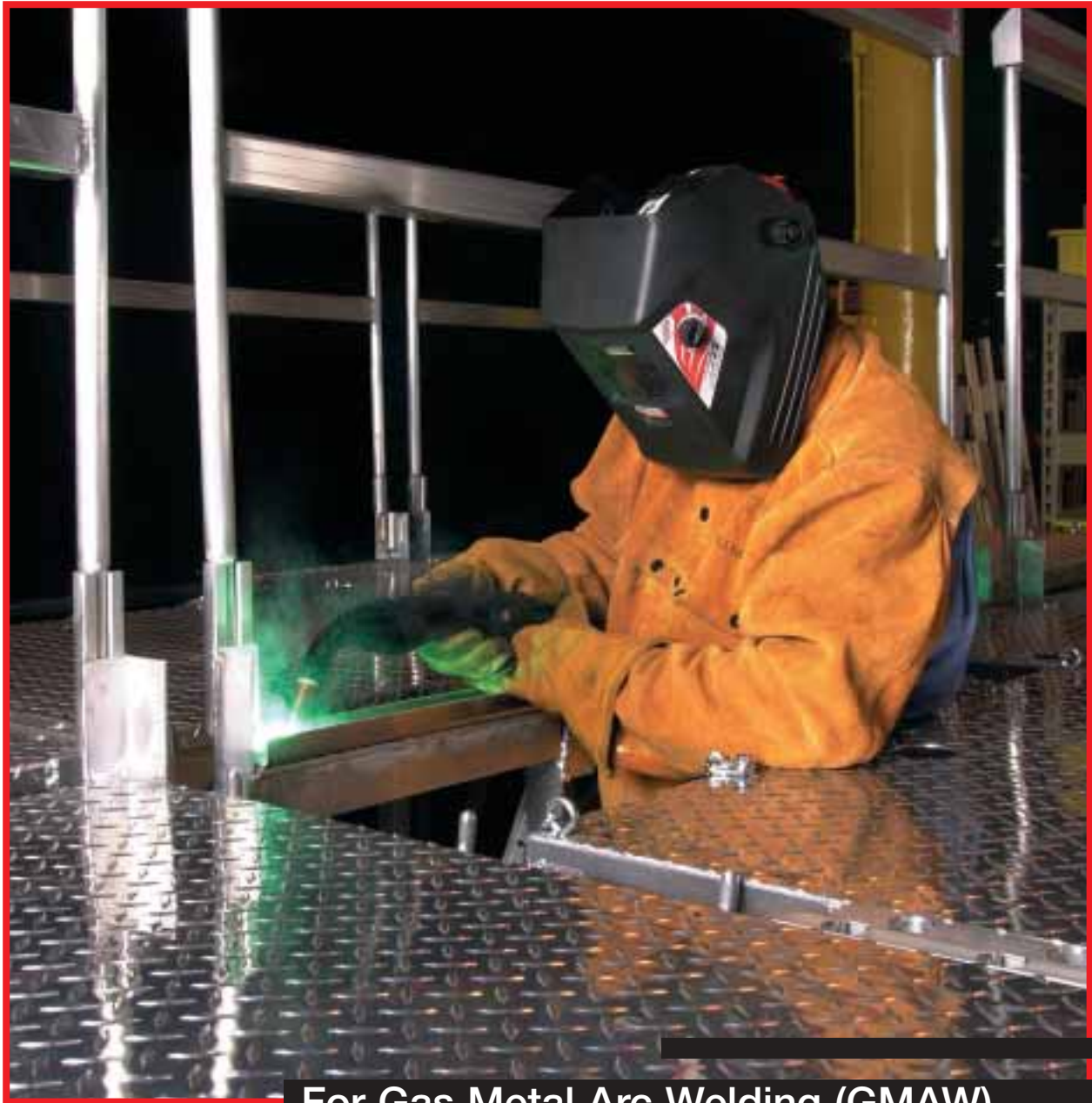


ALUMINUM MIG WIRE PRODUCT CATALOG

SuperGlaze[®]



For Gas Metal Arc Welding (GMAW)

LINCOLN[®]
ELECTRIC

THE WELDING EXPERTS



About The Lincoln Electric Company

Lincoln Electric is the world's premier manufacturer of welding equipment and consumables. No company on earth is more focused on the ever-changing needs of the welding professional. Our business is all about helping companies make their welding operations more effective, more efficient, more profitable.

Lincoln is truly your "One Source®" when it comes to welding. We're a company that continually rededicates itself to the equally important goals of exceptional quality, and exceptional service. Our field support team — with hundreds of field sales engineers and thousands of knowledgeable and responsive Lincoln distributors in countries all over the world — is the largest in the industry.

Innovative thinking. A quality and service-first attitude. Fresh approaches to design, manufacturing, and packaging. Worldwide strength. That's Lincoln Electric.

About SuperGlaze® Aluminum MIG Wire

For superior welding performance, turn to SuperGlaze aluminum MIG wire from Lincoln Electric.

SuperGlaze prevents the problems usually associated with aluminum wire feeding such as birdnesting, tangling and burnback to provide a stable arc, great feedability and exceptional control — every time you weld! The keys are SuperGlaze's smooth surface finish and consistent chemical composition. What this means for you is *quality* wire that produces a *quality* weld.

