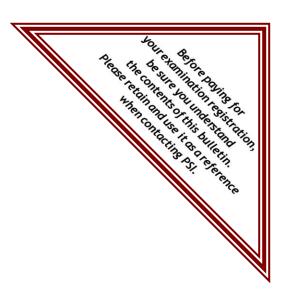


PSI licensure:certification 3210 E Tropicana Las Vegas, NV 89121 www.psiexams.com



# CONNECTICUT DEPARTMENT OF CONSUMER PROTECTION

# OCCUPATIONAL LICENSING HEATING, PIPING AND COOLING TRADES CANDIDATE INFORMATION BULLETIN

RICHARD M. HURLBURT, DIRECTOR
OCCUPATIONAL & PROFESSIONAL LICENSING DIVISION

Please refer to our website to check for the most updated information at www.psiexams.com

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#### CONNECTICUT EXAMINATION PROCEDURE CHECKLIST

Before registering for an examination, make sure that you have reviewed the following checklist.

#### Become eligible to take the examination(s):

Mail the original application, application fee, and any required documents to PSI licensure: certification (PSI). Once you have
met the requirements, you will be issued an Examination Eligibility postcard with instructions for paying and scheduling for the
examination(s). Note: This application can be found on the following page(s).

#### Prepare for your examination(s):

Use the examination content outlines provided in this bulletin as the basis of your study.

#### Schedule your examination(s):

• Once you are eligible, it is your responsibility to contact PSI to pay and schedule. You may go online at <a href="www.psiexams.com">www.psiexams.com</a> or call (800) 733-9267.

#### Take your examination(s):

- Must bring two forms of identification, which bear your signature. One of these must also have your photograph.
  - Your name as shown on the application form must exactly match the name on the photo I.D. used when checking in at the examination site.
- Arrive 30 minutes prior to appointment.

#### After your examination(s):

• Submit the licensing fee indicated on the passing score report for your trade examination with all passing score reports to the Connecticut Department of Consumer Protection.

### STATE OF CONNECTICUT DEPARTMENT OF CONSUMER PROTECTION



#### **Occupational Trade License Application**

- → Instructions: All applicants must review the Candidate Information Bulletin at www.psiexams.com.
  - 1) This application must be completed and signed by the individual applying for licensure. The Federal Privacy Act of 1974 requires that you be notified that disclosure of your Social Security Number is required pursuant to C.G.S. §17b-137a. If you choose not to disclose your Social Security Number your application cannot be processed.
  - 2) <u>Fees:</u> Contractor \$150.00; Journeyperson \$90.00; Dealer-Tech \$200.00; Technician \$80.00; Driller (any type) \$88.00. A check for the applicable fee made payable to PSI must accompany this application. Or for credit card payment use the form on the next page. Application fees are non-refundable.
  - 3) Once this application is reviewed and approved, you will receive an **Examination Eligibility Postcard from PSI** with instructions to register and schedule the examination. Please note that an examination fee will be due at the time you schedule the examination with PSI.

#### Applicants must include the appropriate required documentation for each license type:

- → <u>Journeyperson, Driller or Technician applicants</u> must attach the <u>original copy</u> of the Letter of Apprenticeship Completion Certificate. This can be obtained from the State of Connecticut, Department of Labor, Apprenticeship Training Division at (860) 263-6085 or www.ctapprenticeship.com.
- → Contractor or Dealer-Technician applicants must have held the respective journeyperson, driller or technician license for a minimum of two (2) years prior to applying. You must attach a photocopy of your current license.
- → If applying for equivalent experience and training (any license type), submit notarized statements from occupational related employers as to the dates and duties of employment AND copies of any diplomas and degrees of education related to the occupational license type for which you are applying. Should your application not be approved, you will receive a deficiency letter with further directions.
- → MAIL your completed application and fee to:

PSI licensure:certification 3210 East Tropicana Ave Las Vegas, NV 89121 For specific license types, contact PSI licensure:certification www.psiexams.com or 1-800-733-9267

#### Applicant Information: (Please type or print clearly).

First Name, Middle Initial, Last Name	2			License	Type Applying For:
Residence Street Address		City or Town		State	Zip Code
Telephone Number (w/ area code)	Email Address		Social Security Number		Date of Birth
Mailing Address (if different from abo	ve)	City or Town		State	Zip Code
Do you presently hold a license for your occupation in any State?			ur current license.		
Have you ever been convicted of a fe	lony? 🗇 Yes 🗇 N	lo If yes, at	tach to this application a signed	d, detailed,	notarized explanation.
I attest under the penalties of the Connecticut General Statutes, Sections 53a-157b that the information provided in this application is the truth to the best of my knowledge.					
Signature of Applicant			Date		_



#### CONNECTICUT OCCUPATIONAL LICENSING **EXAMINATION REGISTRATION FORM**

Before you begin. . .
Read the Candidate Information Bulletin before filling out this registration form. You must provide all information requested and submit the appropriate fee. PLEASE TYPE OR PRINT LEGIBLY. Registration forms that are incomplete, illegible, or not accompanied by the proper fee will be returned unprocessed. Registration fees are not refundable or transferable.

1.	Legal Name:			
		Last Name	First Name	M.I.
2.	Social Security:		(FOR IDENTIFICATION PURPOSES ONLY)	
3.	Mailing Address:			
		Number, Street		Apt/Ste
				-
		City	State Zip Code	
4.	Telephone: Cell		Office	-
5.	Email:		School Code	:
6.	Examination: (Check one	e)	\$65.00	w \$40.00
			ur trade examination and the second po se one portion, unless seeking two separa	
7.		ecific examination name (i.e., F-1) of the bel of the Confirmation Notice.	the examination portions that you are r	egistering for. This can be
	Examination Port	ion One:	Examination Portion Two:	
8.	Application: (Check one	e): ☐ Contractor \$150.00	☐ Journeyperson \$90.00	
		Dealer-Tech \$200.00	Technician \$80.00 Dril	ller (any type) \$88.00
9.	Total Fees Included: \$_		made by credit card, company check, p , made payable to PSI. Cash is NOT acc	
	Check one: UVISA U	☐ MasterCard ☐ American Express	☐ Discover	
	Card No:		Exp. Date:	
	Card Verification No: _		ation number may be located on the bac he signature strip) or on the front of th above the card account number).	
	Billing Street Address: _		Billing Zip C	ode:
	Cardholder Name (Print	:):	Signature:	
10	. I am submitting the <b>Rea</b> documentation.	asonable Accommodation Request (at	the end of this bulletin) and required	Yes No

Mail To PSI licensure:certification 3210 East Tropicana Ave Las Vegas, NV 89121



#### **EXAMINATIONS BY PSI**

This Candidate Information Bulletin provides you with information about the examination and application process for Occupational Licensure in the State of Connecticut.

Connecticut State law requires Occupational Licensure to be licensed and regulated by the Connecticut Department of Consumer Protection. Eligibility for examination is determined by the State.

The State has contracted with PSI licensure:certification (PSI) to conduct its examination program. PSI provides examinations through a network of computer examination centers in Connecticut. PSI works closely with the State to be certain that examinations meet local as well as national requirements in basic principles and examination development standards.

### GUIDELINES FOR LICENSE APPLICATION/QUALIFICATION

#### **HOW TO OBTAIN A LICENSE**

- Mail the original application, application fee, and any required documents to PSI. Once you have met the requirements, you will be issued an Examination Eligibility postcard with instructions for paying and scheduling for the examination(s).
  - Note: This application can be found on page 2 of this Candidate Information Bulletin.
- Denied candidates are notified by PSI of the elements they need to complete in order to be approved for licensure.

All questions and requests for information should be directed to PSI.

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Please allow 10 business days to process your application from the date PSI receives it.

#### **MILITARY TRAINING EVALUATION**

If you have been or are a "service member". Which means a member of the armed forces or the National Guard or a veteran, please contact the Connecticut Department of Labor, Office of Veterans Workforce Development and request a military training evaluation, for on the job training and school related instruction credit towards the type of license you are applying for, prior to sending in this application. Phone: (860) 263-6000 or Email: dol.webhelp@ct.gov Web site: www.ctdol.state.ct.us.

#### **EXAMINATION SCHEDULING PROCEDURES**

#### **ELIGIBILITY AND FEES**

- Journeyperson/Technician/Drillers are required to pass only a trade portion for licensure License:
  - You may take examinations on an unlimited basis for up to one year from the date of eligibility.
- Contractor/Home Inspector/Dealer-Techs are required to pass both a trade portion and business portion for licensure.
  - You may take examinations on an unlimited basis.
  - Any portion score is valid for a period of 2 years from the date it was passed. For example, a contractor that passes the business examination portion has 2 years to pass the trade examination portion, before being required to retake that business portion again.
  - Any existing Contractor/Home Inspector/Dealer-Tech seeking an additional license, and has NOT passed their business examination portion in the past 2 years, is required to RETAKE the business examination portion (plus the new trade examination portion) in order to get the new license.
  - Any existing Contractor/Home Inspector/Dealer-Tech seeking an additional license, and has passed the business examination portion within the past 2 years, is required to take only the trade examination portion.

All eligibilities are valid for a period of 1 year from the date that the State approves your application. The bulletin advises that you don't wait until the end of your eligibility period to register.

The following fee table lists the applicable fee for each portion. The fee is for <u>each</u> portion, whether you are taking the examination for the first time or repeating.

#### **Each Examination Portion**

\$65

### NOTE: REGISTRATION FEES ARE NOT REFUNDABLE OR TRANSFERABLE

#### INTERNET REGISTRATION

For the fastest and most convenient test scheduling process, PSI recommends that candidates register for their exams using the Internet. Candidates register online by accessing PSI's registration website at <a href="https://www.psiexams.com">www.psiexams.com</a>. Internet registration is available 24 hours a day.

- Log onto PSI's website and create an account. Please enter your email address and first and last name. This information must match exactly with the information PSI has on file. Be sure to check the box next to "Check here to attempt to locate existing records for you in the system"
- You will be asked to select the examination and enter your SS#. Your record will be found and you will now be ready to pay and schedule for the exam. Enter your zip code and a list of the testing sites closest to you will appear. Once you select the desired test site, available dates will appear. If you have problems contact PSI at (800) 733-9267 for help.



#### **TELEPHONE REGISTRATION**

For telephone registration, you will need a valid credit card (Visa, MasterCard, American Express or Discover).

PSI registrars are available at (800) 733-9267, Monday through Friday between 7:30 am and 10:00 pm, and Saturday-Sunday between 9:00 am and 5:30 pm, Eastern Time, to receive your payment and schedule your appointment for the examination.

#### **CANCELING AN EXAMINATION APPOINTMENT**

You may cancel and reschedule an examination appointment without forfeiting your fee if your cancellation notice is received 2 days before the scheduled examination date. For example, for a Monday appointment, the cancellation notice would need to be received on the previous Saturday. You may call PSI at (800) 733-9267, or use the PSI website.

