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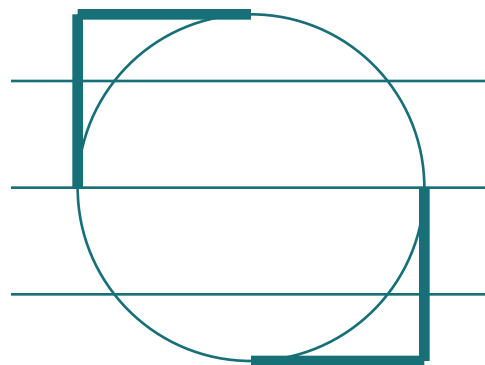
EPA 608

EPA Section 608 Universal Technician Certification

STUDY GUIDE

A clear rule. A worked example. A reason behind every answer.

608



OCTOBER 2026 / EXPANDED EDITION

Independent study material. Original lessons and practice.

Build understanding before speed

Independent original expanded edition; not an EPA-approved course, testing provider or official question bank.

Covers public EPA objectives with current 40 CFR 82 handling rules and separately identified 2026 AIM Act 40 CFR 84 leak requirements.

Preparation supports certification knowledge; it does not replace supervised hands-on instruction, manufacturer procedures, employer safety programs or trade licensing.

Universal covers the three Section 608 categories. Section 609 motor-vehicle service certification and hazardous-material shipping training are separate.

The exam at a glance

Official structure. Universal: four sections of 25 questions, 100 total: Core, Type I, Type II and Type III.

Passing standard. At least 70% in EACH closed-book section; ESCO requires 18 correct out of 25. A high total does not offset a failed section.

Administration. Closed-book and proctored, in person or through an approved remote program. Only provider-authorized references may be used.

Timing. Confirm the selected certifying organization's time allowance. Our four 30-minute practice blocks are publisher-selected pacing, not a universal EPA time limit.

Type I alternative. Mail-in/open-book Type I uses an 84% standard. Its open-book Core/Type I results cannot be used for Universal; take the required proctored sections.

Eligibility and duration. No federal prerequisite course or degree is specified for this exam. Section 608 certification does not expire. Practical work also requires appropriate training, supervision and any applicable local credentials.

Use all three kinds of practice

Start with the lessons and chapter checks. Use the flashcards to retrieve rules after a delay, and use the one-sheets to untangle similar ideas. Take each practice exam once under the stated conditions before reading its explanations. Repeatedly memorizing the same answers is not evidence that a new question is mastered.

Keep an error log

For every missed or guessed answer, record the topic, the decisive fact you missed, the rule in your own words, and a new example. Revisit the lesson, then answer the question aloud after at least one day. A practice score is a study signal, not a validated prediction or guarantee of passing.

Your study route

Week 1 / Core reasoning

- Read chapters 01-09; sketch the cycle from memory and label phase/pressure.
- Practice gauge-versus-absolute pressure, superheat/subcooling and cylinder mass calculations.
- Explain recover, recycle and reclaim without looking at the glossary.

Week 2 / Small appliances and Type II

- Read chapters 10-16 and complete each chapter check.
- Build the recovery-table decision tree using class, charge size and recovery-unit date.
- Classify ten fictional leak cases under 608 or 84 before calculating a rate.

Week 3 / Low-pressure systems and integration

- Read chapters 17-22; explain inward leaks, purge operation and water-freezing risk aloud.
- Complete form A closed-book in four 30-minute blocks using only supplied data.
- Review every distractor rationale and redo weak calculations without answer choices.

Week 4 / Independent retrieval and readiness

- Use all 72 cards across spaced sessions; teach each one-sheet to a partner.
- Complete form B under the same practice conditions and score each section separately.
- Review weak domains, confirm provider exam edition/reference rules and arrange supervised practical training.

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Exam coverage map

Match the public exam outline to the chapters below. Weights are those stated by the official source; topic rows without separate weights remain part of their parent domain. This map describes coverage, not official endorsement.

