

HVACR Contracting Business Workforce Development

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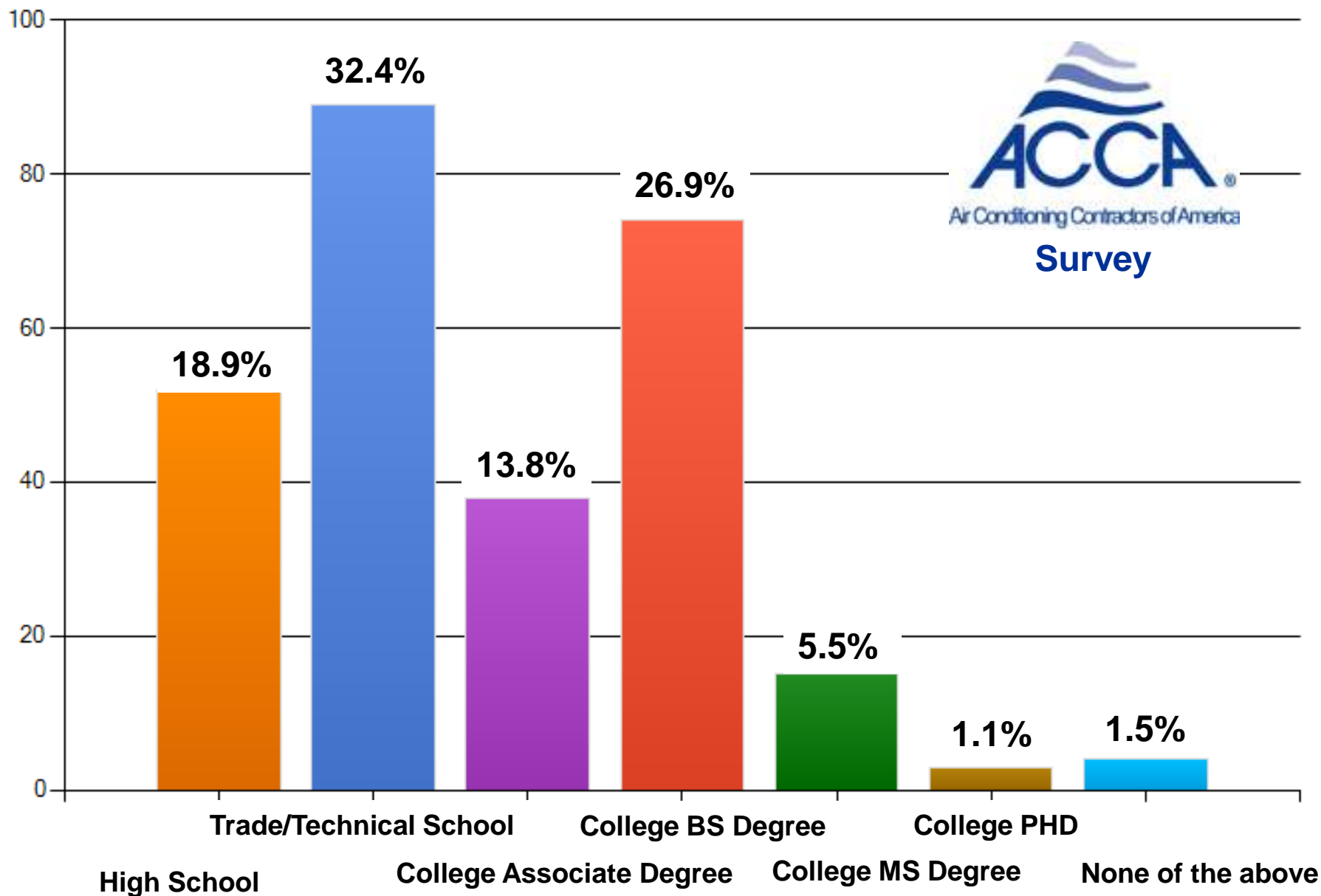


