

Power MIG® 255C

Power MIG®. The Professional's Choice™.

The Power MIG® 255C sets the standard for MIG and flux-cored welding in industrial production, job shop fabrication, maintenance or repair work. Diamond Core Technology™ delivers a wide voltage sweet spot across the welding range, low spatter levels and a forgiving arc on steel, stainless and aluminum – even for demanding out-of-position work. It's Spool Gun Ready, so it's fast and easy to tackle difficult aluminum applications. Exclusive 115 volt auxiliary power means you can power lights, grinders, and chargers right where you work! And, the rugged cast drive with a patented Split Wire Guide system and tachometer feedback ensures trouble-free wire delivery. Add the extra length 15 foot gun cable and innovative convenience features and you begin to understand why the Power MIG® 255C is considered The Professional's Choice™.

Processes
MIG, Flux-Cored



Output



Input



Advantage Lincoln

Arc Performance:

- **Diamond Core Technology™**, a patented choke design, delivers:
 - A forgiving arc, even with large stickout changes
 - Excellent out-of-position arc action
 - A wide voltage sweet spot at a given wire feed speed
 - Low spatter

Superb Quality:

- **Rugged cast aluminum industrial wire drive** features dual driven rolls, easy-turn numeric tension indicator, brass-to-brass gun connections and Lincoln's 100% wire-supporting split wire guide system.
- **Three-year warranty** on parts and labor (90 days warranty on gun).

Professional Features:

- **Digital meters** display, preset voltage and wire feed speed, and actual voltage and preset wire feed speed while welding.
- **Generous 15 ft. (4.5 m) gun and cable assembly** makes it easy to reach your work.
- **Spool Gun Ready** – The Power MIG® 255C has the electronics and second gas solenoid built-in to drive either the Magnum® 250LX™ spool gun or the Magnum® SG spool gun.
- **The most economic spool gun solution** in the 250A category – costing hundreds less.
- **115V auxiliary receptacle** (208/230V model only) to power a grinder or other auxiliary equipment in your work area.

TECHNICAL SPECIFICATIONS

Product Name	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Input Current @ Rated Output	Output Range	Dimensions H x W x D inches (mm)	Net Weight lbs.(kg)
Power MIG® 255C One-Pak® Spool Gun Pkg.	K2417-1	208/230/1/60	250A/26V/40%	56/52A ⁽¹⁾	30-300 Amps 50-700 ipm WFS (1.3-17.7 m/min) Max. OCV 40V	31.8 x 18.9 x 38.8 (808 x 480 x 985)	220 (100)
Power MIG® 255C Base Unit	K2416-1	208/230/1/60	250A/26V/40%	56/52A ⁽¹⁾	30-300 Amps 50-700 ipm WFS (1.3-17.7 m/min) Max. OCV 40V		
	K2416-2	230/460/575/1/60		50/24/19A			

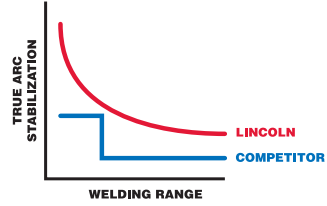
⁽¹⁾ Input current is at the rated output with the 115V auxiliary receptacle also drawing 15 amps.

A CLOSER LOOK

PERFORMANCE

DIAMOND CORE TECHNOLOGY™

Delivers a stable arc across the entire welding range.



What Is It?

Diamond Core Technology™ is a patented innovative choke design that filters the welding arc. It provides dynamic optimized arc filtering across the entire welding range of amperages. Other arc stabilization methods are “fixed” – or only working at certain amperages – resulting in harsh arc characteristic changes over the welding range.

Results:

- Great starts and low spatter.
- Outstanding performance on a wide variety of materials – steel, stainless and aluminum.
- A wide sweet spot for optimal arc performance.

Great For:

- Steel, stainless and aluminum.
- Out-of-position work.
- Long arc applications.
- Weaving techniques.