C1 / Core: ozone, climate and phaseout history

Weight: Part of a 25-question section; no official subtopic percentage published | Chapters: 02 | Source 1

C2 / Core: certification, venting, sales, recovery/reclamation and compliance

Weight: Part of a 25-question section; no official subtopic percentage published | Chapters: 01, 06, 15, 16, 22 | Source 1

C3 / Core: cycle, pressure, temperature and dehydration

Weight: Part of a 25-question section; no official subtopic percentage published | Chapters: 03, 04, 09, 24 | Source 1

C4 / Core: refrigerant identification, substitutes, blends and oils

Weight: Part of a 25-question section; no official subtopic percentage published | Chapters: 05 | Source 1

C5 / Core: cylinders, shipping, safety and low-GWP refrigerants

Weight: Part of a 25-question section; no official subtopic percentage published | Chapters: 07, 08, 24 | Source 1

T1A / Type I: small-appliance classification and recovery standard

Weight: Part of a 25-question section; no official subtopic percentage published | Chapters: 10 | Source 1

T1B / Type I: active/passive recovery, access and compressor condition

Weight: Part of a 25-question section; no official subtopic percentage published | Chapters: 11 | Source 1

T1C / Type I: leaks, noncondensables, contamination and verification

Weight: Part of a 25-question section; no official subtopic percentage published | Chapters: 12 | Source 1

T1D / Type I: safe handling, disposal, cylinders and records

Weight: Part of a 25-question section; no official subtopic percentage published | Chapters: 07, 08, 12, 22 | Source 1

T2A / Type II: components, diagnostics, pressure classes and charging

Weight: Part of a 25-question section; no official subtopic percentage published | Chapters: 13 | Source 1

T2B / Type II: recovery levels, repair exceptions and equipment

Weight: Part of a 25-question section; no official subtopic percentage published | Chapters: 14, 23 | Source 1

T2C / Type II: leak detection, leak-rate rules and records

Weight: Part of a 25-question section; no official subtopic percentage published | Chapters: 09, 15, 16, 21, 22, 25 | Source 1

T2D / Type II: safe recovery, liquid management and mixed refrigerants

Weight: Part of a 25-question section; no official subtopic percentage published | Chapters: 08, 13, 14 | Source 1

T3A / Type III: chiller components, subatmospheric operation and purge

Weight: Part of a 25-question section; no official subtopic percentage published | Chapters: 17 | Source 1

T3B / Type III: leak location, inward leaks and regulatory response

Weight: Part of a 25-question section; no official subtopic percentage published | Chapters: 15, 16, 18, 21 | Source 1

T3C / Type III: recovery, absolute pressure, freezing and charging

Weight: Part of a 25-question section; no official subtopic percentage published | Chapters: 19, 20, 23 | Source 1

T3D / Type III: pressure relief, machinery-room and service safety

Weight: Part of a 25-question section; no official subtopic percentage published | Chapters: 08, 18, 19, 20 | Source 1

LESSON 01

01 / Certification scope and the rule hierarchy

- Choose the correct certification category.
- Separate handling, leak-repair and equipment-transition rules.
- Recognize the limits of a knowledge credential.

What the credential authorizes

Section 608 certification concerns responsible refrigerant handling. The relevant question is whether the work could release a covered refrigerant, not whether the worker calls the job maintenance or repair. Attaching or detaching service hoses and gauges, adding or removing refrigerant, and opening the refrigerant circuit are technician activities. Painting the cabinet or replacing an external electrical component without disturbing the circuit ordinarily is different. A person may be an employee, an independent contractor or the equipment owner and still be a technician for these rules. Ownership does not provide a general exemption.

Type I covers small appliances, which have a specific factory-sealed, factory-charged definition and a five-pound limit. Type II covers the relevant medium-, high- and very-high-pressure equipment, with small-appliance and motor-vehicle exclusions. Type III covers low-pressure appliances. Universal requires the common Core section and all three technical sections. A residential address does not automatically mean Type I, and a physically enormous machine does not automatically mean Type III. Read the equipment definition and refrigerant classification before selecting a credential.

