

OK Autrod 12.56

A copper coated, G3Si1 solid wire for GMAW of all general structural and engineering unalloyed and low-alloyed carbon-manganese steels. Compared with OK Autrod 12.51, OK Autrod 12.56 has a slightly wider chemical analysis. The electrode may be welded with either a gas mixture or with pure CO₂ as the shielding gas.

Specifications

Classifications	EN ISO 14341-A : G 38 2 C1 3Si1 EN ISO 14341-A : G 42 3 M21 3Si1 EN ISO 14341-A : G 3Si1
Approvals	CE : EN 13479 DB : 42.039.01 UKCA : EN 13479 VdTÜV : 05682

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)

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation
EN 80Ar/20CO₂ (M21)			
As Welded	450 MPa	530 MPa	26 %
EN CO₂ (C1)			
As Welded	430 MPa	520 MPa	25 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
EN 80Ar/20CO₂ (M21)		
As Welded	-20 °C	90 J
As Welded	20 °C	130 J
As Welded	-30 °C	70 J
EN CO₂ (C1)		
As Welded	-20 °C	70 J
As Welded	20 °C	110 J

Typical Wire Composition %

C	Mn	Si
0.078	1.46	0.85

Typical Weld Metal Analysis %

C	Mn	Si	S	P
0.06	1.06	0.72	0.012	0.013

Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Deposition Rate
0.8 mm	60-200 A	18-24 V	3.2-13.0 m/min	0.8-3.0 kg/h
1.0 mm	80-250 A	18-30 V	2.7-15.0 m/min	1.0-5.6 kg/h
1.2 mm	120-300 A	18-34 V	2.3-15.0 m/min	1.3-8.0 kg/h
1.6 mm	225-550 A	28-38 V	2.3-12.0 m/min	2.1-11.4 kg/h