

FLUX CORED WIRE PRODUCT CATALOGUE



blume®



Code & Specification

ASME SFA/AWS A5.20 E71T-1C

Description

BLUME® E71T-1C is an all position flux cored wire designed for optimum performance when using 100% CO₂, shielding. The smooth metal transfer facilitates easy deposition of vertical-up stringer beads. Fillet contour is flat too slightly convex with equal leg lengths and uniform sidewall wetting. The slag coverage is complete and designed for easy removal. Weld metal is consistently free of inclusions and porosity for X-ray soundness. This wire is formulated to produce 20% less fume, minimal spatter and improved impact properties over conventional E71T-1 wires.

Shielding Gas

Carbon Dioxide (CO₂)

Applications

BLUME® E71T-1C is designed for all position single and multi-pass welding of low and medium carbon steels.

Mechanical Properties

	As-welded
Yield Point, MPa	490 - 590
Tensile Strength, MPa	540 - 620
Elongation, %(L=4d)	24 - 33

Charpy V-Notch Impact Properties

Testing Temp.	As-welded (J)
32°F (0°C)	70 - 100
0.4°F (-18°C)	50 - 75
-20°F (-29°C)	30 - 50

Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	S	P~
0.03 - 0.08	0.90 - 1.40	0.30 - 0.80	≤ 0.03	≤ 0.03

Suggested Welding Parameters (DC+)

Diameter	Flat		Vertical-up		Overheard	
	Volts	Amps	Volts	Amps	Volts	Amps
.045" (1.2mm)	23 - 30	150 - 290	22 - 26	150 - 210	23 - 26	150 - 250
1/16" (1.6mm)	25 - 34	180 - 400	21 - 27	180 - 250	22 - 27	180 - 310

Packaging

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

Approvals





Stainless Steel Flux Cored Wire



Code & Specification

ASME SFA/AWS A5.22 E308LT1-1 (CO₂) E308LT1-4 (Argon +20-25% CO₂)

Description

BLUME® E308LT1-1/4 is a stainless steel flux cored wire with all positional capabilities. Vacuum sealed in aluminised plastic packs. Formulated for CO₂ or Argon +20-25% CO₂ shielding gases. High deposition rate welding of stainless steel. Welds well in all positions. Excellent welder appeal. Provides a low spatter hence requiring less clean-up. Good weld soundness and extended shelf-life. Fast freezing and self detaching slag. Provides spray-like arc transfer and high moisture resistance.

Applications

Used for joining common austenitic stainless steel such as Types 301, 302, 304, 304L, 321, CF-3 and CF-8.

Mechanical Properties

	As-welded (Argon +20-25% CO ₂)	As-welded (CO ₂)
Yield Strength, MPa	420	390
Tensile Strength, MPa	550	580
Elongation, %(L=4d)	35	43

Undiluted Weld Metal Analysis (wt%)

		Using CO ₂		
C	Mn	Si	Cr	Ni
≤ 0.02	1.40 - 2.00	0.60 - 0.70	19.0 - 20.0	10.0 - 11.0
P	S			
≤ 0.03	≤ 0.03			

Suggested Welding Parameters (DC+)

Diameter	Flat		Vertical-up		Overheard	
	Volts	Amps	Volts	Amps	Volts	Amps
.045" (1.2mm)	23 - 28	150 - 250	22 - 27	120 - 180	22 - 27	140 - 180

Packaging

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

Approvals





Stainless Steel Flux Cored Wire



Code & Specification

ASME SFA/AWS A5.22 E309LT1-1 (CO₂) E309LT-4 (Argon +20-25% CO₂)

Description

BLUME® E309LT1-1/4 is a stainless steel flux cored wire with all positional capabilities. Vacuum sealed in aluminised plastic packs. Formulated for CO₂ or Argon +20-25% CO₂ shielding gases. High deposition rate welding of stainless steel. Welds well in all positions. Excellent welder appeal. Provides a low spatter hence requiring less clean-up. Good weld soundness and extended shelf-life. Fast freezing and self detaching slag. Provides spray-like arc transfer and high moisture resistance.

