



PROGRAM OUTLINE

WELDER LEVEL B

Revised: Oct 3, 2017
Author: A.D. Al Phillips
Editor: Lucky Toor

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Welder Level B

Perform Shielded Metal Arc Welding (SMAW)

Uses the SMAW Process to Weld Groove Welds on Low Carbon Steel Plates

Use the SMAW Process to Weld Groove Welds on Low Carbon Steel Pipe

Use the SMAW Process to Fillet Weld Flange 5F (Vertical Up) on Low Carbon Steel Pipe

Perform Semi-Automatic Welding (GMAW) (GMAW-P) (FCAW) (FCAW/MC)

Describe GMAW, GMAW-P, FCAW, and FCAW/MC Equipment and their Operations

Describe and Select Filler Metal and Shielding Gases for GMAW

Use the GMAW-P Process to weld Groove Welds on Low Carbon Steel Plate

Use the GMAW and GMAW-P Processes to Weld Groove Welds on Low Carbon Steel Pipe

Describe and Demonstrate GMAW-P Groove Welds Using Stainless Steel Filler metal on Low Carbon Steel Sheet and Plate (e.g. 18 Gauge and Thicker)

Describe and Demonstrate GMAW-P Groove Welds Using Stainless Steel Filler Metal on Low Carbon Steel Pipe

Describe and Demonstrate Procedures Specific to GMAW and GMAW-P on Aluminum Plate

Use the GMAW and GMAW-P Processes to Weld Groove Welds on Aluminum Plate

Describe and Select Filler Metals and Shielding Gases for FCAW and FCAW/MC

Use the FCAW Self-Shielded Process to Weld Fillet Welds on Low carbon Steel Plate

Use the FCAW Self-Shielded Process to Weld Groove Fillets on Low Carbon Steel Plates

Use the FCAW Process to Weld Groove Welds on Low Carbon Steel Plate

Use the FCAW/MC Process to Weld Groove Welds on Low Carbon Steel Plate

Use the GMAW, FCAW, and FCAW/MC Process to Weld Groove Welds on Low Carbon Steel Pipe

Describe and Demonstrate FCAW Fillet Welds Using Stainless Steel Filler Metal on Low Carbon Steel Plate

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Describe Basic Metallurgy Relating to Production, Properties and Weldability

Describe the Grain Structure of Metals

Describe The alloy Content and Heat Treatments on the Weldability of Steel

Describe Aluminum, Aluminum Alloys and Describe the Weldability

Perform Gas Tungsten Arc Welding (GTAW)

Describe the GTAW Process and its Application

Describe GTAW Equipment

Use The GTAW Process to Fillet Weld Using Low Carbon Steel Filler Metal on Low Carbon Steel Sheet

Use the GTAW Process to Groove Weld Using Low Carbon Steel Filler Metal on Low Carbon Steel Plate

Use the GTAW Process to Groove Weld Using Low Carbon Steel Filler Metal on Low Carbon Steel Pipe

Use the

Read and Utilize Industry Drawings

Read and Interpret Piping Drawings

Perform Basic Pipe Layout

Layout and Fabricate Components

Interpret and Apply Mechanical Drawings

Layout Materials

Prepare Materials

Fabricate Project(s)

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Describes Quality Control and Inspection

Identify Types and Uses of Destructive Testing Methods

Identify Types and Uses of Non-Destructive Testing Methods

Comply with Weld Procedure Specifications (WPS) and Data Sheets

Describe the Scope of the Welding Supervisor and Inspector Responsibilities

Describe Scope of Welding Standards, Codes, Specifications and Welder Qualifications

Identify Applicable Standards, Codes and Specifications

Describe Materials and Filler Metal Classification Systems

Describe Welding Procedure and Performance Qualification Tests

Describe BCSA Jurisdiction

Describe Specialized Welding and Other Welding Processes (AWS)

Describe Orbital Welding

Describe Plastic Welding

Describe Thermal Spray Process

Describe Thermit Welding

Describe Electro-Gas Welding

Describe Electro-Slag Welding

Describe Laser Welding

Describe Plasma Welding

Describe Flash Butt Welding

Describe Electron Beam Welding

Describe Friction and Friction Stir Welding

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 PIPING INDUSTRY
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Describe Stud Arc Welding Process

Describe Resistance Welding Process



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