The separate Section 609 framework covers service for compensation on motor-vehicle passenger-compartment air conditioning. A Universal Section 608 card is not a substitute for that credential. A technician servicing a defined MVAC-like appliance may qualify under Type II or Section 609, subject to the applicable equipment rules. Transport refrigeration cooling cargo is distinct from passenger comfort cooling. Disposal-only work on small appliances, MVACs and MVAC-like appliances has a certification exception, but required refrigerant recovery and disposal verification still apply. In practice, identify the exact appliance and activity before applying a certification or service standard.

Testing, supervision and practical competence

The Universal test contains four sections of 25 multiple-choice questions. Under the closed-book standard, each section must reach at least 70%; with 25 questions, the approved provider applies an 18-correct minimum. Seventy-two correct overall does not prove a pass in all four sections. A candidate with excellent Core, Type I and Type II scores can still fail Type III. Keep four separate score records while studying, then use the topic map to find the weakness behind each missed question.

Type I may be offered through a mail-in/open-book route with an 84% passing standard. That route does not establish the proctored Core and Type I performance needed for Universal. For Universal, use an EPA-approved certifying organization and its closed-book, proctored process. Remote testing can be legitimate when the approved program provides the required proctoring. Availability of an online quiz alone proves nothing about certification. This workbook's timed practice is a learning exercise; follow the actual provider's identification, chart, calculator and timing instructions.

The apprentice exception is specific: the person must be registered with the U.S. Department of Labor Office of Apprenticeship or a recognized State Apprenticeship Council, and can qualify as an apprentice under this definition for only two years after first registration. Covered work also requires close and continual supervision by a properly certified technician. An unregistered new employee is not automatically an apprentice, and a certified coworker who is merely reachable by phone does not satisfy continual supervision. Certification does not expire, but that does not freeze the law or qualify someone for every hazardous task. Electrical isolation, brazing, flammable-refrigerant work, confined-space entry and hazardous-material shipping require their own training and procedures. Passing a written test establishes regulatory knowledge, not the ability to safely improvise a live recovery setup.

Three overlapping legal questions

For every scenario, ask three separate questions. First, what handling rule applies before refrigerant is released or a circuit is opened? Part 82 supplies the venting, recovery, equipment and certification framework for ozone-depleting refrigerants and non-exempt substitutes. Second, does a leak-repair program apply to this refrigerant, charge and end use? Section 82.157 generally addresses at least 50 pounds of an ODS or a blend containing ODS; Section 84.106 adds a different 2026 HFC framework. Third, is the proposed new equipment or substitute allowed under the relevant transition and SNAP rules? A favorable answer to one does not answer the others.

Read a legal source's operative dates before using its numbers. The current evacuation section still contains historical paragraphs that expressly ceased governing leak repair in 2019. Those old 35% and 15% leak triggers are not the current 20%, 30% and 10% rules. Likewise, an EPA proposed rule is not a completed amendment. This guide identifies the current law separately from historical exam context and equipment examples. When a manufacturer's directions are more specific, use them within the law; a manual cannot authorize deliberate venting that the regulation forbids.

Work it through / A mixed score report

A candidate answers 22 Core, 23 Type I, 20 Type II and 17 Type III questions correctly.

1. Calculate the total: 82/100.
2. Compare each section with 18/25, not just the total.
3. Identify Type III as the unpassed section and follow the provider retake procedure.

Result. The total is strong, but Universal has not been earned because Type III is below the section threshold.

Certification / Contractor licensing

Federal refrigerant certification does not replace state or local authority to contract for HVAC work.

Technician activity / Opening an appliance

Connecting gauges can require certification even though the regulation does not call that connection an opening for evacuation purposes.

Keep these ideas

- Classify the appliance and activity before choosing the credential.
- Universal requires four independently passing proctored sections.
- A permanent credential still requires current legal knowledge and practical training.

