

OK Flux 10.62

Agglomerated fluoride-basic flux for Submerged Arc Welding. Primarily for multi-run welding. For highest demands on impact properties, low temperature toughness, strength and CTOD-values. Especially suitable for narrow gap welding due to good slag detachability and smooth side-wall blending. For Offshore constructions, pressure vessels, power generation, shipbuilding, pipe mills, civil constructions, transport industries, etc. Produces low-oxygen weld metal (approx. 300 ppm) with hydrogen contents maximum 5 ml/100 g, in BlockPac (moisture protection) maximum 4 ml/100g. Operates optimally at the lower end of the voltage range. Designed for single and multi wire procedures, for butt and fillet welds. Works equally well on DC and AC current. Single layer and multi layer welding of unlimited plate thickness.

Classifications	EN ISO 14174 : S A FB 1 55 AC H5 EN ISO 14174 : S A FB 1 55 AC H4 only BlockPac/moisture-protection
Approvals	CE : EN 13479 DB : 51.039.07 NAKS/HAKC : RD 03-613-03

Diffusible Hydrogen	max 5 ml H/100g weld metal (Redried flux); max 4 ml H/100g in BlockPac (moisture protection)
Slag Type	Fluoride-basic
Alloy Transfer	No Silicon or Manganese alloying
Density	nom: 1.1 kg/dm ³
Basicity Index	nom: 3.2
Grain Size (met)	0.2-1.6 mm (10x65 mesh)

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

Dimensions	Amps	Travel Speed
Ø 4.0 mm	580 A	55 cm/min

Classifications

Wire	SFA/AWS - EN ISO	EN - As Welded	AWS - As Welded	AWS - PWHT
ESAB SA10K	A5.17:EH10K		A5.17: F7A6-EH10K	A5.17: F7P8-EH10K
OK Autrod 12.22	A5.17:EM12K/ 14171-A: S2Si	14171-A: S 38 5 FB S2Si	A5.17: F7A8-EM12K	A5.17: F6P8-EM12K
OK Autrod 12.24	A5.23:EA2/ 14171-A:S2Mo; 24598-A:S S Mo	14171-A: S 46 4 FB S2Mo	A5.23: F8A6-EA2-A2	A5.23: F8P6-EA2-A2
OK Autrod 12.24L	A5.23:EA2/ 14171-B: SU2M3		A5.23: F8A4-EA2-A2	A5.23: F8P4-EA2-A2
OK Autrod 12.32	A5.17:EH12K/ 14171-A: S3Si	14171-A: S 46 6 FB S3Si	A5.17: F7A8-EH12K	A5.17: F7P8-EH12K
OK Autrod 12.33L	A5.23:EA3K		A5.23: F10A4-EA3K-G	A5.23: F9P4-EA3K-G
OK Autrod 12.34	A5.23:EA4/ 14171-A:S3Mo; 24598-A:S S MnMo	14171-A: S 50 4 FB S3Mo	A5.23: F8A6-EA4-A4	A5.23: F8P6-EA4-A4
OK Autrod 12.40	A5.17:EH14/ 14171-A:S4	14171-A: S 50 4 FB S4	A5.17: F7A6-EH14	A5.17: F7P6-EH14
OK Autrod 12.40L	A5.17:EH14/ 14171-B:SU41		A5.17: F7A6-EH14	A5.17: F7P6-EH14
OK Autrod 12.40L India	A5.17:EH14		A5.17: F7A6-EH14	A5.17: F7P6-EH14
OK Autrod 12.44	A5.23:EA3/ 24598-B:SU 4M3		A5.23: F9A8-EA3-A3	A5.23: F9P8-EA3-A3
OK Autrod 13.10 SC	A5.23:EB2R/ 24598-A:S S CrMo1			A5.23: F8P2-EB2R-B2

