

CHAPTER 16
DUCT SYSTEMS

SECTION M1601.1.1
IRC Interpretation No. 21-04
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M1601.1.1 Above-ground duct systems. Above-ground duct systems shall conform to the following:

- 1. Equipment connected to duct systems shall be designed to limit discharge air temperature to a maximum of 250°F (121°C).
2. Factory-made air ducts shall be constructed of Class 0 or Class 1 materials as designated in Table M1601.1.1(1).
3. Fibrous duct construction shall conform to the SMACNA "Fibrous Glass Duct Construction Standards" or NAIMA "Fibrous Glass Duct Construction Standards."
4. Minimum thicknesses of metal duct material shall be as listed in Table M1601.1.1(2). Galvanized steel shall conform to ASTM A 525.
5. Gypsum products are permitted to be used to construct return air ducts or plenums, provided that the air temperature does not exceed 125°F(52°C) and exposed surfaces are not subject to condensation.
6. Duct systems shall be constructed of materials having a flame-spread index not greater than 200.
7. Stud wall cavities and the spaces between solid floor joists to be utilized as air plenums shall comply with the following conditions:
7.1. Such cavities or spaces shall not be utilized as a plenum for supply air.
7.2. Such cavities or spaces shall not be part of a required fire-resistance-rated assembly.
7.3. Stud wall cavities shall not convey air from more than one floor level.
7.4. Stud wall cavities and joist space plenums shall be isolated from adjacent concealed spaces by tight-fitting fire blocking in accordance with Section R602.8.

TABLE M1601.1.1(1)
CLASSIFICATION OF FACTORY-MADE AIR DUCTS

Table with 2 columns: DUCT CLASS, MAXIMUM FLAME-SPREAD RATING. Rows: 0, 1; 0, 25.



Q: Can plastic ducts be installed above-ground in residential applications?

A: Yes. Section M1601.1.1, Condition 2 permits the use of plastic air ducts for above-ground installation in residential applications; however, plastic air ducts must be manufactured from materials complying with Class 0 or Class 1 rating. In addition to the requirements of Condition 2, Condition 6 allows duct system components (other than the duct itself) to be constructed of materials having a flame-spread index not greater than 200. Plastic air ducts and duct system components that comply with these specific flame-spread requirements, as well as all other applicable provisions found elsewhere in the code, are permitted to be installed above ground in residential applications.