Applications

Used for joining common austenitic stainless steel such as Type 304, 304L, 309, 309L. It is often used in dissimilar welding, such as stainless steel to carbon steel, low alloy steel, heat resistant steel and clad steel.

Mechanical Properties

	As-welded (Argon +20-25% CO ₂)	As-welded (CO ₂)
Yield Strength, MPa	415	410
Tensile Strength, MPa	556	540
Elongation, %(L=4d)	36	38

Undiluted Weld Metal Analysis (wt%)

		Using CO ₂		
C	Mn	Si	Cr	Ni
≥ 0.03	1.00 - 2.00	0.60 - 0.80	23.0 - 24.0	12.5 - 13.5
P	S			
≤ 0.04	≤ 0.03			

Suggested Welding Parameters (DC+)

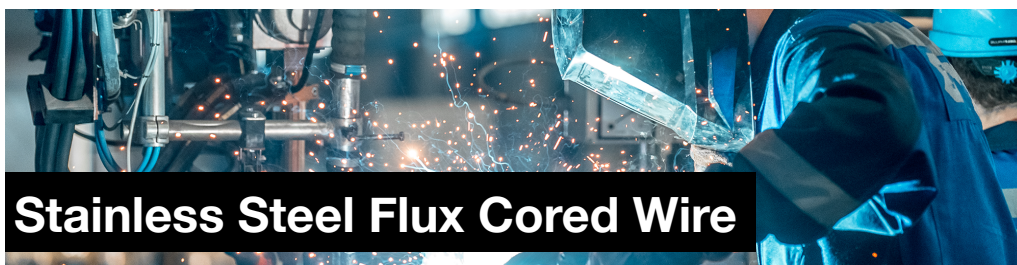
Diameter	Flat		Vertical-up		Overheard	
	Volts	Amps	Volts	Amps	Volts	Amps
.045" (1.2mm)	23 - 28	150 - 250	22 - 27	120 - 180	22 - 27	140 - 180
1/16" (1.6mm)	28 - 34	280 - 400	23 - 27	200 - 250	23 - 27	190 - 250

Packaging

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

Approvals





Code & Specification

ASME SFA/AWS A5.22 E316LT1-1 (CO₂) E316LT-4 (Argon +20-25% CO₂)

Description

BLUME® E316LT1-1/4 is a stainless steel flux cored wire with all positional capabilities. Vacuum sealed in aluminised plastic packs. Formulated for CO₂ or Argon +20-25% CO₂ shielding gases. High deposition rate welding of stainless steel. Welds well in all positions. Excellent welder appeal. Provides a low spatter hence requiring less clean-up. Good weld soundness and extended shelf-life. Fast freezing and self detaching slag. Provides spray-like arc transfer and high moisture resistance.

Applications

Used for joining and cladding of Type 316, 316L, CF-3M and CF-8M stainless steel.

Mechanical Properties

	As-welded (Argon +20-25% CO ₂)	As-welded (CO ₂)
Yield Strength, MPa	405	415
Tensile Strength, MPa	580	555
Elongation, %(L=4d)	35	39

Undiluted Weld Metal Analysis (wt%)

		Using CO ₂		
C	Mn	Si	Cr	Ni
≥ 0.03	1.00 - 2.00	0.60 - 0.80	18.0 - 19.0	12.0 - 13.0
P	S	Mo		
≤ 0.03	≤ 0.03	2.50 - 2.80		

Suggested Welding Parameters (DC+)

Diameter	Flat		Vertical-up		Overhead	
	Volts	Amps	Volts	Amps	Volts	Amps
.045" (1.2mm)	23 - 28	150 - 250	22 - 27	120 - 180	22 - 27	140 - 180

Packaging

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

Approvals





S.S. Flux Cored Wire - Gas Shield Type



Code & Specification

ASME SFA/AWS A5.22 E309LMoT1-1

Description

BLUME® E309LMo is a rutile type gas shield flux cored arc welding wire, austenite structure weld metal. This weld metal contains Mo element to get good high temperature strength, good crack and inter-granular corrosion resistance. It has a low spatter loss and easy slag removal.