PROCESS CAPABILITIES

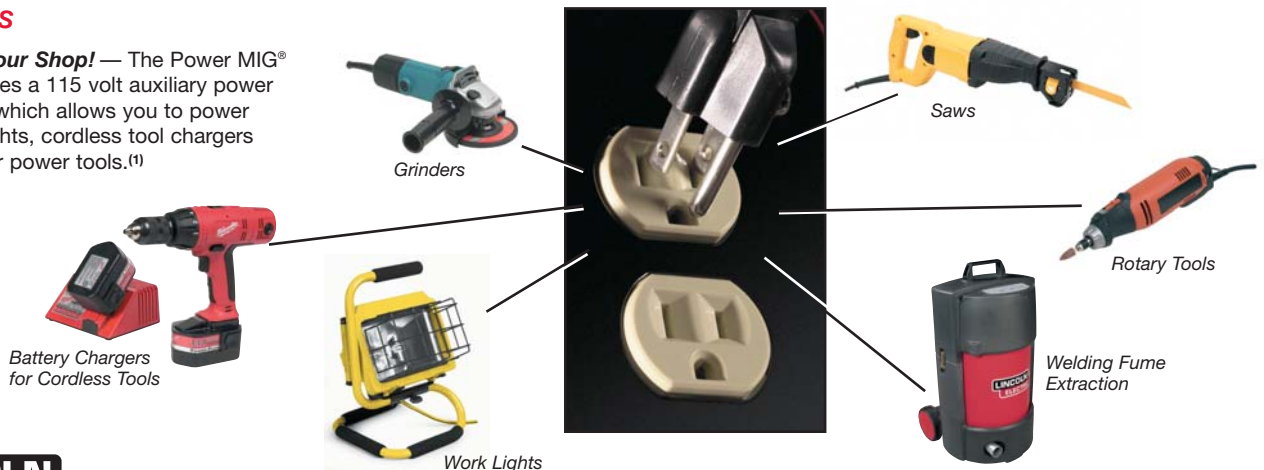
Process	Electrode Wire	Electrode Polarity	Shielding Gas	Minimum Thickness	Maximum Thickness ⁽¹⁾
MIG Mild Steel	.025", .030", .035", .045" (0.6, 0.8, 0.9, 1.1 mm) SuperArc® L50, L-56 SuperGlide® S-3, S-6	DC+	100% CO ₂ or Ar/CO ₂ Blend	24 ga. (.024") (0.6 mm)	1/2" (.500") (19.1 mm)
MIG Stainless	.030", .035", .045" (0.8, 0.9, 1.1 mm) Blue Max® 308LSi, 309LSi, 316LSi	DC+	Ar/CO ₂ Blend or Tri-Mix	20 ga. (.036") (0.9 mm)	1/2" (.500") (19.1 mm)
MIG Aluminum	3/64" (1.2 mm) SuperGlaze® 4043 and 5356	DC+	100% Argon	1/16" (.063") (1.6 mm)	1/2" (.500") (19.1 mm)
Flux-Cored, Gas-Shielded Mild Steel	.035", .045" (0.9, 1.1 mm) Outershield® 71M and MC-710	DC+	100% CO ₂ or Ar/CO ₂ Blend	12 ga. (.109") (2.7 mm)	1/2" (.500") (19.1 mm)
Flux-Cored, Self-Shielded Mild Steel	.035", .045" (0.9, 1.1 mm) Innershield® NR-211-MP ⁽²⁾ and NR-212	DC-	—	18 ga. (.050") (1.2 mm)	3/4" (.750") (12.7 mm)

⁽¹⁾ Lincoln Electric® recommends multiple pass welds on 1/2" (12.7 mm) material. Consult the appropriate application procedures and guidelines for selecting the correct wire size, gas type and number of passes.

⁽²⁾ .035" and .045" (0.9 and 1.1 mm) NR-211-MP is only recommended up to 5/16" (7.9 mm) thick material.

FEATURES

Energize Your Shop! — The Power MIG® 255C features a 115 volt auxiliary power receptacle which allows you to power grinders, lights, cordless tool chargers or any other power tools.⁽¹⁾



LINCOLN
ELECTRIC
THE WELDING EXPERTS®

⁽¹⁾115V auxiliary power is only available on 208/230V models.