Let Us Put Our Experience to Work for You

As a major supplier of welding wire, Lincoln Electric is the leader in MIG wire manufacturing technology. We carry that same technology and expertise to our aluminum MIG wire manufacturing. Our fully integrated aluminum MIG wire facility uses state-of-the-art equipment to produce a complete range of aluminum alloys including 1100, 4043 4047, 5183, 5356, 5554 and 5556.

What Makes Our SuperGlaze Stand Out From the Rest?

Three unique features:

1. A proprietary process which gives SuperGlaze a superior surface finish for optimum surface integrity.
2. A manufacturing process that precisely controls the alloy chemical composition to produce consistent physical characteristics.
3. State-of-the-art testing equipment to evaluate the surface condition and feedability of the wire to ensure problem-free welding.

What all this means to you is outstanding welding characteristics, spool to spool, time after time. Lincoln's aluminum MIG wire coupled with our advanced MIG welding equipment makes aluminum as easy to weld as any other material... and makes Lincoln the one source for all your aluminum welding needs.

Here's How Our Process Works:

Controlling Alloys

The process of making aluminum MIG wires is a complex one, but one in which Lincoln has a clear and distinct advantage. First, we utilize automated titling furnaces to efficiently produce the proper aluminum alloys. With this equipment, we are able to hold tight tolerances in the composition. The alloy is carefully refined prior to casting to minimize hydrogen, alkaline metals, and inclusions.

Continuous Casting

Second, we use a continuous casting process specially configured to high alloy materials. This process keeps the surface free from imperfections and impurities.

Drawing the Wire

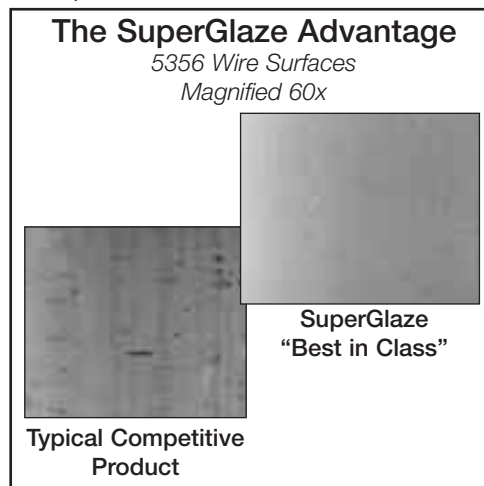
In the last manufacturing step of the process, we use advanced wire drawing technology to preserve both surface integrity and internal soundness.

Testing the Wire

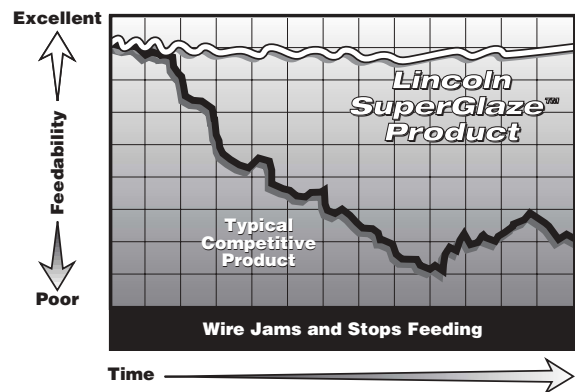
To ensure superior quality of welding wire, continuous finished product inspection is done. Surface quality is evaluated along with feedability and welding performance. This guarantees every spool of wire is problem-free.

Welding Performance

Most aluminum MIG welding problems are caused by poor feeding. Since aluminum is relatively soft, it is important that the wire surface be as smooth as possible for best feedability. SuperGlaze products provide easier feeding than competitive products because they have fewer surface imperfections as shown at the right. SuperGlaze wire also feeds with less force than typical competitive products as the feedability test graph shows. What this means is better control of the weld puddle for the operator. It also means longer gun liner and contact tip life as burn-backs do not occur.



With our MIG welding process knowledge, we understand that welding performance is one of the most important criteria used when selecting a wire. Aluminum MIG wire tends to produce a welding arc that is less stable than other materials because aluminum conducts electricity better. Small changes in wire diameter, wire feed speed, and current produce dramatic changes in weld bead profile, arc length and can even cause equipment downtime due to wire burnback and fusing to tip. Our continuous evaluation of finished product ensures consistency in manufacturing. You can count on Lincoln aluminum MIG wire for superior arc stability, weld appearance, integrity and productivity.



