



# EDUCATION SOLUTIONS

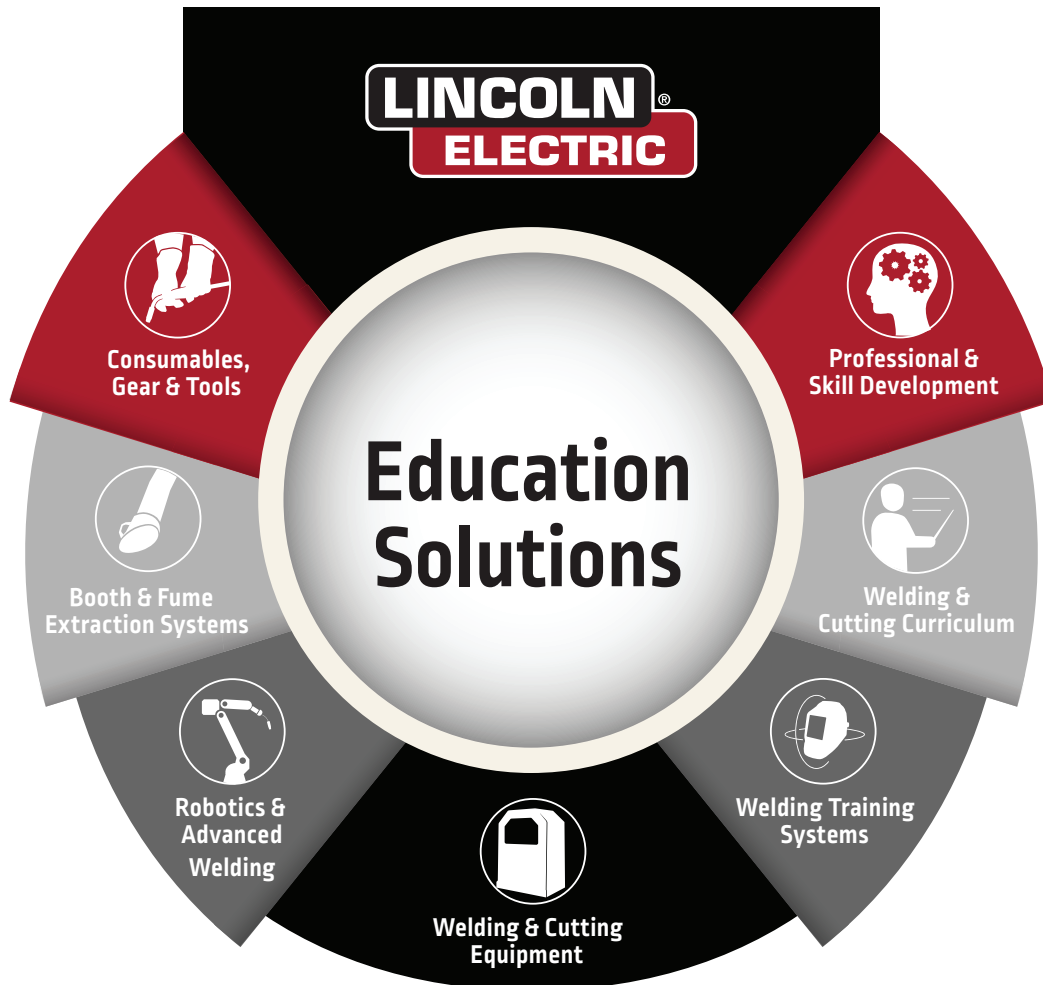
PRODUCTS AND SERVICES TO BUILD A SUCCESSFUL WELDING PROGRAM

**LINCOLN**<sup>®</sup>  
**ELECTRIC**

# Industry-Leading Complete Welding Education Solutions

## One Stop. One Partner.

No other supplier offers a more comprehensive set of products and services for the welding educator or industrial trainer.



### WELDING WIRE + ELECTRODES

Our Products Cover a Comprehensive Array of Welding Processes With a Wide Range of Materials Including, Aluminum, Stainless Steel and High Alloys.

### ADVANCED MULTI-PROCESS WELDERS

Tackle More Materials, Projects and Arc Welding Processes With an Advanced Welding Power Source.

### PROFESSIONAL DEVELOPMENT

Seminars/Classes for Welders and Instructors at Every Level

### LEEPS

Welding Certification Program  
in Partnership with NC3



### ENVIRONMENTAL OFFERINGS & CONSULTATION

Consulting on Construction of  
Welding Classrooms, Booths and Schools

# Why Choose Lincoln Electric?



## One Stop. One Partner.

Lincoln Electric is the only supplier providing integrated solutions for equipment, consumables, certification and consulting services for booth and fume construction.