Note: A voice mail message is not an acceptable form of cancellation. Please use the PSI Website or call PSI to speak directly to a Customer Service Representative.

#### **SCHEDULING A RE-EXAMINATION**

It is not possible to make a new examination appointment on the same day you have taken an examination; this is due to processing and reporting scores. A candidate who tests unsuccessfully on a Wednesday can call the next day, Thursday, and retest as soon as Friday, depending upon space availability. You may access a registration form at <a href="https://www.psiexams.com">www.psiexams.com</a>. You may also call PSI at (800) 733-9267.

#### MISSED APPOINTMENT OR LATE CANCELLATION

Your registration will be invalid, you will not be able to take the examination as scheduled, and you will forfeit your examination fee, if you:

- Do not cancel your appointment 2 days before the schedule examination date;
- Do not appear for your examination appointment;
- Arrive after examination start time;
- Do not present proper identification when you arrive for the examination.

#### REASONABLE ACCOMMODATION

All examination centers are equipped to provide access in accordance with the Americans with Disabilities Act (ADA) of 1990, and every reasonable accommodation will be made in meeting a candidate's needs. Applicants with disabilities or those who would otherwise have difficulty taking the examination must fill out the form at the end of this Candidate Information Bulletin and fax it to PSI (702) 932-2666. This form also includes out-of-state testing requests.

#### **EXAMINATION SITE CLOSING FOR AN EMERGENCY**

In the event that severe weather or another emergency forces the closure of an examination site on a scheduled examination date, your examination will be rescheduled. PSI personnel will attempt to contact you in this situation. However, you may check the status of your examination

schedule by calling (800) 733-9267. Every effort will be made to reschedule your examination at a convenient time as soon as possible. You may also check our website at www.psiexams.com.

#### SOCIAL SECURITY NUMBER CONFIDENTIALITY

PSI will use your social security number only as an identification number in maintaining your records and reporting your examination scores to the state. A Federal law requires state agencies to collect and record the social security numbers of all licensees of the professions licensed by the state.

#### **EXAMINATION SITE LOCATIONS**

The PSI Occupational Licensing examinations are administered at the examination centers listed below:

#### **West Hartford**

45 South Main Street, Suite 209 West Hartford, CT 06107

From I-84, exit 41, S. Main St. and proceed north approximately 2 miles. 45 South Main will appear on the left, directly across the street from the Town Hall, before you cross Farmington Avenue. Take the elevator to the second floor to Suite 209.

#### Milford 500 BIC Drive

Suite 101 Milford, CT 06461

From Highway I-95 exit 35. Go toward BIC Drive. Go .5 miles to 500 BIC Drive which is at Gate 1 of the former BIC complex. Go to the rear of the lot and park. Walk down the hill in front of the building and enter the front door. Signs will direct you to Suite 101 (PSI).

#### **Auburn**

48 Sword St, Unit 204 Auburn, MA 01501

From Southbridge St/MA-12, turn left onto Sword St.

#### **Boston**

56 Roland St., Suite 305 Washington Crossing Charlestown, MA 02129

From the South: Take I-93 North. Exit 28 - Rt 99/Sullivan Sq./Somerville. Make left on to Cambridge St. At first traffic light, make left on to Carter Street. Turn right on to Roland Street. End at 56 Roland Street (Building on left, Parking lot on right). Enter through North lobby. DO NOT PARK IN THE BUILDING'S PARKING LOT.

#### Fall River

218 South Main St, Suite 105 Fall River, MA 02721

From the North take Rte. 24S to 79S. Take Route 138S Exit. Bear right off exit. Go left at first traffic light. Take left at the second traffic light (top of hill) onto So Main St. 218 is 2 blocks down on the right. Parking: Go past 218 SO Main to 2nd light. Take right. Take another right at next traffic light. Third St parking Garage is on your right.

#### Springfield

1111 Elm Street, Suite 32A West Springfield, MA 01089

Going East on Mass Pike (Rt. 90). Take Exit 4 - West Springfield/Holyoke. Turn right on West Springfield/Rt. 5 South. Continue on Rt. 5 approximately two miles. Turn right on Elm St. - immediately after Showcase Cinemas. Office is approximately 1/4 mile on the right.



Going West on Mass Pike (Rt. 90). Take Exit 4 - West Springfield/Holyoke. Follow as above.

#### Cranston

Garden City Center 100 Midway Road, Suite 13 Cranston, RI 02920

From MA, I-195 W becomes I-95 S. Merge onto RI-37 W toward Cranston. Take the Pontiac Ave exit and turn right. Turn left onto Sockanosset Cross Road, then turn right onto Midway Road. The building is on the left side, and has a Liberty Mutual sign and a big green awning. At the building, go all the way down the hall and turn left to PSI Suite 13 on the right.

Additionally, PSI has examination centers in many other regions across the United States. You may take the written examination at any of these locations by filling out and faxing the Out-of-State Testing Request Form found at the end of this bulletin. You may also email this form to csrreasonableaccommodations@psionline.com.

#### REPORTING TO THE EXAMINATION SITE

On the day of the examination, you should arrive at least 30 minutes before your appointment. This extra time is for signin, identification, and familiarizing you with the examination process. If you arrive late, you may not be admitted to the examination site and you will forfeit your examination registration fee.

#### REQUIRED IDENTIFICATION AT EXAMINATION SITE

You must provide 2 forms of identification. One must be a VALID form of government issued identification (driver's license, state ID, passport, military ID), which bears your signature and has your photograph. The second ID must have your signature and preprinted legal name. All identification provided must match the name on the Examination Registration Form and your Registration Confirmation Notice.

If you cannot provide the required identification, you must call (800) 733-9267 at least 3 weeks prior to your scheduled appointment to arrange a way to meet this security requirement. Failure to provide all of the required identification at the time of the examination without notifying PSI is considered a missed appointment, and you will not be able to take the examination.

#### **SECURITY PROCEDURES**

The following security procedures will apply during the examination:

- Only non-programmable calculators that are silent, battery-operated, do not have paper tape printing capabilities, and do not have a keyboard containing the alphabet will be allowed in the examination site.
- Candidates may take only approved items into the examination room.

- All personal belongings of candidates, with the exception
  of close-fitting jackets or sweatshirts, should be placed
  in the secure storage provided at each site prior to
  entering the examination room. Personal belongings
  include, but are not limited to, the following items:
  - Electronic devices of any type, including cellular / mobile phones, recording devices, electronic watches, cameras, pagers, laptop computers, tablet computers (e.g., iPads), music players (e.g., iPods), smart watches, radios, or electronic games.
  - Bulky or loose clothing or coats that could be used to conceal recording devices or notes, including coats, shawls, hooded clothing, heavy jackets, or overcoats.
  - Hats or headgear not worn for religious reasons or as religious apparel, including hats, baseball caps, or visors.
  - Other personal items, including purses, notebooks, reference or reading material, briefcases, backpacks, wallets, pens, pencils, other writing devices, food, drinks, and good luck items.
- Person(s) accompanying an examination candidate may not wait in the examination center, inside the building or on the building's property. This applies to guests of any nature, including drivers, children, friends, family, colleagues or instructors.
- No smoking, eating, or drinking is allowed in the examination center.
- During the check in process, all candidates will be asked if they possess any prohibited items. Candidates may also be asked to empty their pockets and turn them out for the proctor to ensure they are empty. The proctor may also ask candidates to lift up the ends of their sleeves and the bottoms of their pant legs to ensure that notes or recording devices are not being hidden there.
- Proctors will also carefully inspect eyeglass frames, tie tacks, or any other apparel that could be used to harbor a recording device. Proctors will ask to inspect any such items in candidates' pockets.
- If prohibited items are found during check-in, candidates shall put them in the provided secure storage or return these items to their vehicle. PSI will not be responsible for the security of any personal belongings or prohibited items.
- Any candidate possessing prohibited items in the examination room shall immediately have his or her test results invalidated, and PSI shall notify the examination sponsor of the occurrence.
- Any candidate seen giving or receiving assistance on an examination, found with unauthorized materials, or who violates any security regulations will be asked to surrender all examination materials and to leave the examination center. All such instances will be reported to the examination sponsor.
- Copying or communicating examination content is violation of a candidate's contract with PSI, and federal and state law. Either may result in the disqualification of examination results and may lead to legal action.
- Once candidates have been seated and the examination begins, they may leave the examination room only to use the restroom, and only after obtaining permission from the proctor. Candidate will not receive extra time to complete the examination.

#### TAKING THE EXAMINATION BY COMPUTER

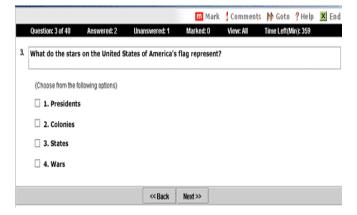
The examination will be administered via computer. You will be using a mouse and computer keyboard.

#### **IDENTIFICATION SCREEN**

You will be directed to a semiprivate testing station to take the examination. When you are seated at the testing station, you will be prompted to confirm your name, identification number, and the examination for which you are registered.

#### **TUTORIAL**

Before you start your examination, an introductory tutorial is provided on the computer screen. The time you spend on this tutorial, up to 15 minutes, DOES NOT count as part of your examination time. Sample questions are included following the tutorial so that you may practice answering questions, and reviewing your answers. The "Function Bar" at the top of the sample question provides mouse-click access to the features available while taking the examination.



One question appears on the screen at a time. During the examination, minutes remaining will be displayed at the top of the screen and updated as you record your answers.

IMPORTANT: After you have entered your responses, you will later be able to return to any question(s) and change your response, provided the examination time has not run out.

#### **EXPERIMENTAL QUESTIONS**

In addition to the number of questions per examination, a small number of one to five "experimental" questions may be administered to candidates during the examinations. These questions will not be scored and the time taken to answer them will not count against examination time. The administration of such non-scored experimental questions is an essential step in developing future licensing examinations.

#### **CANDIDATE COMMENTS**

During the test development process, PSI makes every effort to create accurate and fair test questions. However, on occasion a candidate may feel that a particular test question is misleading or is missing information that is needed in order to provide a correct answer. If during the test you believe that a test question needs clarification, we highly recommend that you submit your comments and concerns to PSI while at

the test center. Comments may be entered by clicking the Comments link on the function bar of the test question screen. When submitting comments, please provide as much detail as possible describing what you feel is problematic about the test question.

PSI regularly collects all comments from its test centers and reviews every comment within 20 business days from the date the comment was submitted. If your comments result in the editing or removal of one of your test questions, PSI will rescore your test results to determine if your grade status has changed from fail to pass. If your test result changes from fail to pass, you will be notified of the change. Otherwise, if you do not hear from PSI within 20 business days following your test, please understand that your comments have been reviewed but that they have not impacted your overall passing status. If you feel that you wish to further challenge the test content, we recommend that you register for an examination review.

#### **EXAMINATION REVIEW**

Failing candidates will have the option of reviewing their examination in a secure environment and challenging any questions or answers that they feel should be eliminated, changed, or given credit.

