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Schools Receive a 20% Educational Discount
Each Complete Course Includes:
an instructor’s guide; DVD(s), one student workbook, one technical guide, tests & answer keys.

• Instructor’s Guide

With comprehensive instructions for implementing each topic.

• DVDs

• One Student Workbook

Featuring easy to follow practice sessions based on video demonstrations and summaries of essential theory.

• One Technical Guide

An individual resource for instructors and students, each technical guide contains process specific information on equipment, process variables, weldability, pre- and post-weld procedures, shielding gases, electrodes, safety and more.

• Answer Keys for Written Test

Answer keys for each written test makes it easy for instructors to measure student mastery of key concepts. (50 copies of each written test are shipped with each complete course.)
**Shielded Metal Arc Welding Basic** Updated 2019

**Complete Course**: 4 DVDs (3 hrs. 47 min); 1 Instructor Guide; 5 written tests, 50 copies each

**Topics**
1. Shielded Metal Arc Welding Basic, Course Overview
2. Introduction to Shielded Metal Arc Welding
3. Arc Welding Safety
4. The Five Essentials
5. Striking & Controlling the Arc
6. Pad of Beads, Flat Position, E6013
7. Pads of Beads, Flat Position, E6010
8. Pads of Beads, Horizontal Position, E6010
9. The Welders Role In Quality Control
10. Fillet Weld, Lap Joint, Horizontal Position, E6013
11. Fillet Weld, Lap Joint, Horizontal Position, Uphill, E6010
12. Fillet Weld, Lap Joint, Overhead Position, E6010
13. Electrode Selection
14. Three-Bead Fillet Weld, T-joint, Horizontal Position, E6010
15. Fillet Weld, T-joint, Horizontal Position, Break Test, E6010
16. Fillet Weld, T-joint, Vertical Position, Uphill, with Z-weave Cover, E6010
17. Three-Bead Fillet Weld (Root & 2 Weaves), T-joint Vertical Position, Uphill, E6010
18. Three-Bead Fillet Weld, T-joint, Overhead Position, E6010
19. Fillet Weld, T-joint, Overhead Position, Break Test, E6010
20. The Low Hydrogen Electrodes and Their Uses
21. Three-Bead Fillet Weld, T-joint, Vertical Position, Uphill, with Z-weave Cover, E7018
22. Three-Bead Fillet Weld, T-joint, Overhead Position, E7018
23. Power Source Technology
24. Square-Groove Weld, Butt Joint, Horizontal Position
25. Square-Groove Weld, Butt Joint, Horizontal Position, Guided Bend Test
26. Square-Groove Weld, Butt Joint, Vertical Position, Uphill

**Recommended as an advanced plate curriculum for Structural welding and displaying the use of backing strips.**

**Topics**
1. Shielded Metal Arc Welding Structural - Course Overview
2. Introduction to Shielded Metal Arc Welding
3. Safety & Health Of Welders
4. Single V-Groove Weld, Butt Joint, Horizontal (2G) Position
5. Weld Size & Profile
6. Procedure And Welder Qualification
7. Single V-Groove Weld, Butt Joint, Horizontal (2G) Position, Destructive Test
8. Single V-Groove Weld, Butt Joint, Vertical (3G) Position
9. Destructive Testing
10. Single V-Groove Weld, Butt Joint, Overhead (4G) Position
11. Nondestructive Testing
12. Single V-Groove Weld, Butt Joint, Horizontal (2G) Position
13. Air Carbon Arc Cutting & Gouging
14. Single V-Groove Weld, Butt Joint, Horizontal (2G) Position, Destructive Test
15. Single V-Groove Weld, Butt Joint, Vertical (3G) Position
16. Metals Identification for Welding
17. Single V-Groove Weld, Butt Joint, Overhead (4G) Position
18. Welding Cast Iron & Hard Surfacing Welds
19. Single V-Groove Weld, Butt Joint, Flat (1G) Position

**Product**

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<td>DV2</td>
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**Instructor guide**

*Includes 1 student workbook, 1 technical guide & answer keys for tests

**Site License**

*Includes 1 student workbook, 1 technical guide & answer keys for tests

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**To order, use form on page 19, Call 800.332.9448 Ext. 9509 or visit www.welding.org**
**COMPLETE TRAINING COURSES**

### Shielded Metal Arc Welding – Pre-pipe (Advanced 2)

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<td>Complete Course: 3 DVDs (1 hr. 58 min); 1 Instructor Guide; 4 written tests, 50 copies each</td>
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**Recommended as an advanced curriculum to prepare students for SMAW - open root - pipe welding.**

**Topics:**
1. Shielded Metal Arc Welding Pre-Pipe - Course Overview
2. Introduction to Shielded Metal Arc Welding
3. Safety & Health of Welders
4. Single V-Groove Weld, Butt Joint, Horizontal (2G) Position
5. Weld Size & Profile
6. Procedure & Welder Qualification
7. Single V-Groove Weld, Butt Joint, Horizontal (2G) Position, Destructive Test
8. Single V-Groove Weld, Butt Joint, Vertical (3G) Position
9. Destructive Testing
10. Single V-Groove Weld, Butt Joint, Overhead (4G) Position
11. Nondestructive Testing
12. Single V-Groove Weld, Butt Joint, Vertical Down (3G) Position
13. Air Carbon Arc Cutting & Gouging
15. Metals Identification Of Welding
17. Welding Cast Iron & Hard Surfacing Welds
18. Single V-Groove, Butt Joint, Flat (1G) Position

### Shielded Metal Arc Welding 6-Inch Pipe Uphill

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<td>DV06</td>
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**Topics:**
1. Shielded Metal Arc Welding 6" Pipe Uphill - Course Overview
2. Introduction to Shielded Metal Arc Welding Pipe
3. Safety & Health of Welders
4. Weld Quality: Reading the Puddle
5. Preparation & Assembly of an Open Root Pipe Joint
7. Standard Destructive Test - Schedule 80 Pipe
8. Methods of Applying the Root Pass
9. Single V-Groove Weld, Butt Joint, (5G) Pipe - Schedule 80
10. How to Read & Apply Welding Procedures
12. Preheat & Interpass Temperatures

### Shielded Metal Arc Welding 2-Inch Pipe Uphill

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<td>DV03</td>
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**Topics:**
1. Shielded Metal Arc Welding 2" Pipe Uphill - Course Overview
2. Introduction to Shielded Metal Arc Welding Pipe
3. Safety & Health of Welders
4. Weld Quality: Reading the Puddle
5. Preparation & Assembly of an Open Root Pipe Joint - Double Extra Strong (XX Strong)
7. Standard Destructive Test - Double Extra Strong Pipe (XX Strong)
8. Single V-Groove Weld, Butt Joint, (5G) Pipe - Double Extra Strong (XX Strong)
10. Preparation & Assembly of an Open Root Pipe - Schedule 80
11. Single V-Groove weld, Butt Joint, (2G) Pipe - Schedule 80
12. Standard Destructive Test Schedule 80 Pipe
13. Single V-Groove Weld, Butt Joint, (5G) Pipe - Schedule 80
15. Pipe Scheduling & Tubing Dimensions

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<td>Complete SMAW 2&quot; Pipe Uphill</td>
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<td>2 written tests, 50 copies ea.</td>
<td>V03.41</td>
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<td>Instructor guide*</td>
<td>V03.40</td>
<td>$59.00</td>
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<td>*Includes 1 student workbook, 1 technical guide &amp; answer keys for tests</td>
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<tr>
<td>Site License</td>
<td>V03.50</td>
<td>$500.00</td>
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### Shielded Metal Arc Welding Pipe - Downhill

