American Welding Society

Examination Guide

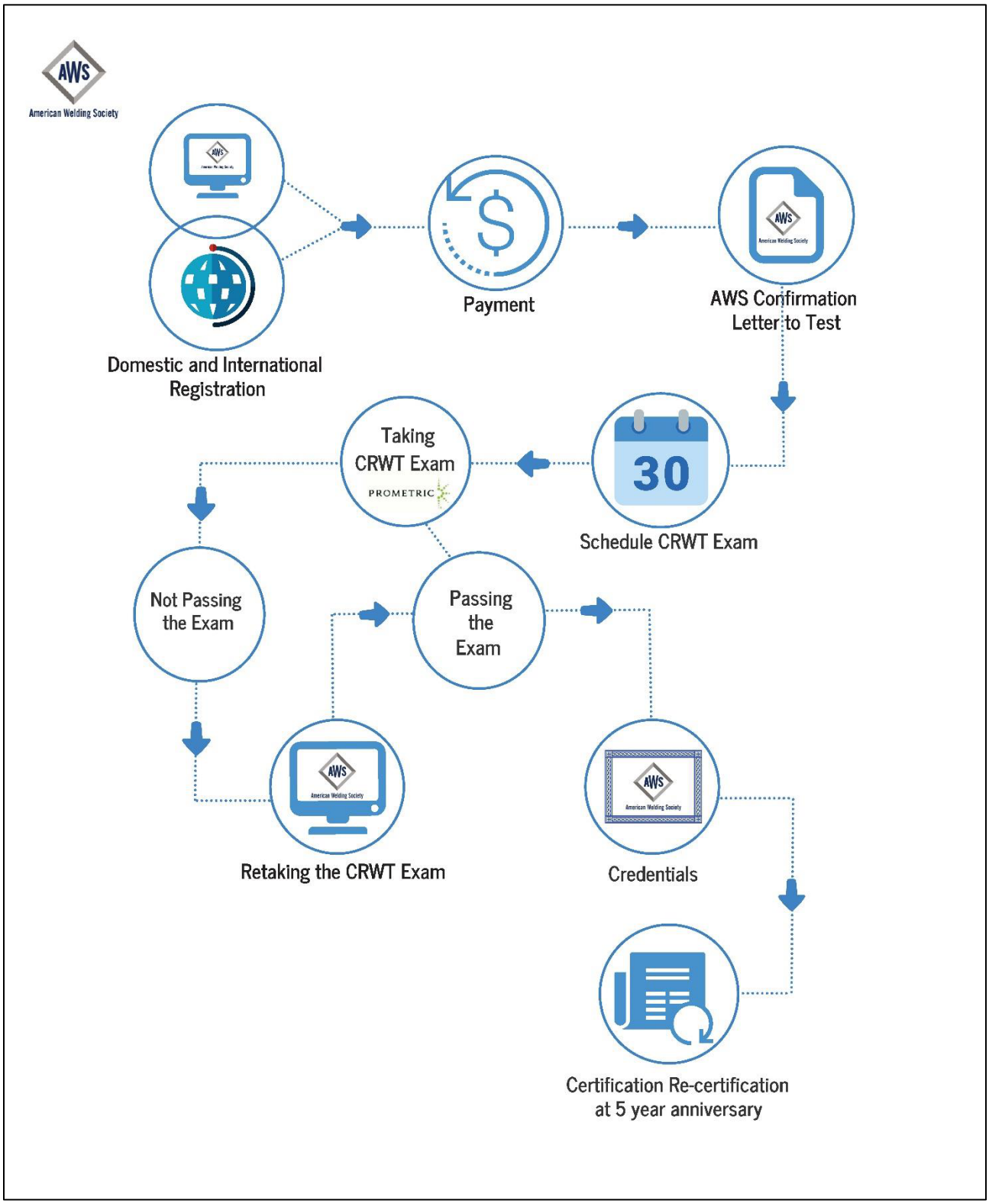
Certified Resistance Welding Technician (CRWT) Exam

Contents

CONTACT INFORMATION 4
American Welding Society 4
Prometric 4
CRWT EXAM PROCESS 5
OVERVIEW 6
CERTIFICATION 6
TRAINING 6
Eligibility 6
Registration 6
Exam Fee 6
AWS CONFIRMATION LETTER 7
SCHEDULING AN EXAM 7
RESCHEDULING / CANCELLATIONS / REFUNDS 7
EXAM ACCOMMODATIONS 7
PROMETRIC TEST CENTER RULES AND REGULATIONS 7
THE DAY OF YOUR EXAM 8
What To Bring 8
What Not to Bring 8
Testing Environment 8
CHECK-IN PROCESS 8
PREPARING FOR YOUR CBT EXAM 9
TAKING THE EXAM 9
Breaks 10
Exit The Exam 10
PRELIMINARY EXAM SCORE REPORT 10
POST-EXAMINATION POLICES AND PROCEDURES 10
Complaints About Testing Experiences 10
Exam Feedback 10
Disruptions During Testing and Potential Compromises 11
Disciplinary Actions 11
Appeals 11
EXAM CONTENT 11