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ALUMINUM MIG WIRE SELECTION GUIDE

Electrode Name	AWS Number	Recommended Polarity	General Description	Page No.
SuperGlaze 1100	ER1100	DC+	SuperGlaze 1100 is highly resistant to chemical corrosion and has good crack resistance. Suitable for electrical and chemical applications utilizing aluminum base metal with little or no alloying elements. Like all 1XXX filler alloys, Lincoln's SuperGlaze 1100 is the softest aluminum MIG wire and requires extra care to ensure good feeding.	6
SuperGlaze 4043	ER4043	DC+	SuperGlaze 4043 is a great choice for the welding of heat-treatable base alloys and more specifically the 6XXX series alloys. It has a lower melting point and more fluidity than the 5XXX series filler alloys and is preferred by welders because of its favorable operating characteristics. ER4043 type wires are also less sensitive to weld cracking with the 6XXX series base alloys. SuperGlaze 4043 is suitable for sustained elevated temperature service, i.e. above 150°F (65°C).	7
SuperGlaze 4047	ER4047	DC+	A lower melting point and higher fluidity are two advantages SuperGlaze 4047 has over its cousin SuperGlaze 4043. SuperGlaze 4047 produces very clean weld deposits and possesses excellent operator appeal. It can be used as a substitute for an ER4043 type wire to increase silicon in the weld metal, minimize hot cracking, and produce higher fillet weld shear strength. SuperGlaze 4047 is suitable for sustained elevated temperature service, i.e. above 150°F (65°C).	8
SuperGlaze 5183	ER5183	DC+	SuperGlaze 5183 is designed to weld high magnesium alloys to meet higher tensile strength requirements. Use on 5083 and 5654 base materials when required tensile strengths are 40,000 psi (276 MPa) or greater. Typical applications are in the marine and cryogenic industries, and high strength structural aluminum fabrication.	9

ALUMINUM MIG WIRE SELECTION GUIDE

Electrode Name	AWS Number	Recommended Polarity	General Description	Page No.
SuperGlaze 5356	ER5356	DC+	SuperGlaze 5356 is our most popular aluminum MIG wire. It is a great general purpose filler alloy designed for the welding of 5XXX series alloys when 40,000 psi (276 MPa) tensile strength is not required.	10
SuperGlaze 5554	ER5554	DC+	SuperGlaze 5554 is intended as a matching filler alloy when welding 5454 base alloys. This alloy is a lower magnesium content alloy and is often used for automotive wheels, over-the-road trailers, and rail tank cars where the weld filler metal chemistry must closely match the base material chemistry to maximize corrosion performance.	11
SuperGlaze 5556	ER5556	DC+	SuperGlaze 5556 weld deposits will provide matching tensile strengths for the 5XXX alloys, such as 5083 and 5654. Contains increased amounts of magnesium and manganese.	12

SuperGlaze 1100 is highly resistant to chemical corrosion and has good crack resistance. Suitable for electrical and chemical applications utilizing aluminum base metal with little or no alloying elements. Like all 1XXX filler alloys, Lincoln's SuperGlaze 1100 is the softest aluminum MIG wire and requires extra care to ensure good feeding.

ADVANTAGE LINCOLN

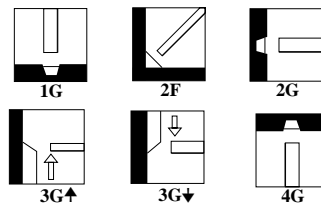
- All-position, aluminum MIG wire.
- Superior wire surface finish for the best feedability and arc performance.
- Optimal manufacturing process to precisely control chemical composition.

- State-of-the-art testing equipment to ensure trouble-free performance of the weld wire.
- Manufactured under a quality system certified to ISO 9001 requirements.

TYPICAL APPLICATIONS

- Joining 1XXX alloys to themselves or other alloys.
- Bus bars.
- Electrical boxes.
- Heat exchangers.
- Metallizing.

WELDING POSITIONS



SHIELDING GAS

100% Argon
Argon / Helium Mixtures
Flow Rate: 30 - 50 CFH

CONFORMANCE

AWS A5.10: ER1100

WIRE COMPOSITION

	%Al	%Si + %Fe	%Cu	%Mn	%Mg	%Cr	%Zn	%Ti	%Be
AWS Requirements per ER1100	99.00 min.	.95 max.	.05 - .20	.05 max.	—	—	.10 max.	—	.0008 max.
Test Results	99.65	.27	.08	.001	—	—	.004	—	.002

DIAMETERS / PACKAGING

Diameter Inches (mm)	1 Lb. (0.4 kg) Spool	16 Lb. (7.3 kg) Spool
	20 Lb. Carton	
.030 (0.8)	EDS30315	EDS28404
.035 (0.9)	EDS30316	EDS28405
3/64 (1.2)	EDS30317	EDS28407
1/16 (1.6)		EDS28408

NOTE: Typical Operating Procedures can be found on pages 14-15.

SuperGlaze 4043 is a great choice for the welding of heat-treatable base alloys and more specifically the 6XXX series alloys. It has a lower melting point and more fluidity than the 5XXX series filler alloys and is preferred by welders because of its favorable operating characteristics. ER4043 type wires are also less sensitive to weld cracking with the 6XXX series base alloys. SuperGlaze 4043 is suitable for sustained elevated temperature service, i.e. above 150°F (65°C).

ADVANTAGE LINCOLN

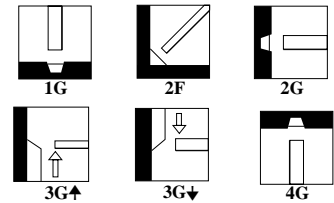
- All-position aluminum MIG wire.
- Superior wire surface finish for the best feedability and arc performance.

