



Product Data Sheet

OK 78.16

E 'Manual metal-arc welding'
ESAB Perstorp AB Sweden

Prepared by P-O Oskarsson	Qualified by Tero Borg	Approved by J-P Ernoult	Reg no EN007070	Cancelling EN006477	Reg date 2016-02-16	Page 1 (2)
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REASON FOR ISSUE

Typical mechanical values added.

GENERAL

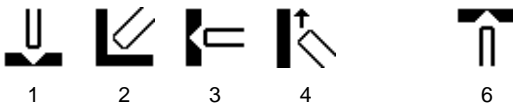
A basic DC electrode for welding high strength QT-steels.

Polarity: DC+

Alloy Type: Cr 1.0 Mo 0.2 C 0.25

Coating Type: Lime Basic

WELDING POSITIONS



CLASSIFICATIONS Electrode

SFA/AWS A5.5 E9018-G
EN ISO 18275-A E 69 A Z B 42

APPROVALS

CE EN 13479

APPROVALS (SPECIFIC)

Seproz UNA 272581

CHEMICAL COMPOSITION

All Weld Metal (%)

	Min	Max
C	0.12	0.24
Si	0.2	0.6
Mn	0.5	1.1
P		0.020
S		0.020
Cr	0.8	1.2
Mo	0.15	0.25

MECHANICAL PROPERTIES OF WELD METAL

Properties	ISO			AWS
	Min	Max	Typ	As welded Min
As welded				
Rp0.2 (MPa)	690		800	530
Rm (MPa)	760	960	900	620
A4 (%)				17
A5 (%)	17		17	
Charpy V at 20°C (J)	47		80	



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ECONOMICS & CURRENT DATA

Dimension (mm) Ø x Length	Current (A)		W	η	N	B	H	T	U	Welding Positions
	Min	Max								
2.5 x 350	75	100	2.2	120	0.64	70.0	0.90	58	20	1,2,3,4,6
3.2 x 450	105	140	4.7	120	0.64	32.5	1.40	78	21	1,2,3,4,6
4.0 x 450	145	195	6.7	115	0.66	22.5	1.90	83	22	1,2,3,4,6
5.0 x 450	190	260	9.7	110	0.68	15.0	2.80	86	23	1,2,3,4

- W** = Weight (kg / 100 electrodes)
η = Efficiency (g weld metal x 100 / g core wire)
N = Effective value (kg weld metal / kg electrodes)
B = Changes (number of electrodes / kg weld metal)
H = Deposit rate at 90% of max current (kg weld metal / hour arc time)
T = Fusion time at 90% of max current (s / electrode)
U = Arc voltage (V)

OTHER DATA

Welding and heat treatment conditions: All-weld specimens, interpass temperature 200-300 °C.

Stress relieving 1h at 620 °C, cooling in oven down to 200 °C, then in air:

Rp0.2= 740 N/mm², A5= 19 %, Z= 63 %

Normalizing 15' at 860 °C, cooling in air, tempering 1h at 550 °C, cooling in oil (50-60 °C):

Rp0.2= 660 N/mm², Rm= 770 N/mm², A5= 21 %, Z= 63 %

Hardening in oil (50-60 °C) from 860 °C/30', tempering 20' at 550 °C, aircooled:

Typical: Rp0.2= 660 N/mm², Rm= 770 N/mm², A5= 19 %, Z= 64 %

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Welds in 1 Cr, 0.2 Mo QT-steel

Normalizing 15' at 860 °C, cooling in air, tempering at 550 °C, cooling in oil (50-60 °C):

Rm= 850 N/mm²

Hardening in oil (50-60 °C) from 860 °C/30', tempering 20' at 550 °C, aircooled:

Rm= 1100 N/mm²

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Soft annealing at 720-730 °C