

### UNIBRAZE® 307C

**Specifications:** No AWS class.

**Classification:** Conforms to DIN Standard EN 12072, Class G 18 8 Mn.

**Description:**

UNIBRAZE 307C is a composite, metal cored wire for GMAW of stainless and certain types of other austenitic steels. It may also be used to weld armor steels and ferritic stainless steels in specific applications. The composite nature of UNIBRAZE 307C provides higher deposition rates and a faster travel speeds than those achieved by solid electrodes. Shielding gas blends of 95-98% Ar/balance O<sub>2</sub> and 75-95% Ar/balance CO<sub>2</sub> can be used.

Typical Chemistry Analysis					
C	Cr	Ni	Mn	Si	P
0.04	19.10	7.75	7.00	0.65	0.010
S	Cu	Mo			
0.008	0.24	0.20			

Typical Mechanical Properties	
Tensile Strength	psi
Yield Strength	psi
Elongation % in 2"	%

\*Using 100% CO<sub>2</sub>. Strength levels will be slightly higher w/AR+20-25% CO<sub>2</sub>

### UNIBRAZE® 308H-T1

**Specifications:** AWS A5.22

**Classification:** E308HT1-1, E308HT1-4, E308T1-1, E308T1-4

**Description:**

UNIBRAZE 308H-T1 is a gas-shielded, flux cored, stainless steel wire designed to weld in all positions. It has a nominal weld metal composition of 20% Cr, 10% Ni and a carbon content of 0.04 to 0.08%. The higher carbon in this alloy makes it suitable for higher temperature use. It is designed for use with 100% CO<sub>2</sub> or a blend of 75-80% Ar/balance CO<sub>2</sub>. Shielding gas mixtures with more than 75-80% Argon are not recommended.

Typical Chemistry Analysis					
C	Cr	Ni	Mn	Si	P
0.04-0.08	18.0-21.0	9.0-11.0	0.5-2.5	1.0 max	0.04 max
S	Cu	Mo	N		
0.03 max	0.5 max	0.05 max	0.05		

Typical Mechanical Properties*	
Tensile Strength	87,000 psi
Yield Strength	64,500 psi
Elongation % in 2"	42 %

\*Using 100% CO<sub>2</sub>. Strength levels will be slightly higher w/AR+20-25% CO<sub>2</sub>

### UNIBRAZE® 308L-T1

**Specifications:** AWS A5.22

**Classification:** E308LT1-1, E308LT1-4, E308T1-1, E308T1-4

**Description:**

UNIBRAZE 308L-T1 is a gas-shielded, flux cored, stainless steel wire designed to weld in all positions. It has a nominal weld metal composition of 20% Cr, 10% Ni and a maximum carbon content of 0.04%. The low carbon in this alloy minimizes carbide precipitation and makes it more resistant to intergranular corrosion. It is designed for use with 100% CO<sub>2</sub> shielding gas or a blend of 75-80% Ar/balance CO<sub>2</sub>.

Typical Chemistry Analysis					
C	Cr	Ni	Mn	Si	P
0.04 max	18.0-21.0	9.0-11.0	0.5-2.5	1.0 max	0.04 max
S	Cu	Mo	N		
0.03 max	0.5 max	0.05 max	0.05		

Typical Mechanical Properties*	
Tensile Strength	83,000 psi
Yield Strength	60,000 psi
Elongation % in 2"	38 %

\*Using 100% CO<sub>2</sub>. Strength levels will be slightly higher w/AR+20-25% CO<sub>2</sub>



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### UNIBRAZE® 308L-C

Specifications: AWS A5.9

Classification: EC308L, EC308

**Description:**

UNIBRAZE 308L-C is a gas-shielded, metal cored, stainless steel wire. It has a nominal weld metal composition of 19% Cr, 9.5% Ni and a maximum carbon content of 0.03%. The low carbon in this alloy minimizes carbide precipitation and makes it more resistant to intergranular corrosion. It produces little or no slag and virtually no spatter, minimizing cleanup. It is designed for use with Ar/1-2% O<sub>2</sub> or Ar/1-2% CO<sub>2</sub> shielding gases.

