

CROMOBAZ

MMA Electrodes

Chromium-Molybdenum steels

CROMOBAZ is a basic coated 1,25Cr 1/2Mo electrode suitable for welding creep resistant steels like 13CrMo4-5, SA387 Gr11 Cl1 and Cl2, SA 182 F11, SA 335 Gr P112, and similar. Approved up to +570°C. Very low diffusible hydrogen (HD<4ml/100g).

Energy, Petrochemical, Refinery Industry for the fabrication of pressure vessels, boilers, pipe.

The CROMOBAZ offers excellent operability in all position welding except downhill. Stable arc with excellent bead shape and low. Efficiency 120%. Suitable for use with DC positive.



Classification	
EN ISO	3580-A: E CrMo1 B 42 H5
AWS	A5.5: E 8018-B2 H4

Approvals
TÜV
●

CE

Chemical analysis (Typical values in %)

	C	Mn	Si	P	S	Cr	Mo
All weld metal	0.065	0.9	0.45	≤ 0.015	≤ 0.010	1.30	0.50

All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (N/mm ²)	Tensile Strength (N/mm ²)	Elongation A5 (%)	Impact Energy ISO - V (J)
				-20 °C
690 °C x 1 h	≥ 460	550-690	≥ 20	≥ 60

Materials

13CrMo4-5, 13CrMoSi5-5; G17CrMo5-5

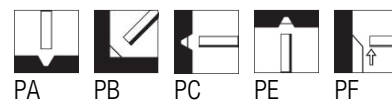
Storage

Keep dry and avoid condensation.

HD ≤ 5: Re-dry at 340-360 °C for 2 hours, 5 times max.

Current condition and welding position

DC+



Packaging data

Diam. (mm)	Length (mm)	Current (A)	Approx. weightn(kg/1000)	CBOX	
				PC	Code
2.5	350	60-90	22.5	176	●
3.2	450	110-135	47.5	115	●
4.0	450	140-190	67.8	81	●
5.0	450	200-240	100.0	55	●

MOLIBAZ

MMA Electrodes

Chromium-Molybdenum steels

MOLIBAZ is a basic coated ½%Mo electrode suitable for welding creep resistant steels like 16Mo3, SA 204, SA 182 F1, SA 336 F1 and similar. Approved up to +530°C. Very low diffusible hydrogen (HD<4ml/100g).

Suitable for the fabrication of pressure vessels, boilers, pipes in Power generation and Petrochemical, Refinery Industry

The MOLIBAZ offers excellent operability in all position welding except downhill. Stable arc with excellent bead shape and low spatter. Preheat min 90°C, Interpass max. 120°C. Efficiency about 120%. Suitable for use with DC positive.



Classification	
EN ISO	3580-A: E Mo B 42 H5
AWS	A5.5:E 7018-A1 H4

Approvals
TÜV
●

CE

Chemical analysis (Typical values in %)

	C	Mn	Si	P	S	Mo
All weld metal	≤0.06	0.8	0.4	≤0.020	≤0.015	0.55

All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (N/mm²)	Tensile Strength (N/mm²)	Elongation A5 (%)	Impact Energy ISO - V (J)
				-20 °C
As Welded	≥ 460	530-610	≥ 24	≥ 70
620 °C x 1 h	≥ 430	510-610	≥ 24	≥ 70

Materials

16Mo3, S(P)235-S(P)460

17Mo3, 14Mo6

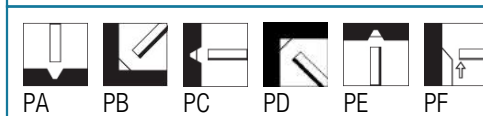
Storage

Keep dry and avoid condensation.

HD ≤ 5: Re-dry at 340-360 °C for 2 hours, 5 times max.

Current condition and welding position

DC+



Packaging data

Diam. (mm)	Length (mm)	Current (A)	Approx. weightn(kg/1000)	CBOX	
				PC	Code
2.5	350	60-90	22.5	176	●
3.2	450	110-135	46.8	117	●
4.0	450	140-190	67.2	82	●
5.0	450	200-240	104.0	53	●

SAF-FRO CD 55SC

MMA Electrodes

Chromium-Molybdenum steels

SAF-FRO CD55SC is a basic coated ½%Cr ½%Mo electrode suitable for welding creep resistant steels like SA 387 Gr2 Cl 1 and Cl2, A 335 P2. Excellent tensile strength at high temperature, crack resistant weld metal. Low diffusible hydrogen (HD<5ml/100g).

Suitable for the fabrication of pressure vessels, boilers, pipes in Power Generation and Oil & Gas industry.

The SAF-FRO CD55SC offers excellent operability in all position welding except downhill. Stable arc with excellent bead shape and low spatter. Preheat min 90°C, Interpass max 120°C. Suitable for use with both DC positive and AC.



