DAIKO 187

SMAW

COPPER ALLOYS
CuNi 70-30

DESCRIPTION

Basic coated electrode for 70/30 copper-nickel alloys

It is designed to match the CuNi 70/30 alloys and is suitable for surfacing and cladding provided buffer layer is made (normally buttering is made with alloy 400 or pure nickel). Applications include offshore construction, desalination plant, evaporators, condenser, etc, in salt and sea water processing system. Preheating generally is not necessary. The arc should be kept as short as possible to assure adequate shielding gas coverage and thus minimize porosity.

SPECIFICATIONS

AWS A5.6	ECuNi	**DIN 1733**	SG-CuNi30Fe
Shielding	-	**Positions**	PA, PB, PC, PD, PF
Current	DC+	**Packaging Type**	Carton box

ASME QUALIFICATIONS

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

HARDNESS

210HB

CHEM. COMP. %	DEFAULT
Mn	1.8
Ni	30
P	0.015
Si	0.4
Fe	0.6

MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT
Tensile strength R_m MPa	350	660
Yield strength $R_{p0.2}$ MPa	-	400
Elongation A (L_0=5d_0) %	20	15
Impact Charpy ISO-V	-	-
Impact Charpy ISO-V	-	-

WELDING PARAMETERS	2.5 mm	3.2 mm	4.0 mm
Ampere	80A - 120A	100A - 140A	150A - 200A
Voltage	-	-	-
Packaging	pcs/kg	pcs/kg	pcs/kg
Packaging Type	Carton box	Carton box	Carton box

NOTES

Pcs/kg is indicative, actual number may vary ± 5%.

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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.

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