OK Autrod 12.64

OK Autrod 12.64 is a copper-coated, Mn-Si-alloyed G4Si1/ER70S-6 solid wire for the GMAW of non-alloyed steels, as used in general construction, automotive components, pressure vessel fabrication and shipbuilding. It has a slightly higher manganese and silicon content than OK Autrod 12.50 to increase the weld metal strength. This also promotes low sensitivity to surface impurities and contributes to smooth, sound welds. The wire can be used with both Ar/CO2 mixed gas and pure CO2 shielding gas

Classifications Weld Metal:	EN ISO 636-A:W 46 3 W4Si1, EN ISO 14341-A:G 42 3 C1 4Si1, EN ISO 14341-A:G 46 4 M21 4Si1
Classifications Wire Electrode:	EN ISO 636-A:W4Si1, EN ISO 14341-A:G 4Si1, SFA/AWS A5.18:ER70S-6
Approvals:	ABS 3YSA, BV SA3YM, CE EN 13479, CWB B-G 49A 3 C G6 (ER49S-6), DB 42.039.11, DNV-GL III YMS, LR 3YS H15 (C1 & M21), NAKS/HAKC 1.2-1.6 mm, RS 3YMS, VdTÜV 04294

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

Alloy Type:	Carbon-manganese steel (Mn/Si-alloyed)

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
AWS CO2 (C1)			
As welded	450 MPa	550 MPa	30 %
EN 80Ar/20CO2 (M21)			
As welded	490 MPa	590 MPa	29 %
EN 80Ar/20CO2 (M21)			
Stress relieved 15 hr 620 °C	385 MPa	520 MPa	
EN CO2 (C1)			
As welded	460 MPa	570 MPa	28 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
AWS CO2 (C1)		
As welded	-30 °C	100 J
EN 80Ar/20CO2 (M21)		
As welded	-20 °C	120 J
As welded	-30 °C	100 J
As welded	-40 °C	90 J
As welded	-50 °C	80 J
EN 80Ar/20CO2 (M21)		
Stress relieved 15 hr 620 °C	20 °C	120 J
Stress relieved 15 hr 620 °C	-20 °C	90 J
EN CO2 (C1)		
As welded	20 °C	110 J

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Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
As welded	-30 °C	75 J

Typical Wire Composition %

C	Mn	Si
0.074	1.68	0.95

Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate
0.8 mm	60-185 A	18-24 V	3,2-10 m/min	0,8-2,5 kg/h
0.9 mm	70-250 A	18-26 V	3-12 m/min	0,8-3,3 kg/h
1.0 mm	80-300 A	18-32 V	2,7-15 m/min	1-5,5 kg/h
1.2 mm	120-380 A	18-35 V	2,3-15 m/min	1,2-8 kg/h
1.4 mm	150-420 A	22-36 V	2,5-12 m/min	1,7-8,5 kg/h
1.6 mm	225-550 A	28-38 V	2,3-12 m/min	2,1-11,4 kg/h
2.0 mm	300-650 A	32-44 V	4-15 m/min	3,2-12,5 kg/h

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