

# CARBO 4120 MPR

<b>International Standards</b>	Material No.	1.4120
	EN ISO 3581-A	EZ 13 1 R 52
	DIN 8555	E6-UM-200-PR

**Approvals** ---

**Characteristics and typical applications**

CARBO 4120 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, especially for sulphuric gases. The deposit is resistant to seawater, thin acids and scale resistant in air an oxidizing gases up to 800°C . The deposits can be tempered.

**Operating temperature** Room temperature up to 500° C

**Base materials** 1.4021 X20Cr13 1.4120 GX20CrMo13

**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 <sub>m</sub> N/mm <sup>2</sup>	Yield strength R <sub>p0,2</sub> N/mm <sup>2</sup>	Elongation A <sub>5</sub> %	Hardness	
			HB 30	HB as welded
730	540	12	ca. 150	ca. 200

**Weld metal analysis (typical, wt %)**

C	Si	Mn	Cr	Mo	Ni
0,2	0,9	0,8	14	1,2	1

**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	60 - 90	178	712	28,1	5,0	20,0
3,2 x 350	80 - 120	105	421	47,5	5,0	20,0
4,0 x 450	120 - 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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