



# SPECIALTY STRUCTURE 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** **7 ½%** **Foundations**

### **1. Excavating, laying out, forming and placing pier-type post footings**

- knowledge of laying forms
- knowledge of measuring techniques
- knowledge of using a builder's level for grading
- knowledge of linear measuring
- knowledge of reinforcing materials
  - wire and rod
  - fiber
- knowledge of concrete mixtures
- knowledge of vapor barriers
- knowledge of compaction
- knowledge of grading

knowledge of cement finishing

- broom
- smooth

### **2. Placing CMU kneewalls**

- knowledge of measuring techniques
- knowledge of using a builder's level for grading
- knowledge of linear measuring
- knowledge of reinforcing materials
  - wire and rod
- knowledge of mortar mixtures
- knowledge of placement of concrete block
- knowledge of thickness of joints

## **Content Area B** **15%** **Wall Sections**

### **1. Fabricating and installing screen walls to support screen roofs**

- knowledge of span tables
  - beam sizing
  - post spacing
- knowledge of fastening methods and placement
  - sizing
  - placement
  - anchoring methods for existing structures and slabs
- knowledge of friction and masonry anchors
  - sizing
  - placement
  - when to use
- knowledge of cutting equipment and techniques
- knowledge of measurement
- knowledge of materials compatibility
- knowledge of mesh density of screens
- knowledge of pitch requirements
- knowledge of wind load zones
- knowledge of caulking
- knowledge of where and how to install kickplates
- knowledge of corner cables and slant rigid bracing
- knowledge of safety requirements for ladders, scaffolds, rolling platforms, and walk boards
- knowledge of metal forming brakes safety
- knowledge of cutting equipment safety
- knowledge of various hand and power tools (e.g., power shears, wrenches, and snips)

2. **Fabricating and installing screen walls to support metal roofs**  
 knowledge of cutting equipment and techniques  
 knowledge of measurement  
 knowledge of materials compatibility  
 knowledge of mesh density of screens  
 knowledge of pitch requirements  
 knowledge of wind load zones  
 knowledge of caulking  
 knowledge of where and how to install kick plates  
 knowledge of corner cables and slant rigid bracing
  
3. **Fabricating and installing framed solid walls (glass or metal) to support metal roofs**  
 knowledge of span tables
  - beam sizing
  - post spacing
 knowledge of fastening methods and placements
  - sizing
  - placement
  - anchoring methods for existing structures or slabs
 knowledge of friction and masonry anchors
  - sizing
  - placement
  - when to use
 knowledge of cutting equipment and techniques  
 knowledge of measurement  
 knowledge of materials compatibility  
 knowledge of mesh density of screens  
 knowledge of pitch requirements  
 knowledge of wind load zones  
 knowledge of caulking  
 knowledge of where and how to install kick plates
  
4. **Fabricating and installing composite metal panel walls**  
 knowledge of span tables
  - beam sizing
  - post spacing
 knowledge of fastening methods and placements
  - sizing
  - placement
  - anchoring methods for existing structures and slabs
 knowledge of friction and masonry anchors
  
5. **Fabricating and installing corner cables and rigid bracing**

6. **Tying new walls to existing structure**  
 knowledge of caulking and sealing techniques and requirements
  
7. **Fabricating and installing screen and storm doors**  
 knowledge of measurement  
 knowledge of fastening methods and placements
  - sizing
  - placement
  - anchoring methods for existing structures and slabs
 knowledge of sealing techniques and requirements
  
8. **Screen proper flashing to existing structures**  
 knowledge of caulking and sealing techniques and requirements

**Content Area C**  
**Roof Sections**

**15%**

1. **Fabricating and installing standing seam and pan roofs**  
 knowledge of structural spacing and support charts (*span tables*)  
 knowledge of fastening techniques and requirements  
 knowledge of caulking and sealing techniques and requirements  
 knowledge of flashing method and requirements  
 knowledge of wind load requirements  
 knowledge of roof attachment receivers
  
2. **Fabricating and installing screen roofs**  
 knowledge of structural spacing and support charts (*span tables*)  
 knowledge of fastening techniques and requirements  
 knowledge of wind load zones  
 knowledge of roof attachment  
 knowledge of roof types
  - dome
  - hip
  - flat
  - gable
 knowledge of screen panel sizing  
 knowledge of gusseting  
 knowledge of safety requirements for ladders, scaffolds, rolling platforms, and walk boards

**Content Area D** 7 ½%  
**Insulation**

- 1. Installing rigid insulation**  
knowledge of types of insulation
  - urethane
  - polystyreneknowledge of covering protection of insulation  
knowledge of thermal resistance (*R values*)  
knowledge of caulking compatibility
- 2. Installing batt insulation**  
knowledge of thermal resistance (*R values*)

**Content Area E** 15%  
**Windows**

- 1. Installing and replacing vinyl windows in wood frame walls**  
knowledge of fastening techniques and requirements  
knowledge of sealing techniques and requirements  
knowledge of wind load requirements  
knowledge of linear measuring
- 2. Installing and replacing vinyl windows in masonry walls**  
knowledge of fastening techniques and requirements  
knowledge of sealing techniques and requirements  
knowledge of wind load requirements
- 3. Installing and replacing vinyl windows in metal walls**  
knowledge of fastening techniques and requirements  
knowledge of sealing techniques and requirements  
knowledge of wind load requirements  
knowledge of strengthening walls for retrofitted windows (*glass not vinyl*)  
knowledge of linear measuring
- 4. Installing and replacing glass windows in wood frame walls**  
knowledge of fastening techniques and requirements  
knowledge of sealing techniques and requirements  
knowledge of linear measuring

