

# STICK ELECTRODE PRODUCT CATALOGUE

Lorem ipsum



blume®



# Mild Steel Stick Electrodes



## Code & Specification

ASME SFA/AWS A5.1 E6013

## Description

**BLUME® E6013** is a mild steel stick electrode. Operable with low amperages on sheet metal. Excellent bead appearance.

## Applications

**BLUME® E6013** is used for welding of sheet metal and for irregular short welds that change position. Typically used for maintenance or repair welding. Can be used on small AC Welders with low open circuit voltage.

## Mechanical Properties

	As-welded
Yield Point, MPa	400 - 440
Tensile Strength, MPa	460 - 515
Elongation, %(L=4d)	20 - 23

## Charpy V-Notch Impact Properties

Testing Temp.	As-welded (J)
-20°F (-29 °C)	37 - 76

## Undiluted Weld Metal Analysis (wt%)

<b>C</b>	<b>Mn</b>	<b>Si</b>	<b>S</b>	<b>P</b>
0.04 - 0.07	0.30 - 0.45	0.15 - 0.25	≤ 0.015	≤ 0.015
<b>Ni</b>	<b>Cr</b>	<b>Mo</b>		
≤ 0.07	0.02 - 0.04	≤ 0.02		

## Packaging

∅ x L	Wt./Carton	Carton/Box	Net wt./Box
3/32" x 12" (2.5mm x 300mm)	5.5 lbs (2.5 kgs)	8	44 lbs (20 kgs)
1/8" x 14" (3.2mm x 350mm)	5.5 lbs (2.5 kgs)	8	44 lbs (20 kgs)
5/32" x 16" (4.0mm x 400mm)	5.5 lbs (2.5 kgs)	8	44 lbs (20 kgs)

## Suggested Welding Parameters

∅ x L	AC	DC±
3/32" x 12" (2.5mm x 300mm)	75 - 115	70 - 105
1/8" x 14" (3.2mm x 350mm)	110 - 140	100 - 135
5/32" x 16" (4.0mm x 400mm)	160 - 200	145 - 180

## Approvals







# Mild Steel Stick Electrodes



## Code & Specification

ASME SFA/AWS A5.1 E7018-1

## Description

**BLUME<sup>®</sup> E7018** is a mild steel stick electrode. Clear weld puddle without slag interference. Flat bead profile.

## Applications

**BLUME<sup>®</sup> E7018** is used in several industries such as power generation, petrochemical, pressure vessels and pressure piping. Typically used for mild steel welding.

## Mechanical Properties

	As-welded
Yield Point, MPa	440 - 550
Tensile Strength, MPa	540 - 600
Elongation, %(L=4d)	> 27

## Charpy V-Notch Impact Properties

Testing Temp. (°C)	As-welded (J)
-20°F (-29 °C)	27 min

## Undiluted Weld Metal Analysis (wt%)

<b>C</b>	<b>Mn</b>	<b>Si</b>	<b>S</b>	<b>P</b>
0.06 - 0.08	1.20 - 1.50	0.40 - 0.60	0.01 - 0.02	0.01 - 0.02
<b>Ni</b>	<b>Cr</b>	<b>Mo</b>		
≤ 0.1	≤ 0.1	≤ 0.1		

## Packaging

∅ x L	Wt./Carton	Carton/Box	Net wt./Box
3/32" x 12" (2.5mm x 300mm)	5.5 lbs (2.5 kgs)	8	44 lbs (20 kgs)
1/8" x 14" (3.2mm x 350mm)	5.5 lbs (2.5 kgs)	8	44 lbs (20 kgs)
5/32" x 16" (4.0mm x 400mm)	5.5 lbs (2.5 kgs)	8	44 lbs (20 kgs)

## Suggested Welding Parameters

∅ x L	AC	DC±
3/32" x 12" (2.5mm x 300mm)	80 - 120	70 - 110
1/8" x 14" (3.2mm x 350mm)	100 - 160	90 - 160
5/32" x 16" (4.0mm x 400mm)	130 - 220	120 - 220

## Approvals







# Mild Steel Stick Electrodes



## Code & Specification

ASME SFA/AWS A5.1 E6010

## Description

**BLUME<sup>®</sup> E6010** is a mild steel all position stick electrode.

## Applications

**BLUME<sup>®</sup> E6010** is an all position electrode including vertical down hand. Typically used on pipe or general welding on large diameter pipe.