Examination Requirements 11
Test Specifications 11
Exam References 11
Question Types and Sample Questions 11
Pretest Questions 12
Number of Questions on The Exam 12
Exam Delivery 12
Exam Time Allotted 12
EXAM RESULT REPORTING 12
Official Score Letter 12
Retaking the Exam 12
Scoring And the Exam Passing Score 12
Credentials 12
RECERTIFICATION PROCESS 13
APPENDIX A CANDIDATEATTESTATION AGREEMENT 14
APPENDIX B PROMETRIC'S SAMPLE CRWT SCORE REPORT 15
APPENDIX B PROMETRIC'S SAMPLE CRWT SCORE REPORT (2Page) 16
APPENDIX C SAMPLE CRWT EXAM QUESTIONS 17
APPENDIX D SAMPLE AWS OFFICIAL SCORE REPORT 18

CRWT EXAM PROCESS



OVERVIEW

The Examination Guide for the CRWT is the official guide to the rules, policies, procedures, and exam content for the CRWT exam which all candidates should familiarize themselves with. This User Guide is subject to change.

CERTIFICATION

The Certified Resistance Welding Technician (CRWT) exam was developed jointly by AWS and the Resistance Welding Manufacturer Alliance (RWMA) in collaboration with resistance welding (RW) industry leaders, and subject matter experts. It is the product of years of effort in following the certification industry best practices.

The certification exam presents RW personnel with an opportunity to demonstrate their general knowledge of the resistance welding processes and related technical areas.

TRAINING

Candidates are encouraged to explore all resources/training available through the AWS Education Department. However, training is not mandatory.

For more information related to training/registration, visit HERE.

REGISTERING FOR THE EXAM

Eligibility

To be eligible to take an AWS exam, you must first be qualified according to the requirements of the CRWT certification.

The following are the qualification and certification standards for CRWT:

- AWS C1.5:2019 Specification for the Qualification of Resistance Welding Technicians https://www.aws.org/c1-5-2019.
- AWS QC202020 Specification for the Certification of Resistance Welding Technicians http://www.aws.org/qc20-2020.

Registration

CRWT exam registration can be completed via the Candidate Certification Application Portal.

For a complete list of requirements to register, visit this link:
Certification Application Portal – General Information for CRWT.

IMPORTANT!

The first and last names you use to register MUST match the valid government-issued ID that you will provide for admission to the test center.

Exam Fee

The CRWT exam price can be found online by following this link: AWS Price List

The exam fee is payable directly to AWS at registration time. AWS accepts payments online via check, MasterCard, VISA, and American Express.

AWS CONFIRMATION LETTER

Once registered, a candidate will receive a confirmation letter from AWS Certification Department containing the details of the exam you are taking and an eligibility code. The confirmation letter typically is sent between 4 to 6 weeks after completing your registration.

SCHEDULING AN EXAM

Log into Prometric website (https://proscheduler.prometric.com/scheduling/testInformation) with the Eligibility ID found on your confirmation letter and follow the onscreen instructions. Schedule your exam as far in advance as possible for the best scheduling availability. Examinees should be scheduled prior to the end date listed on the confirmation letter. Failing to do so could lead to forfeiting the exam fee.

Once you have successfully scheduled your exam, you will receive an email from Prometric confirming your appointment. The appointment letter will indicate your identity, the location of the test center, the time of the appointment, and the exam you are scheduled to take.

Take the time to verify that the first and last names printed on the appointment confirmation letter match your first and last names on your valid government-issued ID. Contact AWS if the names do not match as soon as you can. If the names do not match, you will be required to cancel and reschedule the exam with the corrected name, which may not be the same as the original exam appointment. Print and bring your appointment letter to the test center to avoid delays during the check-in process.

Candidates can check their scheduled date by calling Prometric or going to their website.

RESCHEDULING/ CANCELLATIONS/ REFUNDS

Circumstances may arise that require you to reschedule or cancel your exam. You may cancel or reschedule your appointment by calling Prometric or going to the Prometric website found HERE.

Appointments must be rescheduled within the authorized exam delivery period.

For complete details on Prometric's Policies, go HERE.