NASEO Annual Meeting
Savannah, GA
10 September 2014

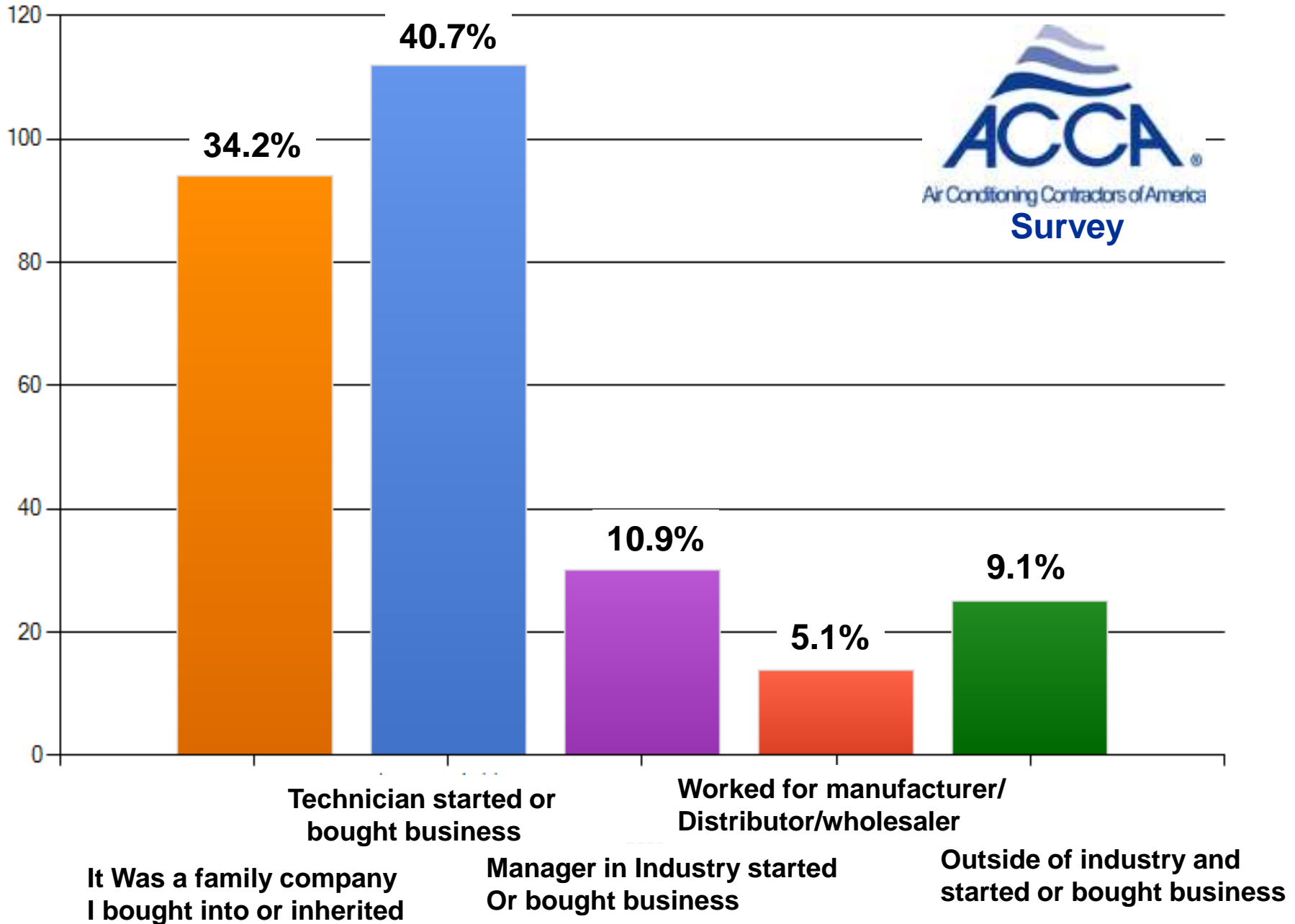
Overview

- **Why Training Is Needed**
- **Technical/Technician Training**
- **Business Training**
- **HVAC Contractor Accreditation**

At the time you started or bought your contracting business, What was the highest level of education you had obtained?



How did you become owner of your contracting business?



Generally-Accepted Industry-Wisdom ... Impact of Improper Installation

30% efficiency is lost out of the Box !!

Commonly-noted field problems	Out-of-tolerance excursions
Refrigerant charge	Up to 30% off of OEM design
Incorrect airflow over the coil	Up to 50% off of design
Equipment size	Routinely, 100+ % too big
Duct sizing	Routinely, 50% too small
Duct Leakage	Up to 50% of airflow

Poor HVAC Design and Installation Practices Result In –

HVAC Systems do not operate efficiently ...

Consumers do not get what they paid for ...
{making them hard-pressed to repay the project financing if savings don't materialize}

State Energy Offices, utilities, and efficiency financing programs fail to achieve their objectives.