## Reduce Program Costs

The Education Portal dramatically reduces electrode and supply input prices. Advanced training systems boost practice time while reducing the cost of materials.



## Develop Skills Faster

Students master welding faster with detailed and immediate feedback provided by advanced welding training systems.



## Promote Welding Safety

Prevent welding hazards with durable PPE and maintain safe environmental conditions with powerful fume extraction systems.



## Up-To-Date Curriculum Materials

Welding and cutting equipment, advanced training systems and robotic cells are closely aligned with our U/LINC® curriculum for easy program integration.



## Support Welding Instructors

Professional development courses, instructor packs, posters and technical guides keep educators and industrial trainers current with the needs of industry.



## Build A Stronger Workforce

Our educational offerings reflect our company's experience serving every industry segment with advancing technology.



## Prepare For The Future

Prepare students for the Fourth Industrial Revolution using equipment fitted with data monitoring and automation capability.



# Welding Consumable Solutions

## Welding Electrodes and Wire

### Application-Specific. Comprehensive Offering.

Industry now demands welding consumables that deliver very specific performance for very specific applications – automotive, construction, heavy equipment, power generation, cross country pipe.

We offer targeted consumables in a wide array of alloys, packages and process types to meet the needs of industry, as well as your own school program. Just as it's important to teach using top industrial-grade equipment, it's just as important to allow your students to practice with the industry's top welding consumables.

- Steel
- Stainless Steel
- Aluminum
- High Alloy
- Hardfacing
- SMAW
- GMAW
- GTAW
- FCAW
- SAW



# Education Resource and Purchasing Portal

## Capture Cost Savings for Your Program<sup>(1)</sup>



### Solve Welding Education Challenges

Stretch Budget Dollars

Access the Industry's Highest Quality Products

Access FREE Training Resources



### Save On Top-Quality Products

Lincoln Electric Electrodes as Low as \$1.00 /lb

Special Pricing on Welding Gear, Tools and Accessories

Traceable Order Status and History

FREE Shipping on Orders Over \$500 in Contiguous United States

Take advantage of educational pricing on SMAW, GMAW, FCAW and GTAW consumables

<sup>(1)</sup>The Education Resource and Purchasing Portal is available only to qualified schools, including academic schools, skilled trades training centers and correctional training programs.

### Top Quality Products



Electrode & Wire



Welding Gear



Welding Tools



Welding Guns & Torches



Free Educational Resources, Posters, Welding Guides & Lesson Plans



Fume Extraction Filters



Tips, Nozzles, Cable Liners & More

Learn more at [education.lincolnelectric.com/portal](http://education.lincolnelectric.com/portal)



# Equipment Solutions

## Welding and Cutting Equipment

### From the Lab to the Real World.

It's important for students at every level to train on the equipment they will work with throughout their career. Using professional level equipment from industry leaders helps each student hit the ground running at their first job and beyond. We offer the welding industry's most comprehensive line of welding and cutting equipment suitable for training the most rudimentary skills to industry's most advanced applications.

- Welding Power Sources for Every Arc Welding Process
- Wire Feeders
- Welding Gear
- Welding and Cutting Automation
- Brazing, Soldering and Oxyfuel Cutting and Welding



# Welding Gear and Tools

Remember: Head. Chest. Hands. Eyes.



## 4 STEPS TOWARD PROPER PPE



### 1 Welding Helmets

One of the most important pieces of PPE a welder can have is a welding helmet that meets ANSI (or CSA) standards for protection of the eyes and skin. Our auto-darkening helmets also feature industry-leading features, such as 4C<sup>®</sup> Lens Technology, and achieved a perfect 1/1/1 optical clarity rating on the European standard EN 379.



### 2 Welding Jackets

Produced with premium grade FR cotton, leather and high-strength Kevlar<sup>®</sup>/Nomex<sup>®</sup> stitching, our welding jackets are designed for optimum comfort, durability, quality and consistency.



### 3 Welding Gloves

Lincoln Electric welding gloves are flame resistant, electrically and thermally insulated and provide optimum comfort and durability on the job.



### 4 Safety Glasses

Even when wearing a helmet, ANSI or CSA certified safety glasses with side shields or goggles should always be worn to protect your eyes from UV radiation and flying particles. With Lincoln Electric's lightweight and stylish design, our safety glasses can be worn comfortably all day long.

