

# Oxyacetylene Welding (2002)

Adopted 2002

## Demonstrate Employability Skills

18. Identify employment opportunities. A.18

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19. Identify levels of training recommended for related careers. A.19

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20. Understand salary, wages and benefits packages. A.20

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### Safety

26. Explain the purpose for safety policies. A.26

27. Discuss the role of OSHA and EPA

- Locate information in MSDS

A.27

28. Participate in OSHA training, if possible

- Lock Out/Tag Out
- HAZCOM
- MSDS
- Bloodborne Pathogens

A.28

29. Explain the proper steps in reporting an accident or emergency. A.29

30. Explain the hazards associated with specific types of equipment and tools. A.30

31. Perform machine operator safety checks of equipment and accessories, when necessary. A.31

32. Practice tool safety. A.32

33. Describe the types of fire hazards found in the workplace. A.33

34. Discuss electrical hazards. A.34

35. Demonstrate safe use of personal protective equipment. A.35

36. Demonstrate safe material handling techniques

- Lifting
- Transporting
- Storing

A.36

37. Understand established first aid procedures. A.37

38. Practice good housekeeping. A.38

39. Comply with company safety policies. A.39

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### Basic Academic Skills

- 40. Apply mathematical operations involving whole numbers, fractions, decimals, percentages; mathematical word problems, ratios, etc., when necessary
  - Addition
  - Subtraction
  - Multiplication
  - Division
- 41. Apply advanced mathematical operations, when necessary
  - Algebra
  - Geometry
  - Trigonometry
  - Calculus
  - Statistical Methods
- 42. Apply scientific principles, when necessary
  - Physics
  - Chemistry
- 43. Interpret charts, table, and graphs. A.43
- 44. Apply reading and writing skills, when necessary. A.44

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### Blueprint Reading

- 50. Identify basic elements of blueprints
  - Terms
  - Components
  - Symbols
- 51. Discuss different types of drawings. A.51
- 52. Interpret drawings
  - Bill of Materials
  - Revisions
  - Tolerances
- 53. Interpret symbols. A.53

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### Measurement Tools and Techniques

- 54. Identify types of measuring instruments. A.54
- 55. Use appropriate measurement instrument for a measurement task. A.55
- 56. Read measuring instruments. A.56
- 57. Identify the appropriate formula and units for a measurement task. A.57
- 58. Differentiate between English and Metric measurement systems, when necessary. A.58
- 59. Communicate measurements using proper symbols or words. A.59

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### Interpret Drawing and Welding Symbols and Written Welding Procedures

- 01. Interpret basic elements of drawing/sketch
    - Structural members
    - Sequence of assembly
    - Dimensions of tolerances
    - Scale
    - View interpretation
    - List of materials
  - 02. Interpret welding symbol information
    - Type of weld required
    - Filler metal
    - Special details
    - Non-destructive testing requirements
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## Perform Manual Oxyfuel (OF) Cutting

01. Perform safety inspections of equipment and accessories
  - Protective clothing and equipment
  - Manual OFC equipment and accessories
  - Oxygen/fuel gas supply systems and accessories
  - Hand tools
  - Work area
  - Communicate hazard warnings G.01

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02. Make minor external repairs to equipment and accessories (preventative maintenance only)
  - Manufacturer's recommendations
  - Company repair policy
  - Equipment troubleshooting
  - Regulators G.02

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03. Set up manual oxyfuel gas cutting operations on plain carbon steel
  - Regulator set for appropriate tip/fuel gas
  - Tip selection (size and type) G.03

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04. Operate manual oxyfuel cutting equipment
  - Control gas flow and flame size/tip
  - Initial lighting procedure
  - shut down procedures G.04

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05. Perform straight cutting operations on plain carbon steel plate and pipe. G.05

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06. Perform shape cutting operations on carbon steel plate pipe. G.06

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07. Perform bevel cutting operations on plain carbon steel and pipe. G.07

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08. Remove weld metal from plain carbon steel using weld washing techniques
  - Tip selection to avoid destruction of metal G.08

## Perform Machine Oxyfuel (OF) Gas Cutting (Track Burner)

01. Perform safety inspections of equipment and accessories
  - Protective clothing and equipment
  - Hand tools
  - Work area
  - Machine oxyfuel gas cutting (track burner) equipment and accessories
  - Oxygen/fuel gas supply systems and accessories
  - Communicate hazard warning H.01

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02. Make minor external repairs to equipment and accessories
  - Manufacturer's recommendations
  - Company repair policy
  - Equipment troubleshooting
  - Regulators H.02

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03. Set up machine oxyfuel cutting (track burner) operations on plain carbon steel
  - Regulator set for appropriate tip/fuel gas
  - Tip selection (size and type)
  - Alignment of track mechanism H.03

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04. Operate machine oxyfuel gas cutting (track burner) equipment
  - Central gas flow
  - Initial igniting procedure
  - Travel speed
  - Shut down procedures H.04

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05. Perform straight cutting operations on plain carbon steel plate. H.05