- 5. Installing and replacing glass windows in masonry walls**  
knowledge of fastening techniques and requirements  
knowledge of sealing techniques and requirements  
knowledge of wind load requirements
- 6. Installing and replacing glass windows in metal walls**  
knowledge of fastening techniques and requirements  
knowledge of sealing techniques and requirements  
knowledge of wind load requirements  
knowledge of strengthening walls for retrofitted windows (*glass not vinyl*)  
knowledge of linear measuring

**Content Area F** 15%  
**Post and Beam Structures**

- 1. Installing post and beam structures under wood roofs**  
knowledge of fastening techniques and requirements  
knowledge of anchoring techniques and requirements  
knowledge of safety requirements for ladders, scaffolds, rolling platforms, and walk boards  
knowledge of carport assembly requirements and techniques  
knowledge of patio assembly requirements and techniques
- 2. Installing post and beam structures under metal roofs**  
knowledge of fastening techniques and requirements  
knowledge of anchoring techniques and requirements  
knowledge of safety requirements for ladders, scaffolds, rolling platforms, and walk boards  
knowledge of carport assembly requirements and techniques  
knowledge of patio assembly requirements and techniques

**Content Area G**  
**Roofovers**

15%

- 1. Installing raised metal standing seam roofovers**  
knowledge of fastening techniques and requirements  
knowledge of sealing techniques and requirements  
knowledge of insulation techniques and requirements  
knowledge of caulking and sealing techniques and requirements  
knowledge of structural spacing and support tables (*span tables*)  
knowledge of venting techniques and requirements  
knowledge of safety requirements for ladders, scaffolds, rolling platforms, and walk boards  
knowledge of metal forming breaks safety  
knowledge cutting equipment safety  
knowledge of various hand and power tools  
(*e.g., power shears, wrenches, and snips*)
- 2. Installing flat down metal standing seam roofovers**  
knowledge of fastening techniques and requirements  
knowledge of sealing techniques and requirements  
knowledge of insulation techniques and requirements  
knowledge of caulking and sealing techniques and requirements  
knowledge of structural spacing and support tables (*span tables*)  
knowledge of venting techniques and requirements
- 3. Installing raised metal laminated roofovers**
- 4. Installing flat down metal laminated roofovers**
- 5. Installing raised vinyl blanket roofovers**
- 6. Installing flat down vinyl blanket roofovers**

**Content Area H**

**Siding, Soffit, Fascias, Gutters and Downspouts**

10%

- 1. Installing rectangular gutters**  
knowledge of fastening techniques and requirements  
knowledge of sealing techniques and requirements  
knowledge of spacing  
knowledge of sizing gutters and downspouts  
knowledge of nailing requirements and spacing  
knowledge of spacing for expansion and contraction  
knowledge of preparation for fastening
- 2. Installing seamless gutters**  
knowledge of fastening techniques and requirements  
knowledge of sealing techniques and requirements  
knowledge of spacing  
knowledge of sizing gutters and downspouts  
knowledge of nailing requirements and spacing  
knowledge of spacing for expansion and contraction  
knowledge of preparation for fastening
- 3. Installing water diverters**  
knowledge of fastening techniques and requirements  
knowledge of sealing techniques and requirements  
knowledge of caulking and sealing techniques and requirements  
knowledge of sizing gutters and downspouts  
knowledge of nailing requirements and spacing
- 4. Installing lap type gutter expansion joints**
- 5. Installing butt type gutter expansion joints**
- 6. Installing gutter accessories (e. g., baffles, screens, strainers)**  
knowledge of fastening techniques and requirements and overlapping  
knowledge of sizing gutters and downspouts  
knowledge of nailing requirements and spacing  
knowledge of spacing for expansion and contraction

**7. Installing downspouts**

knowledge of fastening techniques and requirements and overlapping  
knowledge of sizing gutters and downspouts  
knowledge of nailing requirements and spacing  
knowledge of spacing for expansion and contraction

**8. Installing miters**

**9. Installing starter strips**

knowledge of fastening techniques and requirements and overlapping  
knowledge of nailing requirements and spacing  
knowledge of spacing for expansion and contraction  
knowledge of application of weatherproofing  
knowledge of insulation techniques and requirements  
knowledge of preparation for fastening

**10. Installing soffit, roof and gable vents**

knowledge of fastening techniques and requirements and overlapping  
knowledge of sizing vents  
knowledge of nailing requirements and spacing  
knowledge of spacing for expansion and contraction  
knowledge of application of weatherproofing  
knowledge of backer boards  
knowledge of spacing of vinyl  
knowledge of fastening into cement  
knowledge of preparation for fastening

**11. Removing and replacing wood sheathing**

knowledge of fasteners to be used depending on thickness of sheathing

**12. Installing aluminum, vinyl, and other siding**

knowledge of fastening techniques and requirements and overlapping  
knowledge of nailing requirements and spacing  
knowledge of spacing for expansion and contraction  
knowledge of application of weatherproofing  
knowledge of backer boards  
knowledge of preparation for fastening  
knowledge of safety requirements for ladders, scaffolds, rolling platforms, and walk boards  
knowledge of metal forming brakes safety  
knowledge of cutting equipment safety  
knowledge of various hand and power tools  
(*e.g., power shears, wrenches, and snips*)

**13. Installing vapor barriers**

**14. Installing downspout hangers**

**15. Installing furring strips**

knowledge of fastening techniques and requirements  
knowledge of insulation techniques and requirements  
knowledge of caulking and sealing techniques and requirements  
knowledge of nailing requirements and spacing  
knowledge of application of weatherproofing  
knowledge of preparation for fastening  
knowledge of spacing for horizontal and vertical siding  
knowledge of most commonly used furring strips over brick or masonry

**16. Constructing and installing splash pans**