



Elgomatic 181CR

GMAW - MIG MAG

Low-alloyed

Date: 2008-03-19

Revision: 11

Description:

Elgomatic 181CR is a copper coated wire for use with the MIG/MAG process, which deposits a 0.5% Mo type weld metal. It is primarily intended for welding similar composition steels, used where creep rupture strength and ductility at service temperatures up to 550°C are required, e.g. DIN 15 Mo3, BS 3059 Grade 243 and ASTM A335 Grade P1. The Mo content confers some resistance to hydrogen attack in chemical process plant applications. Elgomatic 181CR is also suitable for ordinary C-Mn steels when higher tensile strength weld metal is required. Preheat and interpass temperature of 100-150°C is recommended. Stress relieve at 620°C.

Welding current:

DC+

Wire composition, wt.%

	C	Si	Mn	P	S	Mo
Min	0,08	0,50	0,90			0,40
Typical	0,10	0,60	1,10	0,015	0,01	0,50
Max	0,12	0,80	1,30	0,02	0,02	0,60

Shielding gas:

C1, 100% CO₂, 7-12 l/min.

M21, 80% Ar + 20% CO₂, 7-12 l/min.

Chemical composition, wt.%

	C	Si	Mn	Mo
Min				
Typical	0.10	0.60	1.10	0.50
Max				

Mechanical properties

	<u>Specified</u>	<u>Typical</u>
Yield strength, Re:	≥ 355 MPa	510 MPa
Tensile Strength, Rm:	≥ 510 MPa	620 MPa
Elongation, A5	≥ 22%	25%
Impact energy, CV:	20°C • >47 J	-20°C • 65 J 20°C • 100 J

Classification:

EN 440	G2Mo
EN ISO 21952	MoSi
AWS A5.28	ER70S-A1

Approvals:

DB	Kennblatt Nr 42.042.04
TÜV	
CE	

Note

The values are based on M21.

Product data:

Diam.mm	Product code	Dip Current A	Dip Voltage V	Spray Current A	Spray Voltage V
0,8	9710-2008	50-90	16-18	120-160	22-26
1,0	9710-2010	80-150	18-22	180-230	24-30
1,2	9710-2012	110-180	18-22	240-300	26-33