Typical Chemistry Analysis					
C	Cr	Ni	Mo	Mn	Si
0.03 max	19.50-22.00	9.00-11.00	0.75 max	1.00-2.50	0.30-0.65
P	S	N	Cu		
0.03 max	0.03 max	0.05	0.75 max		

Typical Mechanical Properties**	
Tensile Strength	82,600 psi
Yield Strength	57,000 psi
Elongation % in 2"	38 %

Ar-2%O<sub>2</sub>

### UNIBRAZE® 309L-T1

Specifications: AWS A5.22

Classification: E309LT1-1, E309LT1-4, E309T1-1, E309T1-4

**Description:**

UNIBRAZE 309L-T1 is a gas-shielded, flux cored, stainless steel electrode designed to weld in all positions. It has a nominal weld metal composition of 24%Cr and 13%Ni with a maximum carbon content of 0.04%. The low carbon minimizes carbide precipitation and makes the weld metal more resistant to intergranular corrosion. UNIBRAZE 309L-T1 can be used with 100% CO<sub>2</sub> shielding gas or a blend of 75-80% Ar/balance CO<sub>2</sub>.

Typical Chemistry Analysis					
C	Cr	Ni	Mn	Si	P
0.04 max	22.0-25.0	12.0-14.0	0.5-2.5	1.0 max	0.04 max
S	Cu	Mo	N		
0.03 max	0.5 max	0.05 max	0.05		

Typical Mechanical Properties*	
Tensile Strength	85,100 psi
Yield Strength	66,900 psi
Elongation % in 2"	38 %

\*Using 100% CO<sub>2</sub>. Strength levels will be slightly higher w/AR+20-25% CO<sub>2</sub>

### UNIBRAZE® 309L-C

Specifications: AWS A5.9

Classification: EC309L, EC309

**Description:**

UNIBRAZE 309L-C is a gas-shielded, metal cored, stainless steel wire. It has a nominal weld metal composition of 24%Cr and 13%Ni with a maximum carbon content of 0.03%. The low carbon minimizes carbide precipitation and makes the weld metal more resistant to intergranular corrosion. It operates with a smooth, spray arc transfer and produces little or no slag with virtually no spatter. It is designed for use with Ar/1-2% O<sub>2</sub> or Ar/1-2% CO<sub>2</sub> shielding gas.

Typical Chemistry Analysis					
C	Cr	Ni	Mo	Mn	Si
0.03 max	23.0-25.0	12.0-14.0	0.75 max	1.0-2.5	.030-0.65
P	S	N	Cu		
0.30 max	0.30 max	0.05	0.75 max		

Typical Mechanical Properties*	
Tensile Strength	84,000 psi
Yield Strength	64,200 psi
Elongation % in 2"	35 %

Using Ar+2% O<sub>2</sub>



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### UNIBRAZE® 309LMo-T1

**Specifications:** AWS A5.22

**Classification:** E309LMoT1-1, E309LMoT1-4

**Description:**

UNIBRAZE 309LMo-T1 is a gas-shielded, flux cored, stainless steel wire designed to weld in all positions. It has a nominal weld metal composition of 23%Cr, 13%Ni, 2.5%Mo and a maximum C content of 0.04%. The Mo provides increased resistance to pitting corrosion. The low carbon minimizes carbide precipitation and makes the weld more resistant to intergranular corrosion. 100% CO<sub>2</sub> shielding gas or a blend of 75-80% Ar/balance CO<sub>2</sub> can be used.

