



What is SENSE?

SENSE – Schools Excelling through National Skills Education - is a set of specifications and guidelines meant to assist schools in training welders. The program guidelines were originally published in 1995 and 1996 through grants received from the U.S. Department of Education and Department of Labor. Based on a survey of the welding industry, the SENSE guidelines define two levels of knowledge and skills required in the welding workplace. Individuals trained in Training Organizations aligned to the SENSE guidelines may implement SENSE Level I: Entry Welder and/or SENSE Level II: Advanced Welder.

The SENSE specifications and guidelines help Training Organizations build a welding education program that is flexible and modular while meeting the requirements deemed essential by industry. Training Organizations can choose process modules which correspond to local industry, while still leaving the trainee able to transfer mandatory module completion to other SENSE Training Organizations.

The SENSE specifications and guidelines were created and continue to be maintained by a committee of expert volunteers from all corners of the welding industry. These industry representatives work hard to ensure that a trainee completing a program built on the SENSE specifications and guidelines will have the skills to be both hireable and productive within the welding industry.

SENSE is not a curriculum, and does not provide instructional materials, daily plans, or trainee handouts. Most popular welding curriculum developers have designed their curricula to meet or exceed the requirements found in the SENSE specifications and guidelines. SENSE does include the required knowledge-based assessments, workmanship sample procedures, and Performance Qualification Tests that are required to earn a SENSE credential.

Trainees that complete a SENSE-compliant training program are eligible to receive an AWS SENSE certificate and wallet card. The SENSE program includes four different certificates that a trainee can earn, one for each welding process offered (SMAW, GMAW, GTAW, and FCAW).



Administrative Overview

The process of registering as a SENSE Training Organization is simple. In order to register as a SENSE Training Organization (TO), the school must complete the SENSE Registration Form, sign the Letter of Commitment, and send a check, purchase order, credit card information, or wire transfer covering the registration fee to the AWS Education Services Department.

The one-time fee covers:

- Registration as a SENSE Training Organization.
- SENSE Program standards, guidelines, and resource materials.
- A library of eight AWS reference books/standards for a classroom library.
- Use of the AWS SENSE Logo.
- Complimentary use of the AWS SENSE Online System.

As part of the SENSE registration process, AWS includes a complimentary one-year membership as an AWS Educational Institution Member (EIM). Educational Institution Members receive the following yearly benefits:

- Three individual AWS memberships for the Training Organization's staff members.
- A subscription to the AWS Welding Journal.
- The right to use the exclusive AWS Educational Institution Member logo.
- A 40% discount on over 300+ documents.
- Complimentary publicity on the AWS website.
- A wall plaque identifying your organization's affiliation with AWS.

Registration as a SENSE Training Organization is composed of four parts:

- 1) The SENSE Registration Form
- 2) The Letter of Commitment
- 3) SENSE Training Library Form
- 4) Educational Institution Membership Application

Please ensure that all four parts of the SENSE registration packet are completed prior to submission to AWS.

Upon receipt of the completed application forms and payment, the AWS Membership Department will process the TOs Educational Institution Membership, along with the three individual memberships of the TOs choice. The three individuals listed on the application will receive a New Member Kit containing their membership card and member certificate, an annual subscription to the *Welding Journal*, and Members-only discounts on AWS certificate programs, educational seminars, conferences, and home-study courses.



The SENSE Program requires the payment of a one-time fee to be accompanied with the registration packet. The SENSE registration fee varies depending on the level of implementation as listed below:

Level I - \$500

Levels I and II - \$600

Even though the SENSE Program does not require additional yearly fees from schools (other than the individual trainee registration fee), SENSE Training Organizations that wish to remain Educational Institution Members after the initial complimentary year will need to submit a yearly membership due. Please refer to the Educational Institution Member Application Form located at the AWS website for the continuing membership fee. SENSE Training Organizations are not required to be EIMs, though we recommend continued membership.

The SENSE Registration package will include a wall certificate for the TO identifying them as an AWS SENSE Training Organization. Forms and other documents related to the functioning of a SENSE program are available for download from the SENSE Online system.

After processing the SENSE Training Organization's Registration package, TOs will have access to class registration spreadsheets. TOs will fill out these spreadsheets with trainee information (name, email) and submit them to the AWS Education Services Department to have their classes created. TOs will be billed each month for new trainee registrations (\$15/trainee/level). This billing only occurs when trainees are added to the SENSE program for the first time. If a trainee is already in the program (even from participation at another TO), no charge will be incurred.

Administrators, instructors, and trainees will all receive login credentials to the SENSE Online system. The primary SENSE documents, listed below, are available for download as PDFs:

SENSE Level I

EG2.0: Guide for the Training of Welding Personnel: Level I – Entry Welder

QC10: Specification for Qualification and Certification Level I – Entry Welder

SENSE Level II

EG3.0: Guide for the Training of Welding Personnel: Level II – Advanced Welder

QC11: Specification for Qualification and Certification Level II – Advanced Welder

Printed copies of the standards listed above are available for purchase at the AWS Bookstore.