- Optimal manufacturing process to precisely control chemical composition.
- State-of-the-art testing equipment to ensure trouble-free performance of the weld wire.
- Manufactured under a quality system certified to ISO 9001 requirements.

TYPICAL APPLICATIONS

- For welding 6XXX alloys, and most casting alloys.
- Good all purpose filler alloy.
- Automotive components such as frame and drive shafts.
- Bicycle frames.

WELDING POSITIONS



SHIELDING GAS

100% Argon
Argon / Helium Mixtures
Flow Rate: 30 - 50 CFH

CONFORMANCE

AWS A5.10: ER4043
CWB

WIRE COMPOSITION

	%Al	%Si	%Fe	%Cu	%Mn	%Mg	%Cr	%Zn	%Ti	%Be
AWS Requirements per AWS ER4043	Remainder	4.50 - 6.00	0.80 max.	.30 max.	.05 max.	.05 max.	—	.10 max.	.20 max.	.0008 max.
Test Results	Remainder	5.26	.15	.006	.01	.03	—	.001	.009	<.0002

DIAMETERS / PACKAGING

Diameter Inches (mm)	1 Lb. (0.4 kg) Spool 20 Lb. Carton	16 Lb. (7.3 kg) Spool	20 Lb. (9.1 kg) Spool	165 Lb. (75 kg) Reel
.030 (0.8)	ED030307	ED028394		
.035 (0.9)	ED030308	ED028395		ED029112
.040 (1.0)	ED030309	ED028396		
3/64 (1.2)	ED030310	ED028397	ED029234	ED029113
1/16 (1.6)		ED028398	ED030281	ED029114

NOTE: Typical Operating Procedures can be found on pages 14-15.

A lower melting point and higher fluidity are two advantages SuperGlaze 4047 has over its cousin SuperGlaze 4043. SuperGlaze 4047 produces very clean weld deposits and possesses excellent operator appeal. It can be used as a substitute for an ER4043 type wire to increase silicon in the weld metal, minimize hot cracking, and produce higher fillet weld shear strength. SuperGlaze 4047 is suitable for sustained elevated temperature service, i.e. above 150°F (65°C).

ADVANTAGE LINCOLN

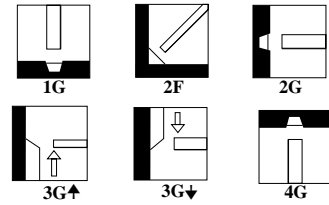
- All-position aluminum MIG wire.
- Similar to SuperGlaze 4043, with even higher crack resistance.

- Superior wire surface finish for the best feedability and arc performance.
- Optimal manufacturing process to precisely control chemical composition.
- State-of-the-art testing equipment to ensure trouble-free performance of the weld wire.
- Manufactured under a quality system certified to ISO 9001 requirements.

TYPICAL APPLICATIONS

- Automotive components, heat exchangers.
- Body panels.

WELDING POSITIONS



SHIELDING GAS

100% Argon
 Argon / Helium Mixtures
 Flow Rate: 30 - 50 CFH

CONFORMANCE

AWS A5.10: ER4047

WIRE COMPOSITION

	%Al	%Si	%Fe	%Cu	%Mn	%Mg	%Cr	%Zn	%Ti	%Be
AWS Requirements per AWS ER4047	Remainder	11.00 - 13.00	0.80 max.	.30 max.	.15 max.	.10 max.	—	.20 max.	—	.0008 max.
Test Results	As reported per AWS requirements									

DIAMETERS / PACKAGING

Diameter Inches (mm)	1 Lb. (0.4 kg) Spool 20 Lb. Carton	16 Lb. (7.3 kg) Spool
3/64 (1.2)	EDS30320	EDS28417
1/16 (1.6)		EDS28418

NOTE: Typical Operating Procedures can be found on pages 14-15.

SuperGlaze 5183 is designed to weld high magnesium alloys to meet higher tensile strength requirements. Use on 5083 and 5654 base materials when required tensile strengths are 40,000 psi (276 MPa) or greater. Typical applications are in the marine and cryogenic industries, and high strength structural aluminum fabrication.

ADVANTAGE LINCOLN

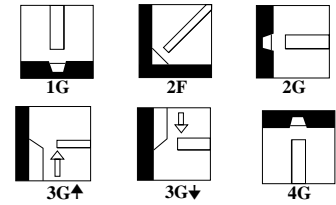
- All-position aluminum MIG wire.
- Superior wire surface finish for the best feedability and arc performance.
- Optimal manufacturing process to precisely control chemical composition.

- State-of-the-art testing equipment to ensure trouble-free performance of the weld wire.
- Manufactured under a quality system certified to ISO 9001 requirements.

TYPICAL APPLICATIONS

- For welding high magnesium 5XXX alloys.
- Marine fabrication and repair.
- Cryogenic tanks.
- Shipbuilding and other high strength structural aluminum applications.
- Bicycle frames.