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Classifications

Wire	SFA/AWS - EN ISO	EN - As Welded	AWS - As Welded	AWS - PWHT
OK Autrod 13.20 SC	A5.23:EB3R/ 24598-A:S S CrMo2			A5.23: F8P2-EB3R-B3
OK Autrod 13.21	A5.23:ENi1/ 14171-A:S2Ni1	14171-A: S 42 4 FB S2Ni1	A5.23: F7A6-ENi1-Ni1	A5.23: F7P8-ENi1-Ni1
OK Autrod 13.24	A5.23:ENi6/ 14171-A: S3Ni1Mo0,2	14171-A: S 50 6 FB S3Ni1Mo0.2	A5.23: F8A10-ENi6-Ni6	A5.23: F8P8-ENi6-Ni6
OK Autrod 13.27	A5.23:ENi2/ 14171-A:S2Ni2	14171-A: S 46 7 FB S2Ni2	A5.23: F7A10-ENi2-Ni2	A5.23: F7P10-ENi2-Ni2
OK Autrod 13.36	A5.23:EG/ 14171-A: S2Ni1Cu	14171-A: S 46 5 FB S2Ni1Cu	A5.23: F8A6-EG-G	
OK Autrod 13.40	A5.23:EG/ 14171-A: S3Ni1Mo; 26304-A: S3Ni1Mo; 26304-B: (SUN2M2)	26304-A: S 62 6 FB S3Ni1Mo (AC)	A5.23: F10A8-EG-F3 (AC)	A5.23: F9P8-EG-F3
OK Autrod 13.43	A5.23:EG/ 26304-A:S3Ni2, 5CrMo; 26304-B: (SUN4C1M3)	26304-A: S 69 6 FB S3Ni2, 5CrMo	A5.23: F11A8-EG-G	A5.23: F11P8-EG-G
OK Autrod 13.44	A5.23:EG/ 26304-A:S3Ni1, 5CrMo	26304-A: S 62 5 FB S3Ni1, 5CrMo	A5.23: F9A8-EG-G	
OK Autrod 13.49	A5.23:ENi3/ 14171-A:S2Ni3	14171-A: S 46 8 FB S2Ni3	A5.23: F8A15-ENi3-Ni3	A5.23: F8P15-ENi3-Ni3

Approvals

Wire	ABS	CE	DNV	GL	LR	BV	DB	VdTÜV	RINA	RS	DNV-GL
OK Autrod 12.22	•	•	•	•	•	•	•	•	-	-	-
OK Autrod 12.24	-	•	-	-	-	-	-	•	-	-	-
OK Autrod 12.32	•	•	•	•	•	•	•	•	•	•	-
OK Autrod 12.34	•	-	•	•	•	•	-	-	-	•	-
OK Autrod 12.40	-	-	-	-	-	-	-	-	-	-	•
OK Autrod 13.10 SC	-	•	-	-	-	-	•	•	-	-	-
OK Autrod 13.20 SC	-	•	-	-	-	-	-	•	-	-	-
OK Autrod 13.24	•	•	•	•	•	•	-	-	-	-	-
OK Autrod 13.27	•	•	•	•	•	•	•	•	•	•	-
OK Autrod 13.36	-	•	-	-	-	-	-	-	-	-	-
OK Autrod 13.40	•	•	•	•	•	•	-	•	-	-	-
OK Autrod 13.43	•	•	•	•	•	•	-	-	-	-	-
OK Tubrod 15.27S	•	•	•	•	•	-	-	-	-	-	-

Typical Mechanical Properties

Wire	Condition	Yield Strength	Tensile Strength	Elongation	Charpy V-Notch
ESAB SA10K	As Welded DC+	490 MPa	570 MPa	28 %	100 J @ -29 °C 55 J @ -40 °C 40 J @ -51 °C
ESAB SA10K	PWHT DC+ (15 hour (s))	410 MPa	510 MPa	37 %	210 J @ -40 °C 180 J @ -51 °C 105 J @ -62 °C
ESAB SA10K	PWHT DC+ (10 hour (s))	410 MPa	510 MPa	36 %	230 J @ -40 °C 170 J @ -51 °C 100 J @ -62 °C
ESAB SA10K	PWHT DC+ (1 hour(s))	450 MPa	540 MPa	30 %	110 J @ -29 °C 80 J @ -40 °C 35 J @ -51 °C 30 J @ -62 °C

