

OK Flux 10.99

This flux/wire combination is designed for welding of stainless chromium nickel no stabilized alloys. The weld metal is austenitic with adequate amount of ferrite and offers good resistance to uniform corrosion. OK Flux 10.99 works equally well on DC+ and AC current.

Specifications

Classifications	EN ISO 14174 : S A FB 2 55 53 AC
Slag Type	Fluoride basic CaF ₂ - MgO - Al ₂ O ₃
Alloy Transfer	Non alloying
Density	nom: 1.0 kg/dm ³
Basicity Index	nom: 2.1

Flux Consumption

Volts	kg Flux / kg Wire DC+	kg Flux / kg Wire AC
34 V	0.9 kg	1.1 kg
30 V	0.8 kg	0.8 kg
26 V	0.7 kg	0.6 kg
38 V	1.1 kg	1.3 kg

Conditions : Dimension 3.2 mm , Amps 400 A , Travel speed 50 cm/min

Classifications

Wire	AWS/EN	AWS - As Welded
OK Autrod 308L	A5.9:ER308L/ 14343-A:S 19 9 L	-
OK Autrod 309L	A5.9:ER309L/ 14343-A:S 23 12 L	-
OK Autrod 316L	A5.9:ER316L/ 14343-A:S 19 12 3 L	-
OK Autrod 316LMn	A5.9:ER316LMn/ 14343-A:S 20 16 3 Mn N L	-
OK Autrod NiCrMo-4	A5.14:ERNiCrMo-4/ 18274:S Ni 6276 (NiCr15Mo16Fe6W4)	A5.39: F100A32-ERNiCrMo-4/NiCrMo-4

Approvals

Combined with Wire	CCS	LR
OK Autrod NiCrMo-4	•	•

Typical Wire Composition %

C	Mn	Si	Ni	Cr	Mo	Cu	N	FN WRC-92	W
OK Autrod 308L									
0.02	1.9	0.4	9.8	19.8	-	-	0.05	-	-
OK Autrod 309L									
0.02	1.8	0.4	13.4	23.2	0.10	0.1	0.05	10	-
OK Autrod 316L									
0.01	1.7	0.4	12.0	18.2	2.6	-	0.04	7	-
OK Autrod 316LMn									
0.01	6.9	0.4	15.9	19.9	3.0	-	0.18	-	-
OK Autrod NiCrMo-4									
0.01	0.45	0.05	Bal.	15.5	16.1	-	-	-	3.5

Typical Wire Composition %

Fe
OK Autrod NiCrMo-4
5.8

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Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo	V	Cu
OK Autrod 308L DC+									
0.02	1.9	0.3	-	-	9.8	19.2	0.1	-	-
OK Autrod 308L									
-	-	-	0.01	0.02	-	-	-	-	0.2
OK Autrod 308L AC									
0.025	1.9	0.3	-	-	9.8	19.2	0.1	-	-
OK Autrod 309L AC									
0.030	1.9	0.4	-	-	13.0	22.0	0.1	-	-
OK Autrod 309L									
-	-	-	0.01	0.02	-	-	-	-	0.04
OK Autrod 316L									
-	-	-	0.01	0.02	-	-	-	-	0.2
OK Autrod 316L AC									
0.025	1.7	0.4	-	-	12.0	18.3	2.6	-	-
OK Autrod 316LMn									
0.03	7.0	0.5	0.01	0.02	16.0	20.0	3.0	-	0.30
OK Autrod NiCrMo-4									
0.015	0.7	0.08	0.002	0.006	Bal	15.2	15.6	0.1	0.1

Typical Weld Metal Analysis %

N	Co	FN WRC-92	W	Fe
OK Autrod 308L DC+				
0.07	-	6	-	-
OK Autrod 308L AC				
0.07	-	6	-	-
OK Autrod 309L AC				
0.09	-	-	-	-
OK Autrod 316L AC				
0.05	-	6	-	-
OK Autrod 316LMn				
0.17	-	-	-	-
OK Autrod NiCrMo-4				
-	0.1	-	3.7	6.5

Typical Mechanical Properties

Combined with Wire	Condition	Yield Strength	Tensile Strength	Elongation	Charpy V-Notch
OK Autrod 308L	As Welded DC+	400 MPa (58 ksi)	560 MPa (81 ksi)	36 %	85 J @ -20 °C (63 ft-lb @ -4 °F) 80 J @ -40 °C (59 ft-lb @ -40 °F) 75 J @ -60 °C (56 ft-lb @ -76 °F) 50 J @ -196 °C (37 ft-lb @ -320.8 °F)
OK Autrod 308L	As Welded AC	400 MPa (58 ksi)	560 MPa (81 ksi)	36 %	105 J @ -20 °C (78 ft-lb @ -4 °F) 100 J @ -40 °C (74 ft-lb @ -40 °F)

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Typical Mechanical Properties					
Combined with Wire	Condition	Yield Strength	Tensile Strength	Elongation	Charpy V-Notch
					90 J @ -60 °C (67 ft-lb @ -76 °F) 55 J @ -196 °C (41 ft-lb @ -320.8 °F)
OK Autrod 309L	As Welded AC	410 MPa (59 ksi)	575 MPa (83 ksi)	36 %	105 J @ -20 °C (78 ft-lb @ -4 °F) 100 J @ -40 °C (74 ft-lb @ -40 °F) 95 J @ -60 °C (70 ft-lb @ -76 °F) 85 J @ -110 °C (63 ft-lb @ -166 °F)
OK Autrod 316L	As Welded AC	410 MPa (59 ksi)	570 MPa (83 ksi)	35 %	110 J @ -20 °C (81 ft-lb @ -4 °F) 105 J @ -40 °C (78 ft-lb @ -40 °F) 100 J @ -60 °C (74 ft-lb @ -76 °F) 70 J @ -196 °C (52 ft-lb @ -320.8 °F)
OK Autrod 316LMn	As Welded 400A, 30V, 33m/h AC	420 MPa (61 ksi)	630 MPa (91 ksi)	40 %	105 J @ -60 °C (78 ft-lb @ -76 °F) 90 J @ -110 °C (67 ft-lb @ -166 °F) 55 J @ -196 °C (41 ft-lb @ -320.8 °F)
OK Autrod NiCrMo-4	As Welded HI ~0,9-1,1 kJ/mm DC+	480 MPa (70 ksi)	720 MPa (104 ksi)	42 %	75 J @ -196 °C (56 ft-lb @ -320.8 °F)
OK Autrod NiCrMo-4	As Welded HI ~0,9-1,1 kJ/mm AC	480 MPa (70 ksi)	720 MPa (104 ksi)	42 %	100 J @ -196 °C (74 ft-lb @ -320.8 °F)