WELDING POSITIONS



SHIELDING GAS

100% Argon
 Argon / Helium Mixtures
 Flow Rate: 30 - 50 CFH

CONFORMANCE

AWS A5.10: ER5183
 ABS: IACS Grade WC
 Lloyd's Register: WC
 DNV: 5183
 G.L.: S-ALMg 4.5Mn
 Bureau Veritas: WC
 TUV

WIRE COMPOSITION

	%Al	%Si	%Fe	%Cu	%Mn	%Mg	%Cr	%Zn	%Ti	%Be
AWS Requirements per AWS ER5183	Remainder	.40 max.	.40 max.	.10 max.	0.50 - 1.00	4.30 - 5.20	.05 - .25	.25 max.	.15 max.	.0008 max.
Test Results	Remainder	.03	.13	.001	0.65	4.99	.10	.02	.07	.0006

DIAMETERS / PACKAGING

Diameter Inches (mm)	1 Lb. (0.4 kg) Spool 20 Lb. Carton	16 Lb. (7.3 kg) Spool
.030 (0.8)	EDS30321	EDS28434
.035 (0.9)	EDS30322	EDS28435
3/64 (1.2)	EDS30323	EDS28437
1/16 (1.6)		EDS28438

NOTE: Typical Operating Procedures can be found on pages 14-15.

SuperGlaze 5356 is our most popular aluminum MIG wire. It is a great general purpose filler alloy designed for the welding of 5XXX series alloys when 40,000 psi (276 MPa) tensile strength is not required.

ADVANTAGE LINCOLN

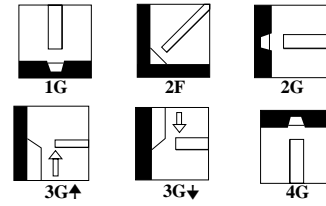
- All-position aluminum MIG wire.
- Superior wire surface finish for the best feedability and arc performance.
- Optimal manufacturing process to precisely control chemical composition.
- State-of-the-art testing equipment to ensure trouble-free performance of the weld wire.

- Manufactured under a quality system certified to ISO 9001 requirements.

TYPICAL APPLICATIONS

- For welding most 5XXX alloys when 40,000 psi (276 MPa) tensile strength is not required.
- Automotive bumpers and supports.
- Structural frames in the shipbuilding industry.
- Bicycle frames.
- Formed truck panels.

WELDING POSITIONS



SHIELDING GAS

100% Argon
Argon / Helium Mixtures
Flow Rate: 30 - 50 CFH

CONFORMANCE

AWS A5.10: ER5356
ABS: IACS WB
Lloyd's Register: WB
DNV: 5356
G.L.: S-AIMg 5
Bureau Veritas: WB
CWB
TUV

WIRE COMPOSITION

	%Al	%Si	%Fe	%Cu	%Mn	%Mg	%Cr	%Zn	%Ti	%Be
AWS Requirements per AWS ER5356	Remainder	.25 max.	.40 max.	.10 max.	.05 - .20	4.50 - 5.50	.05 - .20	.10 max.	.06 - .20	.0008 max.
Test Results	Remainder	.05	.09	.03	.12	4.56	.08	.003	.15	.0007

DIAMETERS / PACKAGING

Diameter Inches (mm)	1 Lb. (0.4 kg) Spool		16 Lb. (7.3 kg) Spool	20 Lb. (9.1 kg) Spool	165 Lb. (75 kg) Reel
	20 Lb. Carton				
.030 (0.8)	ED030311		ED028384		
.035 (0.9)	ED030312		ED028385		ED029115
.040 (1.0)	ED030313		ED028386		
3/64 (1.2)	ED030314		ED028387	ED030282	ED029116
1/16 (1.6)			ED028388	ED030283	ED029117

NOTE: Typical Operating Procedures can be found on pages 14-15.

SuperGlaze 5554 is intended as a matching filler alloy when welding 5454 base alloys. This alloy is a lower magnesium content alloy and is often used for automotive wheels, over-the-road trailers, and rail tank cars where the weld filler metal chemistry must closely match the base material chemistry to maximize corrosion performance.

ADVANTAGE LINCOLN

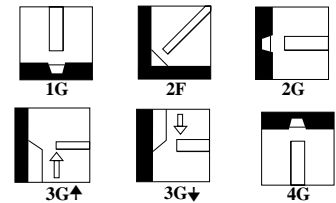
- All-position aluminum MIG wire.
- Superior wire surface finish for the best feedability and arc performance.
- Optimal manufacturing process to precisely control chemical composition.

- State-of-the-art testing equipment to ensure trouble-free performance of the weld wire.
- Manufactured under a quality system certified to ISO 9001 requirements.

TYPICAL APPLICATIONS

- Matching filler alloy for 5454 base alloys.
- Automotive wheels.
- Transportation industry applications such over-the-road trailers and rail tank cars.
- Chemical storage tanks.

WELDING POSITIONS



SHIELDING GAS

100% Argon
Argon / Helium Mixtures
Flow Rate: 30 - 50 CFH

CONFORMANCE

AWS A5.10: ER5554
CWB

WIRE COMPOSITION

	%Al	%Si	%Fe	%Cu	%Mn	%Mg	%Cr	%Zn	%Ti	%Be
AWS Requirements per AWS ER5554	Remainder	.25 max.	.40 max.	.10 max.	0.50 - 1.00	2.40 - 3.00	.05 - .20	.25 max.	.06 - .20	.0008 max.
Test Results	Remainder	.06	.13	.03	.51	2.41	.06	.005	.09	.0006

DIAMETERS / PACKAGING

Diameter Inches (mm)	1 Lb. (0.4 kg) Spool (20 Lb. Carton)	16 Lb. (7.3 kg) Spool
.030 (0.8)	EDS30324	EDS29571
.035 (0.9)	EDS30325	EDS29572
3/64 (1.2)	EDS30326	ED029573
1/16 (1.6)		EDS29574

NOTE: Typical Operating Procedures can be found on pages 14-15.