### Our Products Are Designed To:



Protect in welding processes and environments



Deter wear and abrasion



Increase burn protection and heat resistance



Enhance durability and performance



Provide greater comfort and mobility

Order Welding Gear and Tools at [education.lincolnelectric.com/portal](http://education.lincolnelectric.com/portal)



# Classroom Teaching Aids

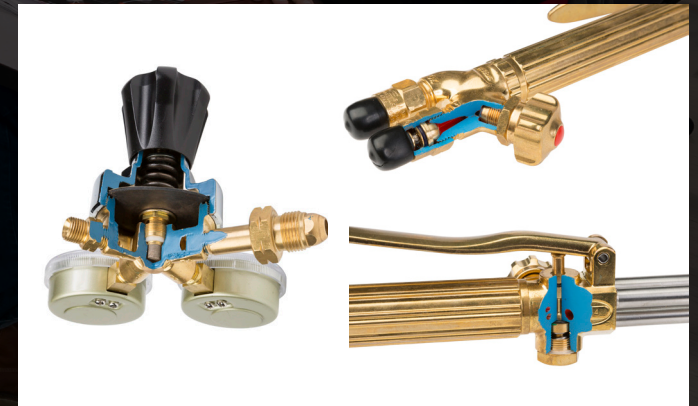
## Bring Your Classroom to Life



## Enhance the Learning Experience

### Teaching Aid Tool Box

Show how welding tools work and why processes are selected for the job at hand. Comes filled with weld and joint samples, welding guns, torches and parts.



Cutaway Harris® Regulator and Oxyfuel Torch allow you to show correct safety procedures and how oxygen and acetylene are mixed.



# Plasma Cutting Systems

## Expand Student Metalworking Skills



Make your shop a **complete metalworking operation** – cutting, welding, finishing

- Choose from a complete line of handheld plasma cutters and CNC plasma cutting systems
- It's easy to add new students with unlimited student licensing on Torchmate® CAD software
- Instructors and students quickly gain confidence through Torchmate University™, a set of web-based video and Livestream® training sessions
- Handle full-size 4 x 8 ft. sheets, eliminating expensive third-party pre-processing, with a Torchmate 4800 system

Torchmate 4400 or 4800



Tomahawk® 625



Tomahawk 1000



Tomahawk 1500

<https://torchmate.com/how-to-choose-education>



# LEEPS

## Lincoln Electric Education Partner Schools

### A Full 'LEEP' Forward for Welding Education Programs



## Joining Forces to Advance Welding Education Standards

Lincoln Electric's LEEPS program, in partnership with the National Coalition of Certification Centers (NC3), provides schools with a complete suite of portable, stackable national welding certifications which makes them more competitive and expands job opportunities.

LEEPS supports welding schools and programs throughout the nation with the most comprehensive and relevant welding education tools and resources available for advancing specific skills necessary for succeeding in specialized welding fields.

## BENEFITS

### Vision & Benchmarking:

1

- Benchmarking to model campuses and programs
- Serve as National Center of Excellence model for other schools
- Opportunities to collaborate with NC3's network of educators and industry partners

### Instructor Training:

2

- Access to NC3 train-the-trainer events and certification curriculum
- Professional development opportunities for instructors to become national NC3 Master Instructors
- Instructor certifications provide accountability to validate programs

### Turnkey Certification System:

3

- Use of NC3's certification system and supporting materials
  - Unlimited student certification issuance for all NC3 certifications
  - NC3 certifications can be applied across several different industries creating flexible, stackable, and relevant credentials
- Examples:* Welding, Transportation, Manufacturing, Energy, Building Trades, Aviation, Digital Literacy and Agriculture

### Industry Partner Access:

4

- Opportunities for cross-promotion, co-branding, partner signage, web marketing
- Access to U/LINC welding curriculum
- Lincoln Electric driven certification valued by industry partners
- Direct engagement and program guidance from Lincoln Electric and other NC3 partners
- Lincoln Electric supported industry training opportunities

# U/LINC<sup>®</sup> Welding & Cutting Curriculum

Powered by Tooling U-SME



## THE INSTRUCTIONAL MATERIALS YOU NEED – ALL IN ONE PLACE

Instructors can select a pre-built curriculum or customize their own with more than 18,000 pages of materials from lesson plans and student handouts, to lab activities and PowerPoint presentations. They can also set permissions and course parameters, manage students and track their performance.

