

Certification Information

Scope - Tests a candidate's knowledge of the design and installation of residential and light commercial GSHP systems.

Qualifications

- This is a test and certification for **TECHNICIANS** in the GSHP industry. The test is designed for top level installation technicians.
- This test will measure what 80% of the **Ground Source Heat Pump Loop** candidates have an 80% likelihood of encountering at least once during the year on a **NATIONAL** basis.
- Suggested requirement is one year of field experience working on GSHP systems as an installation technician and technical training for theoretical knowledge.
- This certification does not require the passing of any other NATE exams to receive certification.

Test Specifications

Open Book 2 Hour Time Limit 100 Questions Passing Score: PASS/FAIL
Listed are the topics covered by the **Ground Source Heat Pump Loop** exam.

TOPICS COVERED
Design and Material Options
System Layout
Pipe Joining Techniques
Trenching/Drilling Processes
Air and Debris Purging
Pressure Drop Calculations
Pump and Fluid Selection
Thermal Conductivity

Heat Pumps Industry References

The reference materials listed below will be helpful in preparing for this exam. These materials may **NOT** contain all of the information necessary to be competent in this specialty or to pass the exam.

- American National Standards Institute (ANSI) / Air Conditioning Contractors of America (ACCA) Manuals - Latest Edition
 - “D”, “J”, “QI” - Quality Installation, and “S”
- ACCA Manuals “T” and “RS” - Latest Editions
- ACCA Residential Duct Diagnostics and Repair - Latest Edition
- ACCA Water Piping and Heat Pumps - Latest Edition
- AHRI-Hydronics Section-IBO/RAH Latest Edition
- International Energy Conservation Code - Latest Edition with Addendum
- International Mechanical Code - Latest Edition with Addendum
- International Plumbing Code - Latest Edition with Addendum
- Uniform Mechanical Code - Latest Edition with Addendum
- Specification of Energy-Efficient Installation and Maintenance Practices for Residential HVAC Systems developed by Consortium for Energy Efficiency (CEE) - Latest Edition with Addendum
- ASHRAE Standard-62.2 - Latest Edition with Addendum
- ANSI / ASHRAE Standard-152-2004 - Latest Edition with Addendum
- ENERGY STAR™ Home Sealing Standards - Latest Edition with Addendum
- Duct Calculators – Sheet Metal, Ductboard, and Flexible Duct
- American National Standards Institute (ANSI) / Sheet Metal and Air Conditioning Contractors’ National Association, Inc. (SMACNA) Manuals
 - HVAC Duct Construction Standards - Metal and Flexible
- Sheet Metal and Air Conditioning Contractors’ National Association, Inc. (SMACNA) Manuals
 - Fibrous Glass Duct Construction Standards, Residential Comfort System Installation Standards Manual, and HVAC Air Duct Leakage Test Manual
- Air Diffusion Council Flexible Duct Performance & Installation Standards
- North American Insulation Manufacturers Association (NAIMA) Manuals
 - Fibrous Glass Duct Construction Standards and A Guide to Insulated Air Duct Systems
- International Fuel Gas Code – Latest Edition with Addendum
- National Fuel Gas Code – Latest Edition with Addendum
- International Ground Source Heat Pump Association (IGSHPA) Manuals - Latest Editions
 - Residential and Light Commercial Design and Installation Manual
 - Slinky™ Installation Guide
 - Design and Installation Standards
 - Soil and Rock Classification Field Manual
 - Grouting for Vertical GHP Systems
 - CLGS Installation Guide

Passing Score Development Process

The passing scores for the NATE tests were established using a systematic procedure (a Passing Score Study). This procedure employed the judgment of experienced HVAC professionals and educators representing various HVAC specialties and geographical areas. The passing scores were set using criteria defining competent performance. The passing score for different test forms may vary slightly due to the comparative difficulty of the test questions.

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