SuperGlaze 5556 weld deposits will provide matching tensile strengths for the 5XXX alloys, such as 5083 and 5654. Contains increased amounts of magnesium and manganese.

ADVANTAGE LINCOLN

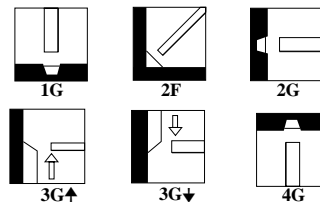
- All-position aluminum MIG wire.
- Superior wire surface finish for the best feedability and arc performance.
- Optimal manufacturing process to precisely control chemical composition.

- State-of-the-art testing equipment to ensure trouble-free performance of the weld wire.
- Manufactured under a quality system certified to ISO 9001 requirements.

TYPICAL APPLICATIONS

- For welding the higher strength 5XXX alloys, such as 5083 and 5654.
- Pressure vessels.
- Storage tanks.

WELDING POSITIONS



SHIELDING GAS

100% Argon
Argon / Helium Mixtures
Flow Rate: 30 - 50 CFH

CONFORMANCE

AWS A5.10: ER5556

WIRE COMPOSITION

	%Al	%Si	%Fe	%Cu	%Mn	%Mg	%Cr	%Zn	%Ti	%Be
AWS Requirements per AWS ER5556	Remainder	.25 max.	.40 max.	.10 max.	0.50 - 1.00	4.70 - 5.50	.05 - .20	.25 max.	.05 - .20	.0008 max.
Test Results	Remainder	.03	.13	.001	0.65	5.00	.10	.02	.07	.0006

DIAMETERS / PACKAGING

Diameter Inches (mm)	1 Lb. (0.4 kg) Spool 20 Lb. Carton	16 Lb. (7.3 kg) Spool
.030 (0.8)	EDS30327	EDS29579
.035 (0.9)	EDS30328	EDS29580
3/64 (1.2)	EDS30329	EDS29581
1/16 (1.6)		EDS29582

NOTE: Typical Operating Procedures can be found on pages 14-15.

Packaging

No matter what your need, Lincoln Electric has a packaging option that offers a great fit. Small packaging includes spools, in quantities of 1 lb., 16 lbs., or 20 lbs. (0.4 kg, 7.3 kg or 9.1 kg). Our bulk reel weight is 165 lbs. (74.8 kg).

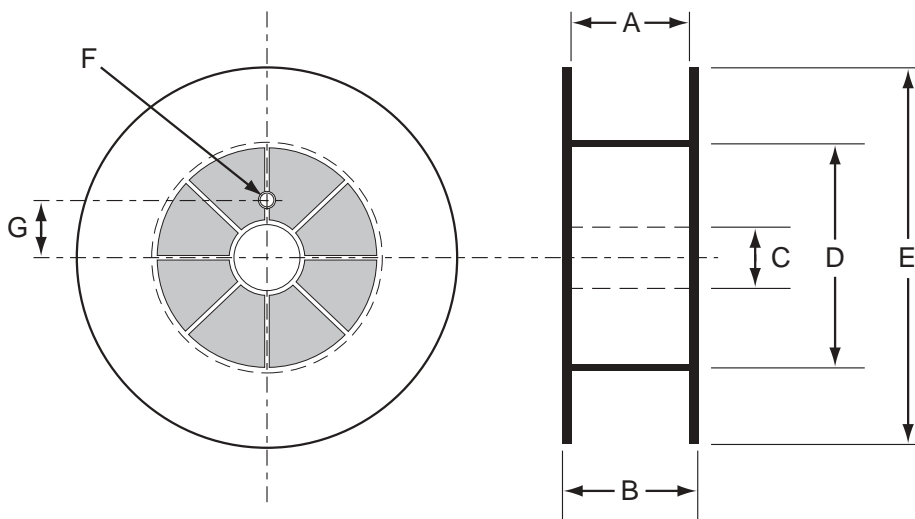
PACKAGING PALLET WEIGHTS

Packaging Type	Package/Carton Weight		Pallet Weight	
	lbs	(kg)	lbs	(kg)
1 lb. Spool	20	(9.1)	2000	(907)
16 lb. Spool	16	(7.3)	1296	(588)
20 lb. Spool	20	(9.1)	1620	(735)
165 lb. Reel	165	(75)	660	(299)



