



SOLAR CONTRACTORS GENERAL TRADE KNOWLEDGE EXAMINATION CONTENT INFORMATION

Revised March 2009

The General Trade Knowledge examination will be administered in one session on the morning of the first day of the examination administration. It will consist of 80 equally weighted questions.

The examination will have questions relating to the following content areas and necessary knowledge for each area includes:

- reading and interpreting plans and specifications
- reading and interpreting codes
- basic mathematics (addition, subtraction, multiplication, division, calculations of area and volume, fractions, decimals, percentages, calculating the sides of triangles, square roots, powers of numbers, and solving simple algebraic equations for unknown variables)

You should be prepared to respond to examination questions on any of the content areas listed. Questions asked and content areas tested on previous examinations should not be assumed to be the only possible questions to be asked or content areas to be tested on this examination.

The percentage of questions shown for each content area may vary by as much as plus or minus three (3) percent. Please refer to the Candidate Information Brochure and the Reference List for additional information.

Content Area A **25%** **Swimming Pools**

- 1. Designing pool and spa heating systems**
knowledge of temperature requirements
knowledge length of swim season
knowledge of physical location of equipment
- 2. Installing solar collectors**
knowledge of different types of roof sealants and penetration methodologies
- 3. Connecting system piping**

knowledge of potential harm to property if improperly installed

- 4. Attaching system plumbing components**
ability to properly install and design components for the higher temperature normally associated with solar
- 5. Connecting electrical control systems**
- 6. Activating, inspecting and troubleshooting systems**
knowledge of all system components
ability to inspect subcontracted work
- 7. Demonstrating system operation to owners**
- 8. Complying with safety procedures**

Content Area B **25%** **Domestic Hot Water**

- 1. Designing solar domestic hot water systems**
- 2. Installing solar water heating systems**
knowledge of roof penetrations
knowledge of types of roof material
- 3. Connecting system piping**
knowledge of soldering
knowledge of piping
knowledge of drain capabilities
- 4. Attaching system plumbing components**
ability to properly install and/or design components for the higher temperature normally associated with solar
- 5. Installing components unique to closed loop systems**
knowledge of capacities
knowledge of pressures
knowledge of hazards of glycol systems

- 6. Activating, inspecting and troubleshooting systems**
knowledge of all system components
ability to inspect subcontracted work
- 7. Demonstrating system operation to owners**
- 8. Using tools and equipment**
knowledge of volt-ohmmeters
knowledge of thermometers
knowledge of pressure gauges
- 9. Connecting electrical control systems**
- 10. Complying with safety procedures**

Content Area C **50%**
Photovoltaic

- 1. Designing photovoltaic systems to meet end-use requirements**
- 2. Designing AC interactive systems**
- 3. Installing photovoltaic systems**
knowledge of D.C. circuits
knowledge of wire sizing
knowledge of voltage drops
- 4. Activating, inspecting, and troubleshooting systems**
knowledge of all system components
ability to inspect subcontracted work
- 5. Using photovoltaic tools and equipment**
- 6. Complying with safety procedures**