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Power MIG® 255C
www.lincolnelectric.com

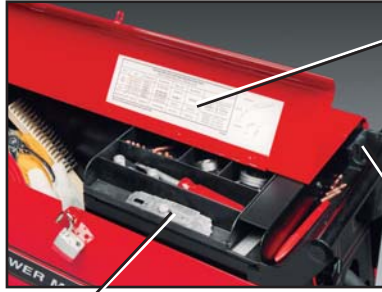
A CLOSER LOOK

FEATURES CON'T.

Compare These Innovations – Make the Professional’s ChoiceSM!



Easy Load Gas Cylinder Platform



Lockable storage compartment with tool tray stows your welding consumables and valuable personal tools.

Handy MIG Gun Expendables Chart

Built-in gun holder conveniently stores welding gun.



Easy Load Wire Compartment



Extra-Length 15 ft. (4.5 m) Gun



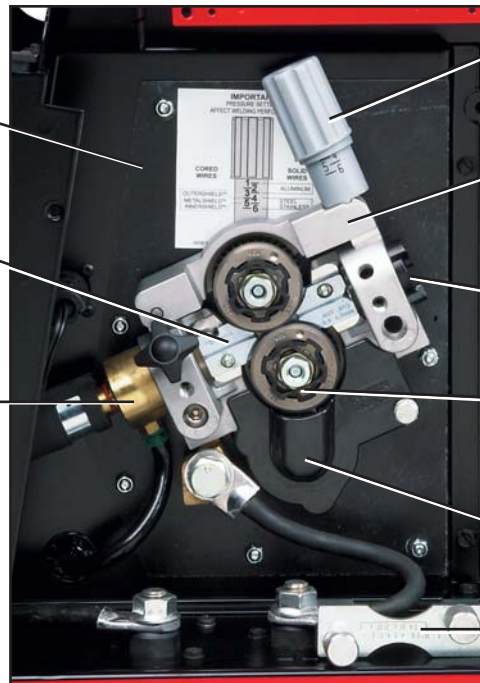
Additional Gas Solenoid – Controls Gas Flow to a Spool Gun

Professional Heavy Duty Wire Drive System

Internal tachometer feedback drive system allows you to maintain constant wire feed speed for consistent welds.

Split guides support the wire through the entire drive system to minimize feeding problems.

Reliable brass-to-brass gun receiver bushings provide connectivity to Magnum® or competitive guns. Easier interchangeability, better mechanical support and electrical current transfer.



Easy turn numeric tension indicator with optimized ranges for different wire types.

Wide idler arm hinge provides improved drive roll clamping pressure.

Input bushing protects the wire from damage.

Two gear driven rolls. No tools needed to swap rolls on or off.

Separate drive gear reduces pressure on motor shaft for long life.

Removable outer wire guide for easy access.

A CLOSER LOOK

Key Controls

- A. Digital meter displays preset wire feed speed.
- B. Presettable digital wire speed control with fine resolution at low settings.
- C. Optional timer kit.
- D. Digital meter displays preset voltage setting and actual voltage while welding.
- E. Built-in gun holder.
- F. Presettable digital voltage control with fine resolution at low settings.
- G. Angled gun connection for improved feedability.
- H. Second gas solenoid for spool gun use.



QUALITY AND RELIABILITY

- Fan-As-Needed™ (F.A.N.™) provides cooling of transformer and other components when welding, reducing power consumption, noise and extending welder life.
- Thermostatic protection from current overload and excessive temperatures.
- Printed circuit boards are environmentally-shielded using Lincoln's engineered potting and protective frame trays.
- Low input current draw for energy-efficient low cost operation.
- Power source line voltage regulation holds voltage setting constant to maintain weld quality even when the input voltage fluctuates $\pm 10\%$.
- Manufactured under a quality system certified to ISO 9001 requirements and ISO 14001 Environmental Standards.
- Approved by Canadian Standards Association (CSA).
- Three-year warranty on parts and labor (90 days warranty on gun).



The Power MIG® 255C is a great choice for MIG production or job shop fabrication.

SPOOL GUN READY!

The Power MIG® 255C has built-in electronics to drive either a Magnum® SG Spool Gun or a Magnum® 250LX™ Spool Gun. In addition, a second gas solenoid is provided to supply and control gas flow to the spool gun.

Easy as 1-2-3!