In order to schedule a review, you must register using the same process used to register for your test.

During the review candidates will be presented with the questions the candidate incorrectly answered during the examination on a desktop computer. Additionally, the candidate will be given the correct answer to the question. The purpose of the review is to allow the candidate to self-research the question to determine why the answer they selected was incorrect. If the candidate feels that there is an error in the question, the candidate may comment about the question during the review by clicking the "Comment" link on the function bar of the test question screen. The candidate can then enter any relevant information about the test question.

All comments together with a copy of the challenged test questions, will be submitted directly to PSI's test development staff for review. Within 20 business days, PSI will mail you a response as to whether or not any of your challenges were determined to be valid, and a new score report if your status changed from fail to pass. However, most test questions are determined to be correct as presented on the exam, so we recommend you NOT wait for a response before preparing for and scheduling to retake the exam.

You may not be permitted to take any notes out of the review sessions. Please call (800) 733-9267 with any questions. The examination review fee is \$40. You will have one hour for the entire review.

#### **SCORE REPORTING**

In order to receive a passing score on each examination, you must correctly answer 70% of the questions available. In order to help you understand how this cut-score relates to your examination, we have listed the total number of questions found on each exam, and have listed the number of questions that equates to the 70% passing score. For example, on an 80 question test, candidates are required to get 70% of the questions correct which translates into 56 questions for that test.

Your score will be given to you immediately following completion of the examination. The following summary describes the score reporting process:

- On screen your score will appear immediately on the computer screen. This will happen automatically at the end of the time allowed for the examination; if you are using review features, you will be able to obtain your score immediately when you indicate that you have finished and would like to see your results.
  - If you <u>pass</u>, you will immediately receive a successfulnotification.
  - If you <u>do not pass</u>, you will immediately receive an unsuccessful notification on the screen along with a diagnostic report indicating your strengths and weaknesses by examination type. Registration forms for submittal to PSI to retake the examination will be available at the examination site.
- On paper an official score report will be printed at the examination site.

#### **DUPLICATE SCORE REPORTS**

You may request a duplicate score report after your examination by emailing <a href="mailto:score-report@psionline.com">score-report@psionline.com</a> or by calling 800-733-9267.

### TIPS FOR PREPARING FOR YOUR LICENSE EXAMINATION

The following suggestions will help you prepare for your examination.

- Planned preparation increases your likelihood of passing.
- Start with a current copy of this Candidate Information Bulletin and use the examination content outline as the basis of your study.
- Read study materials that cover all the topics in the content outline.
- Take notes on what you study. Putting information in writing helps you commit it to memory and it is also an excellent business practice. Underline or highlight key ideas that will help with a later review.
- Discuss new terms or concepts as frequently as you can with colleagues. This will test your understanding and reinforce ideas.
- Your studies will be most effective if you study frequently, for periods of about 45 to 60 minutes.
   Concentration tends to wander when you study for longer periods of time.

### EXAMINATION REFERENCE MATERIAL AND CONTENT OUTLINES

If a test question answer could differ because of conflicting information in test reference sources, a legal requirement such as a code, law or regulation overrides any other reference. If two legal requirements appear to conflict, the state-specific code, law or regulation overrides the national one. Information from sources on the test reference list override information from other sources or persons.

#### **BUSINESS AND LAW EXAMINATION**

#### Required for ALL Contractor/Dealer Tech Licenses

The Business and Law examination may include questions that appear not to directly relate to your licensing category. However, this examination and those questions are testing your general ability to research information.

#### SCOPE OF WORK

# of Questions	Minimum Passing Score	Time Allowed
50	70%	2 Hours

#### **CONTENT OUTLINE**

Subject Area	# of Items
Licensing	5
Estimating and Bidding	7
Lien Law	2
Financial Management	4
Tax Laws	5
Labor Laws	5
Project Management	5
Contracts	6
Business Organization	2
Risk Management	4
Environmental and Safety	5

#### REFERENCE LIST

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. Except for Code books, you can base your answers on later editions of references as they become available. For Code questions, the examinations will be based only on the edition of the Code book that is listed.

Candidates may use a silent, nonprinting, non-programmable calculator in the examination center.

This examination is OPEN BOOK.



The following reference material <u>is</u> allowed in the examination center:

 Contractors Guide to Business, Law and Project Management, Connecticut, 5th Edition, National Association of State Contractors Licensing Agencies (NASCLA), 23309 N. 17th Drive, Phoenix, Arizona 85027, Telephone: (623) 587-9519, Fax: (623) 587-9625, www.nascla.org.

Candidates are responsible for bringing their own references to the examination center. Reference materials may be highlighted, underlined, annotated, and/or indexed prior to the examination session. However, references may not be written in during the examination session. Any candidate caught writing in the references during the examination will have the references confiscated and will be reported to the department. Furthermore, candidates are not permitted to bring in any additional papers (loose or attached) with their approved references. Any additional materials will be removed from the references and confiscated. References may be tabbed/indexed with permanent tabs only. Temporary tabs, such as Post-It notes, are not allowed and must be removed from the reference before the exam will begin.

NOTE: ALL CONTRACTORS AND DEALERS MUST PASS A BUSINESS AND LAW EXAMINATION AND A TRADE EXAMINATION.

#### TRADE AND JOURNEYPERSON EXAMINATIONS

In order to comply with the provisions of Public Act 99-253 and Public Act 00-128, and the regulations promulgated there under concerning Sheetmetal Work; "any person holding a license as defined within section 20-330 ( 5 ) of the Connecticut Statutes, may perform 'sheetmetal work' as it pertains to the type of license that such person holds." The examinations contained within this Heating, Piping, and Cooling Candidate Information Bulletin have the appropriate sheetmetal related questions pertaining to each examination type as defined in Section 20-330 ( 13 ) of the Connecticut General Statutes.

The reference materials listed in the content outlines may be found at one of the following locations:

Builders Book Depot www.buildersbookdepot.com 800-284-3434

Contractors Institute https://cistore.contractorsinstitute.com// 877-542-3673

Many of these reference materials are available for purchase at <a href="www.psionlinestore.com">www.psionlinestore.com</a> or by calling the PSI Online Store, toll-free, at (866) 589-3088.

Titles currently in stock are listed on the order form near the end of this candidate information bulletin.

#### **B-1 LIMITED GAS AND OIL BURNER CONTRACTOR**

#### SCOPE OF WORK

The holder of this license may perform only work of installing, servicing and repairing of gas or oil burners for domestic and light commercial installations. A domestic or light commercial burner shall be considered as one consuming five gallons or less per hour.

# of Questions	Minimum Passing Score	Time Allowed
50	70%	2 Hours

#### **CONTENT OUTLINE**

Subject Area	# of Items
Chimneys, Flues and Vents	2
Controls	4
Equipment	4
Fuel Gas Systems	10
General Knowledge	6
Oil Burners	7
Piping and Valves	4
Testing and Maintenance	3
Liquefied Petroleum Gas	5
Natural Gas	5

#### **REFERENCE LIST**

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. Except for Code books, you can base your answers on later editions of references as they become available. For Code questions, the examinations will be based only on the edition of the Code book that is listed.

Candidates may use a silent, nonprinting, non-programmable calculator in the examination center.

This examination is OPEN BOOK.

The following reference materials <u>are</u> allowed in the examination center:

- International Mechanical Code or International Mechanical Code Commentary, 2009, 2012, or 2015 Editions, International Code Council Inc., 800-786-4452, <a href="http://shop.iccsafe.org">http://shop.iccsafe.org</a>
- International Fuel Gas Code, 2012, International Code Council Inc., 800-786-4452, http://shop.iccsafe.org
- NFPA 31: Standard for the Installation of Oil-Burning Equipment. (2006 or 2011). National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org
- NFPA 54: National Fuel Gas Code or National Fuel Gas Code Handbook, 2012, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org - NOTE: You MUST use the longest length method for all gas pipe sizing questions.

 NFPA 58: Liquefied Petroleum Gas Code, 2014, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org

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The following reference material is recommended for study, but is <u>not</u> allowed in the examination center:

 Residential Oil Burners. 3rd Edition, 2007, Herb Weinberger, Delmar/Thomson Learning, P.O. Box 6904, Florence, KY 41022-6904.

#### B-2 LIMITED GAS AND OIL BURNER JOURNEYPERSON

#### **SCOPE OF WORK**

The holder of this license may perform only work of installing, servicing and repairing of gas or oil for domestic and light commercial installations as so defined in subsection (i) and only while in the employ of a contractor licensed for such work.

# of Questions	Minimum Passing Score	Time Allowed
40	70%	1 ½ Hours

#### **CONTENT OUTLINE**

Subject Area	# of Items
Chimneys, Flues and Vents	2
Controls	2
Equipment	2
Fuel Gas Systems	8
General Knowledge	4
Oil Burners	6
Piping and Valves	4
Testing and Maintenance	2
Liquefied Petroleum Gas	5
Natural Gas	5

#### **REFERENCE LIST**

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. Except for Code books, you can base your answers on later editions of references as they become

available. For Code questions, the examinations will be based **only** on the edition of the Code book that is listed.

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- International Mechanical Code or International Mechanical Code Commentary, 2009, 2012, or 2015 Editions, International Code Council Inc., 800-786-4452, http://shop.iccsafe.org
- International Fuel Gas Code, 2012, International Code Council Inc., 800-786-4452, <a href="http://shop.iccsafe.org">http://shop.iccsafe.org</a>
- NFPA 31: Standard for the Installation of Oil-Burning Equipment. (2006 or 2011). National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org
- NFPA 54: National Fuel Gas Code or National Fuel Gas Code Handbook, 2012, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, <a href="https://www.nfpa.org">www.nfpa.org</a> NOTE: You MUST use the longest length method for all gas pipe sizing questions.
- NFPA 58: Liquefied Petroleum Gas Code, 2014, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org

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The following reference material is recommended for study, but is <u>not</u> allowed in the examination center:

 Residential Oil Burners. 3<sup>rd</sup> Edition, 2007, Herb Weinberger, Delmar/Thomson Learning, P.O. Box 6904, Florence, KY 41022-6904.

#### **B-3** LIMITED GAS AND OIL CONTRA CTOR

#### SCOPE OF WORK

The holder of this license may perform the installing, servicing and repairing of any gas or oil fired burners. The requirements to qualify for this license examination shall be two (2) years as a properly licensed journeyperson or equivalent experience and training.

# of Questions	Minimum Passing Score	Time Allowed
40	70%	1 ½ Hours

Subject Area	# of Items
Chimneys, Flues and Vents	2
General Knowledge	6
Controls	4
Piping and Valves	4
Equipment	4
Testing and Maintenance	3
Fuel Gas Systems	10
Oil Burners	7

#### **REFERENCE LIST**

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. Except for Code books, you can base your answers on later editions of references as they become available. For Code questions, the examinations will be based only on the edition of the Code book that is listed. Candidates may use a silent, nonprinting, non-programmable calculator in the examination center.

