):

> *Previous editions of the code did not permit duct fasteners to protrude into the inside of the ducts. This created a problem since all ducts have been required by tradition, codes, or installation standards to be mechanically fastened at all joints and* ***joint sealing is not equivalent to or a substitute for mechanical fastening (see Section M1601.4.1 applicable to HVAC ducts)****. This also created a problem when duct cleaning firms attempted to clean dryer exhaust ducts and they would come apart within concealed wall and ceiling spaces. The code permits mechanical fasteners to penetrate up to 1/8 inch (3.2 mm) into the inside of the dryer exhaust duct. A maximum penetration of 1/8 inch (3.2 mm) is expected to create only an insignificant amount of lint buildup. The 1/8 inch (3.2 mm) limitation was intended to allow the use of short pop-rivets and 1/8-inch-long (3.2 mm) screws.*

To be considered approved as an alternative material or method (as the code defines the term "approved"), the interested person would need to demonstrate to the code official's satisfaction that the product provides protection against duct separation, substantially similar to, or better than, mechanical fasteners. No such evidence was provided as part of this interpretation request.

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