



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

Dimensions	Amps	Travel Speed
4.0 mm	580 A	33 m/h

Classifications		
Wire	SFA/AWS - EN ISO	AWS - As Welded
OK Autrod 310	A5.9:ER310/ 14343-A:S 25 20	
OK Autrod NiCr-3	A5.14:ERNiCr-3/ 18274:S Ni 6082 (NiCr20Mn3Nb)	
OK Autrod NiCrMo-13	A5.14:ERNiCrMo-13/ 18274:S Ni 6059 (NiCr23Mo16)	
OK Autrod NiCrMo-3	A5.14:ERNiCrMo-3/ 18274:S Ni 6625 (NiCr22Mo9Nb)	A5.39: F100A32-ERNiCrMo-3/G
OK Autrod NiCrMo-3	A5.14:ERNiCrMo-3/ 18274:S Ni 6625 (NiCr22Mo9Nb)	
OK Autrod NiCrMo-3 SAW	A5.14:ERNiCrMo-3/ 18274:S Ni 6625 (NiCr22Mo9Nb)	
OK Autrod NiCrMo-4	A5.14:ERNiCrMo-4/ 18274:S Ni 6276 (NiCr15Mo16Fe6W4)	A5.39: F100A32-ERNiCrMo-4/G
OK Autrod NiCrMo-4	A5.14:ERNiCrMo-4/ 18274:S Ni 6276 (NiCr15Mo16Fe6W4)	

Approvals								
Wire	ABS	BV	CCS	ClassNK	DNV-GL	KR	RINA	DNV
OK Autrod NiCrMo-3	-	-	-	-		-	-	-
OK Autrod NiCrMo-3 SAW	-	-	-	-	-	-	-	
OK Autrod NiCrMo-4								

Typical Mechanical Properties					
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 NiCr-3	As Welded ISO DC+	400 MPa (58 ksi)	600 MPa (87 ksi)	35 %	145 J @ -80 °C (107 ft-lb @

Typical Mechanical Properties					
Wire	Condition	Yield Strength	Tensile Strength	Elongation	Charpy V-Notch
					-112 °F) 130 J @ -196 °C (96 ft-lb @ -320.8 °F)
OK Autrod NiCrMo-13	As Welded 350 A, HI 1.3-1.7 kJ/mm DC+	470 MPa (68 ksi)	675 MPa (98 ksi)	46 %	70 J @ -196 °C (52 ft-lb @ -320.8 °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-3 SAW	As Welded HI ~1.0-1.7 kJ /mm DC+	440 MPa	720 MPa	42 %	100 J @ -196 °C
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)

Typical Weld Metal Analysis %														
C	Mn	Si	S	P	Ni	Cr	Mo	V	Cu	Ti	Co	W	Fe	Nb+Ta
OK Autrod 310														
0.07	3.2	0.4 0	0.01 0	0.02 0	20. 5	25. 5	0.01 5	-	0.01 0	-	-	-	-	-
OK Autrod NiCr-3														
0.00 4	4.4	0.3 5	0.00 7	0.00 5	Bal	19. 3	0.1	-	-	0. 1	-	-	1. 7	2.6
OK Autrod NiCrMo-13 Current Type: DC+ , 350A, 29V														
0.01	2.8	0.2	0.00 1	0.01	bal.	22. 0	15.0	-	-	-	-	-	1	-
OK Autrod NiCrMo-3 DC+, 350A, 29V														

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo	V	Cu	Ti	Co	W	Fe	Nb+Ta
0.01	1.7	0.2	0.01	0.01	Bal.	21.0	8.5	-	-	-	-	-	2.0	3.0
OK Autrod NiCrMo-4 DC+, 350A, 29V														
0.01	2.2	0.2	0.003	0.01	Bal.	15.0	15.5	0.04	0.01	-	0.15	3.4	6.0	-