Certification Program for Robotic Arc Welding (CRAW)
IRC5 – 4 days (prep course); 1 day (exam) – Course Code: US333

ABB, Inc. is an American Welding Society (AWS) Approved Test Center for the certification testing for Robotic Arc Welding – Operators and Technicians (CRAW). This certification allows many welding personnel employed in various welding sectors to measure themselves against standards for their occupation. It also signifies that the CRAW Operator or Technician has demonstrated the capability of working with various codes, standards, and specifications. Since proof of active practice or re-examination is required every three years, certification also signifies that the CRAW Operator or Technician is current with the welding industry.

Program responsibilities
AWS
– Sets principal requirements for taking the examination
– Is responsible for defining the content of all exams and how they are conducted
– Scores all written exams in their headquarters facility in Miami, Florida
– Will issue certification credentials
– Will review and process all applications and set and collect all appropriate fees for certification[1]

ABB
– Offers a Prep Course to prepare the Operator or Technician for the certification exam. Before taking the CRAW Prep Course/Exam, submit the Robotic Arc Welder Application to the American Welding Society (AWS) along with appropriate fees. The application can be downloaded from the AWS website. This should be submitted to the AWS at least 6 weeks prior to the class/exam dates.
– Will provide the personnel, facilities and procedures to administer the certification testing for AWS including written exams and performance testing using a designated arc welding robot.
– Develops procedures to assure equipment operates within required parameters that traceability of test materials is maintained.
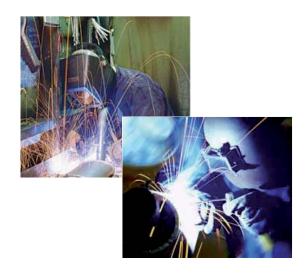
Program levels
Level 1: Company defined

Level 2: CRAW Operator
Required:
– Minimum 2 years of welding experience
– Good mechanical aptitude
– 1 year diploma in welding or robotic instruction
– Good written and oral communication skills

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Recommended:

– IRC5 Programming I for Welding (US490) class is strongly recommended.
– Understand and use a teach pendant
– Proper operation knowledge of tools and hardware (i.e., Plasma cutting, band saws, etc.)
– Destructive testing methodology background (i.e., Macro Etch, bend test, etc.)
– Safety instruction on robot mechanical and control circuitry
– Visual inspection capability of system

Level 3: CRAW Technician
Required
– Must be a current CWI (Certified Weld Instructor)
– Meet Level 1 and 2 requirements
– Minimum 5 years of welding experience
– 2 year Associates Degree in Welding/Robotics/Electrical or equivalent

Recommended:
– Knowledge of quality measuring tools for measuring weld cross sections
– Familiar with personal computers

[1]Fees for the ABB Prep Course and Exam are separate, and will be handled by ABB.

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ABB Course Description

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Certification Tests

Each level of certification has a required group of tests that must be completed within a certain time period and with a passing rate of 75%.

Robotic Programming: The operator will manipulate a robotic welding cell to achieve desired results performing a number of tasks to demonstrate familiarity with the components.

Closed Book Exam: Over 130 multiple choice questions are included in the closed book test to evaluate the subject's general knowledge of weld setup, processes, terminology, symbols, safety, testing, conversions, programming and logic.

Performance Tests: Consisting of a series of 25 taks and welding a test plate. The performance test must be taken within 3 months of taking the written exam and meeting the requirements of the Macro Etch.

The Performance test must be administered by a CRAW-T level instructor at a facility offering the appropriate type of robot for the student.

Duration

The course duration is 4 days (prep course); 1 day (exam).

Customer Service – Robotics

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