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Typical Mechanical Properties					
Wire	Condition	Yield Strength	Tensile Strength	Elongation	Charpy V-Notch
ESAB SA10K	PWHT DC+ (5 hour(s))	410 MPa	520 MPa	35 %	200 J @ -40 °C 140 J @ -51 °C 40 J @ -62 °C
OK Autrod 12.22	As Welded EN AC	440 MPa	510 MPa	29 %	180 J @ 0 °C 170 J @ -20 °C 90 J @ -40 °C 80 J @ -50 °C
OK Autrod 12.22	As Welded AWS DC+	410 MPa	500 MPa	33 %	170 J @ 0 °C 160 J @ -20 °C 90 J @ -40 °C 70 J @ -50 °C 35 J @ -62 °C
OK Autrod 12.24	As Welded EN AC	520 MPa	600 MPa	24 %	150 J @ 20 °C 125 J @ 0 °C 100 J @ -20 °C 55 J @ -40 °C 40 J @ -51 °C
OK Autrod 12.24	As Welded AWS DC+	500 MPa	580 MPa	25 %	140 J @ 20 °C 115 J @ 0 °C 80 J @ -20 °C 60 J @ -40 °C 45 J @ -51 °C
OK Autrod 12.24L	PWHT DC+ (1 hour(s))	530 MPa	590 MPa	27 %	70 J @ -18 °C 35 J @ -29 °C 30 J @ -40 °C
OK Autrod 12.24L	As Welded DC+	550 MPa	620 MPa	25 %	90 J @ -18 °C 40 J @ -29 °C 30 J @ -40 °C
OK Autrod 12.32	As Welded AWS DC+	475 MPa	560 MPa	28 %	175 J @ 20 °C 150 J @ 0 °C 130 J @ -30 °C 110 J @ -40 °C 70 J @ -62 °C
OK Autrod 12.32	As Welded EN AC	520 MPa	600 MPa	26 %	175 J @ 20 °C 170 J @ 0 °C 110 J @ -30 °C 90 J @ -40 °C 60 J @ -60 °C
OK Autrod 12.33L	As Welded DC+	660 MPa	740 MPa	25 %	45 J @ -29 °C 30 J @ -40 °C
OK Autrod 12.33L	PWHT DC+ (1 hour(s))	620 MPa	690 MPa	26 %	50 J @ -29 °C 30 J @ -40 °C
OK Autrod 12.34	As Welded AWS DC+	540 MPa	620 MPa	24 %	170 J @ 20 °C 160 J @ 0 °C 140 J @ -20 °C 115 J @ -40 °C 45 J @ -51 °C
OK Autrod 12.34	As Welded EN AC	560 MPa	630 MPa	25 %	160 J @ 20 °C 150 J @ 0 °C 130 J @ -20 °C 100 J @ -40 °C 55 J @ -51 °C

