OK Flux 10.74

Agglomerated aluminate-basic flux-wire-combination for Submerged Arc Welding. Especially for multi wire procedures in the production of longitudinal welded line pipes. Low weld bead profile at high welding speeds. Suitable for line pipe steels up to X70. Due to the careful metallurgical design it produces a hard-spot free weld metal. Suitable for DC and AC welding of unlimited plate thickness.

Specifications	
Classifications	EN ISO 14174 : S A AB 1 67 AC H5
Approvals	NAKS/HAKC : RD 03-613-03

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

Diffusible Hydrogen	max 5 ml H/100g weld metal (Redried flux)
Slag Type	Aluminate-basic
Alloy Transfer	Slightly Silicon and moderately Manganese alloying
Density	nom: 1.2 kg/dm3
Basicity Index	nom: 1.4

Flux Consumption		
Volts	**kg Flux / kg Wire DC+**	**kg Flux / kg Wire AC**
34 V	1.3 kg	1.2 kg
30 V	1.0 kg	0.9 kg
26 V	0.7 kg	0.6 kg
38 V	1.6 kg	1.4 kg

Condition : Dimension Ø 4.0 mm , Amps 580 A , Travel Speed 55 cm/min

Classifications				
Wire	**SFA/AWS - EN ISO**	**EN - As Welded**	**AWS - As Welded**	**AWS - PWHT**
OK Autrod 12.20	A5.17:EM12/ 14171-A:S2	14171-A: S 42 4 AB S2	A5.17: F7A6-EM12	A5.17: F6P6-EM12
OK Autrod 12.22	A5.17:EM12K/ 14171-A: S2Si	14171-A: S 42 4 AB S2Si	A5.23: F8TA4G-EM12K	A5.17: F6P6-EM12K
OK Autrod 12.24	A5.23:EA2/ 14171-A:S2Mo; 24598-A:S S Mo	14171-A: S 46 2 AB S2Mo	A5.23: F8A2-EA2-A4	A5.23: F7P0-EA2-A4
OK Autrod 12.34	A5.23:EA4/ 14171-A:S3Mo; 24598-A:S S MnMo	14171-A: S 50 2 AB S3Mo	A5.23: F9A2-EA4-A3	A5.23: F9P0-EA4-A3
OK Autrod 13.62	A5.23:EG/ 14171-A:SZ3TiB	-	A5.23: F8TA6-EG	-
OK Autrod 13.64	A5.23:EA2TiB/ 14171-A: S2MoTiB	-	A5.23: F8TA6-EA2TiB	-

Approvals
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**	**Mo**
OK Autrod 12.20 AC, 580A, 29V			
0.08	1.3	0.2	-
OK Autrod 12.20 DC+, 580A, 29V			
0.07	1.5	0.3	-
OK Autrod 12.22 AC, 580A, 29V			
0.08	1.3	0.4	-
OK Autrod 12.22 DC+, 580A, 29V			
0.07	1.5	0.5	-

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Typical Weld Metal Analysis %			
C	**Mn**	**Si**	**Mo**
OK Autrod 12.24 AC, 580A, 29V			
0.06	1.3	0.3	0.5
OK Autrod 12.24 DC+, 580A, 29V			
0.05	1.4	0.4	0.5
OK Autrod 12.34 DC+, 580A, 29V			
0.08	1.6	0.4	0.5
OK Autrod 12.34 AC, 580A, 29V			
0.09	1.5	0.3	0.5

Typical Wire Composition %					
C	**Mn**	**Si**	**Mo**	**Ti**	**B**
OK Autrod 12.20					
0.10	1.06	0.07	-	-	-
OK Autrod 12.22					
0.09	1.01	0.19	-	-	-
OK Autrod 12.24					
0.09	1.08	0.14	0.48	-	-
OK Autrod 12.34					
0.13	1.51	0.16	0.48	-	-
OK Autrod 13.64					
0.07	1.22	0.28	0.49	0.14	0.013

Typical Mechanical Properties					
Wire	**Condition**	**Yield Strength**	**Tensile Strength**	**Elongation**	**Charpy V-Notch**
OK Autrod 12.20	As Welded AWS DC+	440 MPa	540 MPa	30 %	60 J @ -40 °C 40 J @ -51 °C
OK Autrod 12.20	As Welded EN AC	450 MPa	540 MPa	27 %	110 J @ -20 °C 80 J @ -30 °C 60 J @ -40 °C
OK Autrod 12.22	As Welded Two-run acc. to AWS; X70-plate, thickness 12mm; Heat input 2.2 kJ/mm; 700A, 32V, 60cm/min DC+	530 MPa	640 MPa	27 %	150 J @ 0 °C 110 J @ -30 °C 60 J @ -40 °C
OK Autrod 12.22	As Welded EN AC	460 MPa	550 MPa	26 %	110 J @ -20 °C 80 J @ -30 °C 60 J @ -40 °C
OK Autrod 12.22	As Welded AWS DC+	440 MPa	540 MPa	30 %	55 J @ -40 °C 35 J @ -51 °C
OK Autrod 12.24	As Welded EN AC	550 MPa	620 MPa	23 %	120 J @ 0 °C 80 J @ -20 °C 50 J @ -40 °C
OK Autrod 12.24	As Welded AWS DC+	520 MPa	590 MPa	24 %	100 J @ 0 °C 65 J @ -20 °C 50 J @ -29 °C 30 J @ -40 °C

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Typical Mechanical Properties					
Wire	**Condition**	**Yield Strength**	**Tensile Strength**	**Elongation**	**Charpy V-Notch**
OK Autrod 12.34	As Welded AWS DC+	590 MPa	670 MPa	24 %	90 J @ 0 °C 60 J @ -18 °C 55 J @ -20 °C 40 J @ -29 °C
OK Autrod 12.34	As Welded EN AC	620 MPa	680 MPa	23 %	100 J @ 0 °C 80 J @ -20 °C 60 J @ -30 °C
OK Autrod 13.62	As Welded (acc. AWS) Plate thickness 12mm; Heat input 2.2 kJ/mm; Side1: 600A/32V/53cm /min; Side2: 700A/32V /60cm/min.; DC+	520 MPa	610 MPa	26 %	130 J @ 0 °C 70 J @ -51 °C
OK Autrod 13.64	As Welded (acc. to AWS) Plate thickness 12mm Heat input 2.2kJ /mm 700A, 32V, 60cm /min DC+	550 MPa	650 MPa	26 %	70 J @ -51 °C