### What's Included in the Curriculum

#### Subjects

- Shielded Metal Arc Welding (SMAW)
- Submerged Arc Welding (SAW)
- Robotics
- Gas Metal Arc Welding (GMAW)
- CNC Plasma Cutting
- Aluminum Welds
- Flux-Cored Arc Welding (FCAW)
- Stainless Steel Welds
- Gas Tungsten Arc Welding (GTAW)
- Welds up to 6G

200+



Lesson Plans

150+



Student Handouts

150+



Assessments

90+



PPT Presentations

90+



Lab Activities

180+



Student Reference Guides

70+



Videos

### Enhanced Reporting and Tracking Capabilities

✓ Design Your Own Performance Dashboard

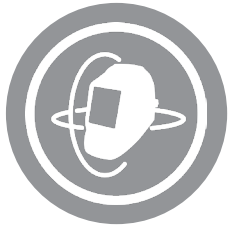
✓ Create-Your-Own Competencies

✓ Choose Your Curriculum Sequence

✓ Organize Student Groups

Learn more at [education.lincolnelectric.com/ulinc](http://education.lincolnelectric.com/ulinc)





# VRTEX<sup>®</sup> Welding Training Simulators

## Virtual Training – Real Results



### VRTEX Engage

- SMAW, GMAW and FCAW-S
- Includes universal welding handle with attachments for both a welding gun and a manual welding stick electrode holder



### VRTEX Transport™

- Uni-gun™ device is used for SMAW, GTAW, GMAW and FCAW welding. TIG filler metal and adaptive current foot pedal included
- Practice flat, horizontal and vertical welds

### VRTEX Transport™ + Dual User

- Uni-gun device is used for SMAW, GTAW, GMAW and FCAW welding. TIG filler metal and adaptive foot pedal included
- Two of each device are included
- Dual stands allow for training two welders at a time on one machine



### VRTEX 360 Single User

- Retractable SMAW stick stinger, GMAW/ FCAW gun and GTAW TIG torch, filler metal and adaptive foot pedal devices realistically simulate the look, feel and action of actual guns and torches
- Practice flat, horizontal, vertical and overhead 5G and 6G

Learn more at [education.lincolnelectric.com/vrtex](http://education.lincolnelectric.com/vrtex)

# VRTEX Welding Training Simulators

## Virtual Training – Real Results

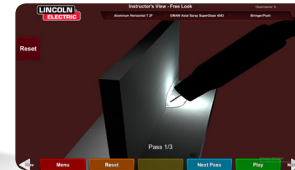


**NEW!** Dual User Feature

Exclusive to Lincoln Electric!



Exclusive visual discontinuities\*  
& real welding sounds\*  
help correct technique



Most realistic & responsive  
welding puddle behavior

### VRTEX 360+ Dual User

- Retractable SMAW stick stinger, GMAW/FCAW gun and GTAW TIG torch, filler metal and adaptive foot pedal devices realistically simulate the look, feel and action of actual guns and torches
- Two of each device is included
- Dual stands allow for training two welders at a time on one machine

## Why Choose VRTEX?

Build confidence, reduce mistakes and train to weld in a variety of situations and orientations. VRTEX creates a safe environment in addition to saving on material costs. Practice repetitive welding without the time needed to tack plate and toss scrap.



**Reduce  
Training Costs**



**ROI Calculator**  
Track material usage  
on every weld with the  
VRTEX Weldometer™



**42%  
Certification  
Rate Increase**



**23%  
Faster  
Training**



**Safer**  
No metal, sparks,  
heat, gas or fumes



**Mobile Learning**

\*Average increase using virtual reality equipment, according to Iowa State University study.

Learn more at [education.lincolnelectric.com/vrtex](http://education.lincolnelectric.com/vrtex)



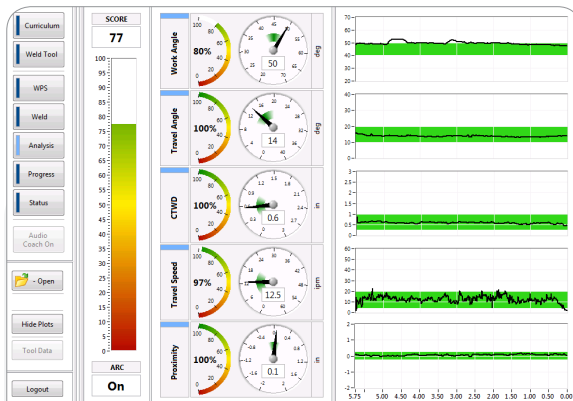
# REALWELD® Welding Training System

## Guided Real Welding Practice

Give students more flexibility to practice, troubleshoot and master welding techniques with an advanced welding trainer designed to advance skills while reducing material costs.