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Typical Mechanical Properties					
Wire	Condition	Yield Strength	Tensile Strength	Elongation	Charpy V-Notch
OK Autrod 12.40	As Welded AWS DC+	530 MPa	620 MPa	26 %	140 J @ 20 °C 110 J @ 0 °C 80 J @ -20 °C 50 J @ -40 °C 40 J @ -51 °C
OK Autrod 12.40	As Welded EN AC	550 MPa	630 MPa	22 %	150 J @ 20 °C 105 J @ 0 °C 70 J @ -20 °C 55 J @ -40 °C 40 J @ -51 °C
OK Autrod 12.40L	As Welded DC+	520 MPa	610 MPa	26 %	100 J @ -29 °C 85 J @ -40 °C 40 J @ -51 °C
OK Autrod 12.40L	PWHT DC+ (1 hour(s))	450 MPa	550 MPa	28 %	110 J @ -29 °C 90 J @ -40 °C 50 J @ -51 °C
OK Autrod 12.44	As Welded AWS DC+	600 MPa	700 MPa	27 %	105 J @ -20 °C 80 J @ -40 °C 65 J @ -50 °C 50 J @ -62 °C
OK Autrod 13.21	As Welded EN AC	520 MPa	595 MPa	24 %	170 J @ 20 °C 165 J @ 0 °C 150 J @ -20 °C 70 J @ -40 °C 50 J @ -51 °C
OK Autrod 13.21	As Welded AWS DC+	470 MPa	560 MPa	28 %	195 J @ 20 °C 185 J @ 0 °C 160 J @ -20 °C 70 J @ -40 °C 60 J @ -51 °C
OK Autrod 13.24	As Welded AWS DC+	530 MPa	620 MPa	25 %	120 J @ -40 °C 110 J @ -50 °C 70 J @ -60 °C 50 J @ -73 °C
OK Autrod 13.24	As Welded EN AC	560 MPa	640 MPa	23 %	130 J @ -40 °C 120 J @ -50 °C 80 J @ -60 °C
OK Autrod 13.27	As Welded AWS DC+	460 MPa	570 MPa	28 %	140 J @ -20 °C 110 J @ -40 °C 80 J @ -60 °C 50 J @ -73 °C
OK Autrod 13.27	As Welded EN AC	520 MPa	605 MPa	27 %	150 J @ -20 °C 120 J @ -40 °C 80 J @ -60 °C 60 J @ -70 °C
OK Autrod 13.36	As Welded AWS DC+	500 MPa	590 MPa	27 %	70 J @ -40 °C 60 J @ -51 °C
OK Autrod 13.36	As Welded EN AC	550 MPa	620 MPa	25 %	110 J @ -40 °C 90 J @ -50 °C
OK Autrod 13.40	As Welded EN DC+	620 MPa	700 MPa	23 %	100 J @ -40 °C 80 J @ -50 °C 60 J @ -60 °C 50 J @ -62 °C

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Typical Mechanical Properties

Wire	Condition	Yield Strength	Tensile Strength	Elongation	Charpy V-Notch
OK Autrod 13.40	As Welded AWS DC+	610 MPa	690 MPa	24 %	90 J @ -40 °C 80 J @ -50 °C 50 J @ -62 °C
OK Autrod 13.40	As Welded AWS AC	650 MPa	730 MPa	23 %	100 J @ -40 °C 90 J @ -50 °C 60 J @ -62 °C
OK Autrod 13.40	As Welded EN AC	660 MPa	730 MPa	24 %	110 J @ -40 °C 90 J @ -50 °C 70 J @ -60 °C
OK Autrod 13.43	As Welded EN ISO-A AC	720 MPa	845 MPa	19 %	110 J @ -20 °C 90 J @ -40 °C 70 J @ -50 °C 60 J @ -60 °C
OK Autrod 13.43	As Welded AWS DC+	700 MPa	800 MPa	21 %	100 J @ -20 °C 75 J @ -40 °C 65 J @ -50 °C 50 J @ -62 °C
OK Autrod 13.44	As Welded AWS DC+	610 MPa	700 MPa	22 %	95 J @ 0 °C 80 J @ -20 °C 55 J @ -40 °C 40 J @ -62 °C
OK Autrod 13.49	As Welded EN AC	560 MPa	640 MPa	22 %	95 J @ -70 °C 75 J @ -80 °C 55 J @ -90 °C
OK Autrod 13.49	As Welded AWS DC+	500 MPa	600 MPa	27 %	95 J @ -70 °C 40 J @ -101 °C

