

C-39 (Residential) and L-79 (Commercial)

Air Conditioning and Refrigeration, Including Solar

Exam Number: 030358
Effective Date: 04/22/08

License Information

C-39 Air Conditioning and Refrigeration, Including Solar Scope – Installation and repair of comfort air conditioning systems, including refrigeration, evaporative cooling, ventilating and heating with or without solar equipment. Installation and repair of machinery, units, accessories, refrigerator rooms, and insulated refrigerated spaces, and controls in refrigerators.

If necessary, a new circuit may be added to the existing service panel or sub-panel. Excluded is the installation of a new service panel or sub-panel.

L-79 Air Conditioning and Refrigeration, Including Solar Scope – Installation, alteration and repair of refrigeration and evaporative cooling systems, including solar. Installation, alteration and repair of heating systems of “wet,” “dry” or radiant type. “Wet” systems include steam or hot water boilers and coils, or baseboard converters and are limited to 30 PSIG operating pressure of 220°F for hot water and 15 PSIG operating pressure for steam. “Dry” systems include gas-fired furnaces and space heaters. Installation, alteration and repair of ventilation systems. Installation of these systems includes duct work, air filtering devices, water treatment devices, pneumatic or electric controls, and control piping. Thermal and acoustical insulation, vibration isolation materials and devices, liquid fuel piping and tanks, and water and gas piping from service connection to equipment it serves. Testing and balancing of refrigerant, cooling and heating circuits, and air handling systems.

If necessary, a new circuit may be added to the existing service panel or sub-panel. Excluded is the installation of a new service panel or sub-panel.

The trade test is considered equivalent for these classifications and upon passing the CBME and trade exam, either license classification may be applied for without further testing.

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Examination Outline

Closed Book
80 Questions - Three-hour time limit
70% Correct required to pass

Exam Topic	%
Refrigeration	15
Air Conditioning	15
Warm Air Heating	15
Water Piping Systems	10
Controls	10
Boilers	5
Ventilation	5
Evaporative Coolers	5
Solar	12
Fuel Piping Systems	8

References

The following references were used to create exam questions but **are not allowed** in the testing center.

1. *International Fuel Gas Code*, 2006, International Code Council, 4051 West Flossmoor Road, Country Club Hills, IL 60478-5795, www.iccsafe.org.
2. *International Mechanical Code*, 2006, International Code Council, 4051 West Flossmoor Road, Country Club Hills, IL 60478-5795, www.iccsafe.org.
3. *Uniform Solar Energy Code*, 2006, International Association of Plumbing and Mechanical Officials (IAPMO), 5001 East Philadelphia Street, Ontario, CA 91761-2816, www.iapmo.org.
4. *Low Pressure Boilers*, Second Edition, 2005, American Technical Publishers (ATP), 1155 West 175th Street, Homewood, IL 60430-4600, www.go2atp.com.
5. *Modern Refrigeration and Air Conditioning*, Eighteenth Edition, 2004, Goodheart-Willcox Company, Inc., 18604 West Creek Drive, Tinley Park, IL 60477-6243, www.g-w.com.

For information on how to obtain exam references, please call toll-free 877.624.2562.