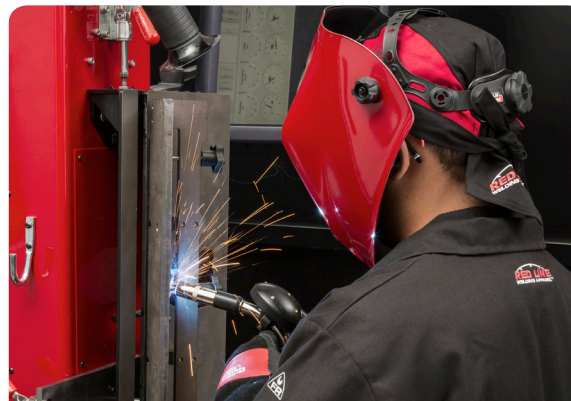


### Immediate Analysis



Weld performance scoring on key indicators of proper welding provides immediate evaluation of each weld.

### Real-Time Guidance



Audio coaching provides corrective guidance during welding, allowing the student to learn in real time.

### Real-World Practice



Students practice real-world skills with multi-pass welding on 6 inch and 18 inch fixtures in Arc ON or Arc OFF modes.

# Fume Extraction Systems, Welding Booths & Tables

## Train in a Safer, More Comfortable Environment



<p><b>TECHNICAL EXPERTISE</b></p>	<p><b>CREDIBLE ADVICE</b></p>	<p><b>SIMPLE EXECUTION</b></p>	<p><b>EDUCATION EXPERIENCE</b></p>
<p>Our Environmental Specialists Are Experts in Fume Extraction</p>	<p>We Provide Consultation Services You Can Trust</p>	<p>Have Confidence in Fume Control Solutions from Lincoln Electric</p>	<p>We Serve the Unique Needs of Welding Programs, Big and Small</p>



VIKING™ 3350  
PAPR



Magnum® PRO 350 / 550  
Fume Extraction Gun



DownFlex® 100-NF /  
200-M / 400-MS/A



Prism®



Extraction Arms



Statiflex® Filter Bank



Miniflex®



Welding Booths



Standard Weld Table (Half-Moon)



Pipe Table



Circulator®

Questions about fume system configuration? Call 1-888-935-3878 Ext. 4



# Robotic Welding Training Systems

Advance Next Generation Manufacturing Skills

Train with a complete, compact and state-of-the-art solution for robotic welding training.

## ClassMate® Robotic Training System

- Teach robotics using the same full-featured teach pendant used in manufacturing and fabrication facilities
- WeldPRO® training program and simulation software allows offline student programming
- Accelerate student skills and capabilities for high graduation and employment rates



ClassMate M



ClassMate S



ClassMate FT



Teach Pendant

Learn more at [education.lincolnelectric.com/classmate](http://education.lincolnelectric.com/classmate)



# Need Help Designing a Welding Training Environment?



Lincoln Electric's environmental specialists have helped welding educators across the country create effective and efficient training spaces, big and small.

## Who We Serve:

- High Schools
- Community Colleges
- 4-Year Colleges and Universities
- Career & Technical Education Facilities
- Apprenticeship Programs/Labor Unions

## How We Help:

- We consult with you to understand your fume control needs, space limitations and cost and maintenance considerations
- We recommend environmental solutions to match your applications' needs
- We provide equipment, drawings and installation support\*

\* Dependent upon terms of service package



## How to Get Started:

Request to speak to one of Lincoln Electric's environmental specialists by calling 888-935-3878 EXT. 4.



# Train-the-Trainer Professional Development

## Advance Your Skills and Knowledge

Take your welding program to the next level with courses designed to support welding instructors.



### TRAINING SYSTEMS

RWELD  
**301**

REALWELD®

VRTEX  
**301**

VRTEX®



### WORKSHOPS

WEW  
**301**

Original Welding  
Educator's Workshop

WEW  
**302**

Advanced Welding  
Educator's Workshop

BTB  
**101**

Beyond the Booth



### ROBOTICS

BRP  
**101**

Basic Robotic  
Programming

ARP  
**201**

Advanced Robotic  
Programming

RST  
**101**

Robotic Service  
Training

WELDPRO  
**101**

WeldPRO® Offline  
Robot Programming

### WELDING EDUCATOR SKILL ADVANCEMENT PROGRAM

#### Special Pricing for Educators

For a course in the welding school catalog

\*Does not include comprehensive program or workshops and seminars.