Typical Chemistry Analysis					
C	Cr	Ni	Mn	Si	P
0.04 max	22.0- 25.0	12.0- 14.0	0.5 - 2.5	1.0 max	0.04 max
S	Cu	Mo	N		
0.03 max	0.5 max	0.05 max	0.05		

Typical Mechanical Properties*	
Tensile Strength	95,100 psi
Yield Strength	72,000 psi
Elongation % in 2"	34 %

\*Using 100% CO<sub>2</sub>. Strength levels will be slightly higher w/AR+20-25% CO<sub>2</sub>

### UNIBRAZE® 316L-T0

**Specifications:** AWS A5.22

**Classification:** E316LTO-1, E316LTO-4, E316TO-1,  
E316TO-4

**Description:**

UNIBRAZE 316L-T0 is a gas-shielded, flux cored, stainless steel wire designed to weld in the flat and horizontal positions. It has a nominal weld metal composition of 19%Cr, 12.5%Ni, 2.5%Mo and a maximum carbon content of 0.04%. The presence of Mo improves resistance to pitting and provides increased creep resistance at elevated temperatures. The low carbon content minimizes carbide precipitation and makes it more resistant to intergranular corrosion. UNIBRAZE 316L-T0 is designed for use with 100%CO<sub>2</sub> or a blend of 75-80% Ar/balance CO<sub>2</sub>.

Typical Chemistry Analysis					
C	Cr	Ni	Mn	Si	P
0.04 max	17.0- 20.0	11.0- 14.0	0.5 - 2.5	1.0 max	0.04 max
S	Cu	Mo	N		
0.03 max	0.5 max	2.0 - 3.0	0.05		

Typical Mechanical Properties*	
Tensile Strength	82,000 psi
Yield Strength	64,000 psi
Elongation % in 2"	39 %

\*Using 100% CO<sub>2</sub>. Strength levels will be slightly higher w/AR+20-25% CO<sub>2</sub>

### UNIBRAZE® 316L-T1

**Specifications:** AWS A5.22

**Classification:** E316LT1-1, E316LT1-4, E316T1-1,  
E316T1-4

**Description:**

UNIBRAZE 316L-T1 is a gas-shielded, flux cored, stainless steel wire designed to weld in all positions. It has a nominal weld metal composition of 19%Cr, 12.5%Ni, 2.5%Mo and a maximum carbon content of 0.04%. The presence of Mo improves resistance to pitting and provides increased creep resistance at elevated temperatures. The low carbon content minimizes carbide precipitation and makes it more resistant to intergranular corrosion. UNIBRAZE 316L-T1 is designed for use with 100% CO<sub>2</sub> or a blend of 75-80% Ar/balance CO<sub>2</sub>.

Typical Chemistry Analysis					
C	Cr	Ni	Mn	Si	P
0.04 max	17.0- 20.0	11.0- 14.0	0.5 - 2.5	1.0 max	0.04 max
S	Cu	Mo	N		
0.03 max	0.5 max	2.0 - 3.0	0.05		

Typical Mechanical Properties*	
Tensile Strength	81,000 psi
Yield Strength	63,000 psi
Elongation % in 2"	39 %

\*Using 100% CO<sub>2</sub>. Strength levels will be slightly higher w/AR+20-25% CO<sub>2</sub>



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### UNIBRAZE® 316L-C

Specifications: AWS A5.9

Classification: EC316L, EC316

**Description:**

UNIBRAZE 316L-C is a gas-shielded, metal cored, stainless steel wire. It has a nominal weld metal composition of 19%Cr, 12.5%Ni, 2.5%Mo and a maximum carbon content of 0.03%. The presence of Mo improves resistance to pitting and provides increased creep resistance at elevated temperatures. The low C content minimizes carbide precipitation and makes it more resistant to intergranular corrosion. It is designed for use with Ar/1-2% O<sub>2</sub> or Ar/1-2% CO<sub>2</sub> gases.

