DAIKOWT 413

GTAW

COPPER ALLOYS
CuNi 70-30

DESCRIPTION

Copper Nickel 70/30 Rod

The weld metal of this wire is developed to match CuNi 70/30 alloys, and is nominally composed of 67% Cu and 30% Ni. This consumable is suitable for both overlays and claddings, provided that a buttering layer is made (usually buttering is done with alloy 400 or pure nickel). Applications include offshore constructions, desalination plants, evaporators, condensers, and other marine and brackish water treatment facilities.

SPECIFICATIONS

EN ISO 24373	S Cu 7158 / CuNi30Mn1FeTi	**AWS A5.7**	ERCuNi
DIN 1733	SG-CuNi30Fe	**Shielding**	I1
Positions	PA, PB, PC, PD, PE, PF	**Current**	DC-
Packaging Type	5kg carton tube		

ASME QUALIFICATIONS

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

HARDNESS

80HV - 110HV

CHEM. COMP. %	DEFAULT
Mn	0.8
Ni	31
P	0.003
S	0.005
Si	0.01
Fe	0.5
Ti	0.3
Pb	0.001

MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT
Tensile strength R_m MPa	345	400
Yield strength $R_{p0.2}$ MPa	-	200
Elongation A (L_0=5d_0) %	0	38
Impact Charpy ISO-V	-	200J @ 20°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS	1.6 mm	2.4 mm
Ampere	110A - 150A	175A - 250A
Voltage	-	-
Packaging	Ø 1,6÷4,0 mm	Ø 1,6÷4,0 mm
Packaging Type	5kg carton tube	5kg carton tube

CuNi 70-30

DESCRIPTION

APPLICATION

The CuNi 70-30 consumable is particularly suitable for overlay and cladding operations, provided a buttering layer is created. This is commonly done using alloy 400 or pure nickel. The 70/30 consumables are ideal for welding 70/30, 80/20, and 90/10 base materials. They match the 70/30 base materials in terms of strength and color, and allow for overmatched welding on 90/10 alloys for optimal strength. This material is widely used in offshore constructions, desalination plants, evaporators, condensers, and systems for treating saline and marine water. No preheat is required, and the maximum interpass temperature is 150°C, with no need for PWHT. It is crucial to avoid contamination in the weld area with foreign materials, particularly sources of lead, tin, or zinc, to prevent cracking in the weld metal.

ALLOY TYPE

70/30 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: C71500, C96400, C70600, C96200
PROPRIETARY: Cunifer 30 (VDM), Cunifer 10 (VDM), Osna®-30 (KME), Osna®-10 (KME)

WELDING & PWHT

Particularly suitable for welding applications that require high resistance to corrosion in aggressive environments. This includes systems exposed to saline and seawater, where long-term durability is critical.