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo	Cu
ESAB SA10K DC+ 550A, 29V								
0.08	1.45	0.25	-	-	-	-	-	-
OK Autrod 12.22 DC+, 580 A, 29 V								
0.07	1.0	0.30	-	-	-	-	-	-
OK Autrod 12.22 AC, 580 A, 29 V								
0.10	0.95	0.27	-	-	-	-	-	-
OK Autrod 12.24 DC+, 580A, 29V								
0.07	1.0	0.22	-	-	-	-	0.5	-
OK Autrod 12.24L DC+ 550A, 29V								
0.07	1.10	0.25	0.015	0.025	-	-	0.45	-
OK Autrod 12.32 DC+, 580A, 29V								
0.10	1.6	0.35	-	-	-	-	-	-
OK Autrod 12.32 AC, 580A, 29V								
0.11	1.5	0.3	-	-	-	-	-	-
OK Autrod 12.33L								
0.06	1.70	0.75	-	-	-	-	0.40	-
OK Autrod 12.34 AC, 580A, 29V								
0.13	1.4	0.18	-	-	-	-	0.5	-
OK Autrod 12.34 DC+, 580A, 29V								
0.10	1.45	0.21	-	-	-	-	0.5	-
OK Autrod 12.40 DC+, 580A, 29V								

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Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Cr	Mo	Cu
0.08	1.9	0.12	-	-	-	-	-	-
OK Autrod 12.40 AC, 580A, 29V								
0.12	1.85	0.10	-	-	-	-	-	-
OK Autrod 12.40L DC+ 550A, 29V								
0.09	1.75	0.15	-	-	-	-	-	-
OK Autrod 13.10 SC DC+, 580A, 29V								
0.08	0.7	0.22	-	-	-	1.1	0.5	-
OK Autrod 13.10 SC AC, 580A, 29V								
0.10	0.7	0.20	-	-	-	1.1	0.5	-
OK Autrod 13.20 SC AC, 580A, 29V								
0.09	0.60	0.20	-	-	-	2.2	1.0	-
OK Autrod 13.20 SC DC+, 580A, 29V								
0.08	0.60	0.20	-	-	-	2.2	0.95	-
OK Autrod 13.21 AC, 580A, 29V								
0.08	0.95	0.22	-	-	0.9	-	-	-
OK Autrod 13.21 DC+, 580A, 29V								
0.06	1.0	0.25	-	-	0.9	-	-	-
OK Autrod 13.24 DC+, 580A, 29V								
0.08	1.4	0.30	-	-	0.9	-	0.2	-
OK Autrod 13.24 AC, 580A, 29V								
0.10	1.3	0.25	-	-	0.9	-	0.2	-
OK Autrod 13.27 AC, 580A, 29V								
0.08	0.95	0.22	-	-	2.1	-	-	-
OK Autrod 13.27 DC+, 580A, 29V								
0.06	1.0	0.25	-	-	2.1	-	-	-
OK Autrod 13.36 AC, 580A, 29V								
0.10	0.9	0.3	-	-	0.7	3	-	0.4
OK Autrod 13.36 DC+, 525A, 29V								
0.08	1.0	0.3	-	-	0.7	0.3	-	0.4
OK Autrod 13.40 DC+, 580A, 29V								
0.07	1.50	0.26	-	-	0.9	-	0.5	-
OK Autrod 13.40 AC, 580A, 29V								
0.10	1.45	0.23	-	-	0.9	-	0.5	-
OK Autrod 13.43 AC, 580A, 29V								
0.12	1.45	0.22	-	-	2.2	0.6	0.5	-
OK Autrod 13.43 DC+, 580A, 29V								
0.11	1.5	0.25	-	-	2.2	0.6	0.5	-
OK Autrod 13.49 DC+, 580A, 29V								
0.06	1.0	0.25	-	-	3.1	-	-	-
OK Autrod 13.49 AC, 580A, 29V								
0.08	0.95	0.20	-	-	3.1	-	-	-