Typical Chemistry Analysis					
C	Cr	Ni	Mo	Mn	Si
0.03 max	18.0-20.0	11.0-14.0	2.0-3.0	1.0-2.5	0.30-0.65
P	S	N	Cu		
0.03 max	0.03 max	0.05	0.75 max		

Typical Mechanical Properties*	
Tensile Strength	82,900 psi
Yield Strength	63,100 psi
Elongation % in 2"	37 %

Using Ar+2% O<sub>2</sub>

### UNIBRAZE® 347-T1

Specifications: AWS A5.22

Classification: E347T1-1, E347T1-4

**Description:**

UNIBRAZE 347-T1 is a gas-shielded, flux cored stainless steel wire designed to weld in all positions. It has a nominal weld metal composition of 19.5%Cr, 10%Ni and 0.5%Cb (Nb). The Cb forms a stable carbide. This reduces chromium carbide precipitation and makes the weld metal more resistant to intergranular corrosion. UNIBRAZE 347-T1 can be used with 100% CO<sub>2</sub> or a blend of 75-80% Ar/balance CO<sub>2</sub>.

Typical Chemistry Analysis					
C	Cr	Ni	Mo	Mn	Si
0.08 max	18.0-21.0	9.0-11.0	0.5 max	0.5-2.5	1.0 max
P	S	N	Cu	Cb(Nb)+Ta	
0.04 max	0.03 max	0.05	0.5 max	8 x C min. 1.0 max	

Typical Mechanical Properties*	
Tensile Strength	94,000 psi
Yield Strength	63,000 psi
Elongation % in 2"	35 %

\*Using 100% CO<sub>2</sub>. Strength levels will be slightly higher w/Ar+20-25% CO<sub>2</sub>

### UNIBRAZE® 409C

Specifications: AWS A5.9, ASME SFA 5.9

Classification: EC409

**Description:**

UNIBRAZE 409C is a composite metal cored, stainless steel wire for gas-shielded arc welding. This wire is intended for welding of ferritic stainless thin gauge or sheet steel such as exhaust systems for trucks and automobiles. Arc transfer is a smooth spray with virtually no spatter emission. UNIBRAZE 409C is designed for use with Ar/1-2% O<sub>2</sub> shielding gas.

Typical Chemistry Analysis					
C	Cr	Ni	Mo	Mn	Si
0.08 max	10.5-13.5	0.6 max	0.50 max	0.8 max	1.0 max
P	S	Cu	Cb(Nb)	Ti	
0.03 max	0.03 max	0.75 max	0.48	10xC min. 1.5 max	

Typical Mechanical Properties	
Tensile Strength	67,000 psi
Yield Strength	50,500 psi
Elongation	26 %



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### UNIBRAZE® 409Nb

Specifications: AWS A5.9, ASME SFA 5.9

Classification: EC409Nb

**Description:**

UNIBRAZE 409Nb is a composite metal cored, stainless steel wire for gas-shielded arc welding. This product is intended for welding ferritic stainless steel sheet and thin gauge material where Nb (Cb) stabilization is preferred over Ti. Arc transfer is a smooth spray with minimal spatter; bead appearance is smooth and clean. UNIBRAZE 409Nb is designed for use with Ar/1-2% O<sub>2</sub> shielding gas.

Typical Chemistry Analysis					
C	Cr	Ni	Mo	Mn	Si
0.08 max	10.5- 13.5	0.6 max	0.50 max	0.8 max	1.0 max
P	S	N	Cu	Nb+Ta	
0.04 max	0.03 max		0.75 max	10xC min / 0.75max	

Typical Mechanical Properties	
Tensile Strength	67,000 psi
Yield Strength	50,500 psi
Elongation	26 %

### UNIBRAZE® 18CrCb-C

Specifications: No AWS Class

Classification:

**Description:**

A composite metal cored, stainless steel wire, UNIBRAZE 18CrCb-C is intended for welding thin stock and sheet steel of similar ferritic stainless composition 18%Cr, 0.6%Cb. Stabilization of the weld deposit is primarily with Cb (Nb). UNIBRAZE 18CrCb-C is designed for use with 98%Ar/balance O<sub>2</sub> shielding gas.

