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| Module 2: |  Safety and Health of Welders**Key Indicator** 1. Demonstrate proper use and inspection of personal protection equipment (PPE).

**Objective:** Provided with a period of instruction, orientation, and demonstration about general welding safety, and given the necessary personal protective clothing and equipment, the trainee demonstrates proper use and inspection of personal protective equipment (PPE).**Evaluation Criteria:** The trainee inspects and wears proper personal protective clothing and equipment while conducting, or in the vicinity of welding and cutting activities; follows established procedures to ensure the safety of the work area and the general public; and achieves a score of 100% on the written safety test for Module 2: Safety and Health of Welders, based on ANSI Z49.1.**Recommended Instructional Activities:**□ Provide an orientation to Personal Protective Equipment (PPE) in welding.□ Provide demonstrations related to ANSI Z49.1, Section 4, Protection *of Personnel and the General Area*.□ Keep records reflecting successful completion of safe practice training.□ Observe each trainee’s ability to carry out training exercises. **Notes:**1. A safety test based on ANSI Z49.1 shall be administered prior to skill training. Trainees shall achieve a minimum score of 100% on safety test before proceeding with skill training.
2. Proper safety procedures should be reinforced and observed in all modules and units.
3. Demonstrates proper safe operation in the work area.

**Objective:** Provided with a period of instruction, orientation, and demonstration about general welding safety, and given the necessary personal protective clothing and equipment, the trainee demonstrates safe practices in the work area.**Evaluation:** The trainee: wears proper personal protective clothing and equipment while conducting, or in the vicinity of welding and cutting activities; follows established procedures to ensure safety of the work area and general public; and achieves a score of 100% on a written safety test for Module 2: Safety and Health for Welders, based on ANSI Z49.1.**Recommended Instructional Activities:**□ Provide safety tour and orientation of the institution’s welding work area.□ Provide demonstrations related to ANSI Z49.1, Section 4, Protection of Personnel and the General Area.□ Provide demonstrations related to ANSI Z49.1, Part 1-General Aspects.□ Keep records reflecting successful completion of safe practice training. **Notes:**1. A safety test based on ANSI Z49.1 shall be administered prior to skill training. Trainees shall achieve a minimum score of 100% on safety test before proceeding with skill training.
2. Proper safety procedures should be reinforced and observed in all modules and units.
3. Demonstrates proper use and inspection of ventilation equipment.

**Objective:** Provided with a period of instruction, orientation, and demonstration about the operation, inspection and positioning of ventilation equipment, the trainee demonstrates the proper use and inspection of ventilation equipment.**Evaluation:** The trainee: conducts a proper inspection of ventilation equipment; uses the best possible means of ventilation available for the capture of welding and brazing fumes as close as possible; and achieves a score of 100% on a written safety test for Module 2: Safety and Health for Welders, based on ANSI Z49.1.**Recommended Instructional Activities:**□ Provide demonstrations related to ANSI Z49.1, Section 5, Ventilation.□ Keep records reflecting successful completion of safe practice training.□ Observe each trainee’s ability to carry out training exercises.**Notes:**1. A safety test based on ANSI Z49.1 shall be administered prior to skill training. Trainees shall achieve a minimum score of 100% on safety test before proceeding with skill training.
2. Proper safety procedures should be reinforced and observed in all modules and units.
3. Demonstrates proper Hot Zone operation.

**Objective:** Provided with a period of instruction, orientation, and demonstration about safety in the Hot Zone, the trainee demonstrates safe practices in the Hot Zone.**Evaluation:** The trainee: follows established procedures to ensure the safety of the work area and the general public; follows established procedures and policies regarding emergency action plans and for the use of safety equipment; performs fire safety inspections of the work area; demonstrates proper safety procedures in the Hot Zone; and achieves a score of 100% on a written safety test for Module 2: Safety and Health for Welders, based on ANSI Z49.1.**Recommended Instructional Activities:**□ Provide safety tour and orientation of the institution’s Hot Zone areas.□ Explain the concepts and use of Hot Zone permits.□ Provide demonstrations related to ANSI Z49.1, Section 4, Protection of Personnel and the General Area.□ Provide demonstrations related to ANSI Z49.1, Section 6, Fire Prevention and Protection.□ Keep records reflecting successful completion of safe practice training.□ Observe each trainee’s ability to carry out training exercises.**Notes:**1. A safety test based on ANSI Z49.1 shall be administered prior to skill training. Trainees shall achieve a minimum score of 100% on safety test before proceeding with skill training.
2. Proper safety procedures should be reinforced and observed in all modules and units.
3. Demonstrates proper work actions for working in confined areas.