EXAM ACCOMMODATIONS

If you have a documented disability that prevents you from taking an exam under standard conditions, you may request accommodation when registering for the exam. This request must be made when you register through the Candidate Certification Application Portal.

For special accommodations AWS provides, refer to the:
ADA Disability Accommodations Package.

PROMETRICTEST CENTER RULES AND REGULATIONS

During the check-in process at the test center, you will be required to sign a log-in sheet, and review and agree to comply with the Prometric Test Center Regulations.

View a short video on what to expect when arriving at the Prometric Test Center
https://www.prometric.com/what-expect.

THE DAY OF YOUR EXAM

Be sure to arrive at the designated Prometric test center thirty (30) minutes before your scheduled appointment. This will allow you to have adequate time to complete the necessary sign-in and security procedures.

What To Bring

To help speed up the process while checking in, bring a printed copy of your appointment Confirmation Letter.

Once you arrive at the test center, you must present one of the following IDs at check-in:

A valid government-issued ID.
If testing in a country where you are not a citizen, your valid passport is required.

IDs must be current and include your full name, date of birth, expiration date, a recognizable photo, and your signature. If your ID does not include a signature, then a secondary ID with signature is required in addition to your primary ID. Secondary ID with signature can include a credit card, student ID or military ID.

IMPORTANT!

The first and last names you used to register MUST exactly match the government-issued ID that you provide for admission to the test center.

What Not to Bring

Items not permitted in the testing room include, but are not limited to, cell phones, handheld computers/personal digital assistants (PDAs) or other electronic devices, fitness trackers, pagers, watches, wallets, purses, hats and other head coverings (unless they qualify as religious apparel), bags, coats, books, notes, pens, pencils, erasers, food, and non-water beverages.

Additionally, this exam is a closed book exam and reference books are not allowed in the testing room.

Testing Environment

All AWS-approved Prometric Test Centers provide a standardized and secure testing environment for all examinees. Candidates are required to be professional, civil, and respectful at all times while on the premises of the test center. All exams are continuously monitored by video and audio recording, and through physical walk-throughs and the observation window.

The Test Center Administrator (TCA) is authorized to dismiss you from the test session for a violation of any of the Prometric Test Center Regulations which can be reviewed HERE.

CHECK-IN PROCESS

A Prometric representative will confirm your identity, exam taken, time, and location. Only the following items are allowed in the testing room:

The ID is used during the check-in process.
Key to your test center locker.

A standard calculator

- Non-programmable scientific calculators
- Construction calculators
- Four-function calculators

Important!

Candidates will be allowed to bring water into the test room during their exam. Water must be in a clear or transparent container with a lid or cap. All labels must be removed, and the container will be inspected for notes or other test aids. The candidate will need to remove the lid/cap for visual inspection by the Test Center staff. Should the container not meet the requirements outlined, the candidate will be required to put it in their locker and will not be allowed to take it into the test room.

After checking in, the TCA will perform security checks, answer any questions you might have, provide you with a piece of scratch paper and a pencil, escort you to your workstation, and launch the exam.

PREPARING FOR YOUR CBT EXAM

AWS recognizes that the certification exam process can be stressful. AWS also understands that certification applicants come with a wide range of technological experiences.

As the industry transitions away from traditional pencil-and-paper exams and toward computer-based testing, it is important that all candidates are provided with the tools necessary to help them confidently navigate what may be unfamiliar testing modalities.

Whatever a candidate's experience of technology, AWS encourages all candidates to become familiar with the computer functionality and testing environment they will encounter when attempting AWS Certification Exams at Prometric.

For access to an Online Test Drive please click HERE and for information regarding an In-Center Test Drive please click contact Prometric to schedule one at a local Prometric Testing Center.

TAKING THE EXAM

The CRWT examination is a computer-based examination. As such, the questions and answers will appear on a computer monitor for testing.

The AWS Candidate Attestation Agreement (Appendix A) will appear on screen prior to beginning your exam. To take the exam, you must agree to comply with the agreement. If you do not accept the terms or if you click “No,” the exam will end, and you will forfeit your appointment and exam fees.

There will be a tutorial at the beginning of your exam to familiarize you with the navigation of CBT proceeding through the exam. *Note: the time for the tutorial is not deducted from the time you have to take the test.*

Notify the TCA immediately if you have experienced any problems with the computer or software or encounter any other issue. The TCA is not allowed to answer questions related to exam content.

Breaks

There is no scheduled break during the CRWT exam. You may take unscheduled breaks at any time during the exam by raising your hand to notify the TCA. However, the amount of time you take for unscheduled breaks will be deducted from your testing time.

The TCA will inform you what is permitted during exam breaks, specifically regarding whether access to your locker, and access to cell phones and notes within it, is permitted or not.

