

COMMONWEALTH OF VIRGINIA EQUIPMENT/MACHINERY CONTRACTING EXAMINATION

Scope of Work: Equipment/Machinery Contracting (Abbr: EMC) means that service which provides for the installation or removal of equipment or machinery including but not limited to conveyors or heavy machinery. Boilers exempted by the Virginia Uniform Statewide Building Code (13VAC5-63) but regulated by the Department of Labor and Industry are also included in this specialty. This specialty does not provide for any electrical, plumbing, process piping or HVAC functions.

# of Questions	Minimum Passing Score	Time Allowed
40	70% (28 correct)	90 Minutes

CONTENT OUTLINE

Subject Area	# of Items
Boilers General Knowledge	10
Controls, Boiler Fittings, and Accessories	3
Pumps	3
Safety	6
Boiler Testing and Troubleshooting	4
Hoisting and Rigging	3
Conveying Equipment	6
Welding	5

EXAMINATION REFERENCE MATERIAL

The following is a list of possible reference materials for the examination. The list is given to identify resources and does not constitute an endorsement by PSI or by the Virginia Department of Professional and Occupational Regulation.

The reference material listed below was used to prepare the questions for this examination. The examination may also contain questions based on trade knowledge, or general industry practices. You can use any edition of references and Code books as they become available. However for Code questions, the examination will be based only on the edition of the Code book that is listed.

NOTE: All examinations are open-book. You must bring your own references as they are not provided at the test site. No study guides are permitted.

No loose papers or unbound references are permitted. If you download a reference from the Internet, it must be spiral bound or hole-punched and placed in a binder or stapled in the left-hand corner.

References may be highlighted, underlined, and/or indexed prior to the exam. Reference materials containing any writing will not be allowed into the examination. You may not write in reference materials during the examination session. A candidate caught writing in the references during the examination will have the references confiscated and will be reported to the Department.

References may be tabbed with permanent tabs only. NO REMOVABLE TABS are allowed.

The following list of tabs may be used. These items may be purchased at local office supply stores.

Acceptable Tabs

Avery Swift Tabs Self-Adhesive Permanent Plastic Tabs
Redi-Tag Self-Stick Permanent Adhesive Index Tabs

Unacceptable Tabs

Post-It Index Flags
Post-It Flags

- *Code of Federal Regulations - 29 CFR Part 1926 (OSHA)*, with latest available amendments, 866-512-1800, <https://www.osha.gov/laws-regs/regulations/standardnumber/1926>

OR

Code of Federal Regulations - 29 CFR Part 1926 Selections by PSI, with latest available amendments, 866-589-3088, <https://www.pSIONlinestore.com/29-cfr-part-1926-selections-2013/>

- *VA Boiler and Pressure Vessel Rules and Regulations*, 16 VAC 25-50-10, July 2003, Virginia Safety and Health Codes Board and Virginia Department of Labor and Industry, <https://law.lis.virginia.gov/admincode/title16/agen/vy25/chapter50/section10/>
- *ASME B20.1-2012 Safety Standard for Conveyors and Related Equipment*, 2012 ASME (American Society of Mechanical Engineers), <http://files.asme.org/Catalog/Codes/PrintBook/32401.pdf>
- *Low Pressure Boilers*, Frederick M. Steingress, 2019, American Technical Publishers, Inc., <https://www.amazon.com/Low-Pressure-Boilers-Frederick-Steingress/dp/0826943659>
- *Modern Welding*, 11th Edition, 2013, Althouse, Turnquist, Bowditch, Goodheart-Willcox Company, (800) 323-0440, https://www.amazon.com/Modern-Welding-Andrew-D-Althouse/dp/1605257958/ref=sr_1_1?hvadid=78134096379778&hvbm=be&hvdev=c&hvqmt=e&keywords=modern+welding+11th+edition+2013&qid=1559172353&s=books&sr=1-1
- *Pump Handbook*, 2007, Karassik, Messina, Cooper, and Heald, McGraw-Hill, (800) 262-4729, https://www.amazon.com/Pump-Handbook-Igor-Karassik/dp/0071460446/ref=sr_1_1?s=books&ie=UTF8&qid=1466111578&sr=1-1&keywords=pump+handbook+karassik



- *Handbook of Rigging: For Construction and Industrial Operations*, W.E. Rossnagel, 2009, 5th edition, https://www.amazon.com/MacDonalds-Rossnagels-L-Higgins-Handbook-Rigging/dp/B003VHVG30/ref=sr_1_fkmr0_1?s=books&ie=UTF8&qid=1466111637&sr=1-1-fkmr0&keywords=%EF%82%A7%09Handbook+of+Rigging%3A+For+Construction+and+Industrial+Operationpump+handbook+karassik