Product Data Sheet

G 'Gas-shielded metal-arc welding'

OK AristoRod 12.50

Prepared by	Qualified by	Approved by	Reg no	Cancelling	Reg date	Page
Magnus Johansson	P-O Oskarsson	Helene Rasmuson	EN008489	EN008430	2019-03-04	1 (2)

REASON FOR ISSUE

Mechanical data updated.

GENERAL

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.

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

CLASSIFICATIONS Weld Metal

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

CLASSIFICATIONS Wire Electrode

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
DB	42.039.29
DNV-GL	III YMS
LR	3YS H15
PRS	3YS
RS	3YMS
VdTÜV	10052

APPROVALS (SPECIFIC)

CWB	B-G 49A 3 C1 S6	PV,ZG
JIS	YGW12 (C1)	ZG
NAKS/HAKC	1.0-1.6 mm	PV
NAKS/HAKC	1.2-1.6 mm	ZG
RINA	3Y S	PV
RINA	3Y S	ZG
RINA	3Y S	PV

APPROVAL COMMENT

APPROVALS are valid for lot numbers with prefix PV, ZG and UF. APPROVALS (SPECIFIC) are valid for lot numbers with prefix in the right column.

CHEMICAL COMPOSITION

	All Weld Metal (%)		Wire/Strip (%)	
	CO2 (C1)	80Ar/20CO2 (M21)		
	Nom	**Nom**	**Min**	**Max**
C	0.08	0.10	0.06	0.14
Si	0.63	0.72	0.80	1.00
Mn	0.94	1.11	1.40	1.60
P	0.013	0.013		0.025
S	0.012	0.012		0.025
Cu	0,07	0.07		0.15
Ti+Zr	<0,01	<0,01		0.10

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MECHANICAL PROPERTIES OF WELD METAL

All Weld Metal

	AWS CO2 (C1) As welded		EN 80Ar/20CO2 (M21) As welded			EN 80Ar/20CO2 (M21) Stress relieved 620°C 15h	EN CO2 (C1) As welded		
Properties	**Min**	**Typ**	**Min**	**Max**	**Typ**	**Typ**	**Min**	**Max**	**Typ**
Rp0.2 (MPa)	400	430							
ReL (MPa)			420		470	370	400		440
Rm (MPa)	480	530	510	640	560	495	510	600	540
A4 (%)	22	30							
A5 (%)			22		26	28	22		25
Charpy V at 20°C (J)					130	120			110
Charpy V at -20°C (J)					120	90			
Charpy V at -30°C (J)	27	75			100		47		75
Charpy V at -40°C (J)			47		90				
Charpy V at -50°C (J)					70				

ECONOMICS & CURRENT DATA

Dimension (mm)	Current (A)		W	η	H		Feed		U	
Ø	Min	Max	Nom	Nom	Min	Max	Min	Max	Min	Max
0.8	60	200	14	95	0.8	2.3	3.2	10	18	24
0.9	70	250	15	96	0.9	3.5	3.0	12	18	26
1.0	80	300	16	96	1.0	5.5	2.7	15	18	32
1.14	100	350	17	96	1.2	7.0	2.6	15	18	34
1.2	120	380	18	97	1.3	8.0	2.5	15	18	35
1.32	130	400	18	97	1.5	8.5	2.4	15	19	35
1.4	150	420	19	97	1.6	8.7	2.3	12	22	36
1.6	225	550	20	98	2.1	9.4	2.3	10	28	38
2.0	300	650	22	98	4.4	10.2	3.0	7	32	44

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)