CARBO WELD
SCHWEISSMATERIALIEN GMBH

CARBOTRODE Mn-S

International standards

Material No.	2.1368
DIN 1733	EL-CuMn14Al
AWS A 5.6	ECuMnNiAl
DIN 8555	E 31-UM-200-CN

Typical applications and characteristics

CARBOTRODE Mn-S is a lime coated universal electrode to be used for joining, surfacing and building up brass, bronze, copper and normal steles. The deposits have high mechanical quality values, are resistant to corrosion, cavitation, erosion, friction and seawater proof. Due to good resistance against seawater and general corrosion the electrode is used mostly in the ship building and chemical industry, specially when corrosion and erosion act together. The low friction rate of this alloy make it suitable for surfacing on slide faces, bearings, dies, ship propellers, valves, pumps shafts, pipings, evaporators, Kaplan-turbine-blades, Francis-turbines, Pelion-wheels.

Welding instructions

Exempt weld zones from impurities like grease, oil or oxides. The seam flanks should shine metallic bright. An included angle of 90° should be welded on thick sheets. Weld preferably in horizontal position (PA) driving the electrode in vertical direction. Weld with a short arc, low heat input and at high speed.
Heavy work-pieces require preheating to ca. 200° C.

Operating temperature ---

Mechanical properties of all-weld metal

(typical values **)**

Tensile strength R_m N/mm²	Yield strength $R_{p0,2}$ N/mm²	Elongation A_5 %	Hardness HB
660	400	15	ca.220

Weld metal analysis (typical, wt. %)

Al	Mn	Ni	Fe	Cu
7	13,5	2,2	2,5	Bal.

Current = + **Welding positions** PA, PB, PF

Rebaking 1 h, 200 °C + / - 10 °C (if required)

Dia./Length	Amperage (A)	Pcs./packet	Pcs./carton	kg/1000	kg/packet	kg/carton
2,5 x 350	50 - 80	240	962	20,8	5,0	20,0
3,2 x 350	80 - 120	142	570	35,1	5,0	20,0
4,0 x 350	120 - 150	94	376	53,2	5,0	20,0
5,0 x 450	150 – 200	56	225	106,7	6,0	24,0

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