

MIG WIRE
PRODUCT CATALOGUE





Code & Specification

ASME SFA/AWS A5.18 ER70S-6

Description

BLUME® ER70S-6 is a general purpose welding wire for fabrication of mild steel . It is well suited for general purpose, manual and semiautomatic applications in most industries. Contains deoxidizers that provide better wetting, yielding a flatter bead shape and the capability of faster travel speeds . Usually used with 100% CO₂ or with Argon + CO₂.

Applications

BLUME® ER70S-6 is a wire with higher levels of Deoxidizers (Mn & Si) compared to other carbon steel wires. This wire is suitable for welding of steels with moderate amounts of scale or rust.

Shielding Gas

100% CO₂ , 75% Argon and 25% CO₂ or 98% Argon and 2 % CO₂

Mechanical Properties

	As-welded
Yield Point, MPa	≥ 420
Tensile Strength, MPa	≥ 500
Elongation, %(L=4d)	≥ 29

Charpy V-Notch Impact Properties

Testing Temp.	As-welded (J)
-22°F (-30°C)	47 (min)

Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	S	P~
0.06 - 0.15	1.40 - 1.85	0.80 - 1.15	≤ 0.025	≤ 0.025
Cu	Ni	Cr	Mo	V
≤ 0.05	≤ 0.15	≤ 0.15	≤ 0.15	≤ 0.03

Suggested Welding Parameters (DC+)

Diameter	Flat		Vertical-up		Overhead	
	Volts	Amps	Volts	Amps	Volts	Amps
.045" (1.2mm)	20 - 32	80 - 350	18 - 20	120 - 160	18 - 20	120 - 160
1/16" (1.6mm)	32 - 38	350 - 500	18 - 22	120 - 220	18 - 22	110 - 210

Packaging

33 lbs (15 kgs) [Net Weight] Plastic spools with OD = 11" (270mm)

Approvals





Code & Specification

ASME SFA/AWS A5.9 ER308LSi

Description

BLUME® ER308LSi is a high-performance stainless steel welding wire designed for use with 304 and 304L stainless steel. It features a higher silicon content, which improves the fluidity of the weld pool and results in smoother, more uniform welds with excellent bead appearance. **BLUME® ER308LSi** offers enhanced arc stability, making it ideal for welding in both manual and automated MIG applications. It provides superior resistance to corrosion and oxidation, making it suitable for a wide range of industries including food processing, chemical, and power generation.

Applications

BLUME® ER308LSi is used for welding 304 and 304L stainless steels, offering excellent corrosion resistance and smooth welds. Its higher silicon content improves arc stability, making it ideal for both manual and automated welding. Common applications include food processing, pharmaceuticals, petrochemicals, and power generation, where durability and oxidation resistance are critical.

Shielding Gas

Short Circuiting Transfer: 90% Helium / 7.5% Argon / 2.5% Carbon Dioxide.

Axial Spray Transfer: 98% Argon / 2% Oxygen

Mechanical Properties

	As-welded
Yield Point, MPa	450
Tensile Strength, MPa	600
Elongation, %(L=4d)	40

Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	S	P
≤ 0.03	1.20 - 2.35	0.70 - 1.00	≤ 0.03	≤ 0.03
Cu	Ni	Cr	Mo	N
≤ 0.75	9.10 - 10.80	19.5 - 22.0	≤ 0.75	≤ 0.05

Suggested Welding Parameters (DC+)

Diameter	Spray Transfer		Short-Circuit	
	Volts	Amps	Volts	Amps
0.030" (0.8mm)	23 - 27	130 - 200	14 - 20	50 - 150
0.035" (0.9mm)	23 - 26	150 - 225	14 - 22	60 - 200
0.045" (1.2mm)	24 - 28	200 - 325	15 - 23	75 - 225
1/16" (1.6mm)	24 - 27	300 - 350	16 - 23	100 - 250

Packaging

33 lbs (15 kgs) [Net Weight] Plastic spools with OD = 270mm (11")

Approvals





Code & Specification

ASME SFA/AWS A5.9 ER309LSi

Description

BLUME® ER309LSi is a stainless steel welding wire designed for MIG (GMAW) applications. It is primarily used for welding similar alloys like 309 stainless steel and for dissimilar welding between stainless and carbon steel. The higher silicon content improves arc stability, weld bead wetting, and fluidity, making it easier to produce smooth, clean welds with minimal spatter. This wire offers excellent corrosion resistance and strength in high-temperature environments, commonly used in applications such as chemical processing equipment and power generation industries.

