



2009 Candidate Information Bulletin City of Philadelphia Engineering Grades A, B, C, D Examinations

The Philadelphia Department of Licenses and Inspections (the Department) determines the licensing requirements and exam eligibility for engineering candidates. These licenses are required of anyone operating or maintaining any steam boiler, steam engine or refrigeration machinery. They are not applicable for Federal Government projects.

Prometric Inc. is an independent testing agency under agreement with the Department to develop, administer, score and report the results of the written examinations. The Department has sole jurisdiction for granting licenses.

At a glance

This bulletin is your guide to the process of obtaining a Philadelphia engineering license. The steps below summarize the process. For information about a step, go to the page listed.



To obtain your license

- 1 Submit your examination application to the Department—Page 2.
Once the Department approves your eligibility to test, you will receive an exam registration form.
- 2 Submit your exam registration form and fee to Prometric.
In return, you will receive an admission letter and exam appointment.
- 3 Prepare for your exam using this bulletin and other materials—Page 6.
- 4 Present your required identification; then take the exam—Page 3.
- 5 If you pass, you will receive information from the License Issuance Section.



To get answers not provided in this bulletin

For questions about exams:

Prometric
 ATTN: PA City of Philadelphia Engineering
 Program
 1260 Energy Lane
 St. Paul, MN 55108
 Phone: 800.626.0750
 TDD User: 800.790.3926
www.prometric.com/pennsylvania

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Key	
	Overview information
	Important note

For questions about exam qualifications and applications:

City of Philadelphia
 Department of Licenses and Inspections
 Municipal Services Building, Public Service Concourse
 License Issuance Unit
 1401 JFK Boulevard
 Philadelphia, PA 19102-1687
 Phone: 215.686.2496
www.phila.gov/li/index.html

Submitting your application

Before you can register and schedule your exam, you must complete the Department's Application for Occupational Examination. You can get a copy of the application online at www.phila.gov/forms/index.html or from the Department. If the Department approves your application, you will be sent an exam registration packet.

Registering and scheduling exams

Once you receive your packet from the Department, complete the exam registration form and mail it, along with the exam fee (\$75), to Prometric at the address shown on the form.

When completing the registration form, you must provide your contact information, Social Security number and exam scheduling preferences. Prometric treats your Social Security number as **confidential**. It is used only as an identification number in maintaining your record and reporting your grades to the Philadelphia Department of Licenses and Inspections.



Note Prometric must receive your registration form and fee on or before the cutoff date. Registration forms received after the cutoff date will automatically be scheduled for the next exam date.

Once Prometric receives your exam registration form, it is immediately processed and you are scheduled for your exam. You must take your exam on the scheduled date or you will forfeit your exam fees. If you cancel your appointment, you will **not** receive a refund.

Exam dates and registration cutoff dates

Exams are administered in the city of Philadelphia. Be sure to check your admission letter for the exact location, date and time of your exam.

Exam and registration cutoff dates

Philadelphia	
Cutoff	Exam
01/08/09	01/24/09
03/06/09	03/21/09
05/01/09	05/16/09
07/02/09	07/18/09
09/03/09	09/19/09
11/06/09	11/21/09

Exam fees and payment

Payment can be made by including Visa or MasterCard information or a cashier's check or money order. **Cash and personal checks are not accepted.** Exam registration fees are not refundable or transferable.

Special consideration

ADA accommodation. If you require testing accommodations under the Americans with Disabilities Act (ADA), please call Prometric at 800.626.0750 to obtain an accommodation request form. Reasonable testing accommodations are provided to allow candidates with documented disabilities recognized under the ADA an opportunity to demonstrate their skills and knowledge.

Submit professional documentation of your disability with your form to help us determine the necessary testing arrangements. Thirty days' advance notice is required for all special testing arrangements. There is no additional charge for these accommodations.

ESL note. If English is your second language, please note that a language barrier is not considered a disability.

Admission letters

After receiving and processing your registration, Prometric will send you an admission letter regarding the specific date, time and location of your exam.

You should receive your admission letter approximately 10 days before your exam. If you lose your admission letter or have not received it three days before your exam, call Prometric immediately at 800.626.0750.

