

# FLEXIBLE AIR DUCTS & CONNECTORS

## TESTING OF FLEXIBLE AIR DUCTS AND FLEXIBLE AIR CONNECTORS

(Source: UL 181)

Testing Completed	Testing Flexible Air Ducts	Testing Flexible Connectors
Surface-Burning Characteristics	Yes	Yes
Flame Penetration	Yes	No
Burning	Yes	Yes
Corrosion	Yes	Yes
Mold Growth and Humidity	Yes	Yes
Temperature	Yes	Yes
Puncture	Yes	No
Impact	Yes	No
Erosion	Yes	Yes
Pressure	Yes	Yes
Collapse	Yes	Yes
Tension	Yes	Yes
Torsion	Yes	Yes
Bending	Yes	Yes
Leakage	Yes	Yes

## FLEXIBLE AIR DUCTS And FLEXIBLE AIR CONNECTORS (notes)

Flexible air **DUCTS** must pass more stringent testing than flexible air **CONNECTORS**.

Remember flexible air **DUCTS** are not limited in length by code, however, flexible air **CONNECTORS** are limited in length to 14 feet.

**Section 603.5** of the International Mechanical Code & the Michigan Mechanical Code require that ALL non-metallic ducts must be constructed of Class 0 or Class 1 materials which relate to flame spread. Class 0 has a rating of zero (0) flame spread and smoke-developed index. Class 1 materials have a flame spread and smoke-developed index of not greater than 25 when tested to ASTM E84.

Whether a flexible air **DUCT** or a flexible air **CONNECTOR**, only Class 0 and Class 1 rated materials may be used. Class 0 indicates flame spread and smoke-developed indexes of zero; Class 1 indicates a flame spread index not greater than 25 and a smoke-developed index of not greater than 50, when tested to ASTM E 84.

The CODE prohibits non-metallic ducts from being used in applications in which the air temperature would exceed 250 degrees F (121 degrees C) because the material has not been tested to withstand higher temperatures and high temperatures will cause accelerated aging of the duct material.

Sources: Chapter 6 (Duct Systems) -- 2003 International Mechanical Code, 2003 Michigan Mechanical Code, ASTM, and

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