**Objective:** Provided with a period of instruction, orientation, and demonstration about safety precautions for working in confined spaces, the trainee demonstrates safe practices related to working in confined spaces.**Evaluation:** The trainee: follows established procedures to ensure the safety of the work area; uses best possible means of ventilation available for the capture of welding and brazing fumes as close to the source as possible; follows established procedures and policies regarding emergency action plans for working in confined spaces; performs fire safety inspections of the work area; follows established procedures and policies for working in confined areas; and achieves a score of 100% on a written safety test for Module 2: Safety and Health for Welders, based on ANSI Z49.1.**Recommended Instructional Activities:**□ Provide demonstrations related to ANSI Z49.1, Section 7, Confined Spaces.□ Provide demonstrations related to ANSI Z49.1, Section 5, Ventilation.□ Provide demonstrations related to ANSI Z49.1, Section 6, Fire Prevention and Protection. □ Provide demonstrations related to ANSI Z49.1, Section 9, Precautionary Information.□ Keep records reflecting successful completion of safe practice training.□ Observe each trainee’s ability to carry out training exercises.**Notes:**1. A safety test based on ANSI Z49.1 shall be administered prior to skill training. Trainees shall achieve a minimum score of 100% on safety test before proceeding with skill training.
2. Proper safety procedures should be reinforced and observed in all modules and units.
3. Demonstrates proper use of precautionary labeling and MSDS information.

**Objective:** Provided with a period of instruction, orientation, and demonstration about the purpose and design of material labels and Material Safety Data Sheets (MSDS), and other written materials used in support of welding and cutting activities, the trainee can demonstrate the proper use of label and MSDS information to identify proper safety procedures for work related materials and solvents.**Evaluation:** The trainee: wears proper personal protective clothing and equipment while conducting, or in the vicinity of welding and cutting activities; follows established procedures to ensure the safety of the work and the general public; identify proper safety procedures for work related materials and solvents based on label and MSDS information; follows written instructions and precautions (including Material Safety Data Sheets) for materials used in support of welding and cutting activities; and achieves a score of 100% on a written safety test for Module 2: Safety and Health for Welders, based on ANSI Z49.1.**Recommended Instructional Activities:**□ Provide demonstrations related to ANSI Z49.1, Section 9, Precautionary Information.□ Provide demonstrations related to ANSI Z49.1, Section 4, Protection of Personnel and the General Area.□ Provide demonstrations related to ANSI Z49.1, Section 5, Ventilation. □ Provide demonstrations related to ANSI Z49.1, Section 9, Fire Prevention and Protection.□ Keep records reflecting successful completion of safe practice training.□ Observe each trainee’s ability to carry out training exercises.**Notes:**1. A safety test based on ANSI Z49.1 shall be administered prior to skill training. Trainees shall achieve a minimum score of 100% on safety test before proceeding with skill training.
2. Proper safety procedures should be reinforced and observed in all modules and units.
3. Demonstrates proper inspection and operation of equipment used for each welding and thermal cutting process.

**Objective:** Provided with a period of instruction, orientation, and demonstration about the safe inspection and use of welding and thermal cutting equipment, and given the necessary personal protective clothing and equipment, the trainee demonstrates proper inspection and operation of equipment of each welding and thermal cutting process used.**Evaluation:** The trainee: follows correct procedures for inspection of welding and cutting equipment; uses the best possible means of ventilation available for the capture of welding and brazing fumes as close to the source as possible; follows correct procedures for operation of welding and cutting equipment; and achieves a score of 100% on a written safety test for Module 2: Safety and Health for Welders, based on ANSI Z49.1.**Recommended Instructional Activities:**□ Provide demonstrations related to ANSI Z49.1, Section 11, Arc Welding and Cutting Equipment Safety.□ Provide demonstrations related to ANSI Z49.1, Section 10, Oxyfuel Gas Welding and Cutting Safety.□ Provide demonstrations related to ANSI Z49.1, Section 4, Ventilation. □ Keep records reflecting successful completion of safe practice training.□ Observe each trainee’s ability to carry out training exercises.**Notes:**1. A safety test based on ANSI Z49.1 shall be administered prior to skill training. Trainees shall achieve a minimum score of 100% on safety test before proceeding with skill training.
2. Proper safety procedures should be reinforced and observed in all modules and units.
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