

CARBO 4009 MPR

International standards	Material No.	1.4009
	EN ISO 3581-A	E 13 R 52
	AWS A 5.4	E410-17

Approvals ---

Characteristics and typical applications

CARBO 4009 MPR is a rutile coated electrode with a recovery of 160% for plating and joining equal and similar ferritic Cr-steels and cast steels. Proper weldings are subject to the recommended heat treatment. The electrode is specially suitable for sealing surfaces on water-, steam- and gas-valves. The deposit is scale resistant up to 800°C and can be tempered.

Operating temperature Room temperature up to 450° C

Base materials	1.4000 X6Cr13	1.4006 X12Cr13	1.4024 X15Cr13
	1.4001 X7Cr14	1.4008 GX8CrNi13	1.4027 GX20Cr14
	1.4002 X6CrAl13	1.4021 X20Cr13	1.4107 GX8CrNi12

Recommendations for fabrication

Since ferritic steels tend to embrittlement caused by coarse grain development the heat input should be as low as possible. For hardfacing on low alloyed base materials a preheating of 150°C-350°C subject to the thickness (on materials with higher strength 350°C) should be done. Post weld treatment is not necessary but quench hardening to the desired hardness may be applied.

Mechanical properties of all-weld metal (typical values)

Tensile strength R _m N/mm ²	Yield strength R _{p0,2} N/mm ²	Elongation A ₅ %	Hardness HB
680	420	15	ca. 390

Weld metal analysis % (typical)

C	Si	Mn	Cr
0,05	0,7	0,6	13

Current = + / ~ , 50 V

Welding positions PA, PB,

Rebaking 1 h, 350° C + / - 10° C (if necessary)

Dia./Length	Amperage (A)	Pcs./packet	Pcs./carton	kg/1000	kg/packet	kg/carton
2,5 x 350	70 - 90	178	712	28,1	5,0	20,0
3,2 x 350	80 - 130	105	421	47,5	5,0	20,0
4,0 x 450	110 - 160	65	259	92,6	6,0	24,0
5,0 x 450	160 - 220	41	166	144,7	6,0	24,0

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