Be sure to notify Prometric and the Department of any change of address.



Important If you do not appear for your exam on the date and at the time shown on your admission letter, or if you are not admitted due to lateness, you forfeit all fees.

If absent or late for your appointment

If you do not appear for your scheduled exam, or arrive late and are not allowed to test, you will be required to submit another exam registration form and pay another exam fee before taking any exam.

Emergency closings

Severe weather or an emergency could require canceling scheduled exams. If this occurs, Prometric will attempt to contact you by phone. However, you may check for testing site closures by calling Prometric. If the site is closed, your exams will be rescheduled without a rescheduling fee.

If a testing center is open for testing and you choose not to appear for your appointment, you will forfeit your fee.

Taking your exam

The written exams test your knowledge of the engineering trade. The four exams given are classified by grade: Grade A, Grade B, Grade C and Grade D. You should take the exam that will qualify you for the type of license you wish to obtain.

You can use the content outlines in this bulletin (beginning on Page 6) to prepare for your exam. The exams are based on these content outlines.

What to bring on exam day

Bring all the following items with you to your exam appointment:

- Your admission letter.

- A current, valid government-issued photo identification card, such as a driver's license or passport.)
- Two sharpened No. 2 pencils with erasers.
- A silent, nonprinting, nonprogrammable, numeric calculator. The Electric Calc **is not** permitted.
- Approved reference materials.



Important Failure to provide appropriate identification at the time of the exam is considered a missed appointment. If you miss an appointment, you forfeit your fees.

Testing regulations

To ensure that all candidates are tested under equally favorable conditions, the following regulations and procedures will be observed at each testing center. Failure to follow any of these security procedures may result in disqualification of your examination. Prometric reserves the right to audiotape and videotape any examination session.

References

- Only approved references are allowed for open-book exams. Photocopies of reference materials may **not** be used. No handwritten or additional notes (letters, words, diagrams, etc.) are allowed in reference books. Any reference material that has been written in during the exam will be confiscated. Highlighting and permanent tabbing added before your arrival at the test center is acceptable. Post-it® notes are not considered permanent tabbing and will not be allowed.
- Sharing reference materials is not allowed.
- No other reference materials, papers or study materials are allowed at the test center. If you are found with these or any other aids, you will not be allowed to continue the exam and your answers will not be scored.

Calculators

- Only silent, handheld, solar or battery-operated, nonprogrammable calculators (without paper tape-printing capabilities or alphabetic keypads) may be used. The Electric Calc **is not** permitted.

Personal items

We recommend that you avoid bringing personal items to the testing center. Note the following:

- Electronic equipment—cell phones, PDAs, pagers, cameras, tape recorders, etc.—is not permitted in the testing area.
- Pocket items—keys, wallet, etc.—must remain in your pocket during testing.
- Other personal items—briefcases, backpacks, etc.—are not permitted in the testing area. **Note:** It is recommended that purses not be brought to the testing center as access to purses will not be allowed during testing.

Breaks

- If you leave the testing room while an exam is in progress, you must sign out/in on the roster and you will lose exam time.
- You are not allowed to use any electronic devices or phones during breaks.

Visitors

- No guests, visitors or family members are allowed in the testing area.

Misconduct or disruptive behavior

- Candidates who engage in any kind of misconduct or disruptive or offensive behavior may be dismissed from the examination. Examples are: giving or receiving help, taking part in an act of impersonation, removing test materials or notes from the testing room, using rude or offensive language and behavior that delays or interrupts testing.

Weapons

- Weapons are not allowed at the testing center.



Important Before an exam begins, the test center administrator will inspect all references, briefcases, purses, and so on to ensure that candidates are not in violation of any of these rules. The administrator will collect any materials that violate the rules.

Copyrighted questions. All test questions are the copyrighted property of Prometric Inc. It is forbidden under federal copyright law to copy, reproduce, record, distribute or display these test questions by any means, in whole or in part, without our written permission. Doing so may subject you to severe civil and criminal penalties, including up to five years in prison and/or a \$250,000 fine for criminal violations.

