

STATE OF MICHIGAN

GUTTERS

Business and Law examination specifications and suggested study materials are contained in the Candidate Information Bulletin.

# of Questions	Passing % Score	Passing Raw Score
35	72	25

TOPIC INFORMATION	# OF ITEMS
1. GENERAL KNOWLEDGE, PLAN READING, AND ESTIMATING <ul style="list-style-type: none"> a. Read Plans to Determine Gutter Placement, Length, Types, etc. b. Perform Take-Offs and Estimates c. Measure and Design Water Management System d. Select and Use Tools and Equipment e. Identify and Select Component Types and Materials f. Identify and Select Hanger Types g. Identify and Select Downspouts h. Protect Property i. Set Ladders Properly j. Select Appropriate Footwear for Employees when on Roof 	10
2. MATERIALS AND INSTALLATION <ul style="list-style-type: none"> a. Determine Locations for Downspouts b. Install Spike and Ferrule c. Install Hidden Hangers d. Install Vampire Hangers e. Install Strap Hangers f. Install Hangers that are Suspended with Post (not strap or vampire) g. Install Cradle, Suspended, or Vampire Hangers for Half-Round Gutters h. Install Aluminum Gutters i. Install Copper Gutters j. Install Vinyl Gutters k. Install K-Type Gutters l. Fabricate Gutters and Downspouts m. Determine Hole Placement to Fit the Outlet Cut Hole n. Install Downspouts o. Use Elbows or Preformed Offset p. Install Downspout Extensions q. Install Drain Pipe r. Install Screens/Diverters/Covers s. Install Endcaps t. Install Elbows u. Install Miters v. Seal Joints w. Weld Joints for Copper Gutters 	16

3. SAFETY AND EMPLOYEE PROTECTION <ul style="list-style-type: none"> a. Prepare Emergency Action Plans b. Ensure Safety Training is Conducted when Needed c. Ensure First Aid Kit is Available per MIOSHA Requirements d. Ensure Personal Protective Equipment is Used Correctly e. Use All Tools and Equipment in Accordance with MIOSHA Requirements f. Utilize Ladders in Accordance with MIOSHA Requirements g. Provide Fall Protection 	9
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Suggested Study Materials

The study materials listed here should be helpful to candidates preparing for the M&A Contractor examination.

Except for the Michigan Laws, Rules, Codes and Standards, neither the Department nor PSI endorses any of the materials listed. However, we try to ensure that the references are currently available and consist of recognized industry standards.

If the answer to a specific examination question could differ because of conflicting information contained in the suggested study materials, the legal requirement, such as a law, regulation, board or commission rule, or building code, takes precedence over (overrides) any other reference. If two legal requirements appear to conflict, the Michigan specific law, regulation, board or commission rule, or building code, takes precedence over the national one. Information from the suggested study materials listed here takes precedence over information from all other sources or persons.

This is only a sample of the available reference materials that contain information about the professions. These materials contain neither all of the general trade knowledge required to be competent in any specific area nor all of the information on which you will be tested. Also, please be aware that reference materials may go out of print or be otherwise unavailable.



Please contact a library, community college, currently practicing builder or contractor, Code enforcement agency, or other specialists in the profession for additional information or reference material.

These examinations are CLOSED BOOK, so the following reference materials suggested as study resources are not allowed in the examination center.

- *Michigan Occupational Safety and Health Act 154 of 1974 as amended, and Administrative Rules for All Industries*, Department of Licensing and Regulatory Affairs, MIOSHA Standards Division, P.O. Box 30643, Lansing, MI 48909, (517) 322-1845. Price: Free.
All MIOSHA standards may be printed from the MIOSHA web site:
www.michigan.gov/mioshastandards
- *Repairing Downspouts and Gutters*, 2004, National Retail Hardware Association (NRHA), 5822 West 74th Street, Indianapolis, IN 46278, (800) 722-4424, <http://nrha.web-pros.com/How-To/weather/dwnspout/downspt.htm>
- *Hanging Gutters & Downspouts*, 2004, National Retail Hardware Association (NRHA), 5822 West 74th Street, Indianapolis, IN 46278, (800) 722-4424 <http://nrha.web-pros.com/How-To/weather/gutters/gutters.htm>
- *Architectural Sheet Metal Manual*, Sixth Edition, 2003, Sheet Metal and Air Conditioning Contractors' National Association, Inc. (SMACNA), 4201 Lafayette Center Drive, Chantilly, VA 02151, (703) 803-2980, www.smacna.org
- *New Complete Do-It-Yourself Manual*, 2005, ISBN: 0-7621-0579-8, Reader's Digest, Pleasantville, NY 10570, (800) 756-7372, www.rd.com