Trainees who have earned a SENSE certificate will be able to access, download, and print their certificate(s) and wallet card(s) from SENSE Online. These certificates and wallet cards have unique codes that a prospective employer can verify on the SENSE Online homepage.



Training Organization Benefits

- Alignment to the AWS national education welding standard and the AWS certified workforce
- Upon graduation, trainees are issued an AWS SENSE certificate and AWS SENSE certificate wallet card for successful completion
- The National Skill Standards Board has awarded their seal of approval to the SENSE program. The NSSB Certificate Recognition program approval establishes the SENSE program as a nationally recognized, industry-based occupational certificate
- Complimentary AWS Educational Institution Membership for one year
- Choice of eight (8) free reference books for your welding library
- Program standards and guidelines resource materials
- Final written examinations provided for each module
- Registration as an AWS SENSE Training Organization
- Listing on the Welding School Locator on the AWS website
- Certificate portability
- Skill transferability
- Worker mobility
- Education and training consistency

For more information on SENSE, please call Education Services, (800) 443-9353, ext. 455 or send an email to SENSE@aws.org



Definition of Welders/SENSE Personnel

Entry Level Welder (Level I)

An individual employed in this position is considered to possess a prerequisite amount of knowledge, attitude, skills, and habits required to perform routine, predictable, repetitive, and procedural tasks involving motor skills, and limited theoretical knowledge while working under close supervision.

Advanced Welder (Level II)

An individual employed in this position is considered to possess a prerequisite amount of knowledge, attitude, skills, and habits required to perform proceduralized tasks under general supervision, and complex tasks involving the use of theoretical knowledge and motor skills under close supervision.

Program Administrator

An individual employed by a SENSE Training Organization who is responsible for ensuring that the TO complies with all TO requirements and responsibilities located in the SENSE guidelines and specifications.

Testing Supervisor

An individual employed by a SENSE Training Organization who is not engaged in the active training of trainees and who is responsible for administering all knowledge-based SENSE assessments.

Welding Instructor

An individual employed by a SENSE Training Organization who is responsible for trainee instruction and administering and inspecting all workmanship-based SENSE assessments.



Registration Form

Please complete to become a SENSE Training Organization.

Name of Educational Institution (as it will appear on the certificate)

Street Address

City State Zip Code

Business Telephone: () _____ Fax: () _____

Website: _____

Program Administrator: _____ e-mail: _____

Testing Supervisor: _____ e-mail: _____

Welding Instructor: _____ e-mail: _____

Check appropriate boxes, sign reverse, and mail to:

AWS Education Services
8669 N.W. 36th Street, # 130
Miami, FL 33166

Level I – Entry Welder (AWS QC10, AWS EG2.0)

Introductory or Secondary Level and above (high school, CTE)

- Enclosed payment of \$500.00 for Level I
- Complete Educational Institution Membership Application
- Signed Letter of Commitment
- SENSE Library Order Form

Level II – Advanced Welder (AWS QC11, AWS EG3.0)

On completion of Level I, Post-Secondary (2-year program and above)

- Enclosed payment of \$600 for Level I and Level II
- Complete Educational Institution Membership Application
- Signed Letter of Commitment
- \$100 to upgrade from Level I to Level II
- SENSE Library Order Form

<u>For AWS Use Only</u>	
Check No. :	_____
Amount:	_____
Account No. :	_____
Other:	_____

Payment Method

Bill my organization's purchase order No. _____ for _____
(a copy of the purchase order **must** be included before the registration can be processed)

AMEX VISA MASTERCARD DISCOVER
Card Number: _____ Expiration Date: _____

Signature, Program Administrator: _____



Letter of Commitment

To: AWS Academic Program Manager

Subject: *Commitment of This Organization to act as a SENSE Training Organization using or guided by AWS QC10/EG2.0 or QC11/EG3.0 Specifications and Guidelines*

The Policy of the Training Organization is to abide by all the requirements of the applicable Standards while The Organization is operated as a SENSE Training Organization.

To implement the policy, I hereby designate

as the **Program Administrator**,

as the **Testing Supervisor**,

as the **Welding Instructor**, in which capacity s/he will report directly to me.

I agree to work with the American Welding Society to formulate a Quality Assurance Manual, and to abide by its provisions.

Should any conflicts develop that cannot be resolved by the Welding Instructor and the conflicting parties, the Welding Instructor is directed to refer the problem to me for resolution. I will decide the issue in accordance with the policy.

Signed for this SENSE Training Organization by

Signature, Program Administrator

Date



Answers to Frequently Asked Questions

Q. If someone in the Training Organization is already an individual AWS Member, or if the Training Organization is already an EIM, what happens to the free membership from joining SENSE?

A. The AWS Membership Department will simply extend the Training Organization's or the individual's membership an extra year.