Shielding Gas

Carbon Dioxide (CO₂) / Mixed Gas

Applications

BLUME® E309LMo dissimilar metal welding of SUS316L to carbon steels or low alloy steels. Cladding of SUS316L, 316L to carbon steels and low alloy steels.

Mechanical Properties

Tensile Strength MPa	559
Elongation %	38

Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	Ni	Cr
≤ 0.03	0.50 - 2.50	≤ 1.00	12.0 - 16.0	22.0 - 25.0
Mo				
2.00 - 3.00				

Suggested Welding Parameters (DC+)

Diameter	Flat		Vertical		Overhead	
	Volts	Amps	Volts	Amps	Volts	Amps
.045" (1.2mm)		150 - 250		100 - 140		100 - 140
1/16" (1.6mm)		200 - 300				

Packaging

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

Approvals





Stainless Steel Flux Cored Wire



Code & Specification

ASME SFA/AWS A5.22 E410NiMoT1-1

Description

BLUME® E410NiMo is a gas shield type hard-facing flux cored arc welding wire. This hard-facing flux cored wire obtains a martensite structure weld metal. BLUME® E410NiMo has a good crack resistance, high compressive abrasion resistance and good thermal fatigue resistance.

Shielding Gas

Carbon Dioxide (CO₂) / Mixed Gas

Applications

BLUME® E410NiMo is designed for hard-facing repair welding of hydro turbines and caster guide roller along with build up repair for various guide rollers.

Mechanical Properties

Hardness HRC (As Welded)	42
Tensile Strength, MPa	923
Elongation %(L=4d)	18
Abrasion Resistance	Excellent
Thermal Fatigue Resistance	Excellent
Crack Resistance	Excellent

Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	Ni	Cr
≤ 0.06	≤ 1.00	≤ 1.00	4.00 - 5.00	11.0 - 12.5
Mo				
0.40 - 0.70				

Suggested Welding Parameters (DC+)

Diameter	Wire Extension		
	Volts	Amps	mm
.045" (1.2mm)	20 - 32	150 - 250	15 - 25
1/16" (1.6mm)	22 - 34	200 - 300	15 - 25

Packaging

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

Approvals



Note: All values are based on CO₂ welding gas for weld test.



Code & Specification

Description

BLUME® HF44CrMnNi is a 13% Chromium Nitrogen containing martensitic stainless steel submerged arc flux cored wire. The complete martensitic microstructure provides excellent tempering stability, wear resistance, excellent heat resistant fatigue and stress corrosion cracking ability.

Applications

BLUME® HF44CrMnNi is often the first choice for surfacing continuous casting roller, as well as for surfacing valve seat, gate valve, wedge valve, forming roller, pinch roller, etc.

Mechanical Properties

Hard-Surfacing Hardness (HRC) 40 - 48

Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	Cr	Ni
≤ 0.10	≤ 2.0	≤ 1.0	11.5 - 15.0	3.0 - 5.0
Mo	N	Fe		
0.5 - 1.2	0.05 - 0.12	Bal		

Suggested Welding Parameters (DC+)

Diameter

	Volts	Amps	Extension Length
1/8" (3.2mm)	28 - 32	400 - 500	1.2" - 1.4" (30mm - 35mm)

Packaging

33 lbs (15 kgs) [Net Weight] Plastic spools with OD = 11" (270mm) or 550 lbs (250 kgs) Drum Packing

Notes



Code & Specification

Description

BLUME® HF44CrMnNi-OA is a 13% Chromium Nitrogen containing martensitic stainless steel self shielded flux cored wire. The complete martensitic microstructure provides excellent tempering stability, wear resistance, excellent heat resistant fatigue and stress corrosion cracking ability.