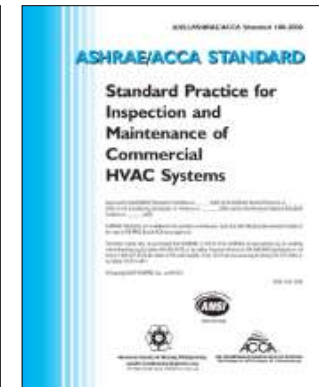
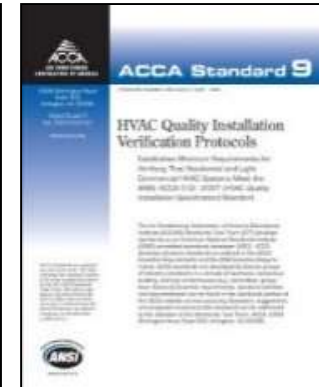
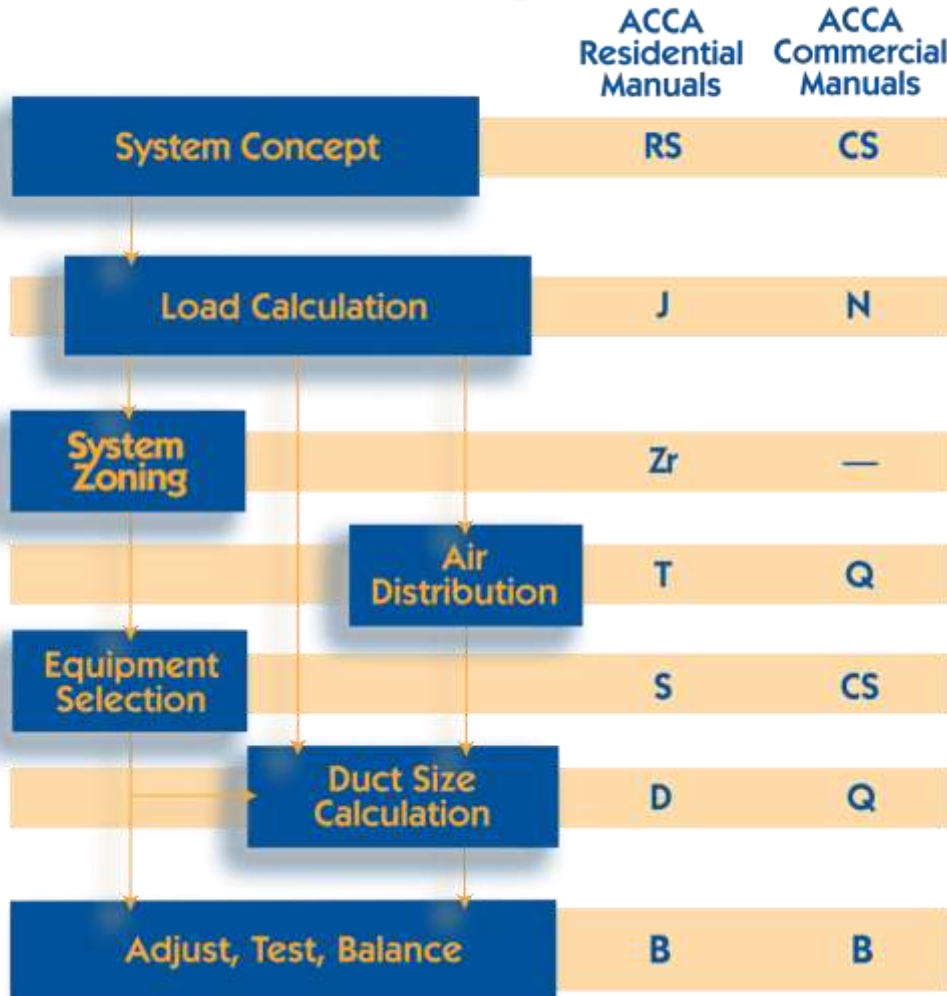
Technical/Technician Training (Tool Box Skills)