If questions arise. Test center administrators are not allowed to answer any questions pertaining to the exam content. If you do not understand a question on the examination, you should answer the question to the best of your ability.

Your exam results

A score report will be mailed to you approximately 10 business days after your exam date. All score reports are mailed simultaneously. To ensure confidentiality, scores will **not** be disclosed over the phone.

Passing score. A score of 70 percent or above is required to pass each exam. Scores are based on the number of questions answered correctly. You will not be given credit for any question answered incorrectly, marked with more than one answer or left blank. There is no penalty for guessing, so be sure to mark an answer for each question. If you pass your exam, the License Issuance Section will contact you concerning licensing information.

Retake information. If you do not pass the exam, you must complete another registration form. You may retake the exam on any future exam date. The retake fee is the same as the original exam fee (\$75).

Appeals process

Our goal is to provide quality exams and a pleasant testing experience for every candidate. If you are dissatisfied with either and believe we can correct the problem, we would like to hear from you. We provide an opportunity for general comments at the end of your exams. Your comments will be reviewed by our personnel, but you will not receive a direct response.

If you are requesting a response about exam content, registration, scheduling or test administration (testing site procedures, equipment, personnel, etc.), please submit an appeal in writing. Your appeal letter must provide your name and Social Security number, the exam title, the date you tested and the details of your concern, including all relevant facts.

Be sure to include your signature and return address. Mail your appeal letter to:

Prometric
ATTN: Appeals Committee
 1260 Energy Lane
 St. Paul, MN 55108

The Appeals Committee will review your concern and send you a written response within 10 business days of receipt. **Faxed appeals are not accepted** because an original signature is required.

Optional services

This section describes optional services that Prometric provides.

Strength and weakness report

If you do not pass an exam, you may request a strength and weakness report. This report is a useful guide that pinpoints where you need to concentrate your study efforts before retaking the exam. It shows how many questions were included in each subject area and how many questions you answered correctly in each area. The fee for a strength and weakness report is \$15.

Exam reviews

If you do not pass an exam, you can register for an optional review of it. The review is a study session that is conducted much like an exam. You must review an exam on the **first** review after your exam date. To review an exam, call Prometric. Prometric must **receive** your fee no later than two weeks before the first review date. The fee for an exam review is \$50.

The purpose of a review is **not** to teach you the exam subject matter. Rather, it is an option you may choose for study purposes. You may use your reference material during the review process. You are **not** allowed to bring an advisor or anyone else with you to the review. A review is **not** considered an exam attempt and is not scored. You may **not** remove notes or exam materials from the review room.

Certificate of achievement

Candidates passing their exams deserve recognition for their accomplishment. Prometric has prepared a beautifully designed 8.5"×11" certificate of achievement. This certificate is suitable for framing and contains your name and the name of the exams you successfully completed in a calligraphy typeface. The cost is \$15.

Exam content outlines

The Philadelphia Department of Licenses and Inspections Engineering exams are open-book and in a multiple-choice format. Some questions may require the use of arithmetic. Some may refer to a figure drawing, table or chart located in the test booklet.

The following content outlines are the basis of the exams and list all subjects covered by each exam. Each outline indicates the total questions on the exam and the maximum time allowed. It also lists the approximate percentage of questions asked about each topic.

Exam references. Each outline lists references that were used to develop the exams, including references that are allowed in the exam room. **Some information found in the references does not apply to the exams.** For information on how to obtain references, call toll-free 877.624.2562.

Grade A Exam

Open Book, 100 questions, 4 hours

The Engineering **Grade A** exam covers the operation, maintenance, repair, inspection, testing and overhaul of steam and hot water boilers, refrigeration and air conditioning units, steam driven equipment, internal combustion engines, fuel supply and storage systems, and codes, laws and rules. It includes all associated mechanical and electrical control systems, pumps, water treatment, test equipment and safety devices used to maintain and safely operate all of the above equipment. This covers work on steam boilers operating with pressures at or above 15 psi steam and driven by motors rated at or above 30 Hp and hot water boilers operating at pressures above 160 psi and/or temperatures above 250 degrees Fahrenheit. This **does not** cover work on residential buildings, federal government projects or for utility operations.