Applications

BLUME® ER309LSi is commonly used in industries requiring high corrosion resistance and strength, particularly for welding dissimilar metals like stainless steel to carbon steel. It is ideal for applications in the chemical processing, oil and gas, and power generation sectors. Its excellent wetting properties and arc stability ensure smooth and efficient welds, making it essential for components exposed to high temperatures and corrosive environments.

Shielding Gas

Short Circuiting Transfer: 90% Helium / 7.5% Argon / 2.5% Carbon Dioxide.

Axial Spray Transfer: 98% Argon / 2% Oxygen

Mechanical Properties

	As-welded
Yield Point, MPa	450
Tensile Strength, MPa	600
Elongation, %(L=4d)	40

Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	S	P
≤ 0.03	1.20 - 2.35	0.70 - 1.00	≤ 0.03	≤ 0.03
Cu	Ni	Cr	Mo	
≤ 0.75	12.50 - 13.50	23.50 - 24.50	≤ 0.75	

Suggested Welding Parameters (DC+)

Diameter	Spray Transfer		Short-Circuit	
	Volts	Amps	Volts	Amps
0.030" (0.8mm)	23 - 27	130 - 200	14 - 20	50 - 150
0.035" (0.9mm)	23 - 26	150 - 225	14 - 22	60 - 200
0.045" (1.2mm)	24 - 28	200 - 325	15 - 23	75 - 225
1/16" (1.6mm)	24 - 27	300 - 350	16 - 23	100 - 250

Packaging

33 lbs (15 kgs) [Net Weight] Plastic spools with OD = 270mm (11")

Approvals





Code & Specification

ASME SFA/AWS A5.9 ER316LSi

Description

BLUME® ER316LSi is a stainless steel welding wire specifically formulated for MIG (GMAW) welding applications. It contains molybdenum, which enhances its corrosion resistance, especially against chlorides, making it ideal for marine and chemical processing environments. The higher silicon content improves arc stability and provides better bead appearance and fluidity, resulting in smooth welds with minimal spatter. ER316LSi is commonly used for welding a variety of stainless steel grades and is well-suited for applications in industries such as food processing, pharmaceuticals, and petrochemicals.

Applications

BLUME® ER316LSi is commonly used in industries requiring high corrosion resistance, especially in chloride-exposed environments like marine and chemical processing applications. It is ideal for welding stainless steel components in the food processing and pharmaceutical sectors, where material integrity is crucial. Its properties also make it suitable for petrochemical facilities, where resistance to harsh chemicals and high temperatures is essential. The excellent bead appearance and minimal spatter enhance the quality of welded joints, making ER316LSi a preferred choice for critical applications.

Shielding Gas

Short Circuiting Transfer: 90% Helium / 7.5% Argon / 2.5% Carbon Dioxide.

Axial Spray Transfer: 98% Argon / 2% Oxygen

Mechanical Properties

	As-welded
Yield Point, MPa	400
Tensile Strength, MPa	560
Elongation, %(L=4d)	40

Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	S	P
≤ 0.03	1.20 - 2.35	0.70 - 1.00	≤ 0.03	≤ 0.03
Cu	Ni	Cr	Mo	
≤ 0.75	11.50 - 13.50	18.50 - 19.50	2.00 - 3.00	

Suggested Welding Parameters (DC+)