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<td>Complete Course: 2 DVDs (1 hr. 49 min); 1 Instructor Guide; 2 written tests, 50 copies each</td>
<td>DV04</td>
<td>$1,125.00</td>
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</table>

**Topics:**
1. Shielded Metal Arc Welding Pipe Downhill - Course Overview
2. Introduction to Shielded Metal Arc Welding Pipe - Downhill
3. Safety & Health of Welders
4. Weld Quality: Reading the Puddle - Downhill Travel
5. Preparation & Assembly of a 6" Open Root Pipe Joint - Downhill
6. Single V-Groove Weld, Butt Joint, (5G) Position, 6" Pipe- Downhill
7. Standard Visual Inspection - Schedule 80 Pipe - Downhill
8. Pipeline Construction & Welding - Downhill
9. How to Read & Apply Welding Procedures - Downhill
10. Single V-Groove Weld, Butt Joint, (6G) Position, 6" Pipe- Downhill
11. Standard Destructive Test, Guided Bend & Nick Break Test
12. Preparation & Assembly of a 2" Open Root Pipe Joint - Downhill
13. Single V-Groove Weld, Butt Joint, (5G) Position, 2" Pipe - Downhill
15. Pipe Scheduling & Tubing Dimensions

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<td>Instructor guide*</td>
<td>V04.40</td>
<td>$59.00</td>
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<td>*Includes 1 student workbook, 1 technical guide &amp; answer keys for tests</td>
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**Gas Metal Arc Welding Basic**

Complete Course: 3 DVDs (2 hrs. 10 min); 1 Instructor Guide; 2 written tests, 50 copies each  

**Topics**
1. Gas Metal Arc Welding Basic - Course Overview
2. Introduction to Gas Metal Arc Welding
3. Safety & Health of Welders
4. Installation, Setup & Maintenance of Equipment
5. Surfacing Welds, Flat Position
6. Square Groove & Fillet Welds, Butt, Lap & T-Joints, Flat Position
7. Square Groove & Fillet Welds, Butt, Lap & T-Joints, Horizontal Position
8. The Quality of Welds
9. Square Groove & Fillet Welds, Butt, Lap & T-Joints, Vertical Position, Down
10. Square Groove & Fillet Welds, Butt, Lap & T-Joints, Vertical Position, Up
11. Metal Transfer & Shielding Gases
12. Square Groove & Fillet Welds, Butt, Lap & T-Joints, Overhead Position
13. Square V-Groove, Butt Joint, Horizontal Position
14. Square V-Groove, Butt Joint, Horizontal Position, Guided Bend Test
15. Square V-Groove, Butt Joint, Vertical Position, Down
16. Square V-Groove, Butt Joint, Vertical Position, Down, Guided Bend Test
17. Square V-Groove, Butt Joint, Vertical Position, Up
18. Square V-Groove, Butt Joint, Flat Position
19. Square V-Groove, Butt Joint, Overhead Position
20. Fillet Welds, Lap & T-Joints, Horizontal Position
21. Fillet Welds, Lap & T-Joints, Vertical Position, Down
22. Fillet Welds, Lap & T-Joints, Flat Position with Spray Transfer
23. Fillet Welds, Lap & T-Joints, Horizontal Position with Spray Transfer
24. Single V-Groove Weld, Flat Position with Spray Transfer

**Product** | **Item No.** | **List Price**
--- | --- | ---
Complete GMAWB course | DV10 | $995.00
2 written tests, 50 copies ea. | V10.41 | $30.00
Instructor guide* | V10.40 | $59.00
*Includes 1 student workbook, 1 technical guide & answer keys for tests
Site License | V10.50 | $500.00

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**Gas Metal Arc Welding Advanced**

Complete Course: 2 DVDs (1 hr. 52 min); 1 Instructor Guide; 2 written tests, 50 copies each  

**Topics**
1. Gas Metal Arc Welding Advanced - Course Overview
2. Introduction to Gas Metal Arc Welding - Spray & Pulse Spray Transfer
3. Safety & Health of Welders
4. Equipment Setup - Operation & Shut-Down
5. Single V-Groove Weld, Butt Joint, (1G) Position - Spray
6. Introduction to Pulse Spray Transfer
7. Single V-Groove Weld, Butt Joint, (2G) Position - Pulse
8. Standard Destructive Test
9. Weldability of Aluminum Alloys
10. Fillet Weld, Lap & T-Joint (2F) Position
11. Fillet Weld, Lap & T-Joint (3F) Position
12. Single V-Groove Weld, Butt Joint, (3G) Position
15. Fillet Weld, Lap & T-Joint (2F) Position

**Product** | **Item No.** | **List Price**
--- | --- | ---
Complete GMAWA course | DV11 | $1,125.00
2 written tests, 50 copies ea. | V11.41 | $30.00
Instructor guide* | V11.40 | $59.00
*Includes 1 student workbook, 1 technical guide & answer keys for tests
Site License | V11.50 | $500.00

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**Gas Metal Arc Welding Pipe**

Complete Course: 2 DVDs (1 hr. 10 min); 1 Instructor Guide; 2 written tests, 50 copies each  

**Topics**
1. Gas Metal Arc Welding Pipe - Course Overview
2. Introduction to Gas Metal Arc Welding
3. Safety & Health of Welders
4. Equipment Setup, Operation & Shutdown
5. Preparation & Assembly of an Open Root Pipe Joint
6. Single V-Groove Weld, Butt Joint, (2G) Position
7. Weld Quality: Visual Inspection
8. Standard Destructive Test - Schedule 80 Pipe
10. Single V-Groove Weld, Butt Joint, (5G) Position Downhill Root, Uphill Fill & Cover

**Product** | **Item No.** | **List Price**
--- | --- | ---
Complete GMAWP course | DV15 | $1,125.00
2 written tests, 50 copies ea. | V15.41 | $30.00
Instructor guide* | V15.40 | $59.00
*Includes 1 student workbook, 1 technical guide & answer keys for tests
Site License | V15.50 | $500.00

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To order, use form on page 19, Call 800.332.9448 Ext. 9509 or visit www.welding.org
Flux-Cored Arc Welding

The Flux Cored Arc Welding training program provides the student with a thorough understanding of the Flux Cored Arc Welding process. It provides training in all positions, on carbon steels, with and without shielding gas, using small and large diameter flux cored electrodes.

Gas Tungsten Arc Welding

The Gas Tungsten Arc Welding program is a complete training program. The fundamentals of Gas Tungsten Arc Welding are covered in the basic program. It provides training on mild steel, stainless steel and aluminum, using both direct and alternating current. Gas Tungsten Arc Welding Pipe is divided into two programs. Gas Tungsten Arc Welding 2-inch Pipe prepares the student for pipe welding, and teaches the student to weld on 2-inch Sch. 80 pipe, in all positions. Gas Tungsten Arc Welding 6-inch Pipe provides training on 6-inch pipe using GTAW to deposit the root and second pass; and SMAW to complete the weld. Students also weld on stainless steel pipe and with a consumable insert.