SPOOL/REEL SPECIFICATIONS

	1 lb. spool in. (mm)	16 lb. spool in. (mm)	20 lb. spool in. (mm)	165 lb. reel in. (mm)
A Inside Width	1-1/2 (38)	3-5/8 (92)	3-5/8 (92)	8-1/2 (216)
B Outside Width	1-3/4 (44)	4 (102)	4 (102)	11-1/2 (292)
C I.D. Arbor Hole	5/18 (7)	2 (51)	2 (51)	10 (254)
D O.D. Core	1-1/2 (38)	6-3/4 (171)	5-29/32 (150)	12 (305)
E O.D. Flange	4 (102)	11-7/8 (302)	11-7/8 (302)	24 (610)
F I.D. Drive Hole	3/16 (5)	15/32 (12)	15/32 (12)	—
G Drive Hole Offset	1 (25)	1-3/4 (44)	1-3/4 (44)	—

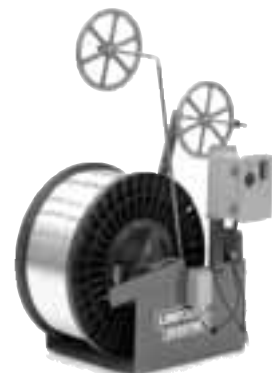


Accessories

K2155-1 Aluminum De-Reeler

- Compatible with Lincoln Electric's 165 lb. (75 kg) bulk reels of SuperGlaze aluminum MIG wire.

- The system maintains constant tension from OD to ID of reel for trouble-free wire payoff and welding.
- The wire de-reels vertically, eliminating loose wire and wire tangling.
- Powered system eliminates wire flip and hoisting.



TYPICAL OPERATING PROCEDURES FOR GROOVE WELDING

Metal Thickness (In.)	Weld Position ⁽¹⁾	Edge Preparation ⁽²⁾	Joint Spacing (In.)	Weld Passes	Electrode Diameter (In.)	DC+ Current ⁽³⁾ (Amps)	Arc Voltage ⁽³⁾ (Volts)	Argon Gas Flow (cfh)	Arc Travel Speed (ipm/pass)	Approx. Electrode Consump. (lb/100 ft.)
1/16	F	A	None	1	.030	70-110	15-20	25	25-45	1.5
	F	G	3/32	1	.030	70-110	15-20	25	25-45	2
3/32	F	A	None	1	.030-3/64	90-150	18-22	30	25-45	1.8
	F, V, H, O	G	1/8	1	.030	110-130	18-23	30	25-30	2
1/8	F, V, H	A	0-3/32	1	.030-3/64	120-150	20-24	30	24-30	2
	F, V, H, O	G	3/16	1	.030-3/64	110-135	19-23	30	18-28	3
3/16	F, V, H	B	0-1/16	1F, 1R	.030-3/64	130-175	22-26	35	24-30	4
	F, V, H	F	0-1/16	1	3/64	140-180	23-27	35	24-30	5
	O	F	0-1/16	2F	3/64	140-175	23-27	60	24-30	5
	F, V	H	3/32-3/16	2	3/64-1/16	140-185	23-27	35	24-30	8
	H, O	H	3/16	3	3/64	130-175	23-27	60	25-35	10
1/4	F	B	0-3/32	1F, 1R	3/64-1/16	175-200	24-28	40	24-30	6
	F	F	0-3/32	2	3/64-1/16	185-225	24-29	40	24-30	8
	V, H	F	0-3/32	3F, 1R	3/64	165-190	25-29	45	25-35	10
	O	F	0-3/32	3F, 1R	3/64-1/16	180-200	25-29	60	25-35	10
	F, V	H	1/8-1/4	2-3	3/64-1/16	175-225	25-29	40	24-30	12
	O, H	H	1/4	4-6	3/64-1/16	170-200	25-29	60	25-40	12
3/8	F	C-90°	0-3/32	1F, 1R	1/16	225-290	26-29	50	20-30	16
	F	F	0-3/32	2F, 1R	1/16	210-275	26-29	50	24-35	18
	V, H	F	0-3/32	3F, 1R	1/16	190-220	26-29	55	24-30	20
	O	F	0-3/32	5F, 1R	1/16	200-250	26-29	80	25-40	20
	F, V	H	1/4-3/8	4	1/16	210-290	26-29	50	24-30	35
	O, H	H	3/8	8-10	1/16	190-260	26-29	80	25-40	50
3/4	V, H, O	F	0-1/16	8F, 1R	1/16	240-300	26-30	80	24-30	75
	F	E	0-1/16	3F, 3R	1/16	270-330	26-30	60	16-24	70
	V, H, O	E	0-1/16	6F, 6R	1/16	230-280	26-30	80	16-24	75