Applications

BLUME® HF44CrMnNi-OA is suitable for surfacing continuous casting roller, as well as for surfacing valve seat, gate valve, wedge valve, safety valve, forming roller, pinch roller, etc.

Mechanical Properties

Hard-Surfacing Hardness (HRC) 40 - 48

Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	Cr	Ni
≤ 0.10	≤ 2.0	≤ 1.0	11.5 - 15.0	3.0 - 5.0
Mo	N	Fe		
0.5 - 1.2	0.05 - 0.12	Bal		

Suggested Welding Parameters (DC+)

Diameter	Volts	Amps	Extension Length
3/32" (2.4mm)	26 - 35	250 - 400	1" - 1.5" (25mm - 40mm)
7/64" (2.8mm)	28 - 35	250 - 450	1" - 1.8" (25mm - 45mm)
1/8" (3.2mm)	30 - 35	300 - 500	1.2" - 2" (30mm - 50mm)

Packaging

33 lbs (15 kgs) [Net Weight] Plastic spools with OD = 11" (270mm) or 550 lbs (250 kgs) Drum Packing

Notes



Code & Specification

Description

BLUME® HF50MnCr is a common chromium molybdenum type flux cored wire with CO₂ gas protection. The welding arc is stable, the splatter is small, the deslagging is easy and the forming is aesthetic. It is suitable for the workpiece with impact resistance and high wear and tear.

Applications

BLUME® HF50MnCr is suitable for repairing the surface of all kinds of wear parts, such as gears, dredgers, mining machinery, etc.

Mechanical Properties

Hard-Surfacing Hardness (HRC) ≥ 50

Undiluted Weld Metal Analysis (wt%)

C	Mn	Cr
0.30 - 0.60	≤ 4.00	≤ 5.00

Suggested Welding Parameters (DC+)

Diameter

	Amps
1/16" (1.6mm)	220-260
3/32" (2.4mm)	250-400

Packaging

33 lbs (15 kgs) [Net Weight] Plastic spools with OD = 11" (270mm) or 550 lbs (250 kgs) Drum Packing.

Notes

1. Reverse connection of DC power supply is adopted.
2. During welding, the flow rate of CO₂ gas should be (20-25) l/min.
3. The extension length of welding wire should be controlled with 0.6" - 1" (15mm - 25mm).
4. Preheating and interpose temperature are recommended to be around 572°F (300°C).
5. Rust, oil, water and other impurities must be removed before welding.



Code & Specification

Description

BLUME® HF62Cr is a high Chromium Cast Iron, which is suitable for low impact and high stress abrasive wear conditions.

Applications

BLUME® HF62Cr is suitable for wear-resistant steel plate, coal mill, cement vertical mill, etc.

Mechanical Properties

Hard-Surfacing Hardness (HRC)	58 - 62
Metallographic Structure	Austenite + Complex Carbide
Machinability	Only Grinding Wheel
Gas Cutting	No
Permission Hard-Surfacing Thickness	As per requirement
Shielding Gas or Soldering Flux	None

Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	Cr	Fe
5.2	1.2	≤ 1.0	28.5	Allowance

Suggested Welding Parameters (DC+)

Diameter	Volts	Amps	Extension Length
3/32" (2.4mm)	26 - 30	300 - 370	1.4" - 1.6" (35mm - 40mm)
7/64" (2.8mm)	26 - 30	300 - 400	1.4" - 1.6" (35mm - 40mm)

Packaging

33 lbs (15 kgs) [Net Weight] Plastic spools with OD = 11" (270mm) or 550 lbs (250 kgs) Drum Packing.

Notes



Code & Specification

Description

BLUME® HF65CrNb is a self shielded flux cored wire, and the deposited metal is Cr-Nb alloy. When the working temperature is less than 450°C, it has good resistance to low impact and high stress solid abrasive wear, and the surfacing metal is easy to release stress cracks.

