DAIKOWM 208

GMAW

NICKEL ALLOYS
Pure Nickel

DESCRIPTION

Solid pure nickel wire with titanium deoxidation

A nickel based wire rod alloyed with about 3 % Ti for welding of high purity nickel (min 99.6 %Ni), ordinary wrought nickel and nickel with reduced C content. It is also suitable for dissimilar welding of pure nickel to stainless steels, carbon steels, nickel alloys, Monel 400, cupronickel and cast iron. Applications include tanks and vessels, heat exchangers, piping in chemical plant for salt production, chlorination and evaporation of caustic soda and, in particular, wherever corrosion resistance in alkalis is required.

SPECIFICATIONS

EN ISO 18274	S Ni 2061	**AWS A5.14**	ERNi-1
Shielding	I1, I3	**Positions**	PA, PB, PC, PD, PE, PF, PG
Current	DC+	**Packaging Type**	Drums, DIN 760 reel, B300, D200 and D100 spools.

ASME QUALIFICATIONS

F-No (QW432)	41
A-No (QW442)	-

CHEM. COMP. %	DEFAULT
C	0.02
Mn	0.4
Ni	96
Al	0.1
P	0.005
S	0.005
Si	0.3
Cu	0.02
Fe	0.1
Ti	3

MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT
Tensile strength R_m MPa	380*	620
Yield strength $R_{p0.2}$ MPa	0	500
Elongation A (L_0=5d_0) %	0	43
Impact Charpy ISO-V	-	100J @ -196°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS	1.0 mm	1.2 mm
Ampere	140A - 200A	150A - 210A
Voltage	23V - 27V	25V - 29V
Packaging	Ø 0,8÷1,6mm	Ø 0,8÷1,6mm
Packaging Type	Drums, DIN 760 reel, B300, D200 and D100 spools.	Drums, DIN 760 reel, B300, D200 and D100 spools.

NOTES

* Typical weld metal tensile strength, only as indication. Metal cored wire available upon request.

DAIKO

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DESCRIPTION

APPLICATION

These consumables are designed to provide pure nickel with low carbon content, enriched with the addition of titanium to ensure optimal grain refinement and superior deoxidation. They are particularly suitable for homogenous welds of pure nickel, buffer layers, and for the cladding of joint surfaces and flanges. The solid wire also proves ideal in welding cast iron, resulting in a soft and low-strength deposit. Typical applications include products such as tanks and vessels, process piping, and heat exchangers. They are widely used in chemical plants dedicated to salt production, chlorination processes, and caustic soda evaporation, as well as for handling corrosive alkalis and halides. They operate effectively at temperatures up to 150 °