



GLASS & GLAZING 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 **35%** **Pre-Construction**

1. Assisting with Design Work

knowledge of assessing conceptual design
knowledge of budgeting the work
knowledge of providing scheduling / lead time
knowledge of making recommendations

2. Determining Scope of Work

knowledge of reading contract documents
knowledge of reading specifications and drawings
knowledge of asking questions

knowledge of influencing scope of work
knowledge of reviewing and establishing job specific safety requirements

3. Reading and Interpreting Plans

knowledge of creating materials take-offs (product)

4. Verifying for Code Compliance

knowledge of checking product against codes
knowledge of checking application of product against codes

5. Estimating Materials and Labor

knowledge of conducting material quantity take-offs
knowledge of conducting labor take-offs
knowledge of applying cost factors to takeoffs
knowledge of obtaining estimates from suppliers

6. Creating Shop Drawings

knowledge of transferring data from contract drawings to in-house drawings
knowledge of adding detail to shop drawings
knowledge of further defining scope of work

7. Engineering Product

knowledge of ensuring product performance to code
knowledge of approving product performance to code
knowledge of evaluating adjacent materials and systems (anchoring, etc.)

8. Ordering and Submitting Test Results

knowledge of contacting manufacturer to request test reports
OR knowledge of scheduling a job-specific test
knowledge of scheduling a visual mock-up (if required)

9. Obtaining and Submitting Finish Samples

knowledge of contacting manufacturer to request finish samples

10. Procuring Stamped Drawings and Other Approvals

knowledge of contacting manufacturer and requesting stamped engineering drawings
OR knowledge of submitting shop drawings to licensed Professional Engineer for stamp
knowledge of submitting shop drawings to architect/engineer/contractor for approval

11. Establishing Timelines and Work Schedules

knowledge of obtaining contractor's construction schedule
knowledge of developing fabrication, shipping and installation schedule
knowledge of negotiating schedules

12. Procuring Materials and Equipment

knowledge of issuing purchase orders to suppliers
knowledge of scheduling delivery of products

13. Instructing on Product Care

knowledge of instructing on product care
knowledge of instructing on how to clean
knowledge of instructing on service and maintenance guidelines

**Content Area B
Pre-Construction**

20%

1. Ensuring Quality Control

knowledge of conducting checks as products are produced
knowledge of training staff on proper usage and maintenance of equipment
knowledge of creating training manuals

2. Ensuring Shop Safety

knowledge of training staff on proper use of equipment
knowledge of training staff regarding safety issues
knowledge of checking equipment for safety
knowledge of conducting drug tests of staff
knowledge of instructing staff on proper methods for lifting/handling equip/product

3. Measuring and Confirming Openings

knowledge of establishing guaranteed

dimensions on approved shop drawings
knowledge of field measuring openings for compliance with shop drawings
knowledge of confirming that openings are acceptable before installation

4. Cutting Product

knowledge of establishing cut sizes
knowledge of measuring the stock length (aluminum) or length and width (glass)
knowledge of setting up cutting equipment
knowledge of cutting product

5. Drilling Product

knowledge of laying out material for holes
knowledge of drilling or punching assembly holes
knowledge of locating and drilling weep holes

6. Assembling Product

knowledge of joining framing members per fabrication instructions

7. Glazing Product

knowledge of installing gasketing to receive glass
knowledge of installing setting blocks
knowledge of placing glass in frame
knowledge of applying glass stop

8. Storing Product

knowledge of protecting product by isolating from other products (cardboard, etc)
knowledge of protecting product by isolating from other products (cardboard, etc.)

**Content Area C
Transporting Product**

5%

1. Loading Product

knowledge of determining best method and route for transporting product
knowledge of creating a pick list or load list
knowledge of loading product in manner that protects product during transport
knowledge of securing the product on platform or truck

2. Arranging for Unloading Equipment

knowledge of determining proper equipment

for unloading product
knowledge of scheduling (arranging) for
loading equipment

3. Unloading Product

4. Distributing and Storing Product

knowledge of determining product location
at jobsite (distribution)
knowledge of ensuring that floor loads will
accept product
knowledge of ensuring that storage is in
compliance with manufacturer's
recommendations
knowledge of protecting product from
environment and other trades

Content Area D Installing Product

35%

1. Ensuring Quality Control

knowledge of checking product before
installing
knowledge of checking opening before
installing product
knowledge of ensuring installers are
properly trained for particular product
installed

2. Ensuring Job Safety

knowledge of ensuring all installers have
appropriate safety equipment
knowledge of ensuring all installers are
trained on safe use of equipment
knowledge of ensuring installers are
knowledgeable of contractor's safety plan
knowledge of ensuring that all equipment is
properly maintained

3. Staging Product and Equipment

knowledge of selecting proper equipment
for installation (pulleys, scaffolding, etc.)
knowledge of coordinating electrical supply
with contractor
knowledge of installation with other trades

4. Laying Out Openings

knowledge of establishing working points,
benchmarks, control lines
knowledge of establishing clip locations
(center line of mullions)
knowledge of laying out per manufacturer's
instructions

5. Erecting Product

knowledge of setting product in place
(physically)
knowledge of plumbing, leveling and truing
product
knowledge of install anchors

6. Requesting Anchor Inspection (if required)

7. Preparing Product for Glass

knowledge of cleaning materials, removing
debris from materials
knowledge of installing gasketing to receive
glass
knowledge of installing setting blocks
knowledge of placing glass in frame
knowledge of applying glass stop

8. Inspecting Job for Sign-Off

knowledge of creating logbook of daily
work (if applicable)
knowledge of walking job with contractor
knowledge of obtaining sign-off from
contractor of work completed

9. Protecting Product

knowledge of advising regarding suitable
materials/methods for protecting product

10. Waterproofing Product

knowledge of assuring proper width to depth
ratio for caulking performance
knowledge of cleaning the substrates
knowledge of applying appropriate sized
backer rod (if needed)
knowledge of verifying that caulking shelf
life has not expired
knowledge of applying sealant and properly
tooling

11. Instructing of Product Care

knowledge of providing contractor/owner
manufacturer's recommended maintenance
instructions

Content Area E Servicing Product

5%

1. Ensuring Code Compliance

knowledge of evaluating existing glass with
code-determine if like glass ok to install

knowledge of installing proper glass according to current code

2. Ensuring Job Safety

knowledge of ensuring all installers have appropriate safety equipment

knowledge of ensuring all installers are trained on safe use of equipment

knowledge of ensuring installers know contractor's safety plan

knowledge of ensuring that all equipment is properly maintained

3. Ensuring Quality Control

knowledge of checking product before installing

knowledge of checking opening before installing product

knowledge of ensuring installers properly trained for product being installed

4. Replacing Product

knowledge of determining size and make-up of product

knowledge of ordering new product or obtaining from stock

knowledge of temporarily closing up opening (if necessary)

knowledge of installing and adjusting replacement product

5. Repairing Product

knowledge of determining what needs to be repaired

knowledge of ordering parts or replacing out of stock

knowledge of repairing product

6. Adjusting Product

knowledge of determining what needs to be adjusted

knowledge of adjusting product

7. Waterproofing Product

knowledge of removing existing (old) caulking

knowledge of checking for compatibility of sealants with substrates

knowledge of installing new sealants and tools