#### COURSES INCLUDE:

- Introduction to Basic Plate & Sheet Metal Arc Welding
- Gas Metal Arc Welding
- Gas Tungsten Arc Welding
- Flux-Cored Arc Welding
- AC/DC Submerged Arc Welding
- And More!

# Custom Training

## Raise the Bar on Skill Development



Our Expert Instructors Can Design a **CUSTOM, RESULTS-ORIENTED** Training Program Just for You



The WTTC is incredible! The instructors are very helpful and have vast knowledge of welding equipment and its many applications. In addition to helping me set up the Introduction to Welding course at my school, this experience has encouraged me to return to take a course to refresh my own skill set.

*Marco Osuna, CTE Instructor/Department Chair, Yerba Buena High School, San Jose, Calif.*



### EXAMPLES OF CUSTOM TRAINING PROGRAMS:



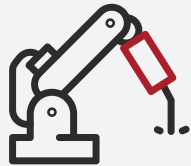
Welding Certification  
Preparation



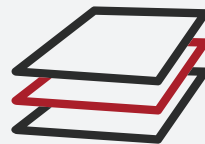
Knowledge/Skill  
Enhancement



Master New  
Welding Process(es)



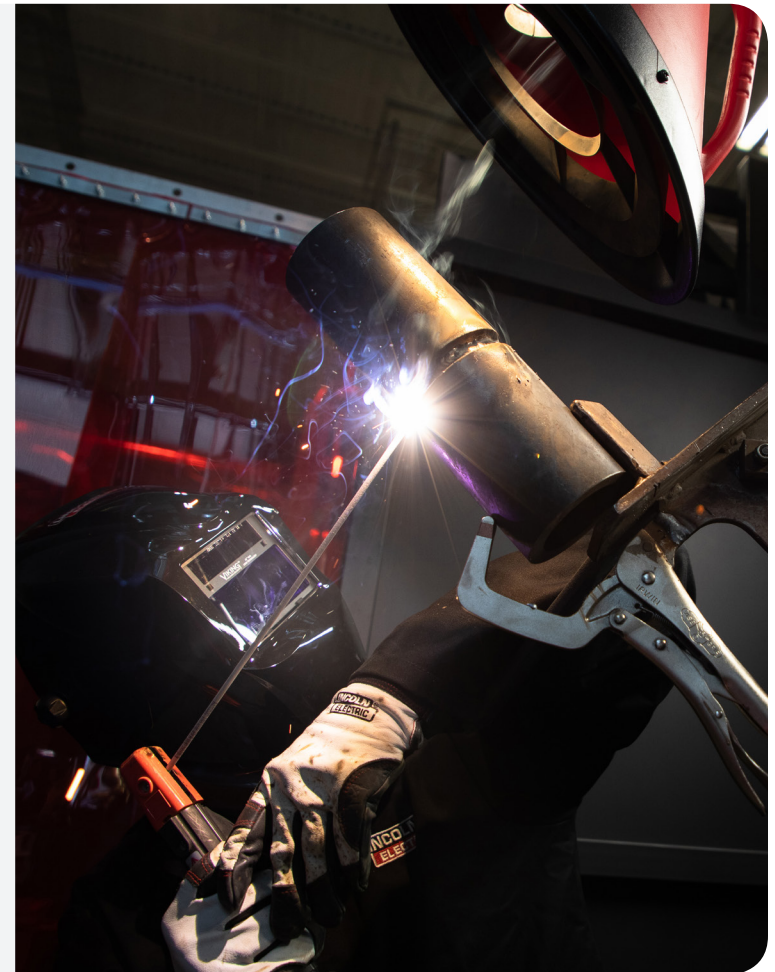
Advanced Welding  
Equipment /Techniques



Industry/Plant Specific  
Team Training



Increase Quality, Cost  
Savings & Production



Visit [education.lincolnelectric.com/customtraining](http://education.lincolnelectric.com/customtraining)

# A Complete Training Solution

## For Welding Educators and Industrial Trainers



For more information, **visit** [education.lincolnelectric.com](http://education.lincolnelectric.com) or contact [EducationalSales@lincolnelectric.com](mailto:EducationalSales@lincolnelectric.com)

#### CUSTOMER ASSISTANCE POLICY

The business of The Lincoln Electric Company® is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that may arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed. Lincoln Electric is a responsive manufacturer, but the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication methods and service requirements. Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to [www.lincolnelectric.com](http://www.lincolnelectric.com) for any updated information.

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