ACCA Resources

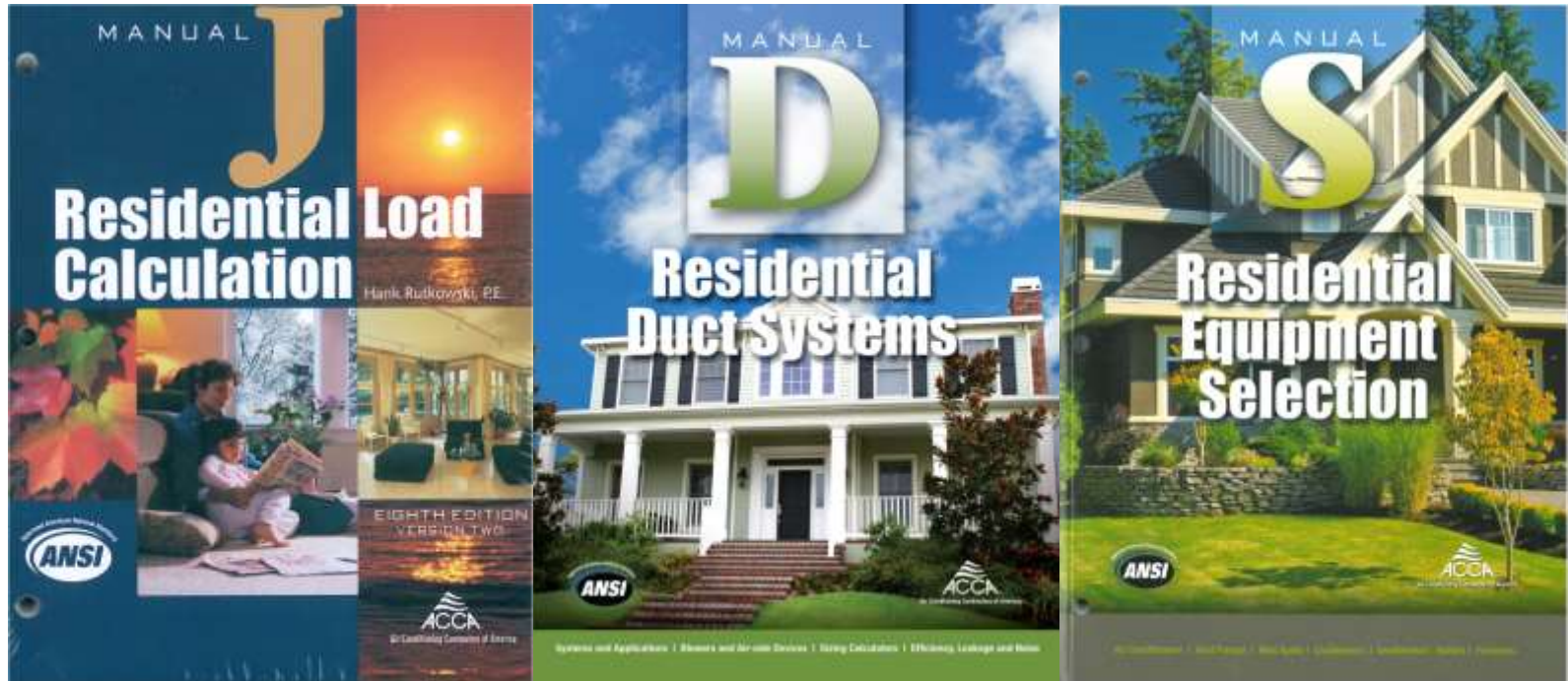
Design Manuals

QI / QM Standards

System Design Process



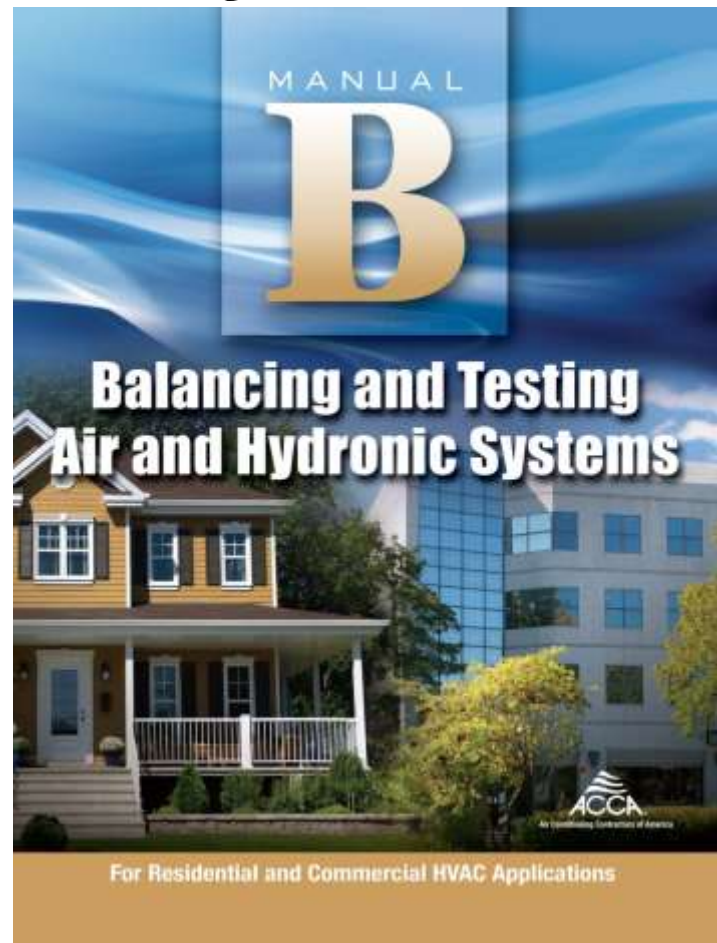
ANSI/ACCA Manuals that are Residential Code requirements