To order, use form on page 19, Call 800.332.9448 Ext. 9509 or visit www.welding.org
### COMPLETE TRAINING COURSES

#### 29. Fillet Weld, Lap Joint, Horizontal & Flat Positions (Aluminum)
#### 30. Square-Groove Weld, Butt Joint, Flat Position (Aluminum)
#### 31. Fillet Weld, T-Joint, Horizontal & Flat Positions (Aluminum)
#### 32. Fillet Weld, T-Joint, Vertical Position, Up (Aluminum)
#### 33. Visual Inspection Test, Aluminum

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<td>Complete GTAW course (DVD)</td>
<td>DV20</td>
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<td>4 written tests, 50 copies ea.</td>
<td>V20.41</td>
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<td>Instructor guide*</td>
<td>V20.40</td>
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### Gas Tungsten Arc Welding 2-Inch Pipe

**Complete Course:** 2 DVDs (1 hr. 30 min); 1 Instructor Guide; 1 written test, 50 copies each  
**ITEM NO.** DV22

**Topics:**
1. Gas Tungsten Arc Welding 2" Pipe - Course Overview
2. Introduction to Gas Tungsten Arc Welding
3. Safety & Health of Welders
4. Equipment Setup, Adjustment & Shutdown
5. Preparation & Assembly of an Open Root Pipe Joint
6. Single V-Groove Weld, Butt Joint, (2G) Pipe
7. Pipe Weld Quality
8. Single V-Groove Weld, Butt Joint, (2G) Pipe Destructive Test
9. Single V-Groove Weld, Butt Joint, (3G) Pipe
10. Single V-Groove Weld, Butt Joint, (6G) Pipe

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<td>Complete GTAW 2&quot; Pipe</td>
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<td>1 written test, 50 copies ea.</td>
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### Oxyacetylene Welding, Cutting & Brazing

**Complete Course:** 4 DVDs (3 hrs. 6 min); 1 Instructor Guide; 4 written tests, 50 copies each  
**ITEM NO.** DV30

**Recommended as an entry-level curriculum to teach cutting techniques & hand-eye coordination associated with good puddle control & filler addition.**

**Topics:**
1. Oxyacetylene Welding, Brazing & Cutting - Course Overview
2. Introduction to Oxyacetylene Welding, Brazing & Cutting
3. Oxyacetylene Welding Safety
4. Safety & Health of Welders
5. Equipment Setup, Operation & Shutdown
6. Weld Quality: Controlling the Welding Variables
7. Stringer Bead, Bead on Plate - With & without Filler Metal, Flat Position
8. Fillet Weld, Lap Joint, Horizontal (2F) Position
9. Fillet Weld, Inside Corner Joint, Horizontal (2F) Position
10. Fillet Weld, Lap Joint, Vertical (3F) Position
11. Fillet Weld, Inside Corner Joint, Vertical (3F) Position
12. Square Groove Weld, Butt Joint, Vertical (3G) Position
13. Introduction to Oxyacetylene Flame Cutting
14. Standard Destructive Test, Visual Inspection & Guided Bend Test
15. Square Groove Weld, Butt Joint, Flat (1G) Position
16. Square Groove Weld, Butt Joint, Overhead (4G) Position
17. Square Groove Weld, Butt Joint, Horizontal (2G) Position
18. Application of Fuel Gases
20. Square-Groove, Bevel & Hole Cuts - Visual Inspection
21. Single V-Groove Weld, Butt Joint, Vertical (3G) Position
22. Single V-Groove Weld, Butt Joint, Flat (1G) Position
23. Single V-Groove Weld, Butt Joint, Overhead (4G) Position
24. Single V-Groove Weld, Butt Joint, Horizontal (2G) Position
25. Single V-Groove Weld, Butt Joint, (5G) Position, 2" Pipe
27. Introduction to Soldering, Brazing & Braze Welding
28. Fillet Weld, Lap Joint, Square-Groove, Butt Joint, Braze Weld, Horizontal (2F) & Flat (1G) Position
29. Socket Joint, Brazed Copper (2F) Position
30. Socket Joint, Brazed Copper (5F) Position

### Gas Tungsten Arc Welding - Shielded Metal Arc Welding 6-Inch Pipe

**Complete Course:** 2 DVDs (1 hr. 57 min); 1 Instructor Guide; 2 written tests, 50 copies each  
**ITEM NO.** DV26

**Topics:**
1. Gas Tungsten Arc Welding - Shielded Metal Arc Welding 6" Pipe - Course Overview
2. Introduction to Gas Tungsten Arc Welding
3. Safety & Health of Welders
4. Preparation & Assembly of an Open Root Pipe Joint
5. Single V-Groove Weld, Butt Joint, (5G) Pipe
6. Single V-Groove Weld, Butt Joint, (5G) Pipe, Destructive Test
7. Single V-Groove Weld, Butt Joint, (2G) Pipe
9. Stainless Steel Pipe Welding
10. Preparation & Assembly of a Stainless Steel Pipe Joint
12. Joint Design for Gas Tungsten Arc Welding Pipe & Tubing
13. Preparation & Assembly of a Pipe Joint with Consumable Insert
15. Pipe Weld Quality

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## Welding Procedures & Qualification

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<td>Complete Course: 1 DVD (26 min); 1 Instructor Guide; 1 written test, 50 copies</td>
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<td>Complete Course: 1 DVD (1 hr, 13 min); 1 Instructor Guide; 1 written test, 50 copies</td>
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### Destructive Testing Methods

**Product**

| Complete Course: 1 DVD (43 min); 1 Instructor Guide; 1 written test, 50 copies | DV86.5   | $500.00    |
| Complete Course: 1 DVD (45 min); 1 Instructor Guide; 1 written test, 50 copies | DV86.6   | $500.00    |

#### Topics
1. Introduction to Destructive Testing
2. Tensile Tests
3. Impact Tests
4. Guided Bend Tests
5. Nick Break Tests
6. Fillet Weld Break Tests
7. Etch Tests

### Nondestructive Testing Methods

**Product**

| Complete Course: 1 DVD (43 min); 1 Instructor Guide; 1 written test, 50 copies | DV86.5   | $500.00    |
| Complete Course: 1 DVD (45 min); 1 Instructor Guide; 1 written test, 50 copies | DV86.6   | $500.00    |

#### Topics
1. Introduction to Nondestructive Testing
2. Principles of Visual Inspection
3. Principles of Liquid Penetrant Testing
4. Principles of Magnetic Particle Testing
5. Principles of Ultrasonic Testing
6. Principles of Radiographic Testing

### Welding Discontinuities & Defects

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<tr>
<td>Complete Course: 1 DVD (26 min); 1 Instructor Guide; 1 written test, 50 copies</td>
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### Student Workbooks

Student Workbooks are listed on Pages 12-13
### Complete Training Courses

#### Common Arc Welding Processes

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<td>1 Instructor Guide; 2 written tests, 50 copies</td>
<td>V85.41</td>
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<td>Site License</td>
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**Topics**
1. Introduction to Common Arc Welding Processes
2. Safety and Health of Welders
3. Introduction to Shielded Metal Arc Welding
4. SMAW Electrode Selection
5. Introduction to Gas Metal Arc Welding
6. GMAW Metal Transfer and Shielding Gases
7. Introduction to Flux Cored Arc Welding
8. FCAW Electrode Classification and Selection
9. Introduction to Gas Tungsten Arc Welding
10. The Essentials of GTAW

#### Arc Welding Safety

**1 DVD (11 min)**

**ITEM NO.** DV91

Covers the following areas of arc welding safety:
- Arc Radiation
- Air Contamination
- Compressed Gases
- Cleaning
- Electric Shock
- Fire and Explosion
- Other welding hazards
- Safety Data Sheets
- Safety Standards

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#### Basic Metallurgy

**1 DVD (40 min)**

Included in complete GTAW course (DV20.0)