All candidates must inform the TCA before accessing a stored item during a break, including medicine. Repeated or lengthy departures from the test room will be reported to the test sponsor.

Upon return from a break, without exception, you must go through all security checks, present valid ID, sign-in process in order to be re-admitted to the test room.

Exit The Exam

Notify the TCA by raising your hand when you have completed the exam. The TCA will confirm that the exam has ended properly before you leave the test room.

PRELIMINARY EXAM SCORE REPORT

A preliminary exam score report will be emailed to you two hours after you take the exam. A sample score report is provided in APPENDIXB of the Examination Guide.

POST-EXAMINATION POLICES AND PROCEDURES

AWS and Prometric endeavor to ensure that registrations and appointments are properly processed, exams are accurately assembled, administered, and scored. In the unlikely event that an error occurs, AWS will correct it.

AWS strives to maintain the validity, reliability, and fairness of all the certification programs. If remedies are warranted, corrective action will be made related to registration, exam information, scoring, reporting of exam results, or testing disruptions not caused by the examinee.

Candidates are encouraged to take the following actions regarding their testing experience, feedback on exam content, rescore request, or disciplinary actions.

Complaints About Testing Experiences

Provide any comments or concerns regarding the testing experiences to the Test Center Administrator before leaving the test center. ***No comments or concerns regarding your test experience will be reviewed by AWS if they were not provided prior to you leaving the test center.*** Be sure to get the Irregularity Report Reference Number from the TCA for your records. You can also submit the complaint to AWS by clicking on the link found HERE.

Exam Feedback

Feedback regarding the content of examination questions MUST be submitted via the Exam Feedback Form (no later than 5 (five) business days after the date of the examination.

Candidate feedback related to exam content is forwarded to the exam subject matter experts for verification. In the rare event the feedback is found valid, the scoring is adjusted for those who are impacted. If their score is impacted, a new score report will be emailed to the affected candidates.

Disruptions During Testing and Potential Compromises

AWS upholds the highest security standard to preserve the validity of the exam and the reputation of AWS. The following situations may prompt AWS to consider invalidating or canceling exam results even though you may have had no responsibility for the event in question:

Any deviation from, disruption, or compromise to the required testing procedures.
Possible pre-knowledge to exam content by one or more examinees; or
Violating any condition in the Candidate Attestation Agreement (Appendix A).

Disciplinary Actions

Those who take AWS certification exams have a continuing obligation to maintain examination confidentiality. Irregular or improper behavior in examinations that is observed will be considered a subversion of the certification process. Cheating and falsifying Information to obtain, maintain, and/or renew AWS certification status for self or for other constitute grounds for invalidation of a candidate's examination and subject the candidate to disciplinary sanctions, including suspension or revocation of certification. See sample of the AWS Candidate Attestation Agreement in Appendix A or by clicking HERE.

Appeals

If your exam results are invalidated and you believe AWS should review that decision, you may appeal to AWS within 30 days from the date of the decision.

You must send your appeal in writing by email to the AWS Managing Director of Certification at: certification@aws.org, or by mail to 8669 NW 36th Street #130, Miami, FL 33166.

EXAM CONTENT

Examination Requirements

Candidates seeking the CRWT certification shall pass a closed-book examination. The details of the examination are provided in this section.

Test Specifications

AWS constructs the exam using the test blueprints formed from the Job Task Analysis. This ensures that each exam form is equal in terms of content representation. This means that all examinees for a particular exam are required to answer the same number of questions.

The CRWT Test Specifications can be found in Clause 6 Examination Requirements in the AWS QC20:2020 Specification for AWS Certification of Resistance Welding Technicians.

Exam References

The specific reference books for the CRWT exam are listed as follows:

1. AWS C1.1M/C1.1:2019 Recommended Practices for Resistance Welding
2. RWMA Resistance Welding Manual, Revised 4th Ed., 2013
3. AWS RWPH Resistance Welding Pocket Handbook, 2011
4. AWS A2.4:2020 Standard Symbols for Welding, Brazing, and Nondestructive Examination

Question Types and Sample Questions

The examination consists of multiple-choice items and single correct answer items. Sample questions are provided in Appendix C of the Examination Guide.

Pretest Questions

The CRWT exam includes a limited number of questions referred to as “pretest” questions that will not be scored and will not have an impact on the exam result.

This is common practice within the high stakes testing industry. It allows AWS to evaluate new items for content validity and statistical performance for potential use in future exams and exam versions to have equivalent level of difficulty and quality. These items are randomly placed within the exam and are not identifiable as pretest items.