Technician's Guide for Quality Installations



Manual B Balancing and Testing Air and Hydronic Systems



Business Training (Briefcase Skills)

Business/Contractor Training



ACCA
AIR CONDITIONING
CONTRACTORS OF AMERICA

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ACCA Standard 5

STANDARD NUMBER: ANSI/ACCA 5 QI-2010

HVAC Quality Installation Specification

Residential and Commercial Heating,
Ventilating, and Air Conditioning (HVAC)
Applications

The Air Conditioning Contractors of America Educational Institute (ACCA-EI) Standards Task Team (STT) develops standards as an American National Standards Institute (ANSI) accredited standards developer (ASD). ACCA develops voluntary standards as outlined in the ACCA Essential Requirements and the ANSI Essential Requirements. ACCA standards are developed by diverse groups of industry volunteers in a climate of openness, consensus building, and lack of dominance (e.g. committee/group/team balance). Essential requirements, standard activities and documentation can be found in the standards portion of the ACCA website at www.acca.org. Questions, suggestions, and proposed revisions to this standard can be addressed to the attention of the Standards Task Team, ACCA, 2800 Shirlington Road, Suite 300, Arlington, VA 22206.

ACCA Standards are updated on a five-year cycle. The date following the standard number is the year of approval release by the ACCA-EI Standards Task Team. The latest copy may be purchased from the ACCA online store at www.acca.org or ordered from the ACCA bookstore via toll-free telephone at 800.230.5222.



ANSI
www.ansi.org

Business/Contractor Training

APPENDIX C | QUALITY ASSURED CONTRACTOR ELEMENTS

[This Appendix is not part of the standard. It is merely informative and does not contain requirements necessary for conformance to the standard.]

This appendix highlights a subset of recommended business practices that support the company – and its employees – in consistently achieving the level of workmanship required by the QI Standard:

- ✓ Business Prerequisites
 - Licensing or Registration
 - Insurance
 - Code Requirements
 - Refrigerant Certifications, Training, and Equipment
 - Hazardous Materials Regulations
- ✓ Business Operations
 - Employment
 - Safety Programs
 - Fleet Management
 - Quality Installation
 - Quality Maintenance
 - Quality Restoration
 - Instrumentation/Measurement Tools
- ✓ Training & Certification
 - Continuing Education
 - Certification
- ✓ Customer Relations
 - Interactions with Building Owners and Homeowners
 - Warranties
 - Service Agreements

HVAC Contractor Accreditation

ACCA 5 QI / ACCA 9 QIvp / ACCA 12 QH ... Basis for QA Contractor Accreditations



New Homes

Started in 2011

750+ accredited contractors nationwide



Residential Service and Installation

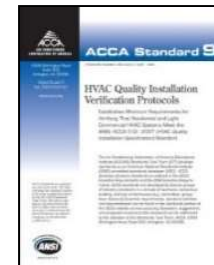
Started in 2013

75 (and growing) contractors nationwide



Home Performance

Pending



QA Program Overview

- **Contractor Qualification:**
 - Licensed, insured, registered, certified (EPA, NATE, etc.)
 - QA Contractor Elements
 - HVAC installations to ANSI / ACCA 5 Standard
- **Contractor Verification Process (3rd Party):**
 - Installation files (100%)
 - In-home field inspections (sampled per ANSI / ACCA 9 QIvp)

EPA EnergyStar™ Programs

New Homes

- EnergyStar Certified New Homes (v3; eff. Jan2012)
 - Aligned with ACCA's QA New Homes Program

Existing Homes

- ~~EnergyStar Quality Installation (ESQI)~~
- Energy Star Verified HVAC Installation (ESVI; pending)
 - Aligning with ACCA's RSI Program



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QA Program Benefits

- **Consumer Protection:**
Homeowners get what they paid for ... energy efficiency, comfort, IAQ.
- **Contractor Recognition:**
Accreditation recognizes contractors that can meet program demands.
- **Program Assurance:**
Ensures energy reductions are delivered and money is well spent.



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