**Topics**
- The metallurgy & weldability of carbon steel
- The welding characteristics of stainless steel
- The welding characteristics of aluminum

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<td>Basic Metallurgy (DVD)</td>
<td>DV40</td>
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#### Symbols for Welding

**Complete Course: 1 DVD (58 min)**

**1 Instructor Guide**

**ITEM NO.** DV80

**Topics**
1. Introduction
2. Basic Elements of the System
3. Weld Symbols for Length and Arrangement
4. Supplementary Symbols and Reference
5. Plug and Slot Welds
6. Spot Welds and Seam Welds
7. Groove Weld Symbols
8. Backing, Back, Melt-thru, and Surfacing Symbols
9. Edge Weld and Combination Weld Symbols

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<td>DV80</td>
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<tr>
<td>Instructor guide</td>
<td>V80.40</td>
<td>$59.00</td>
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*Includes 1 student workbook & answer keys for test

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<tr>
<td>Site License</td>
<td>V80.50</td>
<td>$500.00</td>
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</table>
### Blueprint Reading for Welders & Fitters

**Complete Course: 2 DVDs (1 hr, 40 min)**  
**1 Instructor Guide**  
**ITEM NO. DV81**

- **Topics**
  1. Introduction to blueprint reading for welders and fitters
  2. Review of mathematics
  3. Metrics and metric conversions
  4. Review of welding symbols
  5. Orthographic views
  6. Standard drawing lines and symbols
  7. Interpreting blueprint information
  8. Surface and centerline relationships
  9. Auxiliary views
  10. Scale drawings
  11. Dimensional tolerance and stock allowance
  12. Set-up tools
  13. Set-up applications

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<tr>
<td>*Includes 1 student workbook &amp; answer keys for test</td>
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<tr>
<td>Site License</td>
<td>V81.50</td>
<td>$500.00</td>
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</table>

### Advanced Blueprint Reading

**Complete Course: 1 DVD (46 min)**  
**1 Instructor Guide**  
**ITEM NO. DV83**

- **Topics**
  1. Development of Blueprints and Drawings
  2. Standards, Codes and Specifications
  3. Standard Plates and Shapes
  4. Blueprint Reading
  5. Calculating Measurements and Common Layout Tools
  6. Pipe Essentials
  7. Role of the Welder in Quality and Safety
  8. Fabrication Tools

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Test are included with each student packet on page 14, not Complete Training Courses.

### Pipe Layout for Pipefitters & Welders

**Complete Course: 2 DVDs (1 hr, 50 min)**  
**1 Instructor Guide**  
**ITEM NO. DV82**

- **Topics**
  1. Introduction to Pipe Layout for Pipefitters and Welders
  2. Review of Basic Shapes & Pipefitter Terminology
  3. Review of Basic Mathematic Calculations
  4. Review of Decimals
  5. Review of Geometric Calculations
  6. Angles & Angular Layout
  7. Calculated Welded Offsets
  8. Offsets Other than 45° & 90°
  9. Welded Offsets
  10. Multiple Turn Layouts
  11. Two Piece Parallel Offsets
  12. Offsets Around Obstructions
  13. Rolling Offsets
  14. Fabricated Tees
  15. Lateral Tees
  16. Circumferential Sleeves
  17. Pipe Blanking
  18. Elliptical Holes & Blind Flanges
  19. Fabricating Brackets

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**SITE LICENSE (SL)**

In response to request to place DVD’s on company and school intranets (private networks) a site license (SL) at an additional cost of $500.00 per program is now available for each Complete Training Course purchased from Hobart Institute of Welding Technology (HIWT). Complete Training Courses may contain multiple DVD’s. A separate site license is required for each program you intend to distribute.

The site license, granted for a three year period, included a signed document authorizing the electronic distribution of HIWT training materials to others within your organization’s secure network. The intranet distribution of Hobart Institute DVD’s without a site license is prohibited.
WELDING TRAINING MATERIALS

Student Workbooks
Workbooks follow the DVDs topic-by-topic and take a step-by-step approach to practice sessions, featuring objectives; set-up instructions; materials and machine settings; and summaries of essential theory with lots of illustrations. All destructive tests are based on AWS®, ASME or API codes.

Oxyacetylene Welding
This workbook consists of 30 topics covering essential theory and safety related to oxyfuel operations, 19 job practice topics to help build skill and understanding of the processes, two topics to test skills in oxyfuel cutting and a course overview and introduction. 172 pages
Item No. EW369OAW ................................................................. List Price $24.00

Shielded Metal Arc Welding Basic
This workbook consists of 38 topics covering arc welding, safety, power sources, electrode classifications and selection. It includes 29 job practice topics, 8 essential theory topics, 4 testing topics and a course overview and introduction. 188 pages
Item No. EW369SMAWB ............................................................. List Price $24.00

Shielded Metal Arc Welding Structural
This workbook consists of 19 topics to produce quality multi-pass groove welds with backing on 1" plate in the horizontal, vertical and overhead positions. It includes 9 job practice topics, 9 essential theory topics, course overview and introduction. 104 pages
Item No. EW369SMAWA1 ............................................................. List Price $24.00

Shielded Metal Arc Welding Pre-Pipe
This workbook consists of 19 topics to produce quality open root single V-groove welds on 3/8" mild steel plate in horizontal, vertical and overhead positions. It includes 9 job practice topics, 9 essential theory topics, course overview and introduction. 100 pages
Item No. EW369SMAWA2 ............................................................. List Price $24.00

Shielded Metal Arc Welding 2 inch Pipe Uphill
This workbook consists of 15 topics covering pipe welding, weld quality, uphill pipe procedures and preheating and interpass heat treatments. It includes 10 job practice topics, 4 essential theory topics and a course overview and introduction. 100 pages
Item No. EW369SMAWPU2 ............................................................. List Price $24.00

Shielded Metal Arc Welding 6 inch Pipe Uphill
This workbook consists of 13 topics covering uphill pipe welding and weld quality. It teaches skills to produce quality multi pass welds on 6" diameter schedule 80 mild steel pipe in the 2G and 5G positions, using E6010 and E7018 electrodes. It includes 6 skill topics, 5 essential theory topics and an introduction and course overview. 96 pages
Item No. EW369SMAWPU6 ............................................................. List Price $24.00

Shielded Metal Arc Welding Pipe Downhill
This workbook consists of 14 topics covering downhill pipe welding procedures and weld quality. It provides training to weld on open root carbon steel pipe in the 5G and 6G positions, using E7010 electrodes. The book includes 6 job practice topics, 2 testing topics and 4 essential theory topics. It also includes a course overview and introduction. 92 pages
Item No. EW369SMAWPD ............................................................. List Price $24.00

Gas Metal Arc Welding Basic
This workbook consists of 24 topics covering gas metal arc welding, safety, equipment adjustments, metal transfer and shielding gases. It provides training to weld in all positions on mild steel plate ranging from 11 gauge to 3/8 inch, single and multiple pass, using short circuit transfer. The book includes 19 job practices and 5 essential theory topics. It also includes a course overview and introduction. 96 pages
Item No. EW369GMAWB ............................................................. List Price $24.00

Gas Metal Arc Welding Advanced
This workbook consists of 15 topics covering training on spray and pulsed-spray transfer for both carbon steel and aluminum. The book includes 9 job practice topics, 4 essential theory topics and a course overview and introduction. 77 pages
Item No. EW369GMAWA ............................................................. List Price $24.00
**Gas Metal Arc Welding Pipe**
This workbook consists of 13 topics covering gas metal arc welding, preparation for welding pipe and pipe welding defects. It provides training to produce quality groove welds on 6 inch diameter schedule 80 steel pipe in the 2G and 5G positions. The book includes 6 job practice topics, 5 essential theory topics and a course overview and introduction. 76 pages

