

# **Guide for the Training of Welding Personnel: SENSE Level I— Entry Welders**



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## Personnel

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## Foreword

This foreword is not part of this standard but is included for informational purposes only.

Advances in welding technology, along with the advent of new materials and manufacturing processes, require that welders have a better knowledge of the science associated with welding in addition to manipulative skills. Thus, it is imperative that welder training adequately prepare individuals for industrial assignments at various levels of knowledge and skill development.

The American Welding Society (AWS), recognizing the need for competent welders, through a grant by the U.S. Department of Education, formed the Education Grant Committee in 1992, and assigned them the task of preparing a set of national specifications and guidelines for welding education. The result of this effort was AWS QC10, *Specification for Qualification and Certification of SENSE Level I—Entry Welders*, and AWS EG2.0, *Guide for the Training of Welding Personnel: SENSE Level I—Entry Welders*, which were introduced in 1995. Specifications and guidelines for SENSE Level II—Advanced Welder and SENSE Level III—Expert Welder were introduced in 1996.

SENSE specifications and guidelines were developed according to the DACUM method, and are based on the results of a national survey of industry, trade organizations, and educational institutions to identify requisite welder skills and knowledge. In 2008, SENSE Level I—Entry Welder was modularized. In 2015, SENSE Level I—Entry Level was reviewed and minor revisions were made by the AWS Education Committee. Level II—Advanced Welder was also revised and updated to accommodate modular implementation. In addition, the performance tests for Level III—Expert Welding were incorporated into SENSE Level II—Advanced Welder as optional endorsements. There are currently two levels of SENSE: Level I—Entry Welder, and Level II—Advanced Welder.

AWS EG2.0, *Guide for the Training of Welding Personnel: SENSE Level I—Entry Welders*, is intended to provide guidelines for the implementation of an entry-level welder training program that complies with the national SENSE standards for welding education. The guidelines contained in this document are based on AWS QC10, *Specification for Qualification and Certification of SENSE Level I—Entry Welders*.

AWS QC10 and EG2.0 represent the consensus of the AWS Education Committee regarding the minimum training requirements for a Level I—Entry Welder based on industry requirements. AWS EG2.0 establishes the guidelines necessary to standardize the training of entry-level welders on a national basis.

This latest revision of EG2.0 makes reference to the AWS EG2.0 Supplement, *Supplement SENSE Level I—Entry Welder Training Performance Testing Procedures*. This supplement provides a Welder Performance Qualification Technique Sheet and accompanying AWS SWPS for each SENSE Level I workmanship and welder performance qualification test. These procedures are for educational use only, and shall not be used by employers for welder performance qualification tests or for production welding.

Comments and suggestions for the improvement of this standard are welcome. They should be sent to the Director, Education Services Department, American Welding Society, 8669 NW 36 St, # 130, Miami, FL 33166.

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# Guide for the Training of Welding Personnel: SENSE Level I—Entry Welders

## 1. General Provisions

**1.1 Scope.** EG2.0 establishes a skill standard by defining the recommended minimum welder training requirements for a Level I—Entry Welder in accordance with AWS QC10, *Specification for Qualification and Certification of SENSE Level I—Entry Welders*.

This guide is intended to specify a credible path for training organizations to implement new welding programs or to enhance existing programs to administer Level I—Entry Welder training.

Use of this guide is voluntary. Training organizations desiring to register a trainee as an AWS SENSE Entry Welder, or to record completion of modules or units, shall consider these guidelines as the minimum specified under AWS QC10. Training organizations are free to exceed these minimum requirements.

### 1.2 Objectives

**1.2.1** Provide training organizations with an industrial awareness of the occupational description, conditions, task listing, and profile that encompasses the job classification of Level I—Entry Welder.

**1.2.2** Establish a national consensus guideline, based on an industry-wide survey of skills needed in industry, detailing the minimum acceptable skill requirements for the training of a Level I—Entry Welder.

**1.2.3** Provide training organizations with a list of *key indicators (desired outcomes), objectives, evaluation criteria,* and *recommended instructional activities* necessary to accomplish Level I—Entry Welder training.

**1.2.4** Provide training organizations with a national consensus guideline with which to compare their own curriculum, evaluate third party curricula, or develop a new curriculum that is aligned with this national consensus, modular SENSE guideline.

**1.2.5** Provide training organizations with AWS documents and standards to be used as a basis for evaluating or developing training materials.

**1.2.6** Provide training organizations participating in SENSE with information related to the administration of Level I—Entry Welder testing necessary to meet the requirements of AWS QC10.

### 1.3 Implementation

**1.3.1 Accredited Training Program.** Training organizations shall be a SENSE Accredited Training Program (ATP) per AWS QC21, *Specification for AWS Accreditation of SENSE Welder Training Programs*, to be eligible to list training completers in the AWS SENSE Certificate Database.

**1.3.2 Completion Status.** AWS QC10, Clauses 6, 7, and 9 define the requirements for trainees to receive “partial completion” or “full completion” status as an AWS SENSE Entry Welder. In order to be registered in the AWS SENSE Certificate Database, the ATP shall prepare and submit the trainees scores to the AWS Education Department.

**1.3.2.1 Continuation of Full Completers in the AWS SENSE Certificate Database.** AWS QC10, Clause 11 indicates an individual with full completion as a Level I—Entry Welder status shall remain in the AWS SENSE Certificate Database for three (3) years, after which time a permanent record shall be archived.

**1.3.2.2 Continuation of Partial Completers in the AWS SENSE Certificate Database.** AWS QC10, Clause 11 indicates that an individual with partial completion status shall remain in the AWS SENSE Certificate Database for three (3) years from the date of their last completed arc welding process competency, after which time a permanent record shall be archived.