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- International Mechanical Code or International Mechanical Code Commentary, 2009, 2012, or 2015 Editions, International Code Council Inc., 800-786-4452, http://shop.iccsafe.org
- NFPA 31: Standard for the Installation of Oil-Burning Equipment. (2006 or 2011). National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org
- NFPA 54: National Fuel Gas Code or National Fuel Gas Code Handbook, 2012, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, <a href="https://www.nfpa.org">www.nfpa.org</a> NOTE: You MUST use the longest length method for all gas pipe sizing questions.
- NFPA 58: Liquefied Petroleum Gas Code, 2014, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org

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- Residential Oil Burners. 3<sup>rd</sup> Edition, 2007, Herb Weinberger, Delmar/Thomson Learning, P.O. Box 6904, Florence, KY 41022-6904.
- Steam Plant Operation, 9th edition, 2012, Lammers, Woodruff, Lammers, McGraw-Hill, (877) 833-5524, Fax (614) 759-3823, www.mhprofessional.com

#### **B-4** LIMITED GAS AND OIL JOURNEYPERSON

#### **SCOPE OF WORK**

The holder of this license may perform the installing, servicing and repairing of any gas or oil fired burner and only while in the employ of a contractor licensed for such work. The requirements to qualify for this license examination shall be the completion of a registered apprenticeship program or equivalent experience and training.

# of Questions	Minimum Passing Score	Time Allowed
30	70%	1 Hour

#### **CONTENT OUTLINE**

Subject Area	# of Items
Chimneys, Flues and Vents	2
General Knowledge	4
Controls	2
Piping and Valves	4
Equipment	2
Testing and Maintenance	2
Fuel Gas Systems	8
Oil Burners	6

#### REFERENCE LIST

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. Except for Code books, you can base your answers on later editions of references as they become available. For Code questions, the examinations will be based only on the edition of the Code book that is listed. Candidates may use a silent, nonprinting, non-programmable calculator in the examination center.

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- NFPA 31: Standard for the Installation of Oil-Burning Equipment. (2006 or 2011). National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org

- NFPA 54: National Fuel Gas Code or National Fuel Gas Code Handbook, 2012, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, <a href="https://www.nfpa.org">www.nfpa.org</a> NOTE: You <a href="must">must</a> use the longest length method for all gas pipe sizing questions.
- NFPA 58: Liquefied Petroleum Gas Code, 2014, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org

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- Residential Oil Burners. 3<sup>rd</sup> Edition, 2007, Herb Weinberger, Delmar/Thomson Learning, P.O. Box 6904, Florence, KY 41022-6904.
- Steam Plant Operation, 9th edition, 2012, Lammers, Woodruff, Lammers, McGraw-Hill, (877) 833-5524, Fax (614) 759-3823, www.mhprofessional.com

### BM-1 BOILER MAKER CONTRACTOR (Power Industry License)

#### **SCOPE OF WORK**

The holder of such license may install, erect, replace, repair or alter breeching exhaust and inlet air systems at electric generation facilities, including, but not limited to, cogeneration plants, bio-mass facilities, blast furnaces, combined cycle facilities, fossil fuel, gas and hydro power facilities, incinerators and nuclear power facilities, and shall include on site fabrication of boiler and pressure vessels under ASME Standards.

# of Questions	% Required to Pass	Time Allowed
40	70	90 minutes

#### **CONTENT OUTLINE**

Subject Area	# of Items
Welding	10
Pipe Fabrication	4
Boiler Design	5
Quality Control	3
Rigging	6
Pressure and Non-Pressure components	8
Safety	4

#### REFERENCE LIST

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. Except for Code books, you can base your answers on later editions of references as they become available. For Code questions, the examinations will be based only on the edition of the Code book that is listed.

Candidates may use a silent, nonprinting, non-programmable calculator in the examination center.

This examination is OPEN BOOK.

The following reference materials  $\underline{are}$  allowed in the examination center:

- Modern Welding, 2013, 11<sup>th</sup> Edition, Althouse/Turnquist/ Bowditch/Bowditch/Bowditch, The Goodheart-Willcox Company, Inc., 18604 West Creek Dr., Tinley Park, IL 60477-6243, (800) 323-0440, http://www.g-w.com/
- Code of Federal Regulations 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or <a href="https://www.osha.gov/pls/oshaweb/owastand.display\_st\_andard\_group?p\_toc\_level=1&p\_part\_number=1926">https://www.osha.gov/pls/oshaweb/owastand.display\_st\_andard\_group?p\_toc\_level=1&p\_part\_number=1926</a>
   OR
  - Code of Federal Regulations 29 CFR Part 1926
    Selections by PSI, with latest available amendments,
    (866) 589-3088, <a href="www.psionlinestore.com">www.psionlinestore.com</a> (See order form at the end of the Candidate Information Bulletin.)
- Pipe Welding Procedures, Rampaul, H. (2<sup>nd</sup> Ed., 2002).
   Industrial Press, Inc., 200 Madison Avenue, New York, NY 10016, (888) 528-7852, www.industrialpress.com.
- Welding Technology Fundamentals, 3rd Edition, Kevin E. Bowditch, William A. Bowditch.
- Welding Print Reading, 5th Edition, W. Richard Polanin, John R. Walker.
- Oxyfuel Gas Welding, 6th Edition, Kevin E. Bowditch, Mark A. Bowditch.
- Arc Welding, 7th Edition, W. Richard Polanin, John R. Walker.

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The following reference material is recommended for study, but is not allowed in the examination center:

 Boilermaking Level Three, 2001, NCCER Contren Learning Series, (800) 922-0579, www.crafttraining.com, or Prentice-Hall PTR, (800) 382-3419, www.phdirect.com

psi www.psiexams.com

- Boilermaking Level Four, 2002, NCCER Contren Learning Series, (800) 922-0579, www.crafttraining.com, or Prentice-Hall PTR, (800) 382-3419, www.phdirect.com.
- Steam Plant Operation, 9th edition, 2012, Lammers, Woodruff, Lammers, McGraw-Hill, (877) 833-5524, Fax (614) 759-3823, www.mhprofessional.com

### BM-2 BOILER MAKER JOURNEYPERSON (POWER INDUSTRY LICENSE)

#### **SCOPE OF WORK**

The holder of such license may install, erect, replace, repair or alter breeching exhaust and inlet air systems at electric generation facilities, including, but not limited to, cogeneration plants, bio-mass facilities, blast furnaces, combined cycle facilities, fossil fuel, gas and hydro power facilities, incinerators and nuclear power facilities, and shall include on site fabrication of boiler and pressure vessels under ASME Standards. The holder of such license may only perform such work while in the employ of a contractor licensed for such work.

# of Questions	% Required to Pass	Time Allowed
30	70	60 minutes

#### **CONTENT OUTLINE**

Subject Area	# of Items
Welding	8
Pipe Fabrication	3
Boiler Design	3
Quality Control	2
Rigging	5
Pressure and Non-Pressure components	6
Safety	3

#### **REFERENCE LIST**

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. Except for Code books, you can base your answers on later editions of references as they become available. For Code questions, the examinations will be based only on the edition of the Code book that is listed.

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 Modern Welding, 2013, 11<sup>th</sup> Edition, Althouse/Turnquist/ Bowditch/Bowditch/Bowditch, The Goodheart-Willcox Company, Inc., 18604 West Creek Dr., Tinley Park, IL 60477-6243, (800) 323-0440, http://www.g-w.com/

- Code of Federal Regulations 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or <a href="https://www.osha.gov/pls/oshaweb/owastand.display\_st\_andard\_group?p\_toc\_level=1&p\_part\_number=1926">https://www.osha.gov/pls/oshaweb/owastand.display\_st\_andard\_group?p\_toc\_level=1&p\_part\_number=1926</a>
  OR
  - Code of Federal Regulations 29 CFR Part 1926 Selections by PSI, with latest available amendments, (866) 589-3088, <a href="www.psionlinestore.com">www.psionlinestore.com</a> (See order form at the end of the Candidate Information Bulletin.)
- Pipe Welding Procedures, Rampaul, H. (2<sup>nd</sup> Ed., 2002).
   Industrial Press, Inc., 200 Madison Avenue, New York, NY 10016, (888) 528-7852, www.industrialpress.com.
- Welding Technology Fundamentals, 3rd Edition, Kevin E. Bowditch, William A. Bowditch.
- Welding Print Reading, 5th Edition, W. Richard Polanin, John R. Walker.
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- Boilermaking Level Four, 2002, NCCER Contren Learning Series, (800) 922-0579, www.crafttraining.com, or Prentice-Hall PTR, (800) 382-3419, www.phdirect.com.
- Steam Plant Operation, 9th edition, 2012, Lammers, Woodruff, Lammers, McGraw-Hill, (877) 833-5524, Fax (614) 759-3823, www.mhprofessional.com

### D-1 LIMITED WARM AIR, AIR CONDITIONING AND REFRIGERATION SYSTEM CONTRACTOR

#### SCOPE OF WORK

The holder of this license may perform only work limited to the installation, repair, replacement, maintenance or alteration of any warm air, air conditioning and refrigeration system, including necessary piping for the conveyance of heating or cooling media and associated pumping equipment. This license does not include the installation or servicing of oil burners of any size. The requirements to qualify for this license examination shall be two (2) years as a properly licensed journeyperson or equivalent experience and training.



# of Questions	Minimum Passing Score	Time Allowed
70	70%	3 Hours

Subject Area	# of Items
Insulation	1
Hangers and Supports	2
Sound, Vibration and Seismic Control	1
Heating and Cooling Principles	5
Refrigerants and Refrigeration	8
Testing, Adjusting and Balancing	2
Controls	5
Machine Room	1
A/C and Heat Pump Equipment	5
Furnaces and Heaters	4
Chimneys, Flues and Vents	2
Combustion Air	2
Fuel Gas Systems	10
Ducts	6
Chillers	3
Ventilation and Exhaust	3
Safety	4
Load Calculations	6

#### **REFERENCE LIST**

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- International Mechanical Code or International Mechanical Code Commentary, 2009, 2012, or 2015 Editions, International Code Council Inc., 800-786-4452, http://shop.iccsafe.org
- Manual J Residential Load Calcs, reprinted 2006, Eighth Full Edition, Air Conditioning Contractors of America (ACCA), 2800 Shirlington Road, Suite 300. Arlington, VA 22206, (703) 575-4477, www.acca.org
- Manual N Load Calculation for Small Commercial Buildings, Fifth Edition, 2008, Air Conditioning Contractors of America (ACCA), 2800 Shirlington Road, Suite 300, Arlington, VA 22206, (703) 575-4477, www.acca.org
- NFPA 54: National Fuel Gas Code or National Fuel Gas Code Handbook, 2012, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, <a href="https://www.nfpa.org">www.nfpa.org</a> NOTE: You MUST use the longest length method for all gas pipe sizing questions.

