

2021 International Residential Code for One- and Two-Family Dwellings



SECTION M1502 CLOTHES DRYER EXHAUST

M1502.1 GENERAL.

Clothes dryers shall be exhausted in accordance with the manufacturer's instructions.

M1502.2 INDEPENDENT EXHAUST SYSTEMS.

Dryer exhaust systems shall be independent of all other systems and shall convey the moisture to the outdoors.

Exception: This section shall not apply to *listed* and *labeled* condensing (ductless) clothes dryers.

M1502.3 DUCT TERMINATION.

Exhaust ducts shall terminate on the outside of the building. Exhaust duct terminations shall be in accordance with the dryer manufacturer's installation instructions. If the manufacturer's instructions do not specify a termination location, the exhaust duct shall terminate not less than 3 feet (914 mm) in any direction from [openings into buildings, including openings in ventilated soffits](#). Exhaust duct terminations shall be equipped with a backdraft damper. Screens shall not be installed at the duct termination.

M1502.3.1 EXHAUST TERMINATION OUTLET AND PASSAGEWAY SIZE.

The passageway of dryer exhaust duct terminals shall be undiminished in size and shall provide an open area of not less than 12.5 square inches (8065 mm²).

M1502.4 DRYER EXHAUST DUCTS.

Dryer exhaust ducts shall conform to the requirements of [Sections M1502.4.1](#) through [M1502.4.8](#).

M1502.4.1 MATERIAL AND SIZE.

Exhaust ducts shall have a smooth interior finish and shall be constructed of metal not less than 0.0157 inch (0.3950 mm) in thickness (No. 28 gage). The duct shall be 4 inches (102 mm) nominal in diameter.

M1502.4.2 DUCT INSTALLATION.

Exhaust ducts shall be supported at intervals not to exceed 12 feet (3658 mm) and shall be secured in place. The insert end of the duct shall extend into the adjoining duct or fitting in the direction of airflow. Exhaust duct joints shall be sealed in accordance with [Section M1601.4.1](#) and shall be mechanically fastened. Ducts shall not be joined with screws or similar fasteners that protrude more than 1/8 inch (3.2 mm) into the inside of the duct. Where dryer exhaust ducts are enclosed in wall or ceiling cavities, such cavities shall allow the installation of the duct without deformation.

M1502.4.3 TRANSITION DUCT.

Transition ducts used to connect the dryer to the exhaust *duct system* shall be a single length that is *listed* and *labeled* in accordance with [UL 2158A](#). Transition ducts shall be not greater than 8 feet (2438 mm) in length. Transition ducts shall not be concealed within construction.

M1502.4.4 DRYER EXHAUST DUCT POWER VENTILATORS.

Domestic dryer exhaust duct power ventilators shall conform to [UL 705](#) for use in dryer exhaust duct systems. The dryer exhaust duct power ventilator shall be installed in accordance with the manufacturer's instructions.

M1502.4.5 BOOSTER FANS PROHIBITED.

[Domestic booster fans shall not be installed in dryer exhaust systems.](#)

M1502.4.6 DUCT LENGTH.

The maximum allowable exhaust duct length shall be determined by one of the methods specified in [Sections M1502.4.6.1](#) through [M1502.4.6.3](#).

M1502.4.6.1 SPECIFIED LENGTH.

The maximum length of the exhaust duct shall be 35 feet (10 668 mm) from the connection to the transition duct from the dryer to the outlet terminal. Where fittings are used, the maximum length of the exhaust duct shall be reduced in accordance with Table M1502.4.6.1. The maximum length of the exhaust duct does not include the transition duct.

TABLE M1502.4.6.1 DRYER EXHAUST DUCT FITTING EQUIVALENT LENGTH

DRYER EXHAUST DUCT FITTING TYPE	EQUIVALENT LENGTH
4-inch radius mitered 45-degree elbow	2 feet 6 inches
4-inch radius mitered 90-degree elbow	5 feet
6-inch radius smooth 45-degree elbow	1 foot
6-inch radius smooth 90-degree elbow	1 foot 9 inches
8-inch radius smooth 45-degree elbow	1 foot
8-inch radius smooth 90-degree elbow	1 foot 7 inches
10-inch radius smooth 45-degree elbow	9 inches
10-inch radius smooth 90-degree elbow	1 foot 6 inches

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm, 1 degree = 0.0175 rad.

M1502.4.6.2 MANUFACTURER'S INSTRUCTIONS.

The size and maximum length of the exhaust duct shall be determined by the dryer manufacturer's installation instructions. The code official shall be provided with a copy of the installation instructions for the make and model of the dryer at the concealment inspection. In the absence of fitting equivalent length calculations from the clothes dryer manufacturer, Table M1502.4.6.1 shall be used.

M1502.4.6.3 DRYER EXHAUST DUCT POWER VENTILATOR.

The maximum length of the exhaust duct shall be determined in accordance with the manufacturer's instructions for the dryer exhaust duct power ventilator.

M1502.4.7 LENGTH IDENTIFICATION.

Where the exhaust duct equivalent length exceeds 35 feet (10 668 mm), the equivalent length of the exhaust duct shall be identified on a permanent label or tag. The *label* or tag shall be located within 6 feet (1829 mm) of the exhaust duct connection.

M1502.4.8 EXHAUST DUCT REQUIRED.

Where space for a clothes dryer is provided, an exhaust *duct system* shall be installed. Where the clothes dryer is not installed at the time of occupancy the exhaust duct shall be capped or plugged in the space in which it originates and identified and marked "future use."

Exception: Where a *listed* condensing clothes dryer is installed prior to occupancy of the structure.

M1502.5 PROTECTION REQUIRED.

Protective shield plates shall be placed where nails or screws from finish or other work are likely to penetrate the clothes dryer exhaust duct. Shield plates shall be placed on the finished face of framing members where there is less than 1¹/₄ inches (32 mm) between the duct and the finished face of the framing member. Protective shield plates shall be constructed of steel, shall have a minimum thickness of 0.062 inch (1.6 mm) and shall extend not less than 2 inches (51 mm) above sole plates and below top plates.