- 1 Simply plug the spool gun control cable into the built-in 7-pin connector (Magnum® SG gun requires K2445-1, 6- to 7-pin control cable adapter plug.)
- 2 Connect the spool gun's power cable to the output terminal in the wire drive compartment.
- 3 Hook the spool gun gas line to the solenoid gas fitting and you're ready to weld!

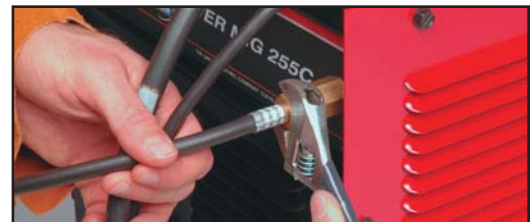
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2



3



A CLOSER LOOK

Improved Spool Gun Operation!

It's easy to start welding with a spool gun. Set wire feed speed at the gun – see the pre-set wire feed speed displayed on the Power MIG® 255C meter.

Faster set-up – No more guessing on wire feed speed!



Adjust speed on the gun and watch the wire feed speed change on the Power MIG® 255C.

POWER MIG 255C SPOOL GUN SOLUTIONS

The economic Magnum® SG or premium Magnum® 250LX™ spool guns are recommended for easy changeovers to a second electrode material such as stainless steel or aluminum.

Avoid the time-consuming liner, contact tip, drive roll and machine polarity changes necessary when preparing your machine's wire drive

for use with those materials. Spool guns are especially recommended for feeding soft aluminum wire.

Lincoln's spool guns accommodate 4" (100 mm) diameter 1 lb. (.45 kg) spools and feature convenient wire feed speed control at the gun handle.



MAGNUM® SG SPOOL GUN

- 250A, 60% duty cycle.
- .023"-3/64" (0.6-1.2 mm) electrode diameter capability.
- Wire feed speeds from 50-650 ipm (1.2-16.5 m/min.).
- 25 ft. (7.6 m) gun cable length – compare to the competition.
- Lowest cost 250A spool gun system on the market today.
- Adjustable speed control at the handle – allows you to tailor the WFS setting at the gun.
- See E12.22 for Expendable Parts.
- Order K487-25 spool gun and K2445-1 control cable adapter.
- Easy order K2417-1 One-Pak™ includes Power MIG® 255C (K2416-1), Magnum® SG Spool Gun (K487-25), Magnum® SG Cable Adapter Plug (K2445-1), K1738-1 Spool Gun Holder and K1702-1 Dual Cylinder Mounting Kit.



MAGNUM® 250LX™ SPOOL GUN

- 280A, 60% duty cycle.
- .025-3/64" (0.6-1.2 mm) electrode diameter capability.
- Wire feed speeds up to 800 ipm (20.3 m/min.).
- 25 ft. (7.6 m) gun cable length with 7-pin MS-Type Connector.
- WFS control for fine adjustment of wire feed speed at the gun.
- Zippered cable jacket is standard.
- See E12.25 for Expendable Parts.
- Order K2490-1.

A CLOSER LOOK

THE MAGNUM® 250L GUN

- Magnum® 250L gun and cable assembly, shipped with the Power MIG® 255C, is equipped to feed .035"-.045" (0.9-1.2 mm) solid steel wire.
- Lightweight and flexible for easy maneuverability.
- Fiberglass handle with non-slip grooves to maximize comfort and control.
- Heavy duty gun trigger switch for positive electrical contact and long life.
- Magnum replacement parts are fully compatible with other leading brands. Industry reference numbers are provided for ease of interchangeability.



