✏️
Edit page

CW High School
SMAW

1. **Welding safety (2.00%)**

   Learning Targets

   1.1 **I can explain the proper inspection and use of personal protective equipment (PPE)**

Learning Target	Descriptor	Definition
4	Proficient	I can explain the proper inspection and use of personal protective equipment (PPE)
3	Developing	3
2	Basic	2
1	Minimal	1
0	No Evidence	No evidence shown.

   1.2 **I can identify electrical and mechanical hazards**

Learning Target	Descriptor	Definition
4	Proficient	I can identify electrical and mechanical hazards
3	Developing	3
2	Basic	2
1	Minimal	1
0	No Evidence	No evidence shown.

   1.3 **I can identify health hazards in the welding shop**

Learning Target	Descriptor	Definition
4	Proficient	I can identify health hazards in the welding shop
3	Developing	3
2	Basic	2
1	Minimal	1
0	No Evidence	No evidence shown.

   1.4 **I can Identify lab safety requirements of external agencies**

Learning Target	Descriptor	Definition
4	Proficient	I can Identify lab safety requirements of external agencies

✏️
Edit page

CW High School
SMAW

Learning Target	Descriptor	Definition
3	Developing	3
2	Basic	2
1	Minimal	1
0	No Evidence	No evidence shown.

1.5 I can explain the purpose and use of precautionary labeling and MSDS information

Learning Target	Descriptor	Definition
4	Proficient	I can explain the purpose and use of precautionary labeling and MSDS information
3	Developing	3
2	Basic	2
1	Minimal	1
0	No Evidence	No evidence shown.

2. SMAW Theory (35.00%)

Learning Targets

2.1 I can identify equipment components for SMAW

Learning Target	Descriptor	Definition
4	Proficient	I can identify equipment components for SMAW
3	Developing	3
2	Basic	2
1	Minimal	1
0	No Evidence	No evidence shown.

2.2 I can explain the principles of operation and identify the advantages and disadvantages of SMAW.

Learning Target	Descriptor	Definition
4	Proficient	I can explain the principles of operation and identify the advantages and disadvantages of SMAW.
3	Developing	3

✏️
Edit page

CW High School
SMAW

Learning Target	Descriptor	Definition
2	Basic	2
1	Minimal	1
0	No Evidence	No evidence shown.

2.3 I can describe, using Ohm's law, how the variables of a welding system affect the characteristics of a welding arc.

Learning Target	Descriptor	Definition
4	Proficient	I can describe, using Ohm's law, how the variables of a welding system affect the characteristics of a welding arc.
3	Developing	I can describe how the variables of a constant current welding system affect the characteristics of a welding arc, but I can only relate part of it to Ohm's law.
2	Basic	I can describe how the variables of a constant current welding system affect the characteristics of a welding, but I can not related it to Ohm's law.
1	Minimal	I understand that welding uses electricity to melt metal, but I don't know how and I don't understand what happens with different polarities or variables.
0	No Evidence	No evidence shown.

2.4 I can identify the major components of the AWS electrode classification and specification systems, apply it to the following electrodes 6010, 6011, 6013, 7018, and 7024, and explain the purpose of the flux coating on an electrode.

Learning Target	Descriptor	Definition
4	Proficient	I can identify the major components of the AWS electrode classification and specification systems, apply it to the following electrodes 6010, 6011, 6013, 7018, and 7024, and explain the purpose of the flux coating on an electrode.
3	Developing	I can identify the major components of the AWS electrode classification system, and explain the purpose of the flux coating on an electrode.
2	Basic	I can identify some of the AWS electrode classification system, and explain the purpose of the flux coating on an electrode.
1	Minimal	I understand that the different AWS number represent different electrode types and that flux is needed to weld, but I don't understand how to read the system or how the rods are different.
0	No Evidence	No evidence shown.

2.5 I can differentiate between constant current and constant voltage power sources and identify the correct power source, polarity, cable size, and electrode for SMAW.

Learning Target	Descriptor	Definition

✏️
Edit page

CW High School

SMAW

Learning Target	Descriptor	Definition
4	Proficient	I can differentiate between constant current and constant voltage power sources and identify the correct power source, polarity, cable size, and electrode for SMAW.
3	Developing	3
2	Basic	2
1	Minimal	1
0	No Evidence	No evidence shown.

2.6 I can identify the welding positions, joint types, parts of a weld, and types of welds.

Learning Target	Descriptor	Definition
4	Proficient	I can identify the welding positions, joint types, parts of a weld, and types of welds.
3	Developing	3
2	Basic	2
1	Minimal	1
0	No Evidence	No evidence shown.

3. Welding Labs (60.00%)

Learning Targets

3.1 I can perform surface welds using 6010 and 6013 that pass the AWS specification QC10 visual requirements for surfacing welds.

