

## License Information

**Scope-** Tests a candidate's knowledge of the design, installation, maintenance, repair, fabrication, alteration, and extension of air conditioning, refrigeration, piping vessels, warm air heating, low and high pressure boilers, ventilation systems, duct systems, insulation, and related appurtenances within a complete system unlimited in horsepower or tonnage.

## Examination Outline

### Open Book

**100 Questions – 4-1/2-hour time limit**

**75% Correct Required to Pass**

SUBJECT AREA	PERCENTAGE
HARV GENERAL	30
HEATING – LOW AND HIGH PRESSURE BOILERS	20
VENTILATING	15
CONTROLS	15
PIPING	10
LOAD CALCULATIONS	5
INSULATION	5

## References

*The following special device IS allowed in the testing center in addition to the standard allowable test center devices:*

*ACCA Ductulator*, Air Conditioning Contractors of America, 2800 Shirlington Road, Suite 300, Arlington, VA 22206.

*The following references ARE allowed in the testing center:*

*International Mechanical Code*, 2003 Edition, International Code Council, 4051 West Flossmoor Road, Country Club Hills, IL 60478-5795.

*International Fuel Gas Code*, 2003 Edition, International Code Council, 4051 West Flossmoor Road, Country Club Hills, IL 60478-5795.

*NFPA 31 - Standard for the Installation of Oil Burning Equipment*, 2001 Edition, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

*NFPA 58 - Standard for the Storage and Handling of Liquefied Petroleum Gases*, 2001 Edition, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

*Manual N – Commercial Load Calculation*, Fourth Edition, 1988, Air Conditioning Contractors of America, 2800 Shirlington Road, Suite 300, Arlington, VA 22206.

*Manual J – Residential Load Calculation*, Eighth Edition, 2002, Air Conditioning Contractors of America, 2800 Shirlington Road, Suite 300, Arlington, VA 22206.

*Manual D – Residential Duct Systems*, 1995 Edition, Air Conditioning Contractors of America, 2800 Shirlington Road, Suite 300, Arlington, VA 22206.

*OSHA Excerpts for Contractors*, Fourth Edition, 2003, Prometric, 1260 Energy Lane, St. Paul, MN 55108.

*Carrier System Design Manual-Part III: Piping Design*, Carrier, 1960 Edition, Carrier Air Conditioning Company, Literature Distribution, Bldg. TR-2, Syracuse, NY 13221-4804.

*The following references have been used to create exam questions but are NOT allowed in the testing center:*

*Low Pressure Boilers*, 2001 Edition, American Technical Publishers (ATP), 1155 West 175<sup>th</sup> Street, Homewood, IL 60430-4600.

*High Pressure Boilers*, Third Edition, 2003, American Technical Publishers (ATP), 1155 West 175<sup>th</sup> Street, Homewood, IL 60430-4600.

*TRANE Air Conditioning Manual*, Revised Edition, 1996, TRANE Company, c/o Inland Marketing Services, 3030 Airport Road, La Crosse, WI, 54603.

*Modern Refrigeration and Air Conditioning*, Eighteenth Edition, 2004, Goodheart-Willcox Company, Inc., 18604 West Creek Drive, Tinley Park, IL 60477-6243.

*Pipefitters Handbook*, Third Edition, 1967, Industrial Press, Inc., 200 Madison Avenue, New York, NY 10016.

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

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