Source references: 2, 3, 4, 7, 12, 13, 31

Check your understanding

1. A worker only connects gauges to a covered stationary appliance to measure operating pressure. Which conclusion is best?
 - A. No credential is needed because this is not an evacuation-table opening.
 - B. Certification or the qualifying apprentice-supervision exception applies.
 - C. Certification applies only if refrigerant is deliberately added.
 - D. Section 609 alone authorizes every gauge connection.
2. A learner passed open-book Core and Type I, then proctored Type II and Type III. What remains necessary for Universal?
 - A. The required proctored Core and Type I results.
 - B. Only a higher combined numerical average.
 - C. Nothing, because the four section names appear on the record.
 - D. A state contractor license instead of retesting.
3. A supervisor leaves an uncertified apprentice alone at a job and offers telephone help while the apprentice opens a covered refrigerant circuit. Which assessment is correct?
 - A. A signed customer waiver substitutes for supervision.
 - B. Apprentices never may work on a covered circuit.
 - C. Telephone availability alone does not meet close and continual supervision.
 - D. The exception applies whenever the employer owns a certification card.

Check the reasoning

1. Answer B / C2

Gauge attachment is a technician activity even if no component is removed.

- A. The technician and opening definitions answer different questions.
- C. Connecting gauges itself is covered.
- D. 609 is the motor-vehicle service framework, not general stationary authority.

Source references: 2, 7

2. Answer A / C2

Open-book/mail-in Type I testing cannot be used to establish Universal.

- B. The defect is administration, not averaging.
- C. The proctor requirements matter.
- D. A contractor license does not replace the EPA testing requirement.

Source references: 3, 2

3. Answer C / C2

The apprentice exception requires close and continual supervision by a certified technician.

- A. The customer cannot waive the federal condition.
- B. The regulation permits a supervised exception.
- D. The actual supervision must qualify.

Source references: 2

LESSON 02

02 / Ozone, climate and refrigerant transitions

- Explain why stable refrigerants can harm the ozone layer.
- Distinguish ODP from GWP.
- Use phaseout dates without inventing a service ban.

Why the environmental effect persists

Stratospheric ozone absorbs harmful ultraviolet radiation. Certain chlorine- and bromine-containing compounds survive long enough after release to reach the upper atmosphere. Ultraviolet energy can break them apart there, freeing reactive atoms that participate in ozone-destroying reactions. One chlorine atom can participate repeatedly; the problem is not limited to a one-for-one collision. Increased UV exposure can harm skin, eyes, crops and aquatic systems. A refrigerant's useful stability inside a sealed appliance therefore does not make an atmospheric release harmless.

A common misconception is that a dense vapor cannot reach the stratosphere because it initially collects near the floor. Near a leak, dense gas can indeed accumulate in a pit and displace breathable air. Over longer times and larger distances, atmospheric circulation and mixing transport long-lived compounds. These are different scales of observation. Atmospheric measurements, laboratory chemistry and observed ozone changes together support the mechanism. It is incorrect to use local vapor behavior as evidence that the global effect cannot occur.

CFCs contain chlorine, fluorine and carbon. HCFCs also contain hydrogen and generally break down more readily in the lower atmosphere than CFCs, reducing but not eliminating their ozone-depletion potential. HFCs contain hydrogen, fluorine and carbon without chlorine; their ozone-depletion potential is generally zero. Examples connect the names to equipment: R-12 and R-11 are CFCs, R-22 and R-123 are HCFCs, and R-134a is an HFC. A trade name alone is unreliable because a brand can encompass several different refrigerants.

ODP and GWP answer different questions

Ozone-depletion potential compares a substance's ability to damage stratospheric ozone with a reference, conventionally CFC -11. Global warming potential compares heat-trapping effects over a specified period with carbon dioxide. They are not interchangeable rankings. An HFC can have zero ODP and substantial GWP. A low-GWP option can have flammability, toxicity or pressure characteristics that require a different system design. Good substitution decisions consider all relevant properties rather than declaring a chemical universally safe from one favorable environmental number.

The Montreal Protocol is the international ozone-protection agreement. U.S. implementation includes Title VI of the Clean Air Act and the ODS phaseout regulations. The general U.S. CFC production/import phaseout milestone is January 1, 1996, subject to specific legal exceptions. For HCFC -22, 2010 restricted new production/import to service existing pre-2010 equipment, and January 1, 2020 ended new production/import for the ordinary domestic supply. The remaining HCFC phaseout schedule reaches 2030. These historical dates describe production and import controls; they do not mean every existing charged system became illegal on that date.