Diameter	Spray Transfer		Short-Circuit	
	Volts	Amps	Volts	Amps
0.030" (0.8mm)	23 - 27	130 - 200	14 - 20	50 - 150
0.035" (0.9mm)	23 - 26	150 - 225	14 - 22	60 - 200
0.045" (1.2mm)	24 - 28	200 - 325	15 - 23	75 - 225
1/16" (1.6mm)	24 - 27	300 - 350	16 - 23	100 - 250

Packaging

33 lbs (15 kgs) [Net Weight] Plastic spools with OD = 270mm (11")

Approvals





Code & Specification

ASME SFA/AWS A5.10 ER4043

Description

BLUME® ER4043 is a aluminium welding wire. Tailored for welding heat-treatable base alloys, particularly the 6XXX series, this filler alloy exhibits a lower melting point and greater fluidity compared to the 5XXX series. It demonstrates low susceptibility to weld cracking when used with 6XXX series base alloys and is appropriate for continuous elevated temperature applications surpassing 65° C (150° F). However, it's not advisable for materials intended for anodization.

Applications

BLUME® ER4043 is suitable for welding 6XXX alloys and the majority of casting alloys, it's commonly employed in automotive components like frames and drive shafts, as well as in constructing bicycle frames.

Shielding Gas

100% Argon , 75% Argon and 25% Helium or 98% Argon and 2 % Helium

Undiluted Weld Metal Analysis (wt%)

Al	Mn	Si	Fe	Cu
Balance	≤ 0.05	5.0 - 6.0	≤ 0.80	≤ 0.30
Mg	Zn	Ti	Be	Cr
≤ 0.05	≤ 0.10	≤ 0.20	≤ 0.0003	-

Suggested Welding Parameters (DC+)

Diameter	Flat		Vertical-up		Overheard	
	Volts	Amps	Volts	Amps	Volts	Amps
0.045" (1.2mm)	20 - 32	80 - 350	18 - 20	120 - 160	18 - 20	120 - 160
1/16" (1.6mm)	32 - 38	350 - 500	18 - 22	120 - 220	18 - 22	110 - 210

Packaging

15 kgs (33 lbs) [Net Weight] Plastic spools with OD = 270mm (11")

Approvals





Code & Specification

ASME SFA/AWS A5.14 ERNiCrMo-3

Description

BLUME[®] ERNiCrMo-3 provides excellent resistance to oxidising and reducing environments. The high molybdenum content provides good stress resistance, avoids pitting and corrosion resistance at crevices. The **BLUME[®] ERNiCrMo-3** is a popular nickel alloy for cladding. Usually used with Argon + Helium.

Applications

BLUME[®] ERNiCrMo-3 used for MIG welding of nickel-chromium-molybdenum alloys. This filler metal may be used for cladding and welding of dissimilar base metals such as nickel-chromium-molybdenum alloys to stainless and carbon steels.

Shielding Gas

75% Argon and 25% Helium

Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	S	P
0.01	0.108	0.0036	0.001	0.003
Cr	Ni	Cu	Ti	Al
22.40	64.00	0.001	0.151	0.15
Nb	Fe	Mo		
3.60	0.40	8.80		

Suggested Welding Parameters (DC+)

Diameter	Flat	Gas
	Volts	Amps
0.045" (1.2mm)	28 - 32	180 - 220
1/16" (1.6mm)	29 - 33	200 - 250
		75% Argon / 25% Helium

Packaging

33 lbs (15 kgs) [Net Weight] Plastic spools with OD = 11" (270mm)

Approvals





Code & Specification

A.I.S.I H13

Description

BLUME® HFH13 is for hot work tool steels with excellent hot tensile properties, high hot wear resistance. Heat checking resistance.

Applications

BLUME® HFH13 is used in particular to repair mandrels, punches, dies, cylinder crushers, screws, hammers, pneumatic hammers, etc.

