



DAIKOWM 412



COPPER ALLOYS
CuNi 90-10

DESCRIPTION

90/10 copper-nickel solid wire

The weld metal of this wire rod is designed to match the CuNi 90/10 alloys and is nominally 86% Cu and 10,5% Ni. Applications include offshore construction, desalination plant, evaporators, condenser, etc, in salt and sea water processing system.

SPECIFICATIONS

EN ISO 24373	S Cu 7061	AWS A5.7	ERCuNi
DIN 1733	SG-CuNi10Fe	Shielding	I1, I3
Positions	PA, PB, PC, PD, PE, PF, PG	Current	DC+
Packaging Type	Drums, B300, D200 and D100 spools.		

ASME QUALIFICATIONS

F-No (QW432)	34
A-No (QW442)	-

HARDNESS

80HV - 110HV

CHEM. COMP. %	DEFAULT	MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT
Mn	0.8	Tensile strength R_m MPa	345	300
Ni	10	Yield strength $R_{p0.2}$ MPa	-	180
P	0.003	Elongation A ($L_0=5d_0$) %	0	32
S	0.005	Impact Charpy ISO-V	-	200J @ 20°C
Si	0.01	Impact Charpy ISO-V	-	-
Fe	1.2			
Ti	0.3			
Pb	0.001			
		WELDING PARAMETERS	1.0 mm	1.2 mm
		Ampere	130A - 200A	185A - 245A
		Voltage	24V - 28V	26V - 30V
		Packaging	Ø 0,8÷1,6mm	Ø 0,8÷1,6mm
		Packaging Type	Drums, B300, D200 and D100 spools.	Drums, B300, D200 and D100 spools.





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APPLICATION

This consumable is ideal for cladding and plating operations, provided that a buttering layer is applied. Usually, this buttering is executed with alloy 400 or pure nickel. It is widely used in offshore constructions, desalination plants, evaporators, condensers, and saltwater and marine treatment systems. Preheating is generally not necessary, with a maximum interpass temperature of 150 °C and no post-weld heat treatment (PWHT). It is crucial to avoid any contamination in the weld zone with foreign materials, particularly those from lead, tin, or zinc, to prevent cracks in the weld metal.

ALLOY TYPE

90/10 copper-nickel alloys.

MICROSTRUCTURE

Solid solution, single phase alloy.

MATERIALS

EN W.Nr.: 2.0872 (CuNi10Fe), 2.0882 (CuNi30Mn1Fe), 2.0883 (CuNi30Fe2Mn2)

ASTM: C71500, C96400 (cast)

UNS: C70600, C96200

PROPRIETARY: Cunifer 10 (VDM), Osna®-10 (KME)