Each question on an AWS exam is carefully crafted by trained subject matter experts and reviewed multiple times to ensure it assesses an essential piece of knowledge required for the intended certification. Each question on a live exam needs to have valid content based on the industry Standards, with clear question text, correct and straightforward answer. In order to achieve the desired quality, we treat each new question like a new product by conducting a trial on the product first. The best trial is done on the real population who uses it and can provide feedback for improvement. After the “new product,” a new question, is evaluated and satisfactory, then they are used on a final form of a live exam.

Number of Questions on The Exam

There are (100) one hundred scorable items on CRWT exam plus (10) ten pretest items.

Exam Delivery

The examination is a computer-based test (CBT) delivered at a Prometric Test Center.

Exam Time Allotted

Candidates have a maximum of 135 minutes to complete the exam. The total exam seat time is 150 minutes.

EXAM RESULTREPORTING

Official Score Letter

After testing at a Prometric location, you can expect to receive the official score letter from AWS in about (2) two to (4) four weeks. Sample of Score Report is provided in Appendix D of the examination guide.

Retaking the Exam

Refer to QC20 on exam retaking policy. QC20 - Retaking the Exam

Scoring And the Exam Passing Score

Your exam results are based on the total number of correct answers that you selected.

The passing score for the CRWT exam is a **minimum** of 60%. All exams are scored the same way. First-time takers and repeat takers are graded to the same standard. **The scores are reported to the nearest lower whole percent number.**

Credentials

Once you have obtained your CRWT certification, you can expect to receive your credential in 6–8 weeks for your certificate and wallet card to arrive.

Your Certifications/Endorsements can be viewed through your AWS Member Portal account. If a new certificate and wallet card is needed, complete and submit an order form located here: Order from For Certification Documents.

RECERTIFICATION PROCESS

To maintain your certification, you will need to renew it every five (5) years by reexamination.

The recertification exam registration can be completed via the Candidate Certification Application Portal by following the link HERE.

APPENDIXA CANDIDATE ATTESTATION AGREEMENT

You must review and agree to the terms of the Candidate Attestation Agreement before starting your test.

