

WASHINGTON ALLOY CO.

SUB-ARC

Wires and Fluxes



Washington Alloy Co. introduces its new line of Submerged Arc Welding wire-flux combinations. These products carry the approvals of DNV, ABS, LR, BV and conform to the specifications of AWS/SFA, AISI and ASTM and are Exxon approved.

Carbon Steel EM12K

AWS A5.17, Class EM12K AC/DC+

For single and multi-pass Fillet and Butt-welding of mild and 490N/mm² class High Tensile Strength steels used in steel structures, ships, pressure vessels, spiral pipe, beams and columns. Excellent resistance to crack, pitting and porosity in the weld on all plate thicknesses.

Typical Chemistry:

C	Mn	Si	P	S	Base
.07	1.36	.35	.021	.010	SM490A
.08	1.40	.32	.019	.011	EH36

Typical Mechanical Properties:

Yield	Tensile	Elong.	Charpy	Base
psi	psi		ft lbs @ -50°C	
68,000	81,000	31%	34 ft lbs @ -50°C	SM490A
-	84,000	-	-	EH36

For use with CA-526 / AWS A5.17, F7A6 Welding Flux

Stainless Steels

AWS A5.9

Class ER308/308L - For welding of 18%Cr - 8%Ni stainless steels and for cladding 19%Cr - 9%Ni stainless. Typically used for austenitic base metals 201, 202, 301, 302, 302b, 303, 308S3, 304, 304L, 305 and as an alternate in many other 300 and 400 series base metals (Call for recommendations).

Typical chemistry:

	C	Mn	Si	Ni	Cr
ER308	.05	1.27	.85	9.42	19.41
ER308L	.02	1.25	.86	9.48	19.38

Typical Mechanical properties

	Tensile	Elong.	Charpy
	psi		ft lbs @ 0°C
ER308	87,000	41%	51
ER308L	85,400	42%	53

Class ER309/309L - For welding of 22%Cr - 12%Ni stainless steels and for joining stainless steel to mild steel. Typically used for austenitic 309 and 309S steels as well as a wide variety of applications as an alternate alloy (Call for recommendations). Due to its higher alloy content and controlled ferrite, 309/309L has greater crack resistance, especially when joining higher carbon steels.

Typical Chemistry:

	C	Mn	Si	Ni	Cr
ER309	.06	1.17	.87	12.13	23.91
ER309L	.03	1.22	.85	12.22	24.09

Typical Mechanical properties:

	Tensile	Elong.	Charpy
	psi		ft lbs @ 0°C
ER309	88,000	39%	54
ER309L	86,000	40%	58

(continued on reverse)

WASHINGTON ALLOY

SUB-ARC Wire and Fluxes (Cont.)

Stainless Steels (Cont.)

Class ER316/316L - For welding of 18%Cr - 12%Ni - 2%Mo stainless steel where elevated resistance to acids is required. Typically used for austenitic AISI 316L and 318 stainless steels, finding many applications in the food preparation industry as well as textiles, paper, cellulose and chemical equipment, etc.

Typical Chemistry:

	C	Mn	Si	Ni	Cr	Mo
ER316	.06	1.12	.87	11.47	18.81	2.07
ER316L	.03	1.16	.84	11.76	18.74	2.06

Typical Mechanical Properties

	Tensile psi	Elong.	Charpy ft lbs @ 0°C
ER316	84,700	38%	53
ER316L	81,000	43%	51

Class ER347 - For welding of 18%Cr - 8%Ni - 8%Nb-Ti stainless steel where maximum corrosion resistance is required. Typically used for austenitic AISI 304, 304L, 321 and 347 stainless steels.

The addition of Niobium (Nb)* acts as a stabilizer against carbide precipitation, eliminating intergranular corrosion. *Niobium is the same element as Columbian (Cb) and may appear as such in older literature.

Typical Chemistry:

	C	Mn	Si	Ni	Cr	Nb+Ti
ER347	.05	1.18	.88	9.27	19.02	.62

Typical mechanical Properties:

	Tensile psi	Elong.	Charpy ft lbs @ 0°C
ER347	84,000	39%	50

All stainless wires are for use with **CA-101S** Welding Flux

SUB-ARC FLUXES

CA-526 AWS A5.17 F7A6 for EM12K

This flux formula is carefully balanced to the EM12K chemistry to produce an excellent, general purpose, single pass weld deposit on mild and low alloy steels, such as, ASTM A537, A283, grades A, B and C.

CA-101S Stainless Steel Flux

A "bonded-type" flux containing the appropriate elements to produce optimal mechanical, chemical and corrosion resistant properties in the weld deposit. CA-101S provides excellent arc stability, bead contour and appropriate ferrite levels.

ORDERING INFORMATION

ER308/308L 55LB coil

Pt. No.	Diameter
TGS 308L 27	3/32" (2.4mm)
TGS 308L 28	1/8" (3.2mm)
TGS 308L 29	5/32" (4mm)

ER309/309L 55LB Coil

Pt. No.	Diameter
TGS 309L 27	3/32" (2.4mm)
TGS 309L 28	1/8" (3.2mm)
TGS 309L 29	5/32" (4mm)

ER316/316L 55LB Coil

Pt. No.	Diameter
TGS 316L 27	3/32" (2.4mm)
TGS 316L 28	1/8" (3.2mm)
TGS 316L 29	5/32" (4mm)

EM12K 55LB Coil

Pt. No.	Diameter
CW EM12K 25	1/16" x 44# spl
CW EM12K 27	3/32" (2.4mm)
CW EM12K 28	1/8" (3.2mm)
CW EM12K 29	5/32" (4mm)

Exxon approved

Call for details.

Stainless Flux

Pt. No.	Wt.
TGS CA-101S	44LB Can

EM12K Flux

Pt. No.	Wt.
CW F7A6 (CA-526)	44LB Can

www.weldingwire.com

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8535 Utica Ave

Rancho Cucamonga, CA Fax (909) 291-4586

Southwest: (877) 711-9033
4755 Alpine Dr. #100A

Stafford, TX Fax (281) 313-6332