TYPICAL OPERATING PROCEDURES FOR FILLET AND LAP WELDING

Metal Thickness ⁽⁴⁾ (In.)	Weld Position ⁽¹⁾	Weld Passes ⁽⁵⁾	Electrode Diameter (In.)	DC+ Current ⁽³⁾ (Amps)	Arc Voltage ⁽³⁾ (Volts)	Argon Gas Flow (cfh)	Arc Travel Speed (ipm/pass)	Approx. Electrode Consump. ⁽⁵⁾ (lb/100 ft.)
3/32	F, V, H, O	1	.030	100-130	18-22	30	24-30	1.8
1/8	F	1	.030-3/64	125-150	20-24	30	24-30	2
	V, H	1	.030	110-130	19-23	30	24-30	2
	O	1	.030-3/64	115-140	20-24	40	24-30	2
3/16	F	1	3/64	180-210	22-26	30	24-30	4.5
	V, H	1	.030-3/64	130-175	21-25	35	24-30	4.5
	O	1	.030-3/64	130-190	22-26	45	24-30	4.5
1/4	F	1	3/64-1/16	170-240	24-28	40	24-30	7
	V, H	1	3/64	170-210	23-27	45	24-30	7
	O	1	3/64-1/16	190-220	24-28	60	24-30	7
3/8	F	1	1/16	240-300	26-29	50	18-25	17
	H, V	3	1/16	190-240	24-27	60	24-30	17
	O	3	1/16	200-240	25-28	85	24-30	17
3/4	H, V	4-6	1/16	260-310	25-29	70	24-30	66
	O	10	1/16	275-310	25-29	85	24-30	66

(1) F - Flat, V = Vertical, H = Horizontal, O = Overhead.

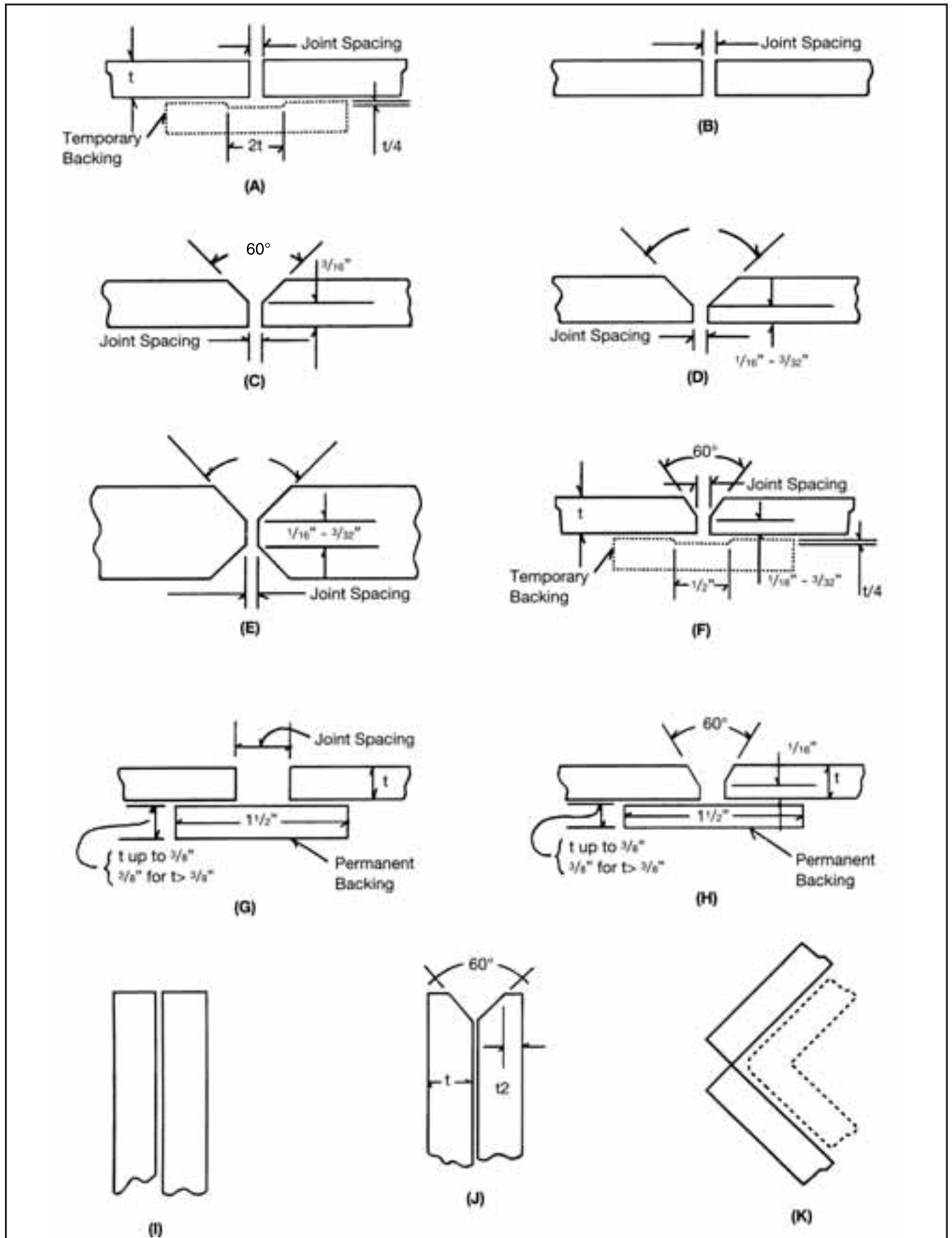
(2) See joint designs on page 15.

(3) For 5XXX series wires, use a welding current on the high side of the range and an arc voltage in the lower portion of the range. For 1XXX, and 4XXX series wires, use the lower currents and higher arc voltages.

(4) Metal thickness of 3/4" or greater for fillet welds sometimes employs a double vee bevel of 50° or greater included vee with 3/32" to 1/8" land thickness on the abutting member.

(5) Number of weld passes and electrode consumption given for weld on one side only.

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