

OK Flux 10.71L

OK Flux 10.71L is an agglomerated, basic flux for submerged arc welding. It is used for single and multi-run welding of all plate thicknesses. It can be combined with a wide range of wires and thus it is suitable for all kinds of steels. OK Flux 10.71L combines good toughness values with excellent weldability. It is used for single & multi-wire procedures such as tandem, twin-arc, tandem-twin welding and many more, for butt, overlap and fillet welds. It works equally well on DC and AC current. The good slag detachability and limited alloying of Si and Mn makes it well suited for multi-pass thick section welding. In general construction, OK Flux 10.71L is one of the most used SAW fluxes. Not just for structural steels and fine-grained steels, but also for weather resistant steels e.g. for bridges. Pressure vessels are welded with this flux, because it can be used for a wide range of steels including low temperature steels. This reduces the number of different fluxes a customer needs to have in stock. Wind tower production with plate thicknesses of greater than 50 mm require not only excellent slag detachability particularly in the first run, high deposition rates in all following runs and also excellent toughness values. Since OK Flux 10.71L offers all this it is well established in this market segment. Other applications are in shipbuilding or in the production of pipes with steels up to X70 strength level.

Classifications	EN ISO 14174 : S A AB 1 67 AC H5
Diffusible Hydrogen	max 5 ml /100g weld metal (Redried flux)
Slag Type	Aluminate-basic
Alloy Transfer	Slightly Silicon and moderately Manganese alloying
Density	nom 1.2 kg/dm ³
Basicity Index	nom 1.5
Grain Size	0.2-1.6 mm (10x65 mesh)

Flux Consumption

Volts	kg Flux / kg Wire DC+	kg Flux / kg Wire AC
26 V	0.7 kg	0.6 kg
30 V	1.0 kg	0.9 kg
34 V	1.3 kg	1.2 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	AWS - As Welded	AWS - PWHT
OK Autrod 12.22L India	A5.17:EM12K/ 14171-B:SU21	A5.17: F7A4-EM12K	A5.17: F6P5-EM12K
OK Autrod 12.40L India	A5.17:EH14	A5.17: F7A4-EH14	A5.17: F7P5-EH14

Approvals

Combined with Wire	ABS	LR
OK Autrod 12.08L	•	-
OK Autrod 12.08L 2	•	-
OK Autrod 12.22L	-	•
OK Autrod 12.40L 1	-	•
OK Autrod 12.40L 2	-	•
OK Autrod 12.40L 3	-	•
OK Autrod 12.40L 4	-	•

Typical Mechanical Properties

Combined with Wire	Condition	Yield Strength	Tensile Strength	Elongation	Charpy V-Notch
ESAB SA10K	As Welded AWS DC+	490 MPa	580 MPa	26 %	70 J @ -18°C 45 J @ -29°C 30 J @ -40°C
ESAB SA10K	Stress Relieved AWS DC+	430 MPa	530 MPa	32 %	120 J @ -18°C 100 J @ -29°C 75 J @ -40°C 40 J @ -51°C
OK Autrod 12.08L	As Welded AWS DC+	390 MPa	450 MPa	25 %	100 J @ -18°C 70 J @ -29°C
OK Autrod 12.22L	As Welded AWS DC+	450 MPa	540 MPa	29 %	60 J @ -18°C 45 J @ -29°C 30 J @ -40°C
OK Autrod 12.22L	Stress Relieved AWS DC+	390 MPa	490 MPa	32 %	90 J @ -18°C 65 J @ -29°C 40 J @ -40°C 30 J @ -46°C
OK Autrod 12.24L	As Welded AWS DC+	550 MPa	610 MPa	23 %	90 J @ 0°C 65 J @ -18°C 40 J @ -29°C

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Typical Mechanical Properties

Combined with Wire	Condition	Yield Strength	Tensile Strength	Elongation	Charpy V-Notch
OK Autrod 12.24L	Stress Relieved AWS DC+	480 MPa	560 MPa	26 %	80 J @ 0°C 50 J @ -18°C
OK Autrod 12.33L	As Welded AWS DC+	630 MPa	700 MPa	25 %	65 J @ 0°C 35 J @ -18°C
OK Autrod 12.33L	Stress Relieved AWS DC+	550 MPa	650 MPa	30 %	70 J @ 0°C 40 J @ -18°C
OK Autrod 12.40L	As Welded AWS DC+	490 MPa	580 MPa	27 %	75 J @ -18°C 60 J @ -29°C 40 J @ -40°C
OK Autrod 12.40L	Stress Relieved AWS DC+	440 MPa	530 MPa	29 %	100 J @ -18°C 80 J @ -29°C 55 J @ -40°C 45 J @ -46°C

Typical Weld Metal Analysis %

C	Mn	Si	Mo
ESAB SA10K DC+ 550A, 29V			
0.07	1.75	0.50	-
OK Autrod 12.08L DC+ 550A, 29V			
0.06	0.90	0.20	-
OK Autrod 12.22L DC+ 550A, 29V			
0.08	1.35	0.40	-
OK Autrod 12.24L DC+ 550A, 29V			
0.08	1.35	0.40	0.45
OK Autrod 12.33L DC+ 550A, 29V			
0.06	1.95	0.75	0.40
OK Autrod 12.40L DC+ 550A, 29V			
0.07	1.95	0.40	-