

OK Flux 10.90

Agglomerated aluminate-fluoride-basic flux for welding of 9% Ni steels and other high alloyed steels with Ni based wires. The flux is manganese adding, which reduces the risk of hot cracking. Good slag detachability and nice bead appearance.

Specifications

Classifications	EN ISO 14174 : S A AF 2 55 53 MnNi DC
Approvals	NAKS/HAKC : RD 03-613-03

Approvals are based on factory location. Please contact ESAB for more information.

Slag Type	Fluoride basic CaF ₂ -Al ₂ O ₃ -SiO ₂
Alloy Transfer	Chromium compensating. Nickel- and manganese alloying.
Density	nom: 1.0 kg/dm ³
Basicity Index	nom: 1.7

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 310	A5.9:ER310/ 14343-A:S 25 20	-
OK Autrod NiCrMo-3	A5.14:ERNiCrMo-3/ 18274:S Ni 6625 (NiCr22Mo9Nb)	A5.39: F100A32-ERNiCrMo-3/G
OK Autrod NiCrMo-4	A5.14:ERNiCrMo-4/ 18274:S Ni 6276 (NiCr15Mo16Fe6W4)	A5.39: F100A32-ERNiCrMo-4/G

Approvals

Combined with Wire	DNV-GL	ABS	BV	CCS	ClassNK	DNV	KR	RINA
OK Autrod NiCrMo-3	•	-	-	-	-	-	-	-
OK Autrod NiCrMo-4	-	•	•	•	•	•	•	•

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo	V	Cu
OK Autrod 310									
0.07	3.2	0.40	0.010	0.020	20.5	25.5	0.015	-	0.010
OK Autrod NiCrMo-3 DC+, 350A, 29V									
0.01	1.7	0.2	-	-	Bal.	21.0	8.5	-	-
OK Autrod NiCrMo-3									
-	-	-	0.01	0.01	-	-	-	-	-
OK Autrod NiCrMo-4 DC+, 350A, 29V									
0.01	2.2	0.2	-	-	Bal.	15.0	15.5	-	-
OK Autrod NiCrMo-4									
-	-	-	0.003	0.01	-	-	-	0.04	0.01

OK Flux 10.90

Typical Weld Metal Analysis %

Co	W	Fe	Nb+Ta
OK Autrod NiCrMo-3 DC+, 350A, 29V			
-	-	2.0	3.0
OK Autrod NiCrMo-4 DC+, 350A, 29V			
-	3.4	6.0	-
OK Autrod NiCrMo-4			
0.15	-	-	-

Typical Wire Composition %

C	Mn	Si	Ni	Cr	Mo	W	Fe	Nb+Ta
OK Autrod 310								
0.10	1.6	0.4	20.7	25.8	-	-	-	-
OK Autrod NiCrMo-3								
0.02	0.04	0.06	Bal	22.7	8.6	-	0.3	3.5
OK Autrod NiCrMo-4								
0.01	0.45	0.05	Bal.	15.5	16.1	3.5	5.8	-

Typical Mechanical Properties

Combined with Wire	Condition	Yield Strength	Tensile Strength	Elongation	Charpy V-Notch
OK Autrod 310	As Welded ISO DC+	390 MPa (57 ksi)	570 MPa (83 ksi)	34 %	85 J @ 20 °C (63 ft-lb @ 68 °F)
OK Autrod NiCrMo-3	As Welded HI ~1.0-1.7 kJ/mm DC+	440 MPa (64 ksi)	720 MPa (104 ksi)	42 %	100 J @ -196 °C (74 ft-lb @ -320.8 °F)
OK Autrod NiCrMo-4	As Welded DC+	480 MPa (70 ksi)	700 MPa (102 ksi)	40 %	60 J @ -196 °C (44 ft-lb @ -320.8 °F)