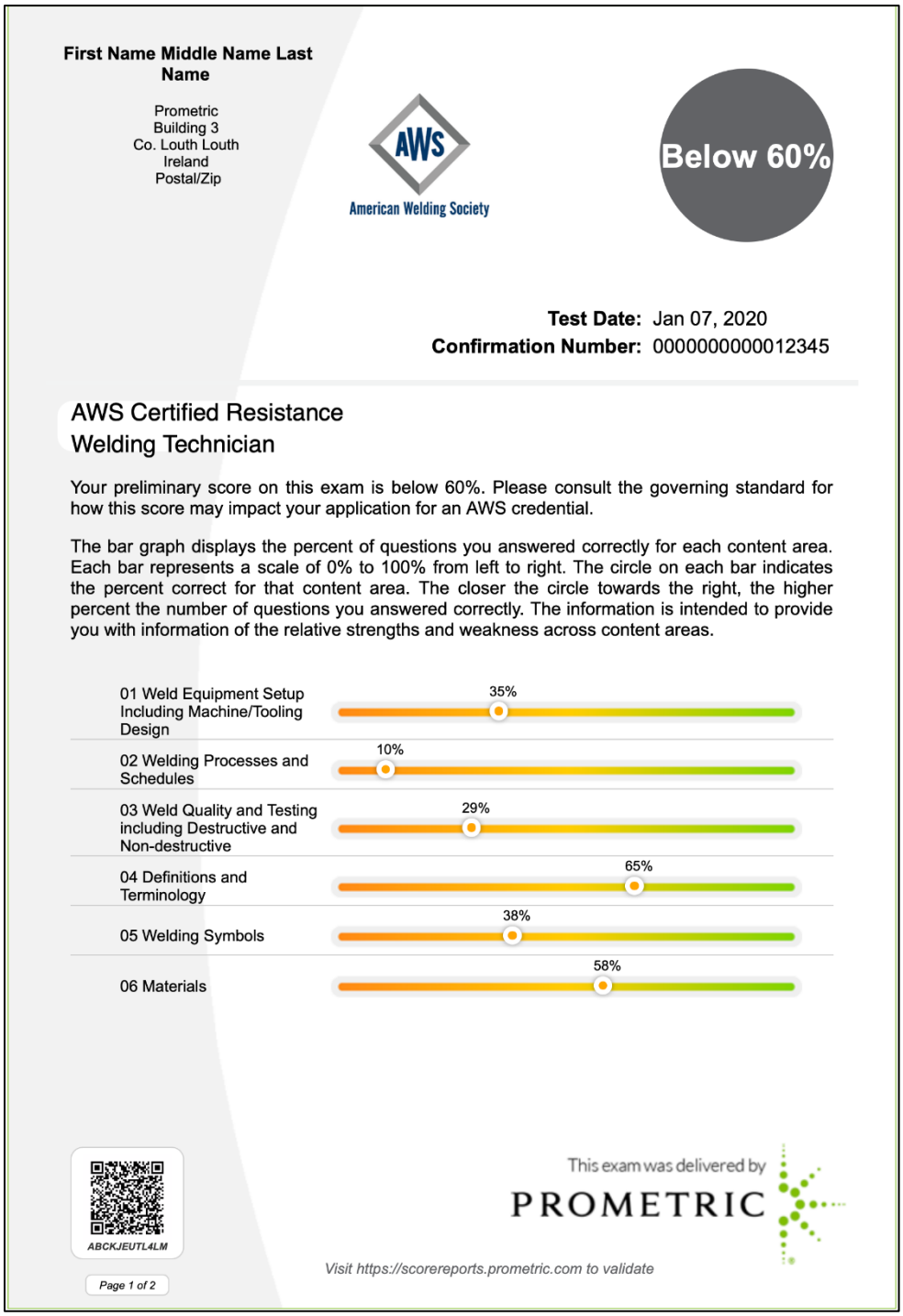
1. I attest that I am the person whose name appears in the form of identification I presented prior to admission to the testing room.
2. I understand and agree that all AWS certification exams are confidential and secure tests, protected by U.S. and international copyright laws.
3. I understand and agree that all test materials, including my answers, are the property of AWS, and I will not be provided access in any form except on the test itself.
4. I understand and agree that disclosing any exam question or answer to any person, in whole or in part, by any means whatsoever is unlawful and even potentially a criminal act, and I may be financially liable and/or charged with theft for doing so. I also understand and agree that if I disclose information about exam questions or answers, I may suffer adverse consequences, including but not limited to any or all of the following:
   – civil or criminal liability for copyright infringement or related conduct; and
   – disciplinary action by AWS, including prohibiting me from seeking certification in the future.
5. I understand and agree that AWS is the final authority that determines if I can take an exam.
6. I understand and agree that AWS has the right to cancel my scores if it finds any evidence of any irregularities whatsoever.
7. I understand and agree that furnishing inaccurate details about myself, breaching exam regulations, or acting contrary to the instructions outlined on the AWS/Prometric website, confirmation letter, and the AWS Certification and Qualification Standards may result in disciplinary action, including but not limited to removal from the test session under the supervision of the Test Supervisor or Test Center Administrator; score annulment; disqualification from taking the exam in the future; and potential legal liability.
8. I agree that upon obtaining my certification, I give permission to AWS to publish my certification status as it relates to its validity and duration.

I understand and accept the terms of this agreement.

Print Full Name: _____

Signature: _____ Date: _____

APPENDIX B PROMETRIC'S SAMPLE CRWT SCORE REPORT



First Name Middle Name Last Name

Prometric
Building 3
Co. Louth Louth
Ireland
Postal/Zip

American Welding Society

Below 60%

Test Date: Jan 07, 2020
Confirmation Number: 0000000000012345

AWS Certified Resistance Welding Technician

Your preliminary score on this exam is below 60%. Please consult the governing standard for how this score may impact your application for an AWS credential.

The bar graph displays the percent of questions you answered correctly for each content area. Each bar represents a scale of 0% to 100% from left to right. The circle on each bar indicates the percent correct for that content area. The closer the circle towards the right, the higher percent the number of questions you answered correctly. The information is intended to provide you with information of the relative strengths and weakness across content areas.

01 Weld Equipment Setup Including Machine/Tooling Design	35%
02 Welding Processes and Schedules	10%
03 Weld Quality and Testing including Destructive and Non-destructive	29%
04 Definitions and Terminology	65%
05 Welding Symbols	38%
06 Materials	58%