Classification	
EN ISO	3580-A: E CrMo0,5 B 12 H5
AWS	A5.5: E 8018-B1 H4

CE

Chemical analysis (Typical values in %)

	C	Mn	Si	P	S	Cr	Mo
All weld metal	0.05	0.7	0.4	≤ 0.025	≤ 0.020	0.55	0.5

All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (N/mm ²)	Tensile Strength (N/mm ²)	Elongation	Impact Energy ISO - V (J)	
				0 °C	-20 °C
PWHT 650°C x 1 h	≥ 460	≥ 550	≥ 20	≥ 100	≥ 47

Materials

A387 gr. 2

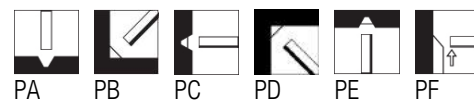
Storage

Keep dry and avoid condensation.

HD ≤ 5: Re-dry at 340-360°C for 2 hours, 5 times max.

Current condition and welding position

DC+



Packaging data

Diam. (mm)	Length (mm)	Current (A)	Approx. weightn(kg/1000)	CBOX	
				PC	Code
2.5	350	70-95	20.4	205	●
3.2	350	95-130	34.9	120	●
4.0	450	130-175	63.4	90	●
5.0	450	165-220	94.2	60	●

SAF-FRO CD 60™

MMA Electrodes

Chromium-Molybdenum steels



Basic coated MMA electrode depositing 1.25% Cr 0.5% Mo weld metal for the all-positional welding of creep resistant steels. SAF-FRO CD 60 is also recommended for welding 0.9%Cr 0.5%Mo steel. The chemical composition of the weld metal results in a high resistance to solidification cracking. Preheat and interpass temperatures 150-200°C are recommended. 120% recovery. X Factor < 15ppm and J Factor < 150ppm.

All-position electrode with basic coating for welding creep resisting steels alloyed with 1.25% Cr 0.5% Mo.

Classification

EN	1599: E CrMo1 B 32 H5
AWS	A5.5: E 8018-B2 H4R

Chemical analysis (Typical values in %)

	C	Mn	Si	P	S	Cr	Mo
All weld metal	0.08	0.75	0.25	≤ 0.01	≤ 0.01	1.25	0.5

All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (N/mm ²)	Tensile Strength (N/mm ²)	Elongation A5 (%)	Impact Energy ISO - V (J)
				-30 °C
690 °C x 4h	≥ 470	550 - 690	≥ 20	≥ 47

Materials

A335 Gr P11; 13CrMo4-5; 13CrMoSi5-5

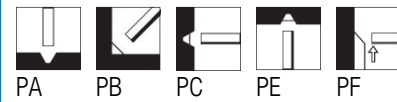
Storage

Keep dry and avoid condensation.

HD = 5: Re-dry at 340-360 °C for 2 hours, 5 times max.

Current condition and welding position

AC; DC+



Packaging data

Diam. (mm)	Length (mm)	Current (A)	Approx. weightn(kg/1000)	CBOX		VPMD	
				PC	Code	PC	Code
2.5	350	65-95	-	165	●	80	●
3.2	350	90-130	35.9	115	●	55	●
4.0	350	125-165	52.7	80	●	40	●
5.0	450	170-220	104.6	50	●	20	●

SAF-FRO CD 65SC™

MMA Electrodes

Chromium-Molybdenum steels



SAF-FRO CD 65SC is a basic coated MMA electrode for the all-positional welding of creep resisting steels alloyed with 2.25%Cr 1.0%Mo. The chemical composition of the weld metal ensures a low sensitivity to solidification cracking. Preheat and interpass temperatures 200-250°C are recommended. Efficiency 120%. X Factor < 15ppm and J Factor < 150ppm.

120% output electrode for welding 2.25% Cr 1.00% Mo steels. 200-250°C preheating and interpass heating are recommended.

Classification	
EN	1599: E CrMo2 B 3 2 H5
AWS	A5.5: E 9018-B3 H4R

Approvals
TÜV
●

CE

Chemical analysis (Typical values in %)

	C	Mn	Si	P	S	Cr	Mo
All weld metal	0.1	0.75	0.3	≤ 0.01	≤ 0.01	2.25	1

All-weld metal Mechanical Properties

Heat Treatment	Yield Strength (N/mm ²)	Tensile Strength (N/mm ²)	Elongation A5 (%)	Impact Energy ISO - V (J)
				-30 °C
690 °C x 17 h/air	≥ 400	550-650	≥ 22	≥ 100
690 °C x 17 h/air + STC	≥ 400	550-650	≥ 22	≥ 70
700 °C x 1h	≥ 530	630-720	≥ 18	≥ 47

Materials

10CrMo9-10, 12CrMo9-10; A 387 Gr.22, Cl 1and 2, A 182 Gr.F 22, A 336 Gr.F22

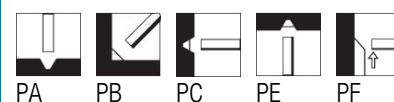
Storage

Keep dry and avoid condensation.

HD ≤ 5 ml/100g: Re-dry at 340-360 °C for 2 hours, 5 times max.

Current condition and welding position

AC; DC+



Packaging data

Diam. (mm)	Length (mm)	Current (A)	Approx. weightn(kg/1000)	CBOX		VPMD	
				PC	Code	PC	Code
2.5	300	65-95	19.7	165	●	80	●
3.2	350	90-130	37.5	115	●	55	●
4.0	350	125-165	53.0	80	●	40	●
5.0	450	170-220	109.7	50	●		