

**NC Department of Insurance  
Office of the State Fire Marshal - Engineering Division  
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**Flexible Air Ducts**

**Date:** February 7, 2022

**Code:** 2018 Residential Code

**Section:** M1601.1.1

**Code:** 2018 Mechanical Code

**Section:** 603.6.1

**Question:**

Are flexible ducts not listed and labeled in accordance with UL-181 permitted for use in North Carolina?

**Answer:**

Yes, under the following conditions:

A NC registered engineer may provide a letter of judgement to the local code official indicating that a specific flexible air duct product complies with or exceeds all the requirements of the 2005 edition or later of UL-181. This can be done using the “alternate materials” method indicated below. By so doing the engineer issuing the letter certifies that a specific product complies with or exceeds all the requirements of UL-181. It would be the full responsibility of the engineer issuing the letter to determine if the test data provided is valid. The letter of judgement from the engineer shall:

- contain his or her signature and seal;
- indicate his or her full responsibility for the safety of the product and its use as approved by him or her; and,
- indicate its equality to UL-181.
- indicate the edition of UL-181 used for the evaluation.

2018 NC Mechanical Code (NCMC), Section 105 Approval and 2018 NC Administrative Code (NCAC), Section 105 Alternate Material, Design or Methods, lists the required steps for review of proposed alternative materials.

For an alternative material to be approved, sufficient supporting data shall be provided that demonstrates the intent of the code for performance, health, life and fire safety is met. If a proposed flexible air duct product complies with or exceeds all UL-181 requirements, it can be considered for approval under 2018 NCMC Section 105 Approval with a letter of judgement from a NC registered engineer.

**Keywords:** Flexible air ducts, UL-181