Q. Does AWS supply training materials to the SENSE Training Organization?

A. No, the program does not include training material. The SENSE specifications and guidelines advise the school on what to teach and provide recommended learning objectives, evaluation criteria, and learning activities. Required knowledge-based assessments, workmanship sample procedures, and Performance Qualification Tests are provided.

Q. Is it required to have a CWI or CWE at the SENSE Training Organization?

A. For the SENSE Level I program, CWIs and CWEs are not required. The documents read, "should be", which means we encourage it, but do not require it. The SENSE Level II program requires that inspection of the practical assessments be performed by a CWE or CWI.

Q. Do we need to hire an inspector or can our instructor inspect the trainee's work?

A. For workmanship samples and Performance Qualifications Tests, the instructor is allowed to be the inspector. For knowledge-based assessments, a Testing Supervisor is suggested.

Q. Does AWS conduct an up-front audit?

A. There is no up-front audit. The letter of commitment states that the Training

Organization commits to maintain the integrity of the program and will be subject to an audit should an impropriety arise.

Q. How many times can a trainee retake the exam?

A. The SENSE Online system will allow trainees to take exams up to three times. If a trainee cannot pass an exam after three attempts, the trainee should undergo retraining on the relevant materials. When the trainee is ready to take the exam again, instructors will need to submit a form to AWS to reactivate the exams for that trainee.

Q. If the school's current welding curriculum exceeds AWS SENSE program standards, can I still participate?

A. Of course. Remember, these specifications and guidelines are the minimum skills required to run an academic welding program. We encourage Training Organizations to exceed our recommended skills to meet academic or demographic requirements.

Q. Is there a fixed sequence of instruction?

A. There is no "fixed" sequence of instruction. The specifications and guidelines were designed as a road map. The actual order and method of instruction is left to the discretion of the Training Organization.



Instructor's Level I Customized Library

Select eight (8) books from the Library and return to:

AWS Education Services, SENSE Coordinator,
8669 Doral Blvd., # 130
Miami, Florida 33166

	√ Select one (1) from List A below	Catalog Price	Select
AWS A2.4	Standard Symbols for Welding, Brazing and Nondestructive Examination	\$164.00	
AWS A3.0	Standard Welding Terms and Definitions	\$172.00	
AWS WHB 1-9	Welding Handbook Volume 1 (Welding Science and Technology)	\$196.00	
AWS WHB 2-9	Welding Handbook Volume 2 (Welding Processes, Part 1)	\$196.00	
AWS WHB 3.9	Welding Handbook Volume 3 (Welding Processes, Part 2)	\$196.00	
AWS WHB 4.9	Welding Handbook Volume 4 (Materials and Applications Part 1)	\$196.00	
AWS EWH-All	Effects of Welding on Health Vol. 1-XII, Plus Index	\$184.00	
AWS B2.1	Specification for Welding Procedure and Performance Qualification	\$268.00	
√ Select two (2) from List B below			
AWS B1.10	Guide for the Nondestructive Examination of Welds	\$112.00	
AWS B1.11	Guide for the Visual Examination of Welds	\$112.00	
AWS B4.0	Standard Methods for Mechanical Testing of Welds	\$108.00	
√ Select five (5) from List C below			
AWS C5.3	Recommended Practices for Air Carbon Arc Cutting and Gouging	\$64.00	
AWS C5.5/C5.5M	Recommended Practices for Gas Tungsten Arc Welding	\$104.00	
AWS C5.10/C5.10M	Recommended Practices for Shielding Gases for Welding and Cutting	\$76.00	
AWS AWS	Arc Welding and Cutting Safety	\$32.00	
AWS SGSH	The Independent Shop's Guide to Welding Safety and Health	\$68.00	
AWS F2.2	Lens Shade Selector	\$36.00	
AWS F2.3M	Specification for Use and Performance of Transparent Welding Curtains and Screens	\$60.00	
AWS F3.2M/F3.2	Ventilation Guide for Weld Fume	\$68.00	
AWS Fumes & Gases	Fumes and Gases in the Welding Environment	\$136.00	
AWS FSW	Fire Safety in Welding and Cutting	\$32.00	
AWS OWS	Oxyfuel Gas Welding, Cutting, and Heating Safety	\$32.00	
AWS SP	Safe Practices	\$68.00	
AWS C4.2/C4.2M	Recommended Practices for Safe Oxyfuel Gas Cutting Torch Operation	\$76.00	
AWS GWF	Guide for Setting up a Welder Training Facility	\$60.00	
Free Publications downloadable from – www.aws.org/technical/facts			
ANSI.Z49.1	Safety in Welding, Cutting, and Allied Processes	Free Download	
Fact Sheets	Safety and Health Fact Sheets	Free Download	

Please complete to ensure a prompt delivery and retain a copy of this form with your Library selections for your records.

Ship books ATTN TO: _____ Daytime Telephone _____

Street Shipping Address: _____

City _____ State _____ Zip _____

Training Organization (TO) Name _____ SENSE ID _____

E-mail _____

The SENSE Instructor's Level I Library will be kept in our main library our welding lab area my office.