OK Flux 10.99

OK Flux 10.99 is a neutral agglomerated basic flux designed for the submerged arc welding process of austenitic stainless steels with relevant wires, either using AC or DC+ current. This flux can also be used in both current modes to weld Ni-based alloys with carefully chosen Ni-based wires. Welding in AC usually provides good mechanical properties and better impact properties (when compared to DC+ current). The high basicity of OK Flux 10.99 gives better impact values, regardless of the current being used. It also has very good weldability in 1G and 2G position; the slag is self-lifting or easily detached leaving clean and nice bead appearance.

Specifications	
Classifications	EN ISO 14174 : S A FB 2 55 53 AC

Slag Type	Fluoride basic CaF2 - MgO - Al2O3
Alloy Transfer	Non alloying
Density	nom: 1.0 kg/dm3
Basicity Index	nom: 2.1

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

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

Classifications	Wire	Weld Metal
Wire	**SFA/AWS - EN ISO**	**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					
Wire	**ABS**	**BV**	**CCS**	**DNV**	**LR**
OK Autrod NiCrMo-4	•	•	•	•	•

Typical Weld Metal Analysis %									
C	**Mn**	**Si**	**S**	**P**	**Ni**	**Cr**	**Mo**	**V**	**Cu**
OK Autrod 308L AC									
0.025	1.9	0.3	0.01	0.02	9.8	19.2	0.1	-	0.2
OK Autrod 308L DC+									
0.02	1.9	0.3	0.01	0.02	9.8	19.2	0.1	-	0.2
OK Autrod 309L AC									
0.030	1.9	0.4	0.01	0.02	13.0	22.0	0.1	-	0.04
OK Autrod 316L AC									
0.025	1.7	0.4	0.01	0.02	12.0	18.3	2.6	-	0.2
OK Autrod 316LMn									

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Typical Weld Metal Analysis %									
C	**Mn**	**Si**	**S**	**P**	**Ni**	**Cr**	**Mo**	**V**	**Cu**
0.03	7.0	0.5	0.01	0.02	16.0	20.0	3.0	-	0.30
OK Autrod NiCrMo-4 AC									
0.015	0.7	0.08	0.002	0.006	Bal	15.2	15.6	0.1	0.1
OK Autrod NiCrMo-4 DC+									
0.01	0.7	0.11	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 AC				
0.07	-	6	-	-
OK Autrod 308L DC+				
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 AC				
-	0.1	-	3.7	6.5
OK Autrod NiCrMo-4 DC+				
-	0.1	-	3.6	6.5

Typical Mechanical Properties					
Wire	**Condition**	**Yield Strength**	**Tensile Strength**	**Elongation**	**Charpy V-Notch**
OK Autrod 308L	As Welded AC	400 MPa	560 MPa	36 %	105 J @ -20 °C 100 J @ -40 °C 90 J @ -60 °C 55 J @ -196 °C
OK Autrod 308L	As Welded DC+	400 MPa	560 MPa	36 %	85 J @ -20 °C 80 J @ -40 °C 75 J @ -60 °C 50 J @ -196 °C
OK Autrod 309L	As Welded AC	410 MPa	575 MPa	36 %	105 J @ -20 °C 100 J @ -40 °C 95 J @ -60 °C 85 J @ -110 °C
OK Autrod 316L	As Welded AC	410 MPa	570 MPa	35 %	110 J @ -20 °C 105 J @ -40 °C 100 J @ -60 °C 70 J @ -196 °C
OK Autrod 316LMn	As Welded 400A, 30V, 33m/h AC	420 MPa	630 MPa	40 %	105 J @ -60 °C 90 J @ -110 °C 55 J @ -196 °C
OK Autrod NiCrMo-4	As Welded HI ~0,9-1,1 kJ/mm DC+	480 MPa	720 MPa	42 %	75 J @ -196 °C
OK Autrod NiCrMo-4	As Welded HI ~0,9-1,1 kJ/mm AC	480 MPa	720 MPa	42 %	100 J @ -196 °C