



OK Autrod 12.51

Premium quality copper-coated wire

OK Autrod 12.51 is ESAB's premium quality copper-coated MAG welding wire. A carefully controlled wire surface condition and cleanliness, in combination with a continuous copper-layer with optimum thickness, results in reduced contamination of the feeding system with copper flakes, compared with low cost MAG wires. It guarantees longer periods of low force feeding, arc stability and low spatter between cleaning and maintenance intervals and provides an excellent weld quality. The chemistry of the wire is carefully controlled for consistently high mechanical properties of the weld.

Typical applications are found in general steel construction, the automotive and transportation industries, white goods and furniture manufacture, and pipeline welding. Within these industries, it is successfully applied for manual, mechanized and robotic welding, enabled by the excellent wire quality.

It is suited for producing (multi-layer) fillet and butt welds in all welding positions and can be welded with Ar/CO₂ mixed shielding gas or with pure CO₂ gas.

The wire is always layer-wound on copper-coated BS300 or K300 wire baskets to ensure wire pay-off without entanglement. Spools are sealed in plastic with moisture absorbing paper included, for a long shelf life without the formation of rust. The wire baskets can be easily recycled together with waste steel, avoiding more complex disposal, such as with plastic spools.

Like all premium quality welding wires from ESAB, OK Autrod 12.51 is available in the Marathon Pac™ system containing 250 to 500 kg of wire. The combination of long intervals of problem-free welding and minimal downtime for spool exchange, results in optimum welding efficiency and cost-efficient production. OK Autrod 12.51 is also available in the Endless Marathon Pac system, where drums are connected during welding, to form a continuous supply of welding wire.

The Safety Data Sheet can be found on our homepage, www.esab.com in multiple languages.



Classification Wire

EN
EN ISO 14341-A G3Si1

Classification Weld Metal

EN
EN ISO 14341-A: G 38 3 C1 3Si1
EN ISO 14341-A: G 42 4 M21 3Si1

Approvals (extract)

Society	
CE	EN 13479
DB	42.039.06
VdTUV	00899

Contact your ESAB representative for a complete list of approvals.

Chemical composition

Wire (%)	Min	Max
C	0.06	0.14
Si	0.80	1.00
Mn	1.40	1.60
P		0.025
S		0.025

Packaging

Existing	Product	Spooltype	EAN code
1251084600	OK Autrod 12.51 0.8mm 5kg	S 200	7330129087471
1251086700	OK Autrod 12.51 0.8mm 15kg	BS 300	7330129147472
1251087700	OK Autrod 12.51 0.8mm 15kg	B 300	7330129087501
1251096710	OK Autrod 12.51 0.9mm 18kg	BS 300	7330129147533
1251104600	OK Autrod 12.51 1.0mm 5kg	S 200	7330129087570
1251106710	OK Autrod 12.51 1.0mm 18kg	BS 300	7330129147649
1251107700	OK Autrod 12.51 1.0mm 15kg	B 300	7330129087600
1251107710	OK Autrod 12.51 1.0mm 18kg	B 300	7330129087617
1251126710	OK Autrod 12.51 1.2mm 18kg	BS 300	7330129147755
1251127700	OK Autrod 12.51 1.2mm 15kg	B 300	7330129087662
1251127710	OK Autrod 12.51 1.2mm 18kg	B 300	7330129087679
1251166710	OK Autrod 12.51 1.6mm 18kg	BS 300	7330129147946
1251167710	OK Autrod 12.51 1.6mm 18kg	B 300	7330129087723

Mechanical Properties of weld metal

All weld metal	ReL Min (MPa)	ReL (MPa)	ReH (MPa)	R _m (MPa)	UTS/RM (MPa) Max	A ₄ -A ₅ (%)	Z (%)	CVN 20°C (J)	-20°C (J)	-30°C (J)	-40°C (J)
As welded EN 80Ar/20CO ₂ (M21)	420	470	480	560	640	26	68	130	130	90	90 Min. 47
(M21)+Stress relieved 620°C 15h		370	380	495		28	73	120	90		
As welded EN CO ₂ (C1)	380	440	450	540	600	25	70	110	105	80 Min. 47	

Welding Current and economy data

Ø (mm)	Current A	W	η	H	Feed	U
		Nom	Nom			
0.8	60 - 200	14	95	0.8 - 3.0	3.2 - 13	18 - 24
1.0	80 - 300	16	96	1.0 - 5.6	2.7 - 15	18 - 32
1.2	120 - 380	18	97	1.3 - 8.0	2.5 - 15	18 - 34
1.6	225 - 550	20	98	2.1 - 11.4	2.3 - 12	28 - 38

W = Gas consumption (l / min)

η = Recovery, g weld metal / 100g wire (%)

H = Deposit rate (kg weld metal / hour arc time)

Feed = Feeding rate (m/min)

U = Arc voltage (V)



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COMPANY WITH
MANAGEMENT SYSTEM
CERTIFIED BY DNV
= ISO 9001 =
= ISO 14001 =
= OHSAS 18001 =