Mechanical Properties

Hardness HRC (As Welded)	54 - 60
Pre Heating Temperature	644°F - 698°F (340 - 370°C)
Current and Polarity	DC+

Shielding Gas

Argon + CO₂

Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	P	Cr
0.40	0.40	1.00	< 0.020	5.20
Mo	Cu	S	Mo	V
1.40	< 0.25	< 0.020	1.40	1.00

Base Materials to be Welded

X40CrMoV5-1 ; H13, BH 13; SCPH 62, STD 62

Packaging

.040" (1.0mm) Diameter, .045" (1.2mm) Diameter & 1/16" (1.6mm) Diameter Wire in 33 lbs (15 kgs) (net) Plastic spools with OD = 11" (270mm)



Code & Specification

A.I.S.I M2

Description

BLUME® HFM2 is a Tungsten - Molybdenum alloyed welding wire suitable for repairing high speed steels. Excellent toughness and cutting properties for a wide variety of uses.

Applications

BLUME® HFM2 is used for twist drills, reamers, broaching tools, metal saws, milling tools of all types, wood working tools, cold working tools, gears, punches, shears etc.

Mechanical Properties

Hardness HRC (As Welded)	60 - 64
Pre Heating Temperature	662°F (350°C)
Current and Polarity	DC+

Shielding Gas

Argon + CO₂

Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	P	Cr
0.90	0.30	0.25	< 0.030	4.2
Mo	Cu	S	Ni	V
5.00	< 0.50	< 0.020	< 0.25	1.80

Base Materials to be Welded

X85WDCV06-04-02 ; V6M05Cr4V2 ; HS 6-5-2 ; M2, J438B ; X85WDCV06-04-02 ; BM2 ; SKH 51 ; R 6 M 5

Packaging

.045" (1.2mm) Diameter Wire in 33 lbs (15 kgs) [Net Weight] Plastic spools with OD = 11" (270mm)



Code & Specification

A.I.S.I M7

Description

BLUME® HFM7 is a molybdenum high speed tool steel solid wire similar to AISI M7 grade. This product characterised by a high hardness (57 to 64 HRC) and excellent wear resistance. It is suitable for use at elevated temperatures.

Applications

BLUME® HFM7 is for depositing welding of Mo-alloyed high-speed steel. Maintenance and new manufacture of high-speed steel tools. Weld deposit without soft-annealing can only be processed by grinding. To be used for cutting tools, gouges, turning chisel, broaches, taps, twist drills, reamers, milling tools, cold extrusion dies.

Mechanical Properties

Hardness HRC (As Welded)	57 - 64
Current and Polarity	DC+

Shielding Gas

Argon + CO₂

Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	P	Cr
1.00	0.30	0.40	< 0.025	3.80
Mo	Cu	S	W	V
8.60	< 0.50	< 0.025	1.80	1.90

Base Materials to be Welded

AISI M7 and similar.

Packaging

.045" (1.2mm) Diameter & 1/16" (1.6mm) Diameter Wire in 33 lbs (15 kgs) [Net Weight] Plastic spools with OD = 11" (270mm)



Code & Specification

A.I.S.I P-20 Mold Steel

Description

BLUME® HFP20 is a medium carbon low alloy steel which contains chromium and molybdenum. The Deposits are that of an AISI P-20 mold steel. The hardness is highly dependent on preheat temperature, length of time welding, and cooling rate. The deposits have similar etching, graining and colour match characteristics as P-20 when tempered to the low 30 HRC range.

Applications

BLUME® HFP20 is used to repair many types of P-20 tools and dies, whether they are die casting dies or plastic injection molds. It is often used for high strength joining of low alloy steels and Chrome Moly Steels.

Shielding Gas

Argon + CO₂

Mechanical Properties

Hardness HRC (As Welded)	34 - 38
Current and Polarity	DC+
Pre Heating Temperature	572°F (300°C)

Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	Mo	Cr
0.35	0.8	0.50	0.40	1.70
P	S	Cu		
< 0.025	< 0.025	0.25		

Packaging

.045" (1.2mm) Diameter & 1/16" (1.6mm) Diameter Wire in 33 lbs (15 kgs) [Net Weight] Plastic spools with OD = 11" (270mm)



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