- Code of Federal Regulations 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or <a href="https://www.osha.gov/pls/oshaweb/owastand.display\_st\_andard\_group?p\_toc\_level=1&p\_part\_number=1926">https://www.osha.gov/pls/oshaweb/owastand.display\_st\_andard\_group?p\_toc\_level=1&p\_part\_number=1926</a>
   OR
  - Code of Federal Regulations 29 CFR Part 1926 Selections by PSI, with latest available amendments, (866) 589-3088, <u>www.psionlinestore.com</u> (See order form at the end of the Candidate Information Bulletin.)
- Modern Refrigeration and Air Conditioning, 19<sup>th</sup> or 20<sup>th</sup> Edition, Althouse, Turnquist, & Bracciano, Goodheart-Willcox Publisher, 800-323-0440, www.g-w.com/
- ACCA Ductulator, Air Conditioning Contractors of America, 2800 Shirlington Road, Suite 300, Arlington, VA 22206, (703) 575-4477, www.acca.org
- HVAC Duct Construction Standards, 2005, 3rd Edition, SMACNA, (703) 803-2980, www.smacna.org
- NFPA 58: Liquefied Petroleum Gas Code, 2014, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org

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### D-2 LIMITED WARM AIR, AIR CONDITIONING AND REFRIGERATION SYSTEM JOURNEYPERSON

#### SCOPE OF WORK

The holder of this license may perform only work limited to the installation, repair, replacement, maintenance or alteration of any warm air, air conditioning and refrigeration system, including necessary piping for conveyance of heating or cooling media and associated pumping equipment and only while in the employ of a contractor licensed for such work. This license does not cover the installation or servicing of oil burners of any size. The requirements to qualify for this license examination shall be the completion of a registered apprenticeship program or equivalent experience and training.

# of Questions	Minimum Passing Score	Time Allowed
60	70%	2 Hours

Subject Area	# of Items
Insulation	1
Hangers and Supports	2
Sound, Vibration and Seismic Control	1
Heating and Cooling Principles	5
Refrigerants and Refrigeration	8
Testing, Adjusting and Balancing	1
Controls	3
Machine Room	1
A/C and Heat Pump Equipment	5
Furnaces and Heaters	4
Chimneys, Flues and Vents	2
Combustion Air	2
Fuel Gas Systems	10
Ducts	6
Chillers	2
Ventilation and Exhaust	3
Safety	4

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- NFPA 54: National Fuel Gas Code or National Fuel Gas Code Handbook, 2012, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, <a href="https://www.nfpa.org">www.nfpa.org</a> NOTE: You MUST use the longest length method for all gas pipe sizing questions.) <a href="https://www.osha.gov/pls/oshaweb/owastand.display\_standard\_group?p\_toc\_level=1&p\_part\_number=1926">https://www.osha.gov/pls/oshaweb/owastand.display\_standard\_group?p\_toc\_level=1&p\_part\_number=1926</a> OR

Code of Federal Regulations - 29 CFR Part 1926 Selections by PSI, with latest available amendments, (866) 589-3088, www.psionlinestore.com (See order form at the end of the Candidate Information Bulletin.)

- Modern Refrigeration and Air Conditioning, 19<sup>th</sup> or 20<sup>th</sup> Edition, Althouse, Turnquist, & Bracciano, Goodheart-Willcox Publisher, 800-323-0440, www.g-w.com/
- ACCA Ductulator, Air Conditioning Contractors of America, 2800 Shirlington Road, Suite 300, Arlington, VA 22206, (703) 575-4477, www.acca.org
- HVAC Duct Construction Standards, 2005, 3rd Edition, SMACNA, (703) 803-2980, www.smacna.org

 NFPA 58: Liquefied Petroleum Gas Code, 2014, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org

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#### **D-3 LIMITED HEATING-COOLING CONTRACTOR**

#### **SCOPE OF WORK**

The holder of this license may perform only work limited to the installation, repair, replacement, maintenance or alteration of all refrigeration systems included in food storage, air conditioning or special process systems. The requirements to qualify for this license examination shall be two (2) years as a properly licensed journeyperson or equivalent experience and training.

# of Questions	Minimum Passing Score	Time Allowed
50	70%	2 Hours

#### **CONTENT OUTLINE**

Subject Area	# of Items
Refrigeration and Refrigerants	15
Piping and Tubing	6
Components	10
Controls, Valves and Wiring	9
Tests, Inspection and Maintenance	6
Safety	4

#### REFERENCE LIST

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. Except for Code books, you can base your answers on later editions of references as they become available. For Code questions, the examinations will be based only on the edition of the Code book that is listed.

Candidates may use a silent, nonprinting, non-programmable calculator in the examination center.

This examination is OPEN BOOK.



### The following reference materials <u>are</u> allowed in the examination center:

- International Mechanical Code or International Mechanical Code Commentary, 2009, 2012, or 2015 Editions, International Code Council Inc., 800-786-4452, http://shop.iccsafe.org
- Code of Federal Regulations 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or <a href="https://www.osha.gov/pls/oshaweb/owastand.display\_st">https://www.osha.gov/pls/oshaweb/owastand.display\_st</a> andard group?p\_toc\_level=1&p\_part\_number=1926

Code of Federal Regulations - 29 CFR Part 1926 Selections by PSI, with latest available amendments, (866) 589-3088, <a href="www.psionlinestore.com">www.psionlinestore.com</a> (See order form at the end of the Candidate Information Bulletin.)

 Modern Refrigeration and Air Conditioning, 19<sup>th</sup> or 20<sup>th</sup> Edition, Althouse, Turnquist, & Bracciano, Goodheart-Willcox Publisher, 800-323-0440, <u>www.g-w.com/</u>

Candidates are responsible for bringing their own references to the examination center. Reference materials may be highlighted, underlined, annotated, and/or indexed prior to the examination session. However, references may not be written in during the examination session. Any candidate caught writing in the references during the examination will have the references confiscated and will be reported to the department. Furthermore, candidates are not permitted to bring in any additional papers (loose or attached) with their approved references. Any additional materials will be removed from the references and confiscated. References may be tabbed/indexed with permanent tabs only. Temporary tabs, such as Post-It notes, are not allowed and must be removed from the reference before the exam will begin.

#### **D-4 LIMITED HEATING-COOLING JOURNEYPERSON**

#### **SCOPE OF WORK**

The holder of this license may perform only work limited to the installation, repair, replacement, maintenance or alteration of all refrigeration systems included in food storage, air conditioning and special process systems and only while in the employ of a contractor licensed for such work. The requirements to qualify for this license examination shall be the completion of a registered apprenticeship program or equivalent experience and training.

# of Questions	Minimum Passing Score	Time Allowed
40	70%	1 ½ Hours

#### **CONTENT OUTLINE**

Subject Area	# of Items
Refrigeration and Refrigerants	12
Piping and Tubing	5
Components	7
Controls, Valves and Wiring	7
Tests, Inspection and Maintenance	5
Safety	4

#### REFERENCE LIST

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- Code of Federal Regulations 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or <a href="https://www.osha.gov/pls/oshaweb/owastand.display\_standard\_group?p\_toc\_level=1&p\_part\_number=1926">https://www.osha.gov/pls/oshaweb/owastand.display\_standard\_group?p\_toc\_level=1&p\_part\_number=1926</a>
  - Code of Federal Regulations 29 CFR Part 1926 Selections by PSI, with latest available amendments, (866) 589-3088, <a href="www.psionlinestore.com">www.psionlinestore.com</a> (See order form at the end of the Candidate Information Bulletin.)
- Modern Refrigeration and Air Conditioning, 19<sup>th</sup> or 20<sup>th</sup> Edition, Althouse, Turnquist, & Bracciano, Goodheart-Willcox Publisher, 800-323-0440, www.g-w.com/

Candidates are responsible for bringing their own references to the examination center. Reference materials may be highlighted, underlined, annotated, and/or indexed prior to the examination session. However, references may not be written in during the examination session. Any candidate caught writing in the references during the examination will have the references confiscated and will be reported to the department. Furthermore, candidates are not permitted to bring in any additional papers (loose or attached) with their approved references. Any additional materials will be removed from the references and confiscated. References may be tabbed/indexed with permanent tabs only. Temporary tabs, such as Post-It notes, are not allowed and must be removed from the reference before the exam will begin.

### S-1 Unlimited Heating, Piping, and Cooling Contractor

#### **SCOPE OF WORK**

The holder of this license may do all heating, piping and cooling work as defined in section 20-330 of the Connecticut General Statutes. The requirements to qualify for this license examination shall be two (2) years as a properly licensed journeyperson or equivalent experience and training.

# of Questions	% Required to Pass	Time Allowed
80	70	3 hours

Subject Area	# of Items
Insulation	1
Hangers and Supports	2
Sound, Vibration and Seismic Control	1
Heating and Cooling Principles	3
Refrigerants and Refrigeration	5
Testing, Adjusting and Balancing	3
Controls	4
Machine Room	1
A/C and Heat Pump Equipment	3
Furnaces and Heaters	4
Hydronics	6
Chimneys, Flues and Vents	5
Combustion Air	2
Fuel Gas Systems	10
Ducts	6
Chillers	2
Ventilation and Exhaust	2
Safety	4
Oil Burners	6
Load Calculations	7
Boilers	3

#### **REFERENCE LIST**

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. Except for Code books, you can base your answers on later editions of references as they become available. For Code questions, the examinations will be based only on the edition of the Code book that is listed.

Candidates may use a silent, nonprinting, non-programmable calculator in the examination center.

This examination is OPEN BOOK.

### The following reference materials <u>are</u> allowed in the examination center:

- Manual N Load Calculation for Small Commercial Buildings, Fifth Edition, 2008, Air Conditioning Contractors of America (ACCA), 2800 Shirlington Road, Suite 300, Arlington, VA 22206, (703) 575-4477, www.acca.org
- International Mechanical Code or International Mechanical Code Commentary, 2009, 2012, or 2015 Editions, International Code Council Inc., 800-786-4452, http://shop.iccsafe.org
- NFPA 31: Standard for the Installation of Oil-Burning Equipment. (2006 or 2011). National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org
- NFPA 54: National Fuel Gas Code or National Fuel Gas Code Handbook, 2012, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, <a href="https://www.nfpa.org">www.nfpa.org</a> NOTE: You MUST use the longest length method for all gas pipe sizing questions.