MAGNUM® REPLACEMENT PARTS

Description	Order No.	Industry Reference No.
Magnum® 250L Gun and Cable Assembly		
Fixed Gas Nozzle Model For .035"-.045" (0.9-1.2 mm) wire sizes 12 ft. (3.6 m) cable	K533-7	
Adjustable Gas Nozzle Model For .035"-.045" (0.9-1.2 mm) wire sizes 10 ft. (3.0 m) cable 15 ft. (4.5 m) cable	K533-1 K533-3	
Cable Liners For All Gun Cable Lengths .025"-.030" (0.6-0.8 mm) .030"-.035" (0.8-0.9 mm) .035"-.045" (0.9-1.2 mm) 3/64" (1.2 mm) Aluminum	KP1934-2 KP1934-3 KP1934-1 ⁽¹⁾ KP1955-1 ⁽²⁾	42-23-15 42-3035-15 42-4045-15 42N-3545-15
Contact Tips		
Standard Duty .025" (0.6 mm) .030" (0.8 mm) .035" (0.9 mm) .040" (1.0 mm) .045" (1.2 mm)	KP2020-6 KP2020-7 KP2020-1 ⁽¹⁾ KP2020-8 KP2020-2 ⁽²⁾	14-23 14-30 14-35 14-40 14-45
Heavy Duty .035" (0.9 mm) .040" (1.0 mm) .045" (1.2 mm)	KP2021-1 KP2021-6 KP2021-2	14H-35 14H-40 14H-45
Tapered .025" (0.6 mm) .030" (0.8 mm) .035" (0.9 mm) .040" (1.0 mm) .045" (1.2 mm)	KP2022-5 KP2022-6 KP2022-1 KP2022-7 KP2022-2	14T-23 14T-30 14T-35 14T-40 14T-45
Aluminum 3/64" (1.2 mm)	KP2010-5 ⁽²⁾	
Fixed Gas Nozzles/Diffuser Assembly		
Fixed (flush) 3/8" (9.5 mm) 1/2" (12.7 mm) 5/8" (15.9 mm)	KP1931-1 KP1931-2 ⁽¹⁾ KP1931-3	23-37-F 23-50-F 23-63-F
Fixed (recessed) 3/8" (9.5 mm) 1/2" (12.7 mm) 5/8" (15.9 mm)	KP1930-1 KP1930-2 KP1930-3	23-37 23-50 23-62
Requires: Gas Diffuser Assembly .025"-.045" (0.6-1.2 mm)	KP2026-3 ⁽¹⁾	52FN

MAGNUM® REPLACEMENT PARTS

Description	Order No.	Industry Reference No.
Adjustable Gas Nozzle/Diffuser Assembly		
Adjustable Slip-On 3/8" (9.5 mm) 1/2" (12.7 mm) 5/8" (15.9 mm)	KP1935-3 KP1935-2 KP1935-1	22-37 22-50 22-62
Requires:		
Nozzle Insulator Assembly	KP2025-1	32
Gas Diffuser Assembly: .023"-.030" (0.6-0.8 mm) .035"-.045" (0.9-1.2 mm)	KP2026-2 KP2026-1	52-23 52
Gasless Nozzle/Diffuser Assembly (Innershield Nozzle)	KP1947-1	
Requires:		
Gas Diffuser Assembly	KP2026-1	52
Gun Tube Assembly		
Standard (60°) 45°	KP2015-1 ⁽¹⁾ KP2041-1 ⁽²⁾	

⁽¹⁾ Included with Power MIG® 255C.

⁽²⁾ Included in the K1703-1 Aluminum Feeding Kit.

DRIVE ROLL KITS

	Wire Size	Order Number
Solid	.023"-.030" (0.6-0.8 mm)	KP1696-030S
	.035" (0.9 mm)	KP1696-035S ⁽¹⁾
	.035"/.045" combination	KP1696-1
	.040" (1.0 mm)	KP1696-2
	.045" (1.2 mm)	KP1696-045S
Cored	.035" (0.9 mm)	KP1697-035C
	.045" (1.2 mm)	KP1697-045C
Aluminum	3/64" (1.2 mm)	KP1695-3/64A ⁽²⁾

⁽¹⁾ Included with Power MIG® 255C. ⁽²⁾ Included in the K1703-1 Aluminum Feeding Kit.

