

OK AristoRod 12.50

The non copper coated OK AristoRod 12.50 is a manganese-silicon alloyed solid wire for GMAW of unalloyed steels, such as general structural, pressure vessel, ship building and for fine-grained carbon-manganese steels for the same purpose with a minimum yield strength of max 420 MPa. The electrode can be welded with either a gas mixture or with pure CO₂ as the shielding gas. The AristoRod wires are suitable for operating at high currents with maintained disturbance free wire feeding giving a stable arc with a low amount of spatter. OK AristoRod 12.50 delivered in the unique Esab Octagonal Marathon Pac is excellent in mechanised welding applications.

Specifications	
Classifications	EN ISO 14341-A : G 38 3 C1 3Si1 EN ISO 14341-A : G 42 4 M20 3Si1 EN ISO 14341-A : G 42 4 M21 3Si1 EN ISO 14341-A : G 3Si1 SFA/AWS A5.18 : ER70S-6 CSA W48 : B-G 49A 3 C1 S6 JIS Z 3312 : YGW 12 (C1)
Approvals	ABS : 3Y SA BV : SA3YM CE : EN 13479 CWB : B-G 49A 3 C1 S6 DB : 42.039.29 DNV-GL : III YMS LR : 3YS H15 PRS : 3YS (C1, M21) UKCA : EN 13479 VdTÜV : 10052 CWB : B-G 49A 3 C1 S6 JIS : YGW12 (C1) RINA : 3Y S

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

Alloy Type	Carbon-manganese steel (Mn/Si-alloyed)
Shielding Gas	M20, M21, C1 (EN ISO 14175)

Tensile Properties			
Testing Condition	Yield Strength	Tensile Strength	Elongation
AWS C1			
As Welded	430 MPa (62 ksi)	530 MPa (77 ksi)	30 %
EN C1			
As Welded	440 MPa (64 ksi)	540 MPa (78 ksi)	25 %
EN M21			
As Welded	470 MPa (68 ksi)	560 MPa (81 ksi)	26 %
Stress Relieved 15 hour(s) 620 °C (1148 °F)	370 MPa (54 ksi)	495 MPa (72 ksi)	28 %

Charpy Testing		
Testing Condition	Testing Temp	Impact Value
AWS C1		
As Welded	-30 °C (-22 °F)	75 J (56 ft-lb)
EN C1		
As Welded	-30 °C (-22 °F)	75 J (56 ft-lb)
As Welded	20 °C (68 °F)	110 J (81 ft-lb)
EN M21		
As Welded	-30 °C (-22 °F)	100 J (74 ft-lb)
As Welded	-20 °C (-4 °F)	120 J (89 ft-lb)

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Charpy Testing

Testing Condition	Testing Temp	Impact Value
Stress Relieved	-20 °C (-4 °F)	90 J (67 ft-lb)
As Welded	-50 °C (-58 °F)	70 J (52 ft-lb)
As Welded	-40 °C (-40 °F)	90 J (67 ft-lb)
As Welded	20 °C (68 °F)	130 J (96 ft-lb)
Stress Relieved	20 °C (68 °F)	120 J (89 ft-lb)

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Cu	Ti+Zr
C1						
-	-	-	-	-	-	<0,01
M21						
-	-	-	-	-	-	<0,01
0.08	0.94	0.63	0.012	0.013	0,07	-

Typical Wire Composition %

C	Mn	Si
0.08	1.46	0.85

Deposition Data

Diameter	Amps	Volts	Wire Feed Speed	Deposition Rate
0.8 mm (0.030 in.)	60-200 A	18-24 V	3.2-10.0 m/min (126-394 in./min)	0.8-2.3 kg/h (1.8-5.1 lbs/h)
0.9 mm (0.035 in.)	70-250 A	18-26 V	3.0-12.0 m/min (118-472 in./min)	0.9-3.5 kg/h (2.0-7.7 lbs/h)
1.0 mm (0.040 in.)	80-300 A	18-32 V	2.7-15.0 m/min (106-591 in./min)	1.0-5.5 kg/h (2.2-12. lbs/h)
1.14 mm (0.045 in.)	100-350 A	18-34 V	2.6-15.0 m/min (102-591 in./min)	1.2-7.0 kg/h (2.6-15. lbs/h)
1.2 mm (0.047 in.)	120-380 A	18-35 V	2.5-15.0 m/min (98-591 in./min)	1.3-8.0 kg/h (2.9-17. lbs/h)
1.32 mm (0.052 in.)	130-400 A	19-35 V	2.4-15.0 m/min (94-591 in./min)	1.5-8.5 kg/h (3.3-18. lbs/h)
1.4 mm (0.055 in.)	150-420 A	22-36 V	2.3-12.0 m/min (91-472 in./min)	1.6-8.7 kg/h (3.5-19. lbs/h)
1.6 mm (1/16 in.)	225-550 A	28-38 V	2.3-10.0 m/min (91-394 in./min)	2.1-9.4 kg/h (4.6-20. lbs/h)
2.0 mm (5/64 in.)	300-650 A	32-44 V	3.0-7.0 m/min (118-276 in./min)	4.4-10.2 kg/h (9.7-22.5 lbs/h)