Learning Target	Descriptor	Definition
4	Proficient	I can perform surface welds using 6010 and 6013 that pass the AWS specification QC10 visual requirements for surfacing welds.
3	Developing	I can perform surface welds in the flat position, and assess the basic welding flaws. The welds are uniform and complete. They contain some undercut or overlap and may contain minor porosity or inclusions.
2	Basic	I can perform welds surface welds in the flat position, and assess the basic welding flaws. The welds are not uniform in size, and contain undercut, overlap, and/or small inclusions and porosity, but they are complete welds.
1	Minimal	I can strike an arc and make small beads, but I can not produce a complete weld the length of the metal.
0	No Evidence	No evidence shown.

✏️
Edit page

CW High School
SMAW

3.2 I can perform FILLET welds on a LAP joint in the FLAT and HORIZONTAL positions, and assess the basic welding flaws. The welds are consistent with QC 10 visual inspection.

Learning Target	Descriptor	Definition
4	Proficient	I can perform FILLET welds on a LAP joint in the FLAT and HORIZONTAL positions, and assess the basic welding flaws. The welds are consistent with QC 10 visual inspection.
3	Developing	I can perform the weld, and assess the basic welding flaws. The welds are uniform and complete. They contain some undercut or overlap and may contain minor porosity or inclusions.
2	Basic	I can perform the welds and assess the basic welding flaws. The welds are not uniform in size, and contain undercut, overlap, and/or small inclusions and porosity, but they are complete welds.
1	Minimal	I can strike an arc but I can not produce a complete weld the length of the metal.
0	No Evidence	No evidence shown.

3.3 I can perform SINGLE and MULTIPLE pass FILLET welds on a TEE joint in the FLAT and HORIZONTAL positions, and assess the basic welding flaws. The welds are consistent with QC 10 visual inspection.

Learning Target	Descriptor	Definition
4	Proficient	I can perform SINGLE and MULTIPLE pass FILLET welds on a TEE joint in the FLAT and HORIZONTAL positions, and assess the basic welding flaws. The welds are consistent with QC 10 visual inspection.
3	Developing	I can perform the weld, and assess the basic welding flaws. The welds are uniform and complete. They contain some undercut or overlap and may contain minor porosity or inclusions.
2	Basic	I can perform the welds and assess the basic welding flaws. The welds are not uniform in size, and contain undercut, overlap, and/or small inclusions and porosity, but they are complete welds.
1	Minimal	I can strike an arc but I can not produce a complete weld the length of the metal.
0	No Evidence	No evidence shown.

3.4 I can perform OPEN ROOT SQUARE GROOVE welds on a BUTT joint in the HORIZONTAL positions, and assess the basic welding flaws. The welds are consistent with QC 10 visual inspection.

Learning Target	Descriptor	Definition
4	Proficient	I can perform OPEN ROOT SQUARE GROOVE welds on a BUTT joint in the HORIZONTAL positions, and assess the basic welding flaws. The welds are consistent with QC 10 visual inspection.
3	Developing	I can perform the weld, and assess the basic welding flaws. The welds are uniform and complete. They contain some undercut or overlap and may contain minor porosity or inclusions.
2	Basic	I can perform the welds and assess the basic welding flaws. The welds are not uniform in size, and contain undercut, overlap, and/or small inclusions and porosity, but they are complete welds.
1	Minimal	I can strike an arc but I can not produce a complete weld the length of the metal.

✏️

CW High School
SMAW

Learning Target	Descriptor	Definition
0	No Evidence	No evidence shown.

3.5 I can pass a bend test on an OPEN ROOT SQUARE GROOVE welds on a BUTT joint in the HORIZONTAL. (6010 root and 7018 cover)

Learning Target	Descriptor	Definition
4	Proficient	I can pass a bend test on an OPEN ROOT SQUARE GROOVE welds on a BUTT joint in the HORIZONTAL. (6010 root and 7018 cover)
3	Developing	Both parts bend without breaking, but only one passes.
2	Basic	Both parts bend without breaking, but neither one passes or one part breaks and the other passes.
1	Minimal	Neither part passes, but at least one bends without breaking.
0	No Evidence	No evidence shown.

3.6 I can perform MULTIPLE pass Fillet welds in the VERTICAL positions, with 7018 electrodes and assess the basic welding flaws. The welds are consistent with QC-10 MECHANICAL inspection.

Learning Target	Descriptor	Definition
4	Proficient	I can perform MULTIPLE pass Fillet welds in the VERTICAL positions, with 7018 electrodes and assess the basic welding flaws. The welds are consistent with QC-10 MECHANICAL inspection.
3	Developing	The weld coupons are bent, one passes, and one fails with minor discontinuities.
2	Basic	The weld coupons are bent, one passes, and one fails with major discontinuities or breaks in half.
1	Minimal	Both weld coupons fail the bend test, but one has only a minor discontinuities.
0	No Evidence	No evidence shown.

Submitted on 10/26/2021 by Bob Morehead