**Flux Cored Arc Welding**
This workbook consists of 18 topics designed to develop welding skills on carbon steel plates ranging from 3/8” to 1” using .045 diameter dual shield flux-cored electrodes in all positions. The book includes 13 practice topics, 4 essential theory topics and a course overview and introduction. 94 pages

**Gas Tungsten Arc Welding Basic**
This workbook consists of 33 topics covering gas tungsten arc welding, arc characteristics and welding safety. It provides training to make quality gas tungsten arc welds on 16 and 11 gauge mild steel, .062 inch gauge stainless steel and .125 inch aluminum, using both direct and alternating current. It includes 23 job practice topics, 9 essential theory topics and a course overview and introduction. 116 pages

**Gas Tungsten Arc Welding 2 Inch Pipe**
This workbook consists of 10 topics covering gas tungsten arc welding preparation for welding pipe. It provides training to produce quality groove welds on 2 inch schedule 80 steel pipe in the 2G, 5G and 6G positions. It includes 5 job practice topics, 4 essential theory topics and a course overview and introduction. 52 pages

**Gas Tungsten Arc Welding 6 Inch Pipe**
This workbook consists of 15 topics covering joint designs, programmable gas tungsten arc welding equipment and methods of welding carbon steel and stainless steel pipe. It provides training to weld on carbon steel open root, 6 inch diameter schedule 80 steel pipe in the 2G, 5G and 6G positions. It also uses gas tungsten arc welding process with stainless steel filler material to deposit the root and second pass and the shielded metal arc process to complete the weld. It includes 9 job practice topics, 5 essential theory topics and a course overview and introduction. 96 pages

**Gas Tungsten Arc Welding Advanced**
This workbook consists of 17 topics covering gas tungsten arc welding on thin gauge stainless steel and titanium. It provides training to produce quality welds on .040 inch to .061 inch stainless steel and titanium in the flat and horizontal positions. It also provides weld characteristics of titanium and stainless steel. It includes 8 job practice topics, 4 test topics and a course overview and introduction. 52 pages

**Welding Procedures & Qualification**
An explanation of the steps necessary to develop procedure and performance qualifications. 38 pages

**Welding Discontinuities & Defects**
An explanation of the welding discontinuities and defects in relation to welding procedure variables. 38 pages

**Destructive Testing**
An explanation of destructive testing and results obtained. 44 pages

**Nondestructive Testing**
An explanation of nondestructive testing and results obtained. 34 pages

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To order, use form on page 19, Call 800.332.9448 Ext. 9509 or visit www.welding.org
Programmed Learning Courses
from Hobart Institute of Welding Technology

These courses provide a simple yet complete method for students to learn and understand the principles of welding symbols, symbols for nondestructive examination, blueprint reading and pipe layout. Each page is designed to teach a small amount of information which is reinforced through an action/problem and self-check (see illustration at right). Each page builds for the next as the student learns in an efficient and rewarding manner.

Symbols for Welding
The symbols for welding course is based on AWS® A2.4 Symbols for Welding and Nondestructive Examination Standard. This system of communication provides the vital link between the designer and people responsible for producing and planning welding. 3 Tests are included with each student packet. 122 pages.

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<td>EW-342</td>
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<td>Key to test</td>
<td>EW-343</td>
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Symbols for Nondestructive Examination
This course is designed to teach students how to interpret nondestructive examination symbols based on AWS® 2.4. For the benefit of students not familiar with welding symbols, the first part of the course serves as an introduction. 1 Test is included with each student packet. 38 pages.

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<td>EW-458</td>
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Blueprint Reading for Welders & Fitters
The blueprint reading for welders and fitters course contains valuable information on mathematics and metrics. Blueprint reading for the welder, blueprint reading for the fitter, setup tools, and set-up applications. 5 Tests are included with each student packet. 176 pages.

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<td>EW-459</td>
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<td>Key to test</td>
<td>EW-460</td>
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Advanced Blueprint Reading
This two packet course covers the design procedure; interpretation of blueprints and shop drawings as well as applying this information; the use of measuring tools in layout and assembly; having a basic understanding of codes, specifications and standards and to be aware of the responsibility of a welder in quality control. 11 tests included with the packets. 185 pages.

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<td>Advanced Blueprint Reading (2 Packets)</td>
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<td>Key to Tests</td>
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Pipe Layout for Pipefitters & Welders
This 10 section, self-study, programmed learning course includes: Pipefitter terminology, mathematics & plane figures, angles and angular layout, calculated welded offsets, tees, laterals & circumferential sleeves, pipe blanking, elliptical holes, brackets and pipe flanges. Based in part on Thomas W. Frankland’s “The Pipe Fitters and Pipe Welder’s Handbook,” and “Pipe Trades Pocket Manual.” 10 Tests are included with each student packet. 237 pages.

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<td>Key to tests</td>
<td>EW-519</td>
<td>$11.95</td>
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Technical Guides

These guides contain extensive welding information on individual welding processes and welding subjects. They supplement the student workbooks for welding training and have application for manufacturing engineering and quality control. Books are in full color.

Welding Guide — Provides general welding information including common arc welding process descriptions, weldability of metals, non-destructive testing process descriptions, welding data charts and tables, and metric conversion. 117 pages.

Item No. EW-385 ...............................................................List Price $28.00

Gas Tungsten Arc Welding — Covers the process in detail, equipment, applications, procedures, welding training and safety. 98 pages.

Item No. EW-470 ..................................................................List Price $28.00

Shielded Metal Arc Welding — Describes the SMAW process, procedures and applications, electrode selection charts, welding safety and explains equipment used. 78 pages.

Item No. EW-472 ..................................................................List Price $28.00

Gas Metal Arc Welding — The GMAW process, equipment, applications, procedures, safety and welding symbols are all explained in detail. 110 pages.

Item No. EW-473 ..................................................................List Price $28.00

Flux-Cored Arc Welding — This guide describes the self-shielded and gas shielded processes, equipment, methods of application, safety and procedures. 98 pages.

Item No. EW-492 ..................................................................List Price $28.00

Safety and Health of Welders — A valuable guide to protection against the hazards associated with welding. 23 pages.

Item No. EW-607 ..................................................................List Price $19.00

Oxyfuel Welding, Cutting & Brazing — This guide covers the process, equipment, and safety. 82 pages.