GENERAL OPTIONS



Timer Kit
Adds 4-step trigger interlock, spot mode, adjustable run-in speed for smoother arc starting, and adjustable burnback time to minimize wire sticking in puddle. Easy to install.
Order K1701-1



Dual Cylinder Mounting Kit
Permits side-by-side mounting of two full size gas cylinders, with easy loading. Attaches easily to Power MIG® under-carriage.
Order K1702-1



Canvas Cover
Protect your Power MIG® when not in use. Made from attractive red canvas that is flame retardant, mildew resistant and water repellent. Fits any Power MIG® machine with or without a gas cylinder in the cylinder rack. Will not fit if spool gun holder is attached to the machine.
Order K2378-1



Aluminum Feeding Kit
Conversion kit for welding with 3/64" (1.2 mm) aluminum wire. Includes tension spring, drive rolls, contact tips (2), non-metallic wire guides and cable liner.
Order K1703-1



Magnum® 250LX Spool Gun
280 amps, 60% duty cycle. Feeds .025"-3/64" (0.6-1.2 mm) dia. aluminum wire on 2 lb. (0.9 kg) spools. With remote wire feed speed control. 25 ft. (7.6 m) cable.
Order K2490-1



Magnum® SG Spool Gun
200 amps, 60% duty cycle. Feeds .023"-3/64" (0.6-1.2 mm) diameter aluminum wire on 2 lb. (0.9 kg) spools. With remote wire feed speed control. 25 ft. (7.6 m) cable.
Order K487-25



Magnum® SG Spool Gun Control Cable Adapter
Allows the K487-25 Magnum® SG Spool Gun's 6-pin control cable plug to connect to the Power MIG® 255C's 7-pin spool gun control cable receptacle.
Order K2445-1



Magnum® 250LX™ Spool Gun Control Cable Extension
Extend your spool gun reach with a 25 ft. (7.6 m) Control Cable Extension. Features a 7-pin female MS-type connector on the spool gun end and a 7-pin male MS-type connector on the power source end.
Order K2519-1



Spool Gun Holder
Provides neat storage of spool gun.
Order K1738-1



Magnum® Guns
Alternate guns can be used with the Power MIG®, including Magnum® 200, 300 and 400 MIG (GMAW) models, as well as Magnum® 250XA Fume Extraction Gun.
See Publications E12.10 and E13.10 for details. Note: Requires K466-6 Adapter Kit.



Magnum® Connection Kit
Permits use of Magnum® 200, 300 and 400 gun and cable assemblies on Power MIG®.
Order K466-6



8" O.D. Spool Adapter
Permits 8" (200mm) O.D. spools to be mounted on 2" (51 mm) O.D. spindles.
Order K468



Welding Fume Extractors
Lincoln offers a wide variety of welding fume extraction environmental system solutions, ranging from portable systems easily wheeled around the shop to shop-wide central systems servicing many dedicated welding stations.
Request Publication E13.40

POWER MIG® 255C ORDER FORM

PRODUCT DESCRIPTION	ORDER NUMBER	QUANTITY	PRICE
POWER MIG® 255C 208/230/1/60	K2416-1		
POWER MIG® 255C 230/460/575/1/60	K2416-2		
POWER MIG® 255C ONE-PAK® SPOOL GUN PKG.	K2417-1		
RECOMMENDED GENERAL OPTIONS			
Timer Kit	K1701-1		
Dual Cylinder Mounting Kit	K1702-1		
Canvas Cover	K2378-1		
Aluminum Feeding Kit	K1703-1		
Magnum® 250LX™ Spool Gun	K2490-1		
Magnum® SG Spool Gun	K487-25		
Power MIG® 255C/Magnum® SG Spool Gun Control Cable Adapter	K2445-1		
Magnum® 250LX™ Spool Gun Control Cable Extension	K2519-1		
Spool Gun Holder	K1738-1		
Magnum® Guns	See publications E12.10, E13.10		
Magnum® Connection Kit	K466-6		
8" O.D. Spool Adapter	K468		
Welding Fume Extractors	See Publication E13.40		
TOTAL:			

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 advice or information about their use of our products. We respond to our customers based on the best information in our possession at that time. Lincoln Electric® is not in a position to warrant or guarantee such advice, and assumes no liability, with respect to such information or advice. We expressly disclaim any warranty of any kind, including any warranty of fitness for any customer's particular purpose, with respect to such information or advice. As a matter of practical consideration, we also cannot assume any responsibility for updating or correcting any such information or advice once it has been given, nor does the provision of information or advice create, expand or alter any warranty with respect to the sale of our products.

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 for any updated information.



THE LINCOLN ELECTRIC COMPANY®

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