

# 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.

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

Les approbations sont dépendant de l'usine de fabrication. Contactez ESAB pour plus d'informations

<b>Type de laitier</b>	Fluoride basic CaF <sub>2</sub> -Al <sub>2</sub> O <sub>3</sub> -SiO <sub>2</sub>
<b>Transfert d'alliage</b>	Chromium compensating, Nickel- and manganese alloying.
<b>Densité</b>	nom 1.0 kg/dm <sup>3</sup>
<b>Index d'alcalinité</b>	nom 1.7

## Flux Consumption

Volts	kg Flux / kg Wire DC+	kg Flux / kg Wire AC
26 V	0.5 kg	-
30 V	0.6 kg	-
34 V	0.8 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 (NiCr <sub>20</sub> Mn <sub>3</sub> Nb)	
OK Autrod NiCrMo-13	A5.14:ERNiCrMo-13/ 18274:S Ni 6059 (NiCr <sub>23</sub> Mo <sub>16</sub> )	
OK Autrod NiCrMo-3	A5.14:ERNiCrMo-3/ 18274:S Ni 6625 (NiCr <sub>22</sub> Mo <sub>9</sub> Nb)	A5.39: F100A32-ERNiCrMo-3/G
OK Autrod NiCrMo-3	A5.14:ERNiCrMo-3/ 18274:S Ni 6625 (NiCr <sub>22</sub> Mo <sub>9</sub> Nb)	A5.39: F100A32-ERNiCrMo-3/G
OK Autrod NiCrMo-3 SAW	A5.14:ERNiCrMo-3/ 18274:S Ni 6625 (NiCr <sub>22</sub> Mo <sub>9</sub> Nb)	
OK Autrod NiCrMo-4	A5.14:ERNiCrMo-4/ 18274:S Ni 6276 (NiCr <sub>15</sub> Mo <sub>16</sub> Fe <sub>6</sub> W <sub>4</sub> )	A5.39: F100A32-ERNiCrMo-4/G
OK Autrod NiCrMo-4	A5.14:ERNiCrMo-4/ 18274:S Ni 6276 (NiCr <sub>15</sub> Mo <sub>16</sub> Fe <sub>6</sub> W <sub>4</sub> )	A5.39: F100A32-ERNiCrMo-4/G

## Approvals

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

## Typical Mechanical Properties

Combined with Wire	Condition	Yield Strength	Tensile Strength	Elongation	Charpy V-Notch
OK Autrod 310	As Welded ISO DC+	390 MPa	570 MPa	34 %	85 J @ 20°C
OK Autrod NiCr-3	As Welded ISO DC+	400 MPa	600 MPa	35 %	145 J @ -80°C 130 J @ -196°C
OK Autrod NiCrMo-13	As Welded 350 A, HI 1.3-1.7 kJ/mm DC+	470 MPa	675 MPa	46 %	70 J @ -196°C
OK Autrod NiCrMo-3	As Welded HI ~1.0-1.7 kJ/mm DC+	440 MPa	720 MPa	42 %	100 J @ -196°C 100 J @ -196°C
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	700 MPa	40 %	60 J @ -196°C 60 J @ -196°C



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**Analyse du métal déposé**

C	Mn	Si	S	P	Ni	Cr	Mo	V	Cu
<b>OK Autrod 310</b>									
0.07	3.2	0.40	0.010	0.020	20.5	25.5	0.015	-	0.010
<b>OK Autrod NiCr-3</b>									
0.004	4.4	0.35	0.007	0.005	Bal.	19.3	0.1	-	-
<b>OK Autrod NiCrMo-13 Current Type: DC+ , 350A, 29V</b>									
0.01	2.8	0.2	0.001	0.01	bal.	22.0	15.0	-	-
<b>OK Autrod NiCrMo-3 DC+, 350A, 29V</b>									
0.01	1.7	0.2	0.01	0.01	Bal.	21.0	8.5	-	-
<b>OK Autrod NiCrMo-4 DC+, 350A, 29V</b>									
0.01	2.2	0.2	0.003	0.01	Bal.	15.0	15.5	0.04	0.01

Ti	Co	Fe	Nb+Ta	W
<b>OK Autrod 310</b>				
-	-	-	-	-
<b>OK Autrod NiCr-3</b>				
0.1	-	1.7	2.6	-
<b>OK Autrod NiCrMo-13 Current Type: DC+ , 350A, 29V</b>				
-	-	1	-	-
<b>OK Autrod NiCrMo-3 DC+, 350A, 29V</b>				
-	-	2.0	3.0	-
<b>OK Autrod NiCrMo-4 DC+, 350A, 29V</b>				
-	0.15	6.0	-	3.4