Item No. EW-480 ..................................................................List Price $28.00

To order, use form on page 19, Call 800.332.9448 Ext. 9509 or visit www.welding.org

15
General Welding Books

Pocket Welding Guide, 32nd Edition — Known as the “Welder’s Bible”, and widely used by students, teachers, hobbyists and professionals as a handy reference, this updated edition features: overview of all welding processes, examples of good and bad weld beads, causes & cures of common welding problems, welding symbols, guidelines for the indentification of metals & calculating filler metal consumption,  oven storage & reconditioning of filler metals, shielding gases & their uses, AWS® filler metal classifications & comparative indices, GMAW welding parameter, complete listing of filler metals with operating ranges, filler metals selector guide for welding ASTM steels, troubleshooting guides for semiautomatic wire & equipment, welding terms & definitions, metric conversions tables, and more. 164 pages. 4” x 7” format.
Item No. EW-609 .................................................................. List Price $8.00

WELDING: A Journey to Explore its Past by Andre A. Odermatt – What is this simple but complex process called welding? When did it begin? This book is a humble attempt to answer just a few questions about the origins of welding. It is not a textbook or an academic paper. It aims to give the reader some basic knowledge of a few aspects of the history of welding and its problems and its contribution to society, from antiquity to modern times, from brazing and forging to gas welding and electric welding.
Item No. EW-806 1st Edition 181 Pages.............................. List Price $17.95
Item No. EW-807 2nd Edition 213 Pages.............................. List Price $29.95

Properties and Uses of Ferrous and Non-ferrous Metals by Weiss & Leuchtmann. 112 pages.
Item No. EW-220 ............................................................... List Price $24.95

The Metal Trades Handbook — A book covering all aspects of the metal trades from roping to welding. 581 pages.
Item No. EW-676 ............................................................... List Price $26.95

Pipe Welding & Pipe Layout Books

Pipefitters Handbook — A comprehensive reference including tables for pipe bends, offsets, mitered joints and other useful information for shop and field use. Leatherette bound, 444 pages.
Item No. EW-389 ............................................................... List Price $32.00

Pipe Trades Pocket Manual by Frankland — Tables for bending, offsets, miter turn fittings, elbow offsets, solving angles with steel square and more. Leatherette bound. 262 pages.
Item No. EW-390 ............................................................... List Price $26.95

The Pipe Fitters and Pipe Welders Handbook by Frankland — Pocket size booklet containing layout information for making all types of pipe joints. Leatherette bound. 194 pages.
Item No. EW-234 ............................................................... List Price $26.95

Pipe Welding Procedures by H. Rampaul — Written for the welder, describes in detail the manipulative procedures used to weld pipe joints. 249 pages.
Item No. EW-436 ............................................................... List Price $46.00

Pipe Trades Handbook — Covers basic data on tube and pipe, national standards, fittings, valves, joints, offsets, pipe layout, mathematics and pipe welding. 534 pages.
Item No. EW-696 ............................................................... List Price $26.95

Pipe Fitters Bluebook — Contains charts, tables, drawings, instructions on pipe joints and layout. 176 pages.
Item No. EW-697 ............................................................... List Price $25.00

Pipe Layout for Pipefitters and Welders — This 10 section, self-study, programmed learning course from the Hobart Institute of Welding Technology includes pipefitting terminology, mathematics & plane figures, angles and angular layout, calculated welded offsets, tees, laterals & circumferential sleeves, pipe blanking, elliptical holes, brackets and pipe flanges. 10 tests are included with each copy. 237 pages.
Item No. EW-517 ............................................................... List Price $44.00

Answer Key
Item No. EW-519 ............................................................... List Price $11.95
AWS® Books

Certification Manual for Welding Inspectors — A great study aid for the AWS® CWI®/CWE® exam. Reduce those day-of-test jitters by putting yourself in command of the material that everyone must know to succeed on the CWI® exam. Over 360 questions and answers. 300 pages Item No. EW-475 ..... List Price $200.00

Welding Inspection — Essential information for the CWI® on manual arc welding inspection techniques including destructive testing and nondestructive examination methods. 275 pages. Item No. EW-223 ............................................................... List Price $92.00

Welding Terms and Definitions — The comprehensive and official listing of welding and cutting terms and definitions. (A3.0M/ A3.0:2020) 148 pages. Item No. EW-291 ............................................................... List Price $200.00

Total Welding Management by Jack R. Barckhoff, P.E. - Providing a system focused on improvement. It includes management principles, and a planning process with a structured approach. When adopted by a company, it can improve welding quality and productivity, thus helping the company to become more competitive and more profitable. 189 pages with index and glossary. Item No. EW-804 ............................................................... List Price $49.95

Welding Codes & Specifications

API Standard 1104, Standard for Welding Pipelines and Related Facilities 21st Edition — This code book published by the American Petroleum Institute provides the complete and detailed information needed by welders, inspectors and engineers. 119 pages. Item No. EW-264 ............................................................... List Price $373.00

AWS® Structural Welding Code, D1.1 — Complete structural welding code for buildings, bridges, and other welded structures. Welding engineers, inspectors and others involved with design and quality control of welded structures should have this book for guidance and reference. 604 pages. Item No. EW-531 ............................................................... List Price $576.00

Welding Inspection Tools

V-WAC Gauge
Used to check undercut, crown heights, porosity and pits. Item No. EW454 ................................................................. List Price $32.00

Fillet Weld Gauge
A valuable tool for measuring both convex and concave fillet weld dimensions. Item No. EW-453 ............................................................... List Price $40.00
Wall Posters

35” x 23” size for good shop or classroom visibility . . . have plastic surface for durability, easy cleaning

Spiff up your shop or classroom, and send the “quality” message with a complete set of these attractive and instructive, full-color, welding-related posters.

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Price Each</th>
<th>Total Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shielded Metal Arc Welding (SMAW)</td>
<td>$8.00</td>
<td></td>
</tr>
<tr>
<td>Types of Welds</td>
<td>$8.00</td>
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<tr>
<td>Gas Tungsten Arc Welding (TIG) (GTAW)</td>
<td>$8.00</td>
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<tr>
<td>Gas Metal Arc Welding (GMAW) (MIG)</td>
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<tr>
<td>Flux Cored Arc Welding (FCAW)</td>
<td>$8.00</td>
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<tr>
<td>Welding Positions</td>
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<tr>
<td>Typical Weld joint Symbols</td>
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<tr>
<td>Electrode Selection and Identification</td>
<td>$8.00</td>
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<tr>
<td>Plasma Arc Welding (PAW)</td>
<td>$8.00</td>
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<tr>
<td>Oxyacetylene Welding (OAW)</td>
<td>$8.00</td>
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<tr>
<td>Examples of Good and Bad Beads</td>
<td>$8.00</td>
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</tr>
<tr>
<td>Causes and Cures Common Welding Trouble</td>
<td>$8.00</td>
<td></td>
</tr>
<tr>
<td>Good and Bad Welds — FCAW</td>
<td>$8.00</td>
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<tr>
<td>Complete Set of Posters</td>
<td>$104.00</td>
<td></td>
</tr>
</tbody>
</table>

WP11
Set of 11 Posters: $40.00
Size: 11” x 17”
Set includes:
- Common Terms Applied to a Weld
- Arc Length
- Diagram of Shielded Metal Arc Welding
- Learn to Read the Puddle
- Electrode Angle
- Tungsten Electrode Preparation
- 5 Essential
- 5 Methods of Control
- Travel Speed
- The Fire Tetrahedron
- Fire Extinguisher Ratings

To See pictures of our wall posters, visit our website at www.welding.org

Industrial Sectors Using Welding

To order, use form on page 19, Call 800.332.9448 Ext. 9509 or visit www.welding.org
### SOLD TO:

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Dept.</th>
</tr>
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<tbody>
<tr>
<td>Company</td>
<td>Address</td>
</tr>
<tr>
<td>City</td>
<td>State</td>
</tr>
<tr>
<td>Zip</td>
<td>Phone</td>
</tr>
</tbody>
</table>

### Quantity | Product Description | Color | Size | Price Each | Total Price
---|---------------------|------|------|------------|------------

### Credit card information:

- American Express
- Discover
- Visa
- Mastercard

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$ 76.00 to 100.00 .......... $20.00  
$ 101.00 to 1,000.00 .......... $ 30.00  
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Discounts: A 20% educational discount applies to all schools.