Exam Topic	%
Boiler types, accessories and fittings	15
Fuels, fuel piping, storage and firing methods	10
Boiler startup and operation	15
Boiler maintenance	15
Refrigeration systems and operation	25
Internal combustion engines	2
Codes and laws; the basics	8
Controls and control systems	10

References allowed in the exam room

- 1 *Steam Plant Operation*, McGraw-Hill Publishing, Inc., P.O. Box 182604, Columbus, OH 43272, books.mcgraw-hill.com.
- 2 *High Pressure Boilers*, American Technical Publishers (ATP), 1155 West 175th Street, Homewood, IL 60430-4600, www.go2atp.com.
- 3 *Low Pressure Boilers*, American Technical Publishers (ATP), 1155 West 175th Street, Homewood, IL 60430-4600, www.go2atp.com.
- 4 *Modern Refrigeration and Air Conditioning*, Goodheart-Willcox Company, Inc., 18604 West Creek Drive, Tinley Park, IL 60477-6243, www.g-w.com.
- 5 *BOCA National Mechanical Code*, 1993, International Code Council (ICC), 4051 West Flossmoor Road, Country Club Hills, IL 60478-5795, www.iccsafe.org.
- 6 *The Clean Air Act, Section 610*, Occupational Safety and Health Administration (OSHA), 200 Constitution Avenue, NW. Washington, DC 20210, www.osha.gov.
- 7 *Code of Federal Regulations, Title 40, Part 82*, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954, www.access.gpo.gov.

Grade B

Open Book, 80 questions, 3 hours

The Engineering **Grade B** exam covers the operation, maintenance, repair, inspection, testing and overhaul of refrigeration systems, air conditioning units and internal combustion engines, and codes, laws and rules. It includes all associated mechanical, pneumatic and electrical control systems, pumps, water treatment, piping of condenser and chilled water systems, refrigeration piping and tubing, water treatment, test equipment, cooling towers and condensing units, and safety devices used to maintain and safely operate all of the above equipment. This also includes internal combustion engines but **does not** cover work on residential buildings, federal government projects or for utility operations.

Exam Topic	%
Refrigeration	10
Controls and control systems	10
Refrigerants	20
Air conditioning	20
Chilled and condensing water piping and treatment systems	10
Ventilation systems	10
Ducts and duct systems	5
Test, adjust and inspection	10
Internal combustion engines	2
Codes, laws, rules and regulations; the basics	3

References allowed in the exam room

- 1 *Low Pressure Boilers*, American Technical Publishers (ATP), 1155 West 175th Street, Homewood, IL 60430-4600, www.go2atp.com.
- 2 *Modern Refrigeration and Air Conditioning*, Goodheart-Willcox Company, Inc., 18604 West Creek Drive, Tinley Park, IL 60477-6243, www.g-w.com.
- 3 *BOCA National Mechanical Code*, 1993, International Code Council (ICC), 4051 West Flossmoor Road, Country Club Hills, IL 60478-5795, www.iccsafe.org.
- 4 *The Clean Air Act, Section 610*, Occupational Safety and Health Administration (OSHA), 200 Constitution Avenue, NW. Washington, DC 20210, www.osha.gov.
- 5 *Code of Federal Regulations, Title 40, Part 82*, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954, www.access.gpo.gov.

Grade C Exam
Open Book, 80 questions, 3 hours

The Engineering **Grade C** exam covers the operation, maintenance, repair, inspection, testing and overhaul of steam and hot water boilers, steam driven equipment, internal combustion engines, fuel supply and storage systems, and codes, laws and rules. It includes all associated mechanical, pneumatic and electrical control systems, pumps, water treatment, piping of steam and hot water systems, test equipment, and safety devices used to maintain and safely operate all of the above equipment. This covers work on steam boilers operating with pressures at or above 15 psi steam and driven by motors rated at or above 30 Hp and hot water boilers operating at pressures above 160 psi and/or temperatures above 250 degrees Fahrenheit. This **does not** cover work on residential buildings, federal government projects or for utility operations.