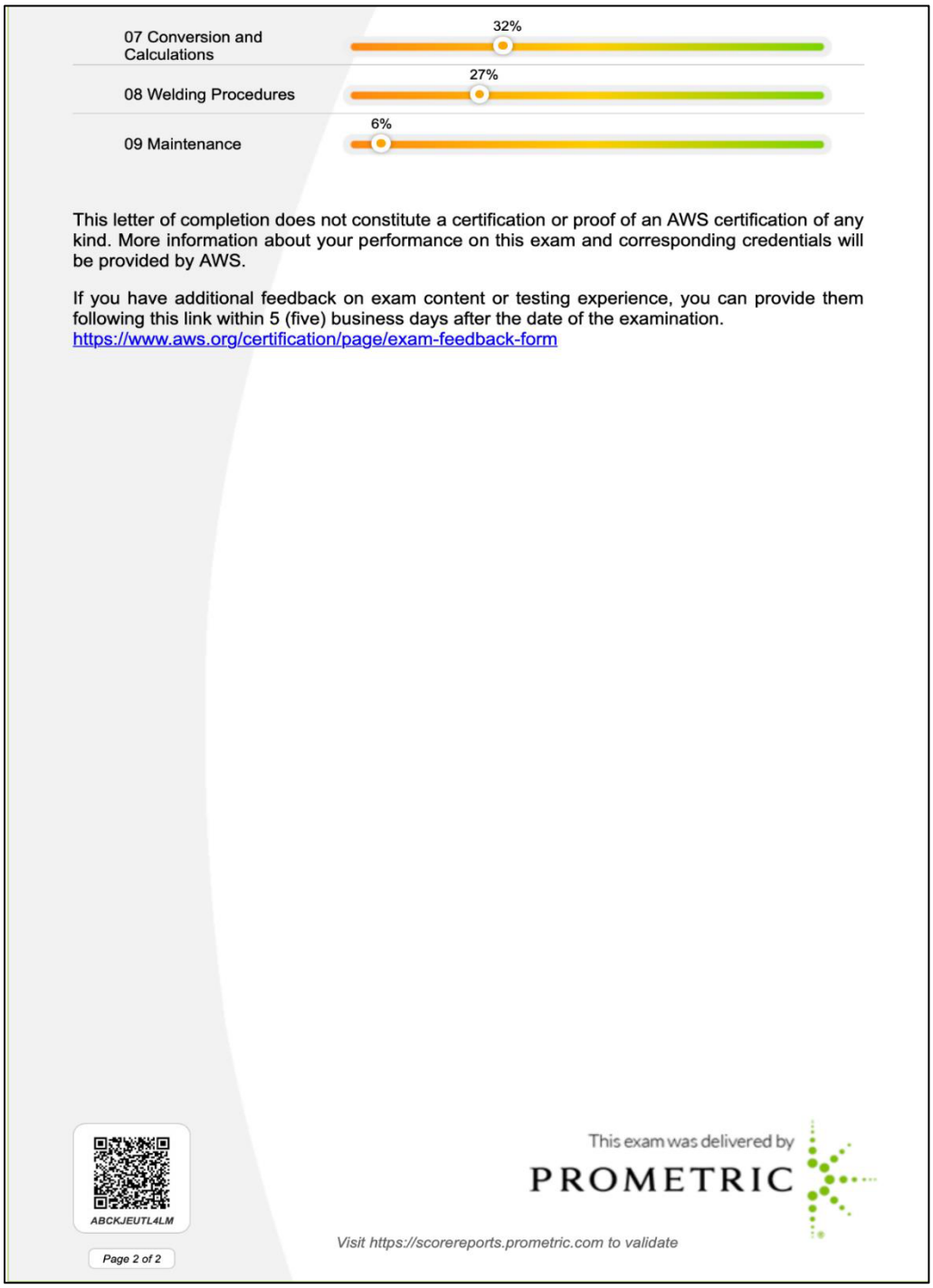
ABCKJEUTL4LM

Page 1 of 2

This exam was delivered by PROMETRIC

Visit https://scorereports.prometric.com to validate

APPENDIX BPROMETRIC'SSAMPLE CRWT SCORE REPORT (2nd Page)



APPENDIX C SAMPLE CRWTEXAM QUESTIONS

The sample questions are a demonstration of the multiple-choice single correct answer type of questions that appear on the CRWT exam. Each question is based on a clause from the references.

Sample Question 1

For which process is surface preparation of minor or no importance?

A. flash welding
B. seam welding
C. spot welding
D. cross wire welding

Comments

According to the *RWMA Resistance Welding Manual*, 4th Edition, 2003, "[s]urface preparation for flash welding is of minor importance and in most cases, none is required. Clamping surfaces usually require no special preparation unless excessive scale, rust, grease, or paint is present. The abutting surfaces should be reasonably clean to accomplish electrical contact." (Page 5-10).

Correct answer: A.

Sample Question 2

How many rectifiers are in an SCR contactor?