- Code of Federal Regulations 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or <a href="https://www.osha.gov/pls/oshaweb/owastand.display\_st\_andard\_group?p\_toc\_level=1&p\_part\_number=1926">https://www.osha.gov/pls/oshaweb/owastand.display\_st\_andard\_group?p\_toc\_level=1&p\_part\_number=1926</a>
  - Code of Federal Regulations 29 CFR Part 1926 Selections by PSI, with latest available amendments, (866) 589-3088, <u>www.psionlinestore.com</u> (See order form at the end of the Candidate Information Bulletin.)
- Modern Refrigeration and Air Conditioning, 19<sup>th</sup> or 20<sup>th</sup> Edition, Althouse, Turnquist, & Bracciano, Goodheart-Willcox Publisher, 800-323-0440, www.g-w.com/
- ACCA Ductulator, Air Conditioning Contractors of America, 2800 Shirlington Road, Suite 300, Arlington, VA 22206, (703) 575-4477, www.acca.org
- HVAC Duct Construction Standards, 2005, 3rd Edition, SMACNA, (703) 803-2980, www.smacna.org
- NFPA 58: Liquefied Petroleum Gas Code, 2014, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org

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The following reference material is recommended for study, but is not allowed in the examination center:

- Modern Hydronic Heating for Residential and Light Commercial Buildings, John Siegenthaler, 2004, 2nd edition, Cengage Learning, 800.354.9706, www.cengage.com
- Residential Oil Burners, 3<sup>rd</sup> Edition, 2007, Herb Weinberger, Delmar/Thomson Learning, P.O. Box 6904, Florence, KY 41022-6904, http://www.delmar.com/delmar.html.
- Steam Plant Operation, 9th edition, 2012, Lammers, Woodruff, Lammers, McGraw-Hill, (877) 833-5524, Fax (614) 759-3823, www.mhprofessional.com

### S-2 Unlimited Heating, Piping, and Cooling Journeyperson

#### **SCOPE OF WORK**

The holder of this license may do all heating, piping and cooling work as so defined only while in the employ of a licensed contractor. The requirements to qualify for this license examination shall be the completion of a registered apprenticeship program or equivalent experience and training.



# of Questions	% Required to Pass	Time Allowed
70	70%	3 hours

Subject Area	# of Items
Insulation	1
Hangers and Supports	2
Sound, Vibration and Seismic Control	1
Heating and Cooling Principles	4
Refrigerants and Refrigeration	5
Testing, Adjusting and Balancing	1
Controls	4
Machine Room	1
A/C and Heat Pump Equipment	3
Furnaces and Heaters	4
Hydronics	6
Chimneys, Flues and Vents	3
Combustion Air	2
Fuel Gas Systems	10
Ducts	6
Chillers	2
Ventilation and Exhaust	2
Safety	4
Oil Burners	6
Boilers	3

#### **REFERENCE LIST**

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. Except for Code books, you can base your answers on later editions of references as they become available. For Code questions, the examinations will be based only on the edition of the Code book that is listed.

Candidates may use a silent, nonprinting, non-programmable calculator in the examination center.

This examination is OPEN BOOK.

The following reference materials <u>are</u> allowed in the examination center:

- International Mechanical Code or International Mechanical Code Commentary, 2009, 2012, or 2015 Editions, International Code Council Inc., 800-786-4452, <a href="http://shop.iccsafe.org">http://shop.iccsafe.org</a>
- NFPA 54: National Fuel Gas Code or National Fuel Gas Code Handbook, 2012, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, <a href="https://www.nfpa.org">www.nfpa.org</a> - NOTE: You MUST use the longest length method for all gas pipe sizing questions.
- NFPA 31: Standard for the Installation of Oil-Burning Equipment. (2006 or 2011). National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org
- Code of Federal Regulations 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or <a href="https://www.osha.gov/pls/oshaweb/owastand.display\_standard\_group?p\_toc\_level=1&p\_part\_number=1926">https://www.osha.gov/pls/oshaweb/owastand.display\_standard\_group?p\_toc\_level=1&p\_part\_number=1926</a>

#### OR

Code of Federal Regulations - 29 CFR Part 1926 Selections by PSI, with latest available amendments, (866) 589-3088, www.psionlinestore.com (See order form at the end of the Candidate Information Bulletin.)

- Modern Refrigeration and Air Conditioning, 19<sup>th</sup> or 20<sup>th</sup> Edition, Althouse, Turnquist, & Bracciano, Goodheart-Willcox Publisher, 800-323-0440, www.g-w.com/
- ACCA Ductulator, Air Conditioning Contractors of America, 2800 Shirlington Road, Suite 300, Arlington, VA 22206, (703) 575-4477, www.acca.org
- HVAC Duct Construction Standards, 2005, 3rd Edition, SMACNA, (703) 803-2980, www.smacna.org
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- Modern Hydronic Heating for Residential and Light Commercial Buildings, John Siegenthaler, 2004, 2nd edition, Cengage Learning, 800.354.9706, www.cengage.com
- Residential Oil Burners, 3<sup>rd</sup> Edition, 2007, Herb Weinberger, Delmar/Thomson Learning, P.O. Box 6904, Florence, KY 41022-6904, http://www.delmar.com/delmar.html
- Steam Plant Operation, 9th edition, 2012, Lammers, Woodruff, Lammers, McGraw-Hill, (877) 833-5524, Fax (614) 759-3823, www.mhprofessional.com

### S-3 LIMITED HEATING, COOLING AND PIPING CONTRACTOR

#### **SCOPE OF WORK**

The holder of this license may perform the installation, repair, replacement, maintenance or alteration of any apparatus of piping, appliances, devices or accessories for heating systems, boilers, including apparatus and piping for the generation or conveyance of steam and associated pumping equipment and oil burner installation and servicing (excluding sheet metal work, air conditioning and refrigeration systems). This license also covers the installation of hot, chilled and condenser water, as well as steam piping in air conditioning systems. The requirements to qualify for this license examination shall be two (2) years as a properly licensed journeyperson or equivalent experience and training.

# of Questions	% Required to Pass	Time Allowed
60	70%	2 hours

Subject Area	# of Items
Chimneys, Flues and Vents	2
Insulation	1
General Knowledge	5
Controls	3
Hydronics	5
Fuel Gas Systems	11
Oil Burners	7
Piping	6
Boilers	5
Combustion Air	2
Storage Tanks	3
Ducts	3
Heating and Chilled Water Equipment	3
OSHA Safety	4

#### **REFERENCE LIST**

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Candidates may use a silent, nonprinting, non-programmable calculator in the examination center.

This examination is OPEN BOOK.

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- NFPA 54: National Fuel Gas Code or National Fuel Gas Code Handbook, 2012, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, <a href="https://www.nfpa.org">www.nfpa.org</a> NOTE: You MUST use the longest length method for all gas pipe sizing questions.
- NFPA 31: Standard for the Installation of Oil-Burning Equipment. (2006 or 2011). National Fire Protection Association, 1 Batterymarch, Quincy, MA 02269-9101, www.nfpa.org.
- Modern Refrigeration and Air Conditioning, 19<sup>th</sup> or 20<sup>th</sup> Edition, Althouse, Turnquist, & Bracciano, Goodheart-Willcox Publisher, 800-323-0440, <a href="https://www.g-w.com/">www.g-w.com/</a>
- Code of Federal Regulations 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or <a href="https://www.osha.gov/pls/oshaweb/owastand.display\_st">https://www.osha.gov/pls/oshaweb/owastand.display\_st</a> andard\_group?p\_toc\_level=1&p\_part\_number=1926

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- Modern Hydronic Heating for Residential and Light Commercial Buildings, John Siegenthaler, 2004, 2nd edition, Cengage Learning, 800.354.9706, www.cengage.com
- Steam Plant Operation, 9th edition, 2012, Lammers, Woodruff, Lammers, McGraw-Hill, (877) 833-5524, Fax (614) 759-3823, www.mhprofessional.com

### S-4 LIMITED HEATING, COOLING, AND PIPING (JOURNEYPERSON)

#### **SCOPE OF WORK**

The holder of this license may perform the installation, repair, replacement, maintenance or alteration of any apparatus for piping, appliances, devices or accessories for heating systems, boilers, including apparatus and piping for the generation or conveyance of steam and associated pumping equipment and oil burner installation and servicing (excluding sheet metal work, air conditioning and refrigeration systems) and only while ill the employ of a contractor licensed for such work. This license also covers the installation of hot, chilled and condenser water, as well as steam piping-in air conditioning systems. The requirements to qualify for this license examination shall be the completion of a registered apprenticeship program or equivalent experience and training.

# of Questions	% Required to Pass	Time Allowed
50	70	2 hours



Subject Area	# of Items
Chimneys, Flues and Vents	2
Insulation	1
General Knowledge	2
Controls	3
Hydronics	7
Fuel Gas Systems	8
Oil Burners	6
Piping	5
Boilers	3
Combustion Air	2
Storage Tanks	2
Ducts	3
Heating and Chilled Water Equipment	3
OSHA Safety	3

#### REFERENCE LIST

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. Except for Code books, you can base your answers on later editions of references as they become available. For Code questions, the examinations will be based only on the edition of the Code book that is listed.

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- NFPA 54: National Fuel Gas Code or National Fuel Gas Code Handbook, 2012, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org - NOTE: You MUST use the longest length method for all gas pipe sizing questions.
- NFPA 31: Standard for the Installation of Oil-Burning Equipment. (2006 or 2011). National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org
- Modern Refrigeration and Air Conditioning, 19<sup>th</sup> or 20<sup>th</sup> Edition, Althouse, Turnquist, & Bracciano, Goodheart-Willcox Publisher, 800-323-0440, www.g-w.com/
- Code of Federal Regulations 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or <a href="https://www.osha.gov/pls/oshaweb/owastand.display\_standard\_group?p\_toc\_level=1&p\_part\_number=1926">https://www.osha.gov/pls/oshaweb/owastand.display\_standard\_group?p\_toc\_level=1&p\_part\_number=1926</a>
   OR

Code of Federal Regulations - 29 CFR Part 1926 Selections by PSI, with latest available amendments, (866) 589-3088, www.psionlinestore.com (See order form at the end of the Candidate Information Bulletin.)  NFPA 58: Liquefied Petroleum Gas Code, 2014, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org

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The following reference material is recommended for study, but is <u>not</u> allowed in the examination center:

- Modern Hydronic Heating for Residential and Light Commercial Buildings, John Siegenthaler, 2004, 2nd edition, Cengage Learning, 800.354.9706, www.cengage.com
- Residential Oil Burners, Third Edition, 2007, Herb Weinberger, Delmar/Thomson Learning, P.O. Box 6904, Florence, KY 41022-6904, (800) 347-7707, http://www.delmar.com/delmar.html.
- Steam Plant Operation, 9th edition, 2012, Lammers, Woodruff, Lammers, McGraw-Hill, (877) 833-5524, Fax (614) 759-3823, www.mhprofessional.com

### S-5 LIMITED HEATING, HOT WATER, AND STEAM CONTRACTOR

#### **SCOPE OF WORK**

The holder of this license may perform only work limited to hot water or steam heating systems for buildings not over three stories high with total heating load not exceeding 500,000 BTU's and steam pressure not exceeding 15 pounds, but does not cover the installation or servicing of oil burners of any size.

# of Questions	Minimum Passing Score	Time Allowed
40	70%	1 ½ Hours

#### **CONTENT OUTLINE**

Subject Area	# of Items
Insulation	1
General Knowledge	4
Controls	5
Equipment	8
Piping	17
Maintenance and Testing	5

#### **REFERENCE LIST**

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. Except for Code books, you can base your answers on later editions of references as they become available. For Code questions, the examinations will be based only on the edition of the Code book that is listed.

