

OK Flux 10.94

OK Flux 10.94 is a basic chromium-alloying flux for the butt welding of stainless steels. OK Flux 10.94 is a suitable flux for welding stainless, high-alloyed CrNiMo steels like super-duplex stainless steels.

Specifications

Classifications	EN ISO 14174 : S A AF 2 56 64 DC
Slag Type	Fluoride basic CaF ₂ -Al ₂ O ₃ -SiO ₂
Alloy Transfer	Chromium compensating
Density	nom: 1.0 kg/dm ³
Basicity Index	nom: 1.9

Flux Consumption

Volts	kg Flux / kg Wire DC+
34 V	0.8 kg
30 V	0.6 kg
26 V	0.5 kg
38 V	1.0 kg

Condition : Dimension 4.0 mm , Amps 580 A , Travel speed 33 m/h

Classifications

Wire	AWS/EN	AWS - As Welded
OK Autrod 2209	A5.9:ER2209/ 14343-A:S 22 9 3 N L	-
OK Autrod 2509	A5.9:ER2594/ 14343-A:S 25 9 4 N L	A5.39: F120A8-ER2594/2594
OK Autrod 308L	A5.9:ER308L/ 14343-A:S 19 9 L	-
OK Autrod 347	A5.9:ER347/ 14343-A:S 19 9 Nb	-

Approvals

Combined with Wire

*Selected production units only. Please contact ESAB for more information. Visit esab.com to download specific flux/wire combination fact sheets for more details.

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo	Cu	N
OK Autrod 2209 Current: DC+, 420A, 27V									
0.01	1.3	0.6	-	-	8.5	23.0	3.0	-	0.14
OK Autrod 2209									
-	-	-	0.01	0.02	-	-	-	0.1	-
OK Autrod 2509 Current: DC+, 400A, 28V, 48cm/min									
0.02	0.4	0.45	0.01	0.017	9.3	24.5	3.5	0.10	0.24
OK Autrod 308L DC+									
0.02	1.4	0.5	-	-	9.5	20	-	-	-
OK Autrod 308L									
-	-	-	-	-	-	-	0.2	0.1	-
OK Autrod 347									
-	-	-	-	-	-	-	-	-	-
OK Autrod 347 DC+									
0.04	1.0	0.5	-	-	9.6	19.6	-	-	-

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Typical Weld Metal Analysis %

Nb	FN WRC-92	W
OK Autrod 2209 Current: DC+, 420A, 27V		
-	45	-
OK Autrod 2509 Current: DC+, 400A, 28V, 48cm/min		
-	54	<0.002
OK Autrod 308L		
-	11	-
OK Autrod 347		
-	9	-
OK Autrod 347 DC+		
0.5	-	-

Typical Wire Composition %

C	Mn	Si	Ni	Cr	Mo	N	Nb	PRE	FN WRC-92
OK Autrod 2209									
0.01	1.5	0.5	8.5	22.7	3.2	0.17	-	35	55
OK Autrod 2509									
0.01	0.4	0.4	9.4	25.2	3.9	0.24	-	42	50
OK Autrod 308L									
0.02	1.9	0.4	9.8	19.8	-	0.05	-	-	-
OK Autrod 347									
0.04	1.4	0.4	9.5	19.2	-	0.05	0.6	-	7

Typical Mechanical Properties

Combined with Wire	Condition	Yield Strength	Tensile Strength	Elongation	Charpy V-Notch
OK Autrod 2209	As Welded DC+	630 MPa (91 ksi)	780 MPa (113 ksi)	30 %	60 J @ -40 °C (44 ft-lb @ -40 °F) 42 J @ -60 °C (31 ft-lb @ -76 °F)
OK Autrod 2509	As Welded DC+	680 MPa (99 ksi)	870 MPa (126 ksi)	25 %	70 J @ 20 °C (52 ft-lb @ 68 °F) 50 J @ -60 °C (37 ft-lb @ -76 °F)
OK Autrod 308L	As Welded	400 MPa (58 ksi)	560 MPa (81 ksi)	40 %	85 J @ 20 °C (63 ft-lb @ 68 °F) 70 J @ -40 °C (52 ft-lb @ -40 °F) 60 J @ -60 °C (44 ft-lb @ -76 °F)
OK Autrod 347	As Welded	455 MPa (66 ksi)	620 MPa (90 ksi)	35 %	100 J @ 20 °C (74 ft-lb @ 68 °F) 70 J @ -60 °C (52 ft-lb @ -76 °F) 50 J @ -110 °C (37 ft-lb @ -166 °F) 30 J @ -196 °C (22 ft-lb @ -320.8 °F)