

School of **Aluminum Welding Technology** Theory & Practice



Leaders in aluminum welding wire.

AlcoTec is recognized as the technological leader in the manufacture of aluminum welding, brazing and metallizing wire. In this unique position, AlcoTec's staff of Metallurgical, Welding, and Quality Engineers and Technicians present a welding program that combines many years of aluminum manufacturing experience with expertise in welding equipment, specifications, and quality requirements.

About This Program

This program is designed to incorporate both the theoretical and practical, hands-on approach to the welding of aluminum alloys. The classroom instruction includes an understanding of the theory and general characteristics of the various aluminum alloys and tempers.

What You Will Learn

- Metal preparation
- Weld procedures
- Workmanship
- Inspection procedures
- Understanding welding equipment
- Processes for joining aluminum

Who Should Attend

- Welding Engineers
- Welding Supervisors
- Welding Instructors
- Product Design Engineers
- Sales Managers and Representatives



Register online at alcotec.com/weldschool

Daily Schedule

Each day of the program begins at 8:00 AM and ends at 4:30 PM. Lunch and refreshment breaks are provided. Some pre-assigned reading is suggested at the end of each day to prepare for the next day's lessons.

Classroom

Introduction to Aluminum Welding

- Historical perspective
- Industry information

The MIG (GMAW) Welding Process

- Transfer modes
- Welding power sources
- Shielding gases
- Wire feedability

The TIG (GTAW) Welding Process

- Current types
- Applications
- Procedures

Metal Preparation for Welding

- Storage and handling
- Cutting, beveling, and gouging
- Cleaning techniques
- Moisture control

Welding Procedures

- Joint design
- Machine settings
- Weld profiles

Alloy and Temper Designation System

- Alloying elements
- Wrought alloys
- Cast alloys
- Temper designations

Welding Metallurgy

- Heat treatable and non-heat treatable alloys
- Weld metal composition
- Physical properties

Quality Control

- Code and standard requirements
- Welder and welding qualification procedures
- Acceptance criteria
- Testing methods
- Defect measurement

Design for Welding

- Applications
- Mechanical properties
- Design considerations
- Distortion control
- Life cycle monetization

Laboratory

Equipment Evaluation

- Drive roll geometry
- Liners and guides
- Contact tips
- MIG and TIG set up

Welding Test Samples

- Beveling and pre-cleaning
- Welding with MIG and TIG processes

Welding Inspection and Testing

- Visual inspection
- Fillet weld fracture tests
- Macros
- Bend tests
- Dye penetrant testing
- X-Ray evaluation

Test Results and Code Requirements

- Undercut, overlap, and weld profile evaluation
- Fusion and penetration limits
- Porosity limits

Individual time will be provided with the instructors for students to discuss welding issues specific to their application.

Program Dates and Enrollment

Visit alcotec.com/weldschool for program dates or call 231-941-4111 to arrange customized classes and alternative dates or locations.

To enroll, please complete the registration form and mail or fax to AlcoTec to the attention of Technical Services.

Registration is also available online by visiting AlcoTec's website at alcotec.com/weldschool.

Program Fee

\$1,000 USD/CAD, including applicable taxes, payable on the first day of the program. Payment is accepted by check or Visa/Mastercard/American Express.

This includes breakfast and lunch each day, transportation to and from your hotel to the program site, and an extensive library of technical literature and data.

Certificates will be issued to all participants upon program completion.

Accommodations

Each participant is responsible for arranging their hotel accommodations and covering all associated costs. AlcoTec has preferred rates at a partnered hotel. Hotel details will be provided upon confirmed registration in the program.

Questions?

Contact AlcoTec Technical Services at 231-941-4111 or by email at rkrause@alcotec.com.

Registration Form

Name

Title

Company

Address

City

State/Province

Zip/Postal Code

Phone

Email Address

Program Dates

Payment Options

Visa Mastercard American Express (circle one)

Card No.

Expiration Date

Security

Signature

Purchase Order # _____

Check Enclosed

Request information on future program dates

Direct Payment to:

AlcoTec Wire Corporation

2750 Aero Park Drive, Traverse City, MI 49686-9263 USA

Fax: 231-941-1040