Typical Chemistry Analysis					
C	Cr	S	Mn	Si	P
0.03	17.70	0.010	0.66	0.58	0.010
Cb					
0.66					

Typical Mechanical Properties	
Tensile Strength	psi
Yield Strength	psi
Elongation % in 2"	%

### UNIBRAZE® 2209-T1

Specifications: AWS A5.22, ASME SFA 5.22

Classification: E2209T1-4

**Description:**

UNIBRAZE 2209T1 is an all position flux cored wire designed to weld duplex stainless steels of 22Cr-5Ni-2Mo-N type. This wire normally gives ferrite in the range of 30-60 FN. UNIBRAZE 2209T1 provides excellent notch toughness of 35 ft•lbs at -20°F and is designed for use with 100% CO<sub>2</sub> or 75-80%Ar/balance CO<sub>2</sub> shielding gas.

Typical Chemistry Analysis					
C	Cr	Ni	Mo	Mn	Si
0.04 max	21.0- 24.0	7.5 - 10.0	2.5 - 4.0	0.50- 2.00	1.00 max
P	S	N	Cu		
0.04 max	0.03 max	0.08- 0.20	0.5 max		

Typical Mechanical Properties*	
Tensile Strength	121,000 psi
Yield Strength	98,000 psi
Elongation % in 2"	24 %

\*Using 100% CO<sub>2</sub>. Strength levels will be slightly higher w/AR+20-25% CO<sub>2</sub>



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**UNIBRAZE® 2553T1**

Specifications: AWS A5.22, ASME SFA 5.22

Classification: E2553T1-4

**Description:**

UNIBRAZE 2553T1 is an all position flux cored wire with a nominal composition of 25% chromium, 9.5% nickel, 3.5% molybdenum, 2% copper and 0.2% nitrogen. It is used to weld duplex stainless steels which contain approximately 25% chromium. The weld metal exhibits high strength with excellent corrosion resistance, especially to pitting attack from chlorides in sea water. UNIBRAZE 2553T1 is well suited for welding similar materials in the chemical and fertilizer industries, offshore pipelines, sour gas lines and offers greater resistance to intergranular corrosion, pitting and stress corrosion cracking than 2209.

Typical Chemistry Analysis					
C	Cr	Ni	Mo	Cu	Mn
0.03	25.40	9.50	3.80	2.20	1.10
Si	N	FN# (WRC)			
0.70	0.20	42			

Typical Mechanical Properties	
Tensile Strength	124,000 psi
Yield Strength	97,000 psi
Elongation % in 2"	24 %

**UNIBRAZE® 2594T1**

Specifications: AWS A5.22, ASME SFA 5.22

Classification: E2594T1-4

**Description:**

UNIBRAZE 2594T1 is an all position flux cored wire that is designed for welding duplex (2500 family) and super-duplex (wrought UNS S32750 and S32760 and cast UNS J93380 and J93404) materials in the chemical and fertilizer industries, energy generation, flue gas desulphurization, and for many offshore applications including piping systems, pumps, valves and heat exchangers. UNIBRAZE 2594T1 has a nominal composition of 25.5% chromium, 9.3% nickel, 3.5% molybdenum and 0.25% nitrogen. The Pitting Resistance Equivalent, given as  $Cr + 3.3 * (Mo + 0.5W) + 16 * N$ , is equal or greater than 40.

Typical Chemistry Analysis					
C	Cr	Ni	Mo	Mn	Si
0.03	25.40	9.60	3.80	1.50	0.70
W	N	FN# (WRC)			
0.55	0.24	48			

Typical Mechanical Properties*	
Tensile Strength	124,000 psi
Yield Strength	97,000 psi
Elongation % in 2"	20 %

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Data contained in this catalog are typical of the products described, but are not suitable for specifications.



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