Product Data Sheet

G 'Gas-shielded metal-arc welding'

OK AristoRod 13.12

Prepared by	Qualified by	Approved by	Reg no	Cancelling	Reg date	Page
Mats Linde	Tero Tolonen	Per-Erik Andersson	EN006085	EN004703	2013-05-22	1 (2)

REASON FOR ISSUE

Classification update.

GENERAL

The non copper coated OK AristoRod 13.12 is a low-alloyed, chromium-molybdenum (1,1% Cr, 0,5% Mo), solid wire for GMAW of creep resistant steels of similar composition. Suitable for service temperatures up to 450 °C.

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 13.12 delivered in the unique Esab Octagonal Marathon Pac is excellent in mechanised welding applications.

Alloy Type: Low Alloyed (1 % Cr, 0.5 % Mo)

CLASSIFICATIONS Wire Electrode

EN ISO 21952-A	G CrMo1Si
EN ISO 21952-B	G 55M 1CM3
SFA/AWS A5.28	ER80S-G
GOST 2246	08X CM A

APPROVALS

NAKS/HAKC	
VdTÜV	10089

CHEMICAL COMPOSITION

	All Weld Metal (%)		Wire/Strip (%)	
	80Ar/20CO2	CO2		
	Nom	**Nom**	**Min**	**Max**
C	0.1	0.09	0.08	0.12
Si	0.7	0.6	0.50	0.70
Mn	1.0	1.0	0.80	1.20
P	0.010	0.010		0.020
S	0.015	0.015		0.020
Cr	1.1	1.1	1.00	1.30
Mo	0.5	0.5	0.40	0.60
Cu				0.15

MECHANICAL PROPERTIES OF WELD METAL

	All Weld Metal						
	EN 80Ar/20CO2 (M21) Q.T. 940+730°C 15h	EN 80Ar/20CO2 (M21) Q.T.+ 940+730°C 15h	EN 80Ar/20CO2 (M21) As welded+	EN 80Ar/20CO2 (M21) As welded	EN 80Ar/20CO2 (M21) Stress relieved++ 700°C 0.5h	EN 80Ar/20CO2 (M21) Stress relieved 700°C 0.5h	
Properties	**Typ**	**Typ**	**Typ**	**Typ**	**Typ**	**Min**	**Typ**
Rp0.2 (MPa)	320	210	605	670	390	355	450
Rm (MPa)	460	410	760	785	500	510	580
A4-A5 (%)	35	25	15	18	17	20	24
Z (%)	72	65	50	58	60		70
at 20°C (J)	115			40		47	80
at 0°C (J)	60			30			40
at -20°C (J)	30			25			30
	Comments: Tested at 20°C	Comments: Tested at 450°C	Comments: Tested at 450°C	Comments: Tested at 20°C	Comments: Tested at 450°C	Comments: Tested at 20°C	

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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	80	280	15		1	5,4	2,7	14,7	18	28
1.0	80	280	15		1	5,4	2,7	14,7	18	28
1.2	120	350	18		1,5	6,6	2,7	12,4	20	33
1.6	225	480	20		3,3	11,6	3,1	12	26	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)

OTHER DATA

Hardness:

PWHT: (Q.T. Temp: 940+730°C, Time: 15h):..... HB = 140 Brinell
PWHT: (As welded):..... HB = 270 Brinell
PWHT: (Stress relieved, Temp: 700°C, Time: 15h):.... HB = 185 Brinell
PWHT: (Stress relieved, Temp: 700°C, Time: 0.5h):... HB = 190 Brinell

Typical welding properties:
Interpass temp. 220-250°C, 80Ar/20CO2, Horizontal.