Prices: All prices are in U.S. dollars. Prices subject to change without notice.
Would you like to learn a specific process or refresh your welding skills?

HIWT offers Individual Courses

Hobart Institute of Welding Technology offers individual courses in major arc welding processes. A list of courses is below. Please visit our website www.welding.org for course descriptions and dates offered.

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Description</th>
<th>Book Fees</th>
<th>Tuition</th>
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<tbody>
<tr>
<td>WTB027</td>
<td>Welding Technology &amp; Blueprint Reading (2 weeks)</td>
<td>$ 55.00</td>
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<tr>
<td>WTB028</td>
<td>Advanced Blueprint Reading (2 weeks)</td>
<td>$ 90.00</td>
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<tr>
<td>OAW001</td>
<td>Oxyacetylene Welding, Cutting, &amp; Brazing (2 weeks)</td>
<td>$ 35.00</td>
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<tr>
<td>SMA002</td>
<td>Shielded Metal Arc Welding Basic (4 weeks)</td>
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<tr>
<td>SMA003</td>
<td>Shielded Metal Arc Welding Structural Advanced (4 weeks)</td>
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<td>SMA006</td>
<td>Shielded Metal Arc Welding 6” Pipe 2G &amp; 5G Uphill (4 weeks)</td>
<td>$ 15.00</td>
<td>$ 1,800.00</td>
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<td>SMA106</td>
<td>Shielded Metal Arc Welding 6” Pipe 6G Uphill (2 weeks)</td>
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<td>SMA107</td>
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<td>Shielded Metal Arc Welding Pipe Downhill (2 weeks)</td>
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<td>PLF026</td>
<td>Pipe Layout for Pipefitters &amp; Welders (2 weeks)</td>
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<td>GTA008</td>
<td>Gas Tungsten Arc Welding Basic (2 weeks)</td>
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<td>GTA109</td>
<td>Gas Tungsten Arc Welding Stainless &amp; Titanium (1 week)</td>
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<td>GTA110</td>
<td>Gas Tungsten Arc Welding Aerospace (2 weeks)</td>
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<td>GTA108</td>
<td>Gas Tungsten Arc Welding 2” Pipe (2 weeks)</td>
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<td>$ 1,000.00</td>
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<td>GTA111</td>
<td>Gas Tungsten Arc Welding Stainless Steel Pipe (2 weeks)</td>
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<td>GTA009</td>
<td>Gas Tungsten Arc/Shielded Metal Arc Welding 6” (4 weeks)</td>
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<td>GMA011</td>
<td>Gas Metal Arc Welding Basic (2 weeks)</td>
<td>$ 35.00</td>
<td>$ 950.00</td>
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<tr>
<td>*GMA016</td>
<td>Gas Metal Arc Welding Advanced (Jan-July) (1 week)</td>
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<td>GMA017</td>
<td>Gas Metal Arc Welding Advanced Sept-Dec (2 weeks) Gas</td>
<td>$ 15.00</td>
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<td>*GMA013</td>
<td>Metal Arc Welding Pipe (Jan-July) (1 week)</td>
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<td>GMA018</td>
<td>Gas Metal Arc Welding Pipe (Sept-Dec) (2 weeks)</td>
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<td>FCA015</td>
<td>Flux Cored Arc Welding (2 weeks)</td>
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<tr>
<td>WEL530</td>
<td>Weldability of Metals, Ferrous &amp; Nonferrous</td>
<td>$ 45.00</td>
<td>$ 700.00</td>
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</tbody>
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* The one week course GMA016 and GMA013 will be replaced with the two week courses GMA017 and GMA018

Technical Training Courses

HIWT’s Technical Training Courses are designed for welding professionals of all levels seeking to take their education to the next level. These courses offer CEU’s toward the hours needed to maintain certifications, as well as expand knowledge on welding processes, visual inspection of welds and nondestructive testing of welds.

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Description</th>
<th>Tuition</th>
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<tr>
<td>VI400</td>
<td>Fundamentals of Visual Inspection (2 days)</td>
<td>$600.00</td>
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<tr>
<td>NW515</td>
<td>Welding for the Non-Welder (4 days)</td>
<td>$820.00</td>
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<tr>
<td>AWI520</td>
<td>Arc Welding Inspection (1 week)</td>
<td>$875.00</td>
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<tr>
<td>LP800</td>
<td>Liquid Penetrant &amp; Magnetic Particle Inspection (1 week)</td>
<td>$850.00</td>
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<tr>
<td>CWS550</td>
<td>Preparation for AWS® CWS Examination Course (4 days)</td>
<td>$950.00</td>
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<tr>
<td>CWI540</td>
<td>Preparation for AWS® CWI® Certified Welding Inspector Examination Course (2 weeks)</td>
<td>$1,700.00</td>
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<tr>
<td>RCW545</td>
<td>Preparation for Recertification of CWI® Course (1 week)</td>
<td>$850.00</td>
</tr>
<tr>
<td>CWI540-C</td>
<td>Preparation for AWS® CWI® Code Endorsement (2 days)</td>
<td>$500.00</td>
</tr>
</tbody>
</table>
ONLINE EDUCATION

OL-001  Symbols For Welding Online Course
        .4 CEU  $89.00  SELF-PACED

This online version of Symbols for Welding course is based on the AWS® A2.4 Symbols for Welding and Nondestructive Examination Standard. This system of communication provides the vital link between the designer and the people responsible for producing and planning welding.

Within the online course you will have the opportunity to download the EW-342 Symbols for Welding Learning Packet and work on specific problems; view the Symbols for Welding videos which are broken down into topic sections; take each of the 3 required test. Each test may be taken two times.

Your password is good for a period of one year with unlimited log-ins during that time. Completion time for the course varies with each individual. Take into consideration the time to watch the videos plus the time to work through the learning packet plus the time to take the test. You may start and stop at any point.

Upon purchae of the course, you will recieve an email of your online receipt of purchase and a separate email with account access instructions and link to online course.

You may add the optional paper version of the Symbols for Welding Programmed Learning Packet (EW342) containing 113 pages, which will be mailed to you. Three test are included with each student packet.

OL-002  Visual Inspection Welding Online Course
        .4 CEU  $89.00  SELF-PACED

This course concentrates on the single most used method of welding inspection — what we can see with the naked eye. Anyone involved with arc welding inspection, quality control, engineering or supervision should know the fundamentals of what to observe, prior to, during and after welding.

Contains 5 video segments totaling a run time of 60 minutes.

During this course you will learn about common weld gauges, temperature indicators, marking repair welds, visual inspection prior to, during, and after welding, terminology of weld defects, general requirements for equipment and workmanship standards, and a visual inspection checklist.

At your own pace from your computer you will view videos and will be able to take (and retake) online competency exams.

OL-003  Welding Discontinuities & Defects Online Course
        .4 CEU  $89.00  SELF-PACED

The course concentrates on defects and discontinuities related to welding and is intended to assisy anyone involved in arc welding inspection, quality control, engineering or supervision. The objective is to be able to identify and determine the common causes of weld discontinuities and defects.

Contains 5 video segments totaling a run time of 70 minutes. Quizzes are provided to measure progress along the way with a final test to obtain a certificate of completion.