Applications

BLUME® HF65CrNb is suitable for peanut oil press screw, wear-resistant steel plate, sieve plate in coal and steel industry, bucket teeth and pulley of excavator, bucket teeth and blade of mechanical excavator, feed hopper, nozzle, etc.

Mechanical Properties

Hard-Surfacing Hardness (HRC) 62 - 67

Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	Cr	Nb
5.50	0.30	-	20.00	7.00

Suggested Welding Parameters (DC+)

Diameter

	Volts	Amps	Extension Length
7/64" (2.8mm)	26 - 30	300 - 400	1.4" - 1.6" (35mm - 40mm)

Packaging

33 lbs (15 kgs) [Net Weight] Plastic spools with OD = 11" (270mm) or 550 lbs (250 kgs) Drum Packing.

Notes



Code & Specification

Description

BLUME® HFCr13 is a Hardfacing wire with subarc flux.

Applications

BLUME® HFCr13 is suitable for continuous casting roll, valve seat, mixer impeller, centrifugal pump impeller and other parts in iron and steel industry, suitable for metal key corrosion and wear occasions.

Mechanical Properties

Hard-Surfacing Hardness (HRC)	45 - 50
Metallographic Structure	Martensite
Machinability	Carbide Tools
Gas Cutting	No
Permission Hard-Surfacing Thickness	As per requirement

Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	Cr
0.3	1.5	0.5	13.5

Suggested Welding Parameters (DC+)

Diameter

	Volts	Amps	Extension Length
1/8" (3.2mm)	28 - 30	450 - 500	1.2" - 1.4" (30mm - 35mm)

Packaging

33 lbs (15 kgs) [Net Weight] Plastic spools with OD = 11" (270mm) or 550 lbs (250 kgs) Drum Packing.

Notes



Code & Specification

Description

BLUME® HFCrMoW is a submerged arc flux cored wire. Suitable for wear between metals and low pressure and high temperature.

Applications

BLUME® HFCrMoW is used in steel industry, such as billet roll, pinch roll, cable winch, rock drill, blast furnace bell, etc.

Mechanical Properties

Hard-Surfacing Hardness (HRC)	55 - 60
Metallographic Structure	Martensite
Machinability	BN Tools
Gas Cutting	Hard
Permission Hard-Surfacing Thickness	As per requirement

Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	Cr	Mo
0.5	2.0	≤ 1.0	6.5	2.0
W				
2.0				

Packaging

33 lbs (15 kgs) [Net Weight] Plastic spools with OD = 11" (270mm) or 550 lbs (250 kgs) Drum Packing.

Diameter Available

Diameter	3/32"	7/64"
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Code & Specification

Description

BLUME[®] HFMn16 is a CO₂ gas shielded high manganese type flux cored welding wire. The welding wire has the characteristics of working hardening, toughness and wear resistance. The welding arc is stable and easy to deslag.

Applications

BLUME[®] HFMn16 is suitable for single or multi-layer hard surfacing of various crushers, high manganese rails, turnouts, bulldozers and other parts which are subject to impact along with wear and tear.

Mechanical Properties

Hard-Surfacing Hardness (HB) ≥ 170

Undiluted Weld Metal Analysis (wt%)

C	Mn	Si
≤ 1.10	11.00 - 16.00	≤ 1.30

Suggested Welding Parameters (DC+)

Diameter

Amps

.045" (1.2mm)	180 - 220
1/16" (1.6mm)	220 - 260

Packaging

33 lbs (15 kgs) [Net Weight] Plastic spools with OD = 11" (270mm) or 550 lbs (250 kgs) Drum Packing.

Notes

1. Reverse connection of DC power supply is adopted.
2. During welding, the flow rate of CO₂ gas should be (20-25) I/min.
3. The extension length of welding wire should be controlled with 0.6" - 1" (15mm - 25mm).
4. Preheating and interpose temperature are recommended to be around 572°F (300°C).
5. Rust, oil, water and other impurities must be removed before welding.



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