

Certification: Residential Mechanical Inspector- applicable for exams built prior to July 1, 2015



Exam ID: M1

Scope:

The Residential Mechanical Inspector is responsible for performing inspections of the installation, maintenance, alteration of mechanical systems that are installed and utilized to provide control of environmental conditions and related process for one-and-two family dwellings not more than three stories. The residential mechanical inspector is also responsible for verifying the installation of fuel gas distribution piping and equipment, fuel-gas-fired appliances and fuel gas-fired appliance wiring.

The inspector shall have knowledge and understand minimum standards required to safeguard life or limb, health, property, and public welfare by regulating the design, construction, installation, quality of materials, location, operation, and maintenance or use of mechanical and fuel gas systems. The inspector shall also have the knowledge and understanding of "soft skills." Soft skills can be defined as personal attributes that enhance a person's ability to interact effectively with others.

- 60 multiple-choice questions
- 2-hour limit
- Open book

01	General Administration	10%
0101	<u>Project Administration</u> Verify that project information, including approved plans and specifications, is provided and is adequate. Verify that required permits are issued and valid. Verify that products not detailed in the code are approved by the building official and installed according to their listing.	2%
0102	<u>Public Information and Legal</u> Provide general information on code provisions.	3%
0103	<u>Manufacturer's Installation Instructions</u> Verify the manufacturer's installation instructions and the listing of the equipment have been followed during the installation of the equipment.	5%
02	Heating/Cooling/Water Heaters	21%
0201	<u>Heating Equipment</u> Verify that the installations of mechanical equipment and appliances comply with code requirements, the manufacturer's instructions, and listing of the equipment and have proper access, clearances, supply air, return air, and connection to ducts and plenums.	9%
0202	<u>Water Heaters and Boilers</u> Verify that the installations of water heaters and boilers comply with code requirements, the manufacturer's instructions, and listing of the equipment and have proper access and clearances.	5%

0203	<u>Cooling and Refrigeration</u> Verify that the installation of cooling systems and cooling units complies with code requirements, the manufacturer's instructions, and listing of the equipment and have proper access and clearances, supply air, return air, and connection to ducts and plenums.	5%
0204	<u>Other Systems</u> Verify that special systems utilizing fuel-burning equipment such as interior open-flame grills, pool and sauna heaters, hydronic heating systems, and decorative appliances comply with code requirements, the manufacturer's instructions, and listing of the equipment and have proper access and clearances.	2%
03	Exhaust and Ventilation Systems	9%
0301	<u>Exhausts, Fans, and Kitchen Range Hoods</u> Verify that the installation of exhaust fans and range hoods complies with code requirements. Verify that proper mechanical ventilation is provided where required.	4%
0302	<u>Clothes Dryer Exhaust</u> Verify that the installation of clothes dryer exhaust ducts complies with code requirements.	5%
04	Duct Systems	8%
0401	<u>Duct Construction and Installation</u> Verify that ducts are constructed of acceptable materials and that installation methods, including support and insulation, comply with code.	4%
0402	<u>Duct and Plenum Use and Application</u> Verify the correct use and application of ducts and plenums with the mechanical system installed. Verify sizing of the supply and return air ducts.	4%
05	Combustion Air	19%
0501	<u>Combustion Air</u> Verify proper sources of air supply for fuel burning appliances and size and location of openings. Verify that materials and installation of combustion air ducts comply with code.	19%
06	Chimneys and Vents	18%
0601	<u>Venting of Fuel-Burning Appliances</u> Verify size, type, location, clearances, connections, and terminations of vents and venting systems.	7%
0602	<u>Chimney and Vent Connectors</u> Verify size, type, location, and clearances of chimney and vent connectors for compliance with code.	6%
0603	<u>Factory-Built Chimneys and Fireplaces</u> Verify clearances, bracing, listing, and labeling of the installation of factory-built chimneys and connectors.	3%

0604	<u>Masonry Chimneys and Fireplaces</u>	2%
	Verify proper construction of fireplace and chimney components.	
07	Fuel Supply Systems	15%
0701	<u>Fuel Supply Installation and Sizing</u>	8%
	Verify that gas piping systems are installed with proper materials and supports and are sized properly. Verify that fuel gas piping is tested for tightness.	
0702	<u>Fuel System Connections</u>	5%
	Verify that fittings, valves, connections, and transition of materials are in compliance with code.	
0703	<u>Oil Piping and Storage</u>	2%
	Verify that the oil piping and storage are installed with proper materials and supports and are sized properly. Verify that fuel supply system is properly sized.	