



Certifying the
finest in HVACR

Ground Source Heat Pump Installer

Exam Information

www.NATEX.org



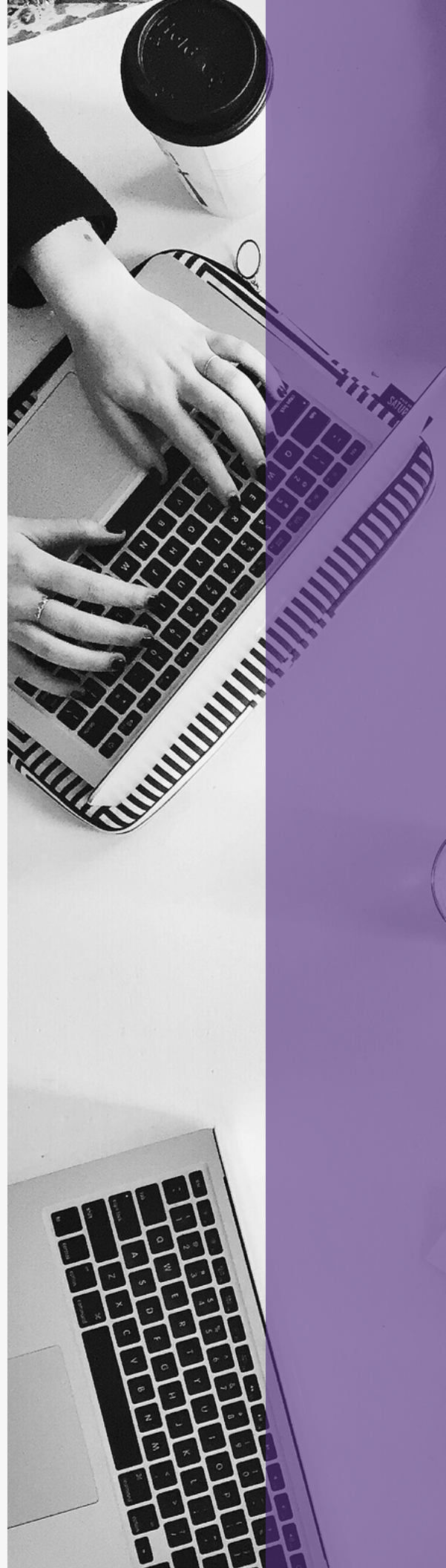
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Ground Source Heat Pump Installer Exam



Exam Information & Qualifications

The GSHP Exam is designed for top level installation technicians in the GSHP industry. Suggested requirement is one year of field experience working on GSHP systems as an installation technician and technical training for theoretical knowledge.

The test is designed for top level installation technicians. Three-quarters of 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.

This certification does not require the passing of any other NATE exams to receive certification.

Exam Copyrights

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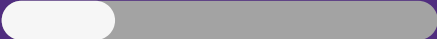
Passing Score Development Process




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.

Exam Subject Areas


Section Areas of questions that will be in each section of the exam:



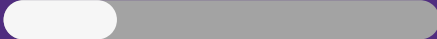
DESIGN AND MATERIAL
OPTIONS



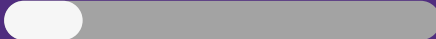
SYSTEM LAYOUT




PIPE JOINING TECHNIQUES



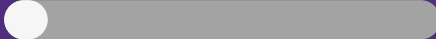
TRENCHING/DRILLING
PROCESSES



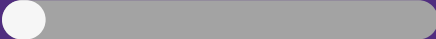
AIR AND DEBRIS PURGING



PRESSURE DROP
CALCULATIONS



PUMP AND FLUID SELECTION



THERMAL CONDUCTIVITY

Exam Specifications:



Passing Score: Pass/Fail



2 Hour Time Limit



Open Book



100 Questions

Industry References

The reference materials list below will be helpful in preparing for this exam. These materials may not contain all of the information necessary to be competent to pass the exam.



- American National Standards Institute (ANSI) / Air Conditioning
- Contractors of America (ACCA) Manuals – Latest Edition.
 - Manuals “D” “J” “QI” – Quality Installation, and “S”
- ACCA Manuals “T” and “RS” – Latest Editions
- ACCA Residential Duct Diagnostics and Repair – Latest Edition
- AHRI-Hydronics Section – IBO/RAH – Latest Edition
- International Code Council – Latest Editions
 - Mechanical, Plumbing, Energy Conservation, and Residential
- ANSI//ASHRAE Standard- 152-2004 – Latest Edition with Addendum
- ENGERY 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

References continue on next page

Industry References (continued)

- 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



