Metrode Cupromet N30

Metrode Cupromet N30 is an all-positional MMA electrode made on matching 70/30 cupro-nickel core wire with a special basic flux system giving very low residuals (S, P, Pb, Sn, Zn, etc.) and hence maximum crack resistance. Recovery is about 105% with respect to core wire, and 65% with respect to whole electrode. These consumables deposit a copper-nickel weld metal; nominally 67% Cu and 30% Ni. Cupromet N30 consumables are suitable for welding 70/30, 80/20 and 90/10 base materials. Cupromet N30 consumables match the 70/30 base materials for strength and colour and overmatch the 90/10 alloys for strength. The consumables are suitable for surfacing and cladding provided the need for an appropriate buttering layer is addressed, normally either Afrox TIG NiCu-7 or Afrox TIG Ni-1.

Applications

Applications include offshore construction, desalination plants, evaporators, condensers, etc, and in salt and sea water processing systems.

Storage and Re-baking

Hermetically sealed ring-pull metal tin with unlimited shelf-life. Direct use from tin is satisfactory for longer than a working shift of 8 hours. Excessive exposure of electrodes to humid conditions will cause some moisture pick-up and increase the risk of porosity. For electrodes that have been exposed:

Re-dry 250–300°C/1-2 h to restore to as-packed condition. Maximum 350°C, 3 cycles, 10 hr total.

Storage of re-dried electrodes at 50–200°C in holding oven or heated quiver: no limit, but maximum 6 weeks recommended. Recommended ambient storage conditions for opened tins (using plastic lid): < 60% RH, > 18°C.

Materials to be Welded		
	70/30	**90/10**
ASTM	C71500 C96400 (cast)	C70600 C96200 (cast)
DIN	2,0882 2,0883	2,0872
BS	CN106 CN107 CN108	CN102
CDA	CA715	CA706
Proprietary	Kunifer 30 (IMI) Cunifer 30 (Krupp VDM)	Kunifer 10 (IMI) Cunifer 10 (Krupp VDM)

Classifications		
AWS	A5.6	ECuNi
DIN	1736	EL-CuNi30Mn (2,0838)

Chemical Analysis (All weld metal)			
% Manganese	1,0 - 2,5	**% Iron**	0,4 - 0,75
% Silicon	0,5 max	**% Titanium**	0,5 max
% Sulphur	0,015 max	**% Niobium**	1,0 - 2,5
% Phosphorous	0,02 max	**% Lead**	0,02 max
% Copper	Bal.	**% Tin + Zinc**	0,5 max
% Nickel	29,0 - 33,0	**% Carbon**	0,03

PRODUCT DATA SHEET

Typical Mechanical Properties (All weld metal in the as welded condition)	
0,2% Proof Stress	270 MPa
Tensile Strength	420 MPa
% Elongation on 4d	39
% Elongation on 5d	34
% Reduction of Area	57
Impact Energy at +20°C	115 J
Hardness	120 HV

Packing Data (DC+)

Diameter (mm)	Electrode Length (mm)	Current (A)	Pack Mass (kg)	Item Number
3,2	345	75 - 120	5,0	W077720
4,0	345	100 - 155	5,0	W077721

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