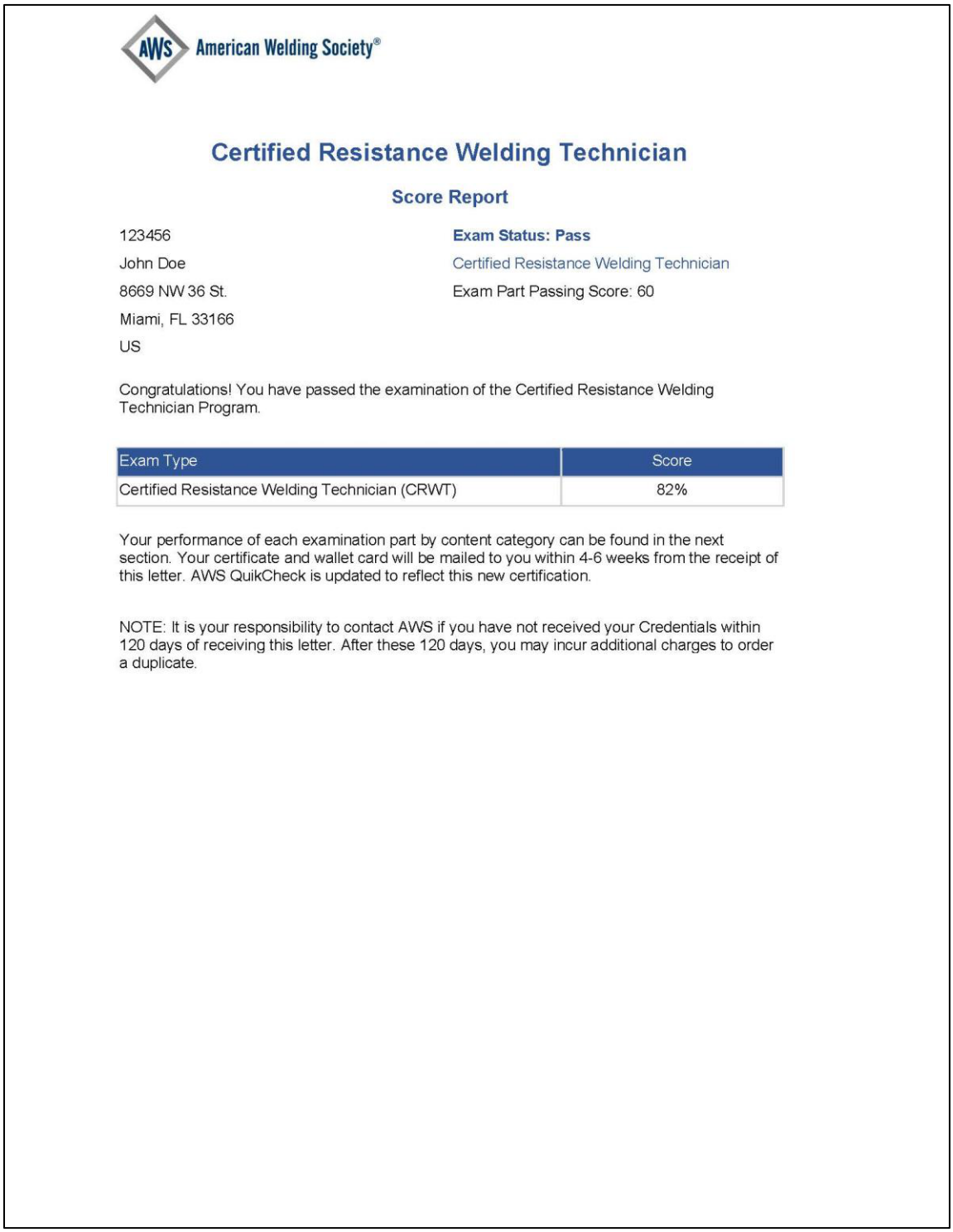
A. 1
B. 2
C. 3
D. 4

Comments

According to the *RWMA Resistance Welding Manual*, 4th Edition, 2003, "Silicon Controlled Rectifiers (SCR) were introduced to the resistance welding field in the early 1960's. These solid-state devices function in pairs, like ignition tubes, with each conducting for only one half of the alternating current sine wave." (Page 20-7).

Correct answer: B.

APPENDIX D SAMPLE AWS OFFICIAL SCORE REPORT



American Welding Society®

Certified Resistance Welding Technician

Score Report

123456
John Doe
8669 NW 36 St.
Miami, FL 33166
US

Exam Status: Pass
Certified Resistance Welding Technician
Exam Part Passing Score: 60

Congratulations! You have passed the examination of the Certified Resistance Welding Technician Program.

Exam Type	Score
Certified Resistance Welding Technician (CRWT)	82%

Your performance of each examination part by content category can be found in the next section. Your certificate and wallet card will be mailed to you within 4-6 weeks from the receipt of this letter. AWS QuikCheck is updated to reflect this new certification.

NOTE: It is your responsibility to contact AWS if you have not received your Credentials within 120 days of receiving this letter. After these 120 days, you may incur additional charges to order a duplicate.