*IMPORTANT*

HIWT reviews each order for accuracy and to protect you and HIWT from fraud. After authorization and capture of your payment by HIWT personnel, you will be sent an email (typically within 1 business day) with access instructions for your course. Make sure to watch your incoming mail and spam folder. When you score 76% or higher, a Certificate of Completion will be issued for you to print that will contain the continuing education units earned for the online course. In addition, please add "welding.org" to your trusted/safe sender's list.
OL-004  Destructive Testing Methods Online Course  
.4 CEU  $89.00  SELF-PACED

This course concentrates on the various destructive testing methods used to evaluate welds including tensile and impact tests, guided bend tests, nick break tests, fillet weld break tests, and etch tests. It is intended for those involved in welding inspection, quality control, engineering or supervision. The objective is to be able to perform tests and determine the weld defects.

Contains 7 video segments totaling a run time of 43 minutes. Quizzes are provided to measure progress along the way with a final test to obtain a certificate of completion.

OL-005  Nondestructive Testing Methods Online Course 
.4 CEU  $89.00  SELF-PACED

This course concentrates on the various nondestructive testing methods used to evaluate welds including visual inspection, liquid penetrant testing, magnetic particle testing, ultrasonic testing, and radiographic testing. It is intended for those involved in welding inspection, quality control, engineering or supervision. The objective is to be able to evaluate welds and determine the weld defects.

Contains 6 video segments totaling a run time of 45 minutes. Quizzes are provided to measure progress along the way with a final test to obtain a certificate of completion.

OL-006  Welding Characteristics Of Steel, Stainless Steel, & Other Metals 
.4 CEU  $89.00  SELF-PACED

This course will provide the non-metallurgist with basic knowledge of various metals and their weldability. Anyone involved with welding will benefit from the better understanding of welding the different metals. Students will learn the basic principles of metal properties, heat input, preheating, postheating, selecting filler metals plus many more topics including: Welding carbon and low alloy steels

- Welding stainless steels
- Welding tool and die steels
- Welding aluminum alloys
- Welding magnesium alloys
- Welding cast iron
- Hard surfacing
- Metals identification for welding

The course consists of 4 main topics:
1. The Metallurgy & Weldability of Carbon Steel
2. The Welding Characteristics of Stainless Steel and Tool Steels
3. The Welding Characteristics of Aluminum and Magnesium
4. Welding Cast Iron and Hard Surfacing Welds

Each topic contains slide segments, video segments and quizzes. The total running time for the video segments is approximately 60 minutes. Once you have completed the 4 topic quizzes and achieved at least a 76% you will then be able to generate a Course Completion Certificate.

OL-007  Welding Procedures & Qualification  
.4 CEU  $89.00  SELF-PACED

This course concentrates on the steps typically followed when developing and qualifying Welding Procedure Specifications (WPS). Additionally, Welder and Welding Operator Performance Qualification will be discussed.

Contains 1 main topic covering Welding Codes, Procedures, and Welder Qualification plus 5 video segments totaling a run time of 25 minutes. Quizzes are provided to measure progress along the way with a final test to obtain a certificate of completion.

At your own pace from your computer you will view videos and will be able to take (and retake) online competency exams.
HOBART INSTITUTE GEAR

HIWT Offers a variety of Logo Branded items.

Heather Red T-Shirt – PI55
Small logo front
S, M, L, XL, XXL
$14.00

Navy Get-Wired T-Shirt – PI54
Front Left Chest and Full back print
S, M, L, XL, XXL
$19.95

Dark Heather Gray T-Shirt – PI60
Front Left Chest and Full back print
S, M, L, XL, XXL
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Dark Heather Gray Hooded Sweatshirt – PI61
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Denim Shirt – PI04
W/ Embroidered 3-color logo.
M, L, XL, XXL
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Grey T-Shirt – PI24
W/ Silk Screen 3-color logo.
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W/ small logo on front & large logo on back
M, L, XL, XXL
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One size fits all.
$14.95

Black Hooded Sweatshirt – PI23
W/ Embroidered 3-color logo
M, L, XL, XXL
$35.00

Grey Hooded Sweatshirt – PI01
W/ Embroidered 3-color logo.
M, L, XL, XXL
$35.00

Pro Camouflage Realtree – PI56
Hardwoods design.
One size fits all.
$14.95

Two-Tone Garment Dyed Cap – PI34
In pebble/black.
One size fits all.
$14.95

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HOBART INSTITUTE GEAR

Embroidered 3-color logo.

Denim Shirt - PI04
- HOBART INSTITUTE GEAR
- Embroidered 3-color logo.
- M, L, XL, XXL
- $29.95
- 3.5 ounce, 100% polyester mesh.

Black Hooded Sweatshirt - Pl23
- HOBART INSTITUTE GEAR
- Embroidered 3-color logo.
- M, L, XL, XXL
- $29.95
- 3.5 ounce, 100% polyester mesh.

Grey T-Shirt - Pl24
- HOBART INSTITUTE GEAR
- Embroidered 3-color logo.
- M, L, XL, XXL
- $29.95
- $14.00
- 3.5 ounce, 100% polyester mesh.

Camouflage Hooded Sweatshirt - Pl45
- HOBART INSTITUTE GEAR
- W/ full color imprint encased within crystal-clear, virtually indestructible acrylic key tag.
- 2-1/8" x 1-3/8"
- $19.95
- 3.5 ounce, 100% polyester mesh.

Maroon Golf Shirt - Pl42
- HOBART INSTITUTE GEAR
- W/ full color imprint encased within crystal-clear, virtually indestructible acrylic key tag.
- 2-1/8" x 1-3/8"
- $29.95
- 3.5 ounce, 100% polyester mesh.

Black Cap - PI07
- One size fits all.
- $19.95
- 2-1/8" x 1-3/8"
- Solid brass

Grey Hooded Sweatshirt - PI01
- HOBART INSTITUTE GEAR
- W/ Silk Screen 3-color logo.
- M, L, XL, XXL
- $14.95
- 3.5 ounce, 100% polyester mesh.

Black T-Shirt - Pl40
- HOBART INSTITUTE GEAR
- W/ full color imprint encased within crystal-clear, virtually indestructible acrylic key tag.
- 2-1/8" x 1-3/8"
- $14.00
- 3.5 ounce, 100% polyester mesh.

Black Cap - PI07
- One size fits all.
- $29.95
- 2-1/8" x 1-3/8"
- Black w/ gold logo. Fits most built-in

BSX® Exreme Welders Gearpack - sgear
- Designed inside and out specifically for welders.
- The BSX® Gearpack includes lots of storage room and accessory/tool pockets.
- $75.00

Waffle Beanie - Pl38
- Black ribbed edge in chrome w/ embroidered 3-color logo
- One size fits all.
- $10.95

Waffle Beanie - Pl38
- Black & silver ball point pen
- One size fits all.
- $14.95

Garment Dyed Cap - PI35
- In black.
- One size fits all.
- $14.95

Golf Cap - Pl05
- Grey twill.
- One size fits all.
- $14.95

Belt Buckle - PI09
- Grey twill.
- W/ raised logo
- One size fits all.
- $14.95

Coffee Mug - Pl21
- White silk screened 3-color logo on both sides. 8 oz.
- One size fits all.
- $6.95

Logo Patch - Pl11
- Embroidered 3-color logo. 4" x 2-3/4"
- One size fits all.
- $3.00

Welding Process Calculator Set - EW700
- Set of three calculators (one each for SMAW, GMAW and GTAW)
- One size fits all.
- $4.95

“The Traveler” Travel Mug - Pl26
- Black w/ gold logo. Fits most built-in drink holders. High gloss finish.
- Spill proof lid. 16 oz.
- One size fits all.
- $6.95

To order, use form on page 19, Call 800.332.9448 Ext. 9509 or visit www.welding.org