Exam Topic	%
Boiler types, accessories and fittings	20
Fuels, fuel piping, storage and firing methods	15
Boiler startup and operation	20
Boiler maintenance	20
Internal combustion engines	5
Codes and laws; the basics	10
Controls and control systems	10

References allowed in the exam room

- 1 *Steam Plant Operation*, McGraw-Hill Publishing, Inc., P.O. Box 182604, Columbus, OH 43272, books.mcgraw-hill.com.
- 2 *High Pressure Boilers*, American Technical Publishers (ATP), 1155 West 175th Street, Homewood, IL 60430-4600, www.go2atp.com.
- 3 *Low Pressure Boilers*, American Technical Publishers (ATP), 1155 West 175th Street, Homewood, IL 60430-4600, www.go2atp.com.
- 4 *BOCA National Mechanical Code*, 1993, International Code Council (ICC), 4051 West Flossmoor Road, Country Club Hills, IL 60478-5795, www.iccsafe.org.

Grade D Exam
Open Book, 50 questions, 3 hours

The Engineering **Grade D** exam covers the operation, maintenance, repair, inspection, testing and overhaul of steam and hot water boilers, fuel supply and storage systems, and codes, laws and rules. It includes all associated mechanical, pneumatic and electrical control systems, pumps, water treatment, piping of steam and hot water systems, test equipment, and safety devices used to operate and safely maintain all of the above equipment. This covers work on steam and hot water boilers operating with pressures at or below 15 psi steam and driven by motors rated at any Hp. This **does not** cover work on refrigeration or air conditioning systems, steam turbines, internal combustion engines or work on residential buildings, federal government projects or for utility operations.

Exam Topic	%
Boiler types, accessories and fittings	25
Fuels, fuel piping, storage and firing methods	25
Boiler startup and operation	25
Boiler maintenance	25

References allowed in the exam room

- 1 *Steam Plant Operation*, McGraw-Hill Publishing, Inc., P.O. Box 182604, Columbus, OH 43272, books.mcgraw-hill.com.
- 2 *High Pressure Boilers*, American Technical Publishers (ATP), 1155 West 175th Street, Homewood, IL 60430-4600, www.go2atp.com.
- 3 *Low Pressure Boilers*, American Technical Publishers (ATP), 1155 West 175th Street, Homewood, IL 60430-4600, www.go2atp.com.
- 4 *BOCA National Mechanical Code*, 1993, International Code Council (ICC), 4051 West Flossmoor Road, Country Club Hills, IL 60478-5795, www.iccsafe.org.



Exam Registration Form for City of Philadelphia Engineering exams

Candidate Information

Last Name	First Name	Middle Initial	Social Security Number ____-____-____
Street Address (including Apt. number or P.O. Box, if applicable)			
City		State	ZIP Code
Daytime Phone Number (including area code) ()		Business Phone Number (including area code) ()	

Exam Selection and Fees

Exam Title	Exam Fee	Total
Grade A	\$75	\$
Grade B	\$75	\$
Grade C	\$75	\$
Grade D	\$75	\$
Optional Services	Fee	
Exam Review	\$50	\$
	Total Fee	\$

Payment: Fee may be paid by cashier's check, money order, MasterCard or Visa, payable to Prometric. Please put your full name on the check. **Personal checks and cash are not accepted. Fees are nonrefundable.** To pay by credit card, please complete the information below. Please see complete registration and scheduling information in this bulletin.

Card Type (Check One) <input type="checkbox"/> MasterCard <input type="checkbox"/> Visa	Card Number	Expiration Date
Name of Cardholder (Print)	Signature of Cardholder	

Exam Date Selection (Indicate your preferred testing date.)

X	Cutoff Date	Exam Date
	01/08/09	01/24/09
	03/06/09	03/21/09
	05/01/09	05/16/09
	07/02/09	07/18/09
	09/03/09	09/19/09
	11/06/09	11/21/09

By signing and submitting this form, I certify that I am the candidate named above and I agree to comply with all examination rules and regulations.

Signature: _____ Date: _____

(Keep a copy of this registration form for your records.)

To register by mail, send this completed form with the appropriate fee to:

Prometric, ATTN: PA City of Phil. Engineering Program, 1260 Energy Lane, St. Paul, MN 55108