Candidates may use a silent, nonprinting, non-programmable calculator in the examination center.

This examination is OPEN BOOK.

#### The following reference material is allowed in the examination center:

- International Mechanical Code or International Mechanical Code Commentary, 2009, 2012, or 2015 Editions, International Code Council Inc., 800-786-4452, http://shop.iccsafe.org
- Modern Refrigeration and Air Conditioning, 19th or 20th Edition, Althouse, Turnquist, & Bracciano, Goodheart-Willcox Publisher, 800-323-0440, www.g-w.com/

Candidates are responsible for bringing their own references to the examination center. Reference materials may be highlighted, underlined, annotated, and/or indexed prior to the examination session. However, references may not be written in during the examination session. Any candidate caught writing in the references during the examination will have the references confiscated and will be reported to the department. Furthermore, candidates are not permitted to bring in any additional papers (loose or attached) with their approved references. Any additional materials will be removed from the references and confiscated. References may be tabbed/indexed with permanent tabs only. Temporary tabs, such as Post-It notes, are not allowed and must be removed from the reference before the exam will begin.

#### The following reference material is recommended for study, but is <u>not</u> allowed in the examination center:

- Modern Hydronic Heating for Residential and Light Commercial Buildings, John Siegenthaler, 2004, 2nd edition, Cengage Learning, 800.354.9706, www.cengage.com
- Carrier System Design Manual (Part 3, Piping Design), Carrier Air Conditioning Company, P.O. Box 4808 Syracuse, NY, (800) 227-7437.
- Pipefitter's Handbook. Lindsey, F.R., (3rd Ed., 1967). Industrial Press, Inc., 200 Madison Avenue, New York, NY 10016, (888) 528-7852.

#### S-6 LIMITED HEATING, HOT WATER, AND STEAM (JOURNEYPERSON)

#### **SCOPE OF WORK**

The holder of this license may perform the following work, but only while in the employ of a contractor licensed for such work. The holder of this license may perform only work limited to hot water or steam heating systems for buildings not over three stories high with total heating load not exceeding 500,000 BTU's and steam pressure not exceeding 15 pounds, but does not cover the installation or servicing of oil burners of any size.

# of Questions	Minimum Passing Score	Time Allowed
40	70%	1 ½ Hours

#### **CONTENT OUTLINE**

Subject Area	# of Items
Insulation	1
General Knowledge	4
Controls	5
Equipment	8
Piping	17
Maintenance and Testing	5

#### REFERENCE LIST

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. Except for Code books, you can base your answers on later editions of references as they become available. For Code questions, the examinations will be based only on the edition of the Code book that is listed.

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This examination is OPEN BOOK.

#### The following reference material is allowed in the examination center:

- International Mechanical Code or International Mechanical Code Commentary, 2009, 2012, or 2015 Editions, International Code Council Inc., 800-786-4452, http://shop.iccsafe.org
- Modern Refrigeration and Air Conditioning, 19th or 20th Edition, Althouse, Turnquist, & Bracciano, Goodheart-Willcox Publisher, 800-323-0440, www.g-w.com/

Candidates are responsible for bringing their own references to the examination center. Reference materials may be highlighted, underlined, annotated, and/or indexed prior to the examination session. However, references may not be written in during the examination session. Any candidate caught writing in the references during the examination will have the references confiscated and will be reported to the department. Furthermore, candidates are not permitted to bring in any additional papers (loose or attached) with their approved references. Any additional materials will be

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removed from the references and confiscated. References may be tabbed/indexed with permanent tabs only. <u>Temporary tabs</u>, such as Post-It notes, are not allowed and must be removed from the reference before the exam will begin.

The following reference material is recommended for study, but is <u>not</u> allowed in the examination center:

- Modern Hydronic Heating for Residential and Light Commercial Buildings, John Siegenthaler, 2004, 2nd edition, Cengage Learning, 800.354.9706, www.cengage.com
- Carrier System Design Manual (Part 3, Piping Design), Carrier Air Conditioning Company, P.O. Box 4808 Syracuse, NY, (800) 227-7437.
- Pipefitter's Handbook. Lindsey, F.R.. (3<sup>rd</sup> Ed., 1967).
   Industrial Press, Inc., 200 Madison Avenue, New York, NY 10016, (888) 5288-7852, www.industrialpress.com

#### S-7 LIMITED CONTRACTOR

#### **SCOPE OF WORK**

The holder of this license may perform only work limited to hot water or steam heating systems for buildings not over three stories high with a total heating load not exceeding 500,000 BTU's and steam pressure not exceeding fifteen pounds. This license also covers the servicing and installation of oil burners handling up to five gallons per hour, as well as gas burners and gas piping for the work covered by this license. The requirements to qualify for this license examination shall be two (2) years as a properly licensed journeyperson or equivalent experience and training.

# of Questions	Minimum Passing Score	Time Allowed
60	70%	2 Hours

#### **CONTENT OUTLINE**

Subject Area	# of Items
Chimneys, Flues and Vents	5
Insulation	2
General Knowledge	6
Controls	4
Hydronics	10
Fuel Gas Systems	10
Oil Burners	6
Piping	6
Boilers	2
Maintenance and Testing	4
Combustion Air	2

#### **REFERENCE LIST**

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. Except for Code books, you can base your answers on later editions of references as they become available. For Code questions, the examinations will be based only on the edition of the Code book that is listed.

Candidates may use a silent, nonprinting, non-programmable calculator in the examination center.

This examination is OPEN BOOK.

The following reference materials <u>are</u> allowed in the examination center:

- International Mechanical Code or International Mechanical Code Commentary, 2009, 2012, or 2015 Editions, International Code Council Inc., 800-786-4452, http://shop.iccsafe.org
- NFPA 31: Standard for the Installation of Oil-Burning Equipment. (2006 or 2011). National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org
- NFPA 54: National Fuel Gas Code or National Fuel Gas Code Handbook, 2012, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, <a href="https://www.nfpa.org">www.nfpa.org</a> NOTE: You MUST use the longest length method for all gas pipe sizing questions.
- Modern Refrigeration and Air Conditioning, 19<sup>th</sup> or 20<sup>th</sup> Edition, Althouse, Turnquist, & Bracciano, Goodheart-Willcox Publisher, 800-323-0440, www.g-w.com/
- NFPA 58: Liquefied Petroleum Gas Code, 2014, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org

Candidates are responsible for bringing their own references to the examination center. Reference materials may be highlighted, underlined, annotated, and/or indexed prior to the examination session. However, references may not be written in during the examination session. Any candidate caught writing in the references during the examination will have the references confiscated and will be reported to the department. Furthermore, candidates are not permitted to bring in any additional papers (loose or attached) with their approved references. Any additional materials will be removed from the references and confiscated. References may be tabbed/indexed with permanent tabs only. Temporary tabs, such as Post-It notes, are not allowed and must be removed from the reference before the exam will begin.

The following reference material is recommended for study, but is <u>not</u> allowed in the examination center:

- Residential Oil Burners, Weinberger, Herb. 3<sup>rd</sup> Edition, 2007, Delmar/Thomson Learning, P.O. Box 6904, Florence, KY 41022-6904, (800) 347-7707, www.delmarlearning.com/.
- Pipefitter's Handbook. Lindsey, F.R.. (3<sup>rd</sup> Ed., 1967). Industrial Press, Inc., 200 Madison Avenue, New York, NY 10016, (888) 5288-7852
- Modern Hydronic Heating for Residential and Light Commercial Buildings, John Siegenthaler, 2004, 2nd edition, Cengage Learning, 800.354.9706, www.cengage.com

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#### **S-8 LIMITED JOURNEYPERSON**

#### **SCOPE OF WORK**

The holder of this license may perform only work limited to hot water or steam heating systems for buildings not over three stories high with a total heating load not exceeding 500,000 BTU's and steam pressure not exceeding fifteen pounds and only while in the employ of a contractor licensed for such work. Also covered by this license is the servicing and installation of oil burners handling up to five gallons per hour, as well as gas burners and gas piping for work covered by this license. The requirements to qualify for this license examination shall be the completion of a registered apprenticeship program or equivalent experience and training.

# of Questions	Minimum Passing Score	Time Allowed
50	70%	2 Hours

#### **CONTENT OUTLINE**

Subject Area	# of Items
Chimneys, Flues and Vents	4
Insulation	2
General Knowledge	6
Controls	4
Hydronics	7
Fuel Gas Systems	7
Oil Burners	4
Piping	6
Boilers	2
Maintenance and Testing	4
Combustion Air	2
Storage Tanks	2

#### **REFERENCE LIST**

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. Except for Code books, you can base your answers on later editions of references as they become available. For Code questions, the examinations will be based only on the edition of the Code book that is listed.

Candidates may use a silent, nonprinting, non-programmable calculator in the examination center.

This examination is OPEN BOOK.

The following reference materials <u>are</u> allowed in the examination center:

- International Mechanical Code or International Mechanical Code Commentary, 2009, 2012, or 2015 Editions, International Code Council Inc., 800-786-4452, http://shop.iccsafe.org
- NFPA 31: Standard for the Installation of Oil-Burning Equipment. (2006 or 2011). National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org

- NFPA 54: National Fuel Gas Code or National Fuel Gas Code Handbook, 2012, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, <a href="https://www.nfpa.org">www.nfpa.org</a> NOTE: You MUST use the longest length method for all gas pipe sizing questions.
- Modern Refrigeration and Air Conditioning, 19<sup>th</sup> or 20<sup>th</sup> Edition, Althouse, Turnquist, & Bracciano, Goodheart-Willcox Publisher, 18604 West Creek Drive, Tinley Park, IL 60477-6243, 800-323-0440, www.g-w.com
- NFPA 58: Liquefied Petroleum Gas Code, 2014, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org

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- Residential Oil Burners, Weinberger, Herb. 3<sup>rd</sup> Edition, 2007, Delmar/Thomson Learning P.O. Box 6904, Florence, KY 41022-6904, (800) 347-7707, www.delmarlearning.com.
- Pipefitter's Handbook, Lindsey, F.R. (3<sup>rd</sup> Ed., 1967). Industrial Press, Inc., 200 Madison Avenue, New York, NY 10016, (888) 5288-7852.
- Modern Hydronic Heating for Residential and Light Commercial Buildings, John Siegenthaler, 2004, 2nd edition, Cengage Learning, 800.354.9706, www.cengage.com

#### S-9 LIMITED HEATING COOLING CONTRACTOR

#### **SCOPE OF WORK**

The holder of this license may perform only work limited to hot water or steam heating systems for buildings not over three stories high with total heating load not exceeding 500,000 BTU's, steam pressure not exceeding fifteen pounds, and/or cooling installations up to 35 tons per systems. This license also covers the installation or servicing of oil burners handling up to five gallons per hour as well as LP gas supplied by gas containers and/or natural gas piping for work covered by this limited license. The requirements to qualify for this license examination shall be two (2) years as a properly licensed journeyperson or equivalent experience and training.