## Mechanical Properties

	As-welded
Yield Point, MPa	415
Tensile Strength, MPa	470
Elongation, %(L=4d)	26

## Charpy V-Notch Impact Properties

Testing Temp.	As-welded (J)
-20°F (-29°C)	37 - 76

## Undiluted Weld Metal Analysis (wt%)

C	Mn	Si
0.08	0.50	0.20

## Packaging

∅ x L	Wt./Carton	Carton/Box	Net wt./Box
3/32" x 12" (2.5mm x 300mm)	5.5lbs (2.5kgs)	8	44 lbs (20 kgs)
1/8" x 14" (3.2mm x 350mm)	5.5lbs (2.5kgs)	8	44 lbs (20 kgs)
5/32" x 16" (4.0mm x 400mm)	5.5lbs (2.5kgs)	8	44 lbs (20 kgs)

## Suggested Welding Parameters

∅ x L	DC±
3/32" x 12" (2.5mm x 300mm)	40 - 80
1/8" x 14" (3.2mm x 350mm)	70 - 130
5/32" x 16" (4.0mm x 400mm)	100 - 180

## Approvals







# Stainless Steel Stick Electrodes



## Code & Specification

ASME SFA/AWS A5.4 E308L-16

## Description

**BLUME<sup>®</sup> E308L-16** is a stainless steel stick electrode. Flux coating provides a smooth arc transfer for all welding positions. Used to weld austenitic steels. Designed with low carbon levels to help eliminate carbide precipitation in high temperature service.

## Applications

**BLUME<sup>®</sup> E308L-16** is used to weld type 302, 304 and 308 stainless steels and A743 and A744 type CF-8 cast materials.

## Mechanical Properties

	As-welded
Yield Point, MPa	370 - 420
Tensile Strength, MPa	540 - 595
Elongation, %(L=4d)	50 - 55

## Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	S	P
0.02 - 0.04	0.7 - 2.0	0.30 - 0.60	≤ 0.02	≤ 0.03
Ni	Cr	Mo		
9.5 - 10.5	19.0 - 20.0	0.15 - 0.25		

## Packaging

∅ x L	Wt./Carton	Carton/Box	Net wt./Box
3/32" x 14" (2.5mm x 350mm)	5.5 lbs (2.5 kgs)	8	44 lbs (20 kgs)
1/8" x 14" (3.2mm x 350mm)	5.5 lbs (2.5 kgs)	8	44 lbs (20 kgs)
5/32" x 14" (4.0mm x 350mm)	5.5 lbs (2.5 kgs)	8	44 lbs (20 kgs)

## Suggested Welding Parameters

∅ x L	AC	DC±
3/32" x 14" (2.5mm x 350mm)	40 - 70	40 - 70
1/8" x 14" (3.2mm x 350mm)	60 - 100	60 - 100
5/32" x 14" (4.0mm x 350mm)	90 - 140	90 - 140

## Approvals







# Stainless Steel Stick Electrodes



## Code & Specification

ASME SFA/AWS A5.4 E316L-16

## Description

**BLUME® E316L-16** is a stainless steel stick electrode. Flux coating provides a smooth arc transfer for all welding positions. Molybdenum grade for increased corrosion resistance. Delivers exceptional puddle control, a smooth arc, and excellent slag release.

## Applications

**BLUME® E316L-16** is used to weld type 316 and 316L. Used for molybdenum bearing austenitic stainless steels.

## Mechanical Properties

	As-welded
Yield Point, MPa	425 - 450
Tensile Strength, MPa	560 - 585
Elongation, %(L=4d)	40 - 54

## Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	S	P
0.03 - 0.04	0.7 - 0.9	0.3 - 0.4	≤ 0.02	≤ 0.02
Ni	Cr	Mo		
11.5 - 13.0	18.0 - 19.0	2.2 - 2.4		

## Packaging

∅ x L	Wt./Carton	Carton/Box	Net wt./Box
3/32" x 14" (2.5mm x 350mm)	5.5 lbs (2.5 kgs)	8	44 lbs (20 kgs)
1/8" x 14" (3.2mm x 350mm)	5.5 lbs (2.5 kgs)	8	44 lbs (20 kgs)
5/32" x 14" (4.0mm x 350mm)	5.5 lbs (2.5 kgs)	8	44 lbs (20 kgs)

## Suggested Welding Parameters

∅ x L	AC	DC±
3/32" x 14" (2.5mm x 350mm)	40 - 70	40 - 70
1/8" x 14" (3.2mm x 350mm)	60 - 100	60 - 100
5/32" x 14" (4.0mm x 350mm)	90 - 140	90 - 140

## Approvals





# Cast Iron, Non Ferrous & Others



## Code & Specification

ASME SFA/AWS A5.15 E NiCu-7

## Description

**BLUME<sup>®</sup> E NiCu-7** is a Monel electrode for joining and surfacing of nickel copper alloys. Low iron deposit exhibit maximum corrosion resistance. Medium penetration weld. Easily machinable deposit in as welded and stress relieved condition. Passes 180° bend test on monel alloy 400 plate.

