

MILD STEEL
SUBARC (SAW)

Agglomerated, aluminate-rutile, low basicity flux for Submerged Arc Welding. Perfect wetting in butt-, overlap- and fillet welds. High welding speeds. For air compressor tanks, LPG bottles, general construction, automotive, etc. Suitable for single and multi wire procedures, for DC and AC. Intended for a limited number of passes and plate thicknesses up to about 25 mm.

Specifications

Classifications	EN ISO 14174 : S A AR 1 95 AC
Slag Type	Aluminate-rutile
Alloy Transfer	Very high Silicon alloying, neutral on Manganese
Density	nom: 1.2 kg/dm ³
Basicity Index	nom: 0.4
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	1.2 kg	1.0 kg
30 V	0.9 kg	0.7 kg
26 V	0.6 kg	0.5 kg
38 V	1.5 kg	1.3 kg

Conditions : 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 12.10	A5.17:EL12/ 14171-A:S1	14171-A: S 35 A AR S1	A5.17: F6AZ-EL12	A5.17: F6PZ-EL12
OK Autrod 12.20	A5.17:EM12/ 14171-A:S2	14171-A: S 42 A AR S2	A5.17: F7AZ-EM12	A5.17: F6PZ-EM12
OK Autrod 12.22	A5.17:EM12K/ 14171-A:S2Si	14171-A: S 42 A AR S2Si	A5.17: F7AZ-EM12K	A5.17: F6PZ-EM12K

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
OK Autrod 12.10 DC+, 580A, 29V		
0.05	0.6	0.8
OK Autrod 12.10 AC, 580A, 29V		
0.06	0.5	0.7
OK Autrod 12.20 AC, 580A, 29V		
0.06	0.9	0.7
OK Autrod 12.20 DC+, 580A, 29V		
0.05	1.0	0.8
OK Autrod 12.22 AC, 580A, 29V		
0.06	0.9	0.8
OK Autrod 12.22 DC+, 580A, 29V		
0.05	1.0	0.9

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Typical Mechanical Properties

Wire	Condition	Yield Strength	Tensile Strength	Elongation	Charpy V-Notch
OK Autrod 12.10	As Welded AWS DC+	370 MPa	470 MPa	25 %	50 J @ 20 °C 25 J @ 0 °C
OK Autrod 12.10	As Welded EN AC	390 MPa	460 MPa	25 %	70 J @ 20 °C 45 J @ 0 °C
OK Autrod 12.20	As Welded EN AC	450 MPa	520 MPa	25 %	80 J @ 20 °C 45 J @ 0 °C
OK Autrod 12.20	As Welded AWS DC+	410 MPa	500 MPa	25 %	50 J @ 20 °C 25 J @ 0 °C
OK Autrod 12.22	As Welded EN AC	450 MPa	520 MPa	25 %	90 J @ 20 °C 50 J @ 0 °C 90 J @ 20 °C 50 J @ 0 °C
OK Autrod 12.22	As Welded AWS DC+	420 MPa	510 MPa	25 %	50 J @ 20 °C 25 J @ 0 °C