# of Questions	% Required to Pass	Time Allowed
80	70%	3 hours



Subject Area	# of Items
Insulation	2
Hangers and Supports	3
Sound, Vibration and Seismic Control	1
Heating and Cooling Principles	3
Refrigerants and Refrigeration	8
Testing, Adjusting, and Balancing	3
Controls	5
A/C and Heat Pump Equipment	5
Furnaces and Heaters	5
Hydronics	2
Chimneys, Flues, and Vents	5
Combustion Air	2
Fuel Gas Systems	10
Ducts	6
Ventilation and Exhaust	3
Safety	4
Oil Burners	6
Load Calculations	7

#### **REFERENCE LIST**

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. Except for Code books, you can base your answers on later editions of references as they become available. For Code questions, the examinations will be based only on the edition of the Code book that is listed.

Candidates may use a silent, nonprinting, non-programmable calculator in the examination center.

This examination is OPEN BOOK.

The following reference materials <u>are</u> allowed in the examination center:

- Manual J Residential Load Calcs, reprinted 2006, Eighth Full Edition, Air Conditioning Contractors of America (ACCA), 2800 Shirlington Road, Suite 300. Arlington, VA 22206, (703) 575-4477, www.acca.org.
- International Mechanical Code or International Mechanical Code Commentary, 2009, 2012, or 2015 Editions, International Code Council Inc., 800-786-4452, http://shop.iccsafe.org
- NFPA 31: Standard for the Installation of Oil-Burning Equipment. (2006 or 2011). National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, <a href="https://www.nfpa.org">www.nfpa.org</a>
- NFPA 54: National Fuel Gas Code or National Fuel Gas Code Handbook, 2012 or 2015, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, <a href="https://www.nfpa.org">www.nfpa.org</a> - NOTE: You MUST use the longest length method for all gas pipe sizing questions.
- ACCA Ductulator, The Air Conditioning Contractors of America, 2800 Shirlingon Road, Suite 300, Arlington, VA 22206, (703) 575-4477, www.acca.org.
- Code of Federal Regulations 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or <a href="https://www.osha.gov/pls/oshaweb/owastand.display\_st">https://www.osha.gov/pls/oshaweb/owastand.display\_st</a> andard\_group?p\_toc\_level=1&p\_part\_number=1926

#### OR

Code of Federal Regulations - 29 CFR Part 1926 Selections by PSI, with latest available amendments, (866) 589-3088, www.psionlinestore.com (See order form at the end of the Candidate Information Bulletin.)

- Modern Refrigeration and Air Conditioning, 19<sup>th</sup> or 20<sup>th</sup> Edition, Althouse, Turnquist, & Bracciano, Goodheart-Willcox Publisher, 800-323-0440, www.g-w.com/
- ACCA Ductulator, Air Conditioning Contractors of America, 2800 Shirlington Road, Suite 300, Arlington, VA 22206, (703) 575-4477, www.acca.org
- HVAC Duct Construction Standards, 2005, 3rd Edition, SMACNA. (703) 803-2980, www.smacna.org
- NFPA 58: Liquefied Petroleum Gas Code, 2014, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org

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The following reference material is recommended for study, but is not allowed in the examination center:

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- Modern Hydronic Heating for Residential and Light Commercial Buildings, John Siegenthaler, 2004, 2nd edition, Cengage Learning, 800.354.9706, www.cengage.com
- Residential Oil Burners, Weinberger, Herb. 3<sup>rd</sup> Edition, 2007, Delmar/Thomson Learning, P.O. Box 6904, Florence, KY 41022-6904, (800) 347-7707, www.delmarlearning.com/.

#### S-10 LIMITED HEATING COOLING JOURNEYPERSON

#### SCOPE OF WORK

The holder of this license may perform work only while in the employ of a licensed contractor and only limited to hot water or steam heating systems for buildings not over three stories high with total heating load not exceeding 500,000 BTU's, steam pressure not exceeding fifteen pounds, and/or cooling installations up to 35 tons per systems. This license also covers the installation or servicing of oil burners handling up to five gallons per hour as well as LP gas supplied by gas containers and/or natural gas piping for work covered by this limited license. The requirements to qualify for this license examination shall be the completion of a registered apprenticeship program or equivalent experience and training.

# of Questions	Minimum Passing Score	Time Allowed
70	70%	180 Minutes

Subject Area	# of
-	Items
Insulation	2
Hangers and Supports	2
Sound, Vibration and Seismic Control	1
Heating and Cooling Principles	3
Refrigerants and Refrigeration	5
Testing, Adjusting, and Balancing	3
Controls	5
A/C and Heat Pump Equipment	5
Furnaces and Heaters	5
Hydronics	4
Chimneys, Flues, and Vents	4
Combustion Air	2
Fuel Gas Systems	10
Ducts	6
Ventilation and Exhaust	3
Safety	4
Oil Burners	6

#### REFERENCE LIST

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This examination is OPEN BOOK.

The following reference materials <u>are</u> allowed in the examination center:

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- NFPA 31: Standard for the Installation of Oil-Burning Equipment. (2006 or 2011). National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org
- NFPA 54: National Fuel Gas Code or National Fuel Gas Code Handbook, 2012 or 2015, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, <a href="https://www.nfpa.org">www.nfpa.org</a> - NOTE: You MUST use the longest length method for all gas pipe sizing questions.
- Code of Federal Regulations 29 CFR Part 1926 (OSHA), with latest available amendments, U.S. Government Printing Office, (866) 512-1800 or <a href="https://www.osha.gov/pls/oshaweb/owastand.display\_st">https://www.osha.gov/pls/oshaweb/owastand.display\_st</a> andard\_group?p\_toc\_level=1&p\_part\_number=1926

#### OR

Code of Federal Regulations - 29 CFR Part 1926 Selections by PSI, with latest available amendments, (866) 589-3088, www.psionlinestore.com (See order form at the end of the Candidate Information Bulletin.)

- Modern Refrigeration and Air Conditioning, 19<sup>th</sup> or 20<sup>th</sup> Edition, Althouse, Turnquist, & Bracciano, Goodheart-Willcox Publisher, 800-323-0440, www.g-w.com/
- ACCA Ductulator, Air Conditioning Contractors of America, 2800 Shirlington Road, Suite 300, Arlington, VA 22206, (703) 575-4477, www.acca.org
- HVAC Duct Construction Standards, 2005, 3rd Edition, SMACNA. (703) 803-2980, www.smacna.org
- NFPA 58: Liquefied Petroleum Gas Code, 2014, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169, (800) 344-3555, www.nfpa.org
- Manual J Residential Load Calcs, reprinted 2006, Eighth Full Edition, Air Conditioning Contractors of America (ACCA), 2800 Shirlington Road, Suite 300. Arlington, VA 22206, (703) 575-4477, www.acca.org

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- Modern Hydronic Heating for Residential and Light Commercial Buildings, John Siegenthaler, 2004, 2nd edition, Cengage Learning, 800.354.9706, www.cengage.com
- Residential Oil Burners, Weinberger, Herb. 3<sup>rd</sup> Edition, 2007, Delmar/Thomson Learning, P.O. Box 6904, Florence, KY 41022-6904, (800) 347-7707, www.delmarlearning.com.

#### LICENSE APPLICATION INSTRUCTIONS

Submit the licensing fee indicated on the passing score report for your trade examination with all passing score reports to the Connecticut Department of Consumer Protection.

Connecticut Department of Consumer Protection Occupational and Professional Licensing Division 450 Columbus Boulevard, Suite 801 Hartford, CT 06103

Phone: 860-713-6135
E-Mail: <u>DCP.OccupationalProfessional@ct.gov</u>
Agency Web site: www.ct.gov/dcp



#### **CERTIFICATE OF ACHIEVEMENT**

Once you have passed the examination(s), you may order a personalized Certificate of Achievement. Please fill out the order form on the following page, and mail this, along with the appropriate fee to PSI.

PSI licensure:certification 3210 E Tropicana Las Vegas, NV 89121 (800) 733-9267 ◆ Fax (702) 932-2666 www.psiexams.com

Once PSI has received your request, the certificate will be mailed out within 2 weeks. Note: the name on the certificate will exactly match the name used on the registration for the examination. Each certificate will be for one examination only. If you pass more than one examination, you will need to order a separate certification for each. Note: this is not your license.



To place an order for one or more of the following items listed, you may:

- **№** Order online at <u>www.psionlinestore.com</u>
- **△** Call the PSI Online store toll-free at (866) 589-3088

Note: prices are available online at <a href="https://www.psionlinestore.com">www.psionlinestore.com</a>

CERTIFICATE OF ACHIEVEMENT (You must have passed the exam before ordering the certificate)  Certificate of Achievement suitable for framing.
29 CFR Part 1926 Selections
Contractors Guide to Business, Law and Project Management - Connecticut Edition
International Mechanical Code
Residential Oil Burners
Valve Handbook
Steam Plant Operation
Modern Hydronic Heating for Residential and Light Commercial Buildings
NFPA 54: National Fuel Gas Code (2006)
Modern Refrigeration and Air Conditioning
Modern Welding

Please note: Inventory and pricing subject to change without notice.



# CONNECTICUT OCCUPATIONAL LICENSING REASONABLE ACCOMMODATION OR OUT-OF-STATE TESTING REQUEST

All examination centers are equipped to provide access in accordance with the Americans with Disabilities Act (ADA) of 1990. Applicants with disabilities or those who would otherwise have difficulty taking the examination may request reasonable accommodation.

Candidates who wish to request reasonable accommodation because of a disability should fax this form and supporting documentation to PSI at (702) 932-2666.

#### Requirements for reasonable accommodation requests:

You are required to submit documentation from the medical authority or learning institution that rendered a diagnosis. Verification must be submitted to PSI on the letterhead stationery of the authority or specialist and include the following:

- Description of the disability and limitations related to testing
- Recommended accommodation/modification
- Name, title and telephone number of the medical authority or specialist
- Original signature of the medical authority or specialist

Date:			
Social Se	ecurity or ID#:	_	
Legal Na	me:		
	Last Name	First Name	
Address:			
	Street	Citv. State. Zip Code	
Telepho	ne: ()	(	
	Home	Work	
Email Ac	ldress:		
Check a	ny reasonable accommodations you require (requests	s must concur with documentation submitted):	
	Reader (as accommodation for visual impairment or learning disability)	☐ Extended time (Additional time requested:)	
	Large-print written examination	□ Other	-
	*Out-of-State Testing Request (this request does not require additional documentation)		-
	Site requested: *You may email your out-of-state request to OutofStateReal	guest@nsignline.com	

- Complete and fax this form, along with supporting documentation, to (702) 932-2666.
- After 4 business days, please call (800) 367-1565, ext 6750 and leave a voice message.
- PSI Accommodations will call you back to schedule the examination within 48 hours.

PSI licensure:certification 3210 E Tropicana Las Vegas, NV 89121