

TIG RODS
PRODUCT CATALOGUE





Code & Specification

ASME SFA/AWS A5.9 ER308L

Description

BLUME® ER308L offers commendable overall corrosion resistance. With its low carbon content, this alloy is especially recommended in situations where there's a potential for intergranular corrosion.

Applications

BLUME® ER308L finds application in the chemical and food processing sectors, alongside its use for pipes, tubes, and boilers. It's employed in joining stainless steels of 18% Cr - 8% Ni-type with low carbon content and Nb-stabilized steels of similar kinds, provided the service temperature stays below 662°F (350°C). Additionally, it's suitable for welding Cr-steels except in environments abundant in sulfur.

Mechanical Properties (As Welded)

Yield Strength (MPa)	480
Tensile Strength (MPa)	610
Elongation (%)	36

Typical Charpy V-Notch Properties

Testing Temperature	Impact Value (J)
68° F (20°C)	170
-112° F (-80°C)	135
-321° F (-196°C)	80

Packaging

1/16" (1.6mm) Diameter 3/32" & (2.4mm) Diameter of 40" (1000mm) length in 11 lbs (5 kgs) pack.



Code & Specification

ASME SFA/AWS A5.9 ER309L

Description

BLUME® ER309L exhibits commendable overall corrosion resistance. However, when utilized for joining dissimilar materials, the emphasis shifts away from corrosion resistance to other primary factors.

Applications

BLUME® ER309L serves for welding buffer layers on CMn steels and for joining dissimilar materials. When employing the wire for these purposes, it's crucial to manage and regulate the weld's dilution.

Mechanical Properties (As Welded)

Yield Strength (MPa)	430
Tensile Strength (MPa)	590
Elongation (%)	32

Typical Charpy V-Notch Properties

Testing Temperature	Impact Value (J)
68° F (20°C)	160
-112° F (-80°C)	130
-321° F (-196°C)	90

Packaging

1/16" (1.6mm) Diameter & 3/32" (2.4mm) Diameter of 40" (1000mm) length in 11lbs (5kgs) pack.



Code & Specification

ASME SFA/AWS A5.9 ER316L

Description

BLUME® ER316L Exhibiting commendable overall corrosion resistance, especially in environments containing acid and chlorine, this alloy stands out due to its low carbon content, making it highly advisable in scenarios where the risk of intergranular corrosion is a concern.

Applications

BLUME® ER316L finds extensive application across industries such as chemical processing and food production, as well as in shipbuilding and diverse architectural structures.

Mechanical Properties (As Welded)

Yield Strength (MPa)	470
Tensile Strength (MPa)	600
Elongation (%)	32

Typical Charpy V-Notch Properties

Testing Temperature	Impact Value (J)
68° F (20°C)	160
-76°F (-60°C)	130
-321°F (-196°C)	75

Packaging

1/16" (1.6mm) Diameter & 3/32" (2.4mm) Diameter of 40" (1000mm) length in 11lbs (5kgs) pack.



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

100% Argon

Undiluted Weld Metal Analysis (wt%)

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

Base Materials to be Welded

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

Packaging

.045" (1.2mm) Diameter & 1/16" (1.6mm) Diameter of 39" (1000mm) length in 11 lbs (5 kgs) pack.



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

100% Argon

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 & 1/16" (1.6mm) Diameter of 39" (1000mm) length in 11 lbs (5 kgs) pack.



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

100% Argon

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 of 39" (1000mm) length in 11 lbs (5 kgs) pack.



Code & Specification

A.I.S.I P-20 Mould 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

100% Argon

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 of 39" (1000mm) length in 11 lbs (5 kgs) pack.



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