## Applications

**BLUME<sup>®</sup> E NiCu-7** welding Monel to itself, to stainless steels or carbon steels. Overlaying on steel to obtain a corrosion resistant surface. Used for refineries, off shore, foundries, chemical and fertiliser plants, heat exchanger, pressure vessel and column manufacturing units, food, pumps & valves manufacturing units.

## Mechanical Properties

	Condition	UTS, Mpa	EL%
Specification	As Welded	490-590	30-40

**Redrying Condition : 300°F (150°C) for 1 Hour**

## Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	S	Cu
≤ 0.08	1.0-3.0	0.20-0.80	≤ 0.015	≤ 2.5
Ni	Fe			
62.0-68.0	1.0-2.5			

## Packaging

Ø x L	Amperage, A	Wt./Carton	Carton/Box	Net wt./Box
3/32" x 14" (2.5mm x 350mm)	40-80	2.2 lbs (1 kg)	10	22 lbs (10 kgs)
1/8" x 14" (3.2mm x 350mm)	80-110	2.2 lbs (1 kg)	10	22 lbs (10 kgs)
5/32" x 14" (4.0mm x 350mm)	110-140	2.2 lbs (1 kg)	10	22 lbs (10 kgs)

## Approvals







# Cast Iron, Non Ferrous & Others



## Code & Specification

ASME SFA/AWS A5.15 E NiCu-B

## Description

**BLUME® E NiCu-B** is a monel alloy electrode with graphite based coating. Machinable weld is achieved with this electrode. Minimum dilution ensures shallow but sufficient depth of fusion. No preheating required for use.

## Applications

**BLUME® E NiCu-B** is used for repair of cast iron castings. It is well suited for Gears, Machine Parts and Pump Bodies, also used for rebuilding worn surfaces. Main use is to join cast iron to steel and correcting machining errors on castings.

## Mechanical Properties

	Condition	Hardness (3 Layer), BHN
Specification	As Welded	200 max

**Redrying Condition : 300°F (150°C) for 1 Hour**

## Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	S	Cu
0.35-0.55	≤ 2.30	≤ 0.75	≤ 0.025	≤ 0.03
Ni	Fe			
60.0-70.0	3.0-6.0			

## Packaging

Ø x L	Amperage, A	Wt./Carton	Carton/Box	Net wt./Box
3/32" x 14" (2.5mm x 350mm)	45-60	2.2 lbs (1 kg)	10	22 lbs (10 kgs)
1/8" x 14" (3.2mm x 350mm)	90-110	2.2 lbs (1 kg)	10	22 lbs (10 kgs)
5/32" x 14" (4.0mm x 350mm)	120-150	2.2 lbs (1 kg)	10	22 lbs (10 kgs)

## Approvals





# Cast Iron, Non Ferrous & Others



## Code & Specification

ASME SFA/AWS A5.15 E NiFe-CI

## Description

**BLUME<sup>®</sup> E NiFe-CI** is a Ni-Fe type machinable electrode for Repair and Welding of Cast Iron. Produces dense, soft and ductile weld with adequate strength. Provides porosity are welding. Controlled dilution and penetration. Does not require preheating for large heavy casting.

## Applications

**BLUME<sup>®</sup> E NiFe-CI** is used for repair of broken heavy casting along with welding and repairing of all cast iron components. Main items used to repair are pump casting and gears, cast iron dies, gear boxes and gear teeth.

## Mechanical Properties

	Condition	Hardness (3 Layer), BHN
Specification	As Welded	150-190

**Redrying Condition : 300°F (150°C) for 1 Hour**

## Undiluted Weld Metal Analysis (wt%)

C	Mn	Si	S	Cu
≤ 2.0	≤ 2.50	≤ 4.0	≤ 0.03	≤ 2.5
Ni	Fe			
45.0-60.0	3.0-6.0			

## Packaging

∅ x L	Amperage, A	Wt./Carton	Carton/Box	Net wt./Box
3/32" x 14" (2.5mm x 350mm)	40-70	2.2 lbs (1 kg)	10	22 lbs (10 kgs)
1/8" x 14" (3.2mm x 350mm)	70-110	2.2 lbs (1 kg)	10	22 lbs (10 kgs)
5/32" x 14" (4.0mm x 350mm)	90-120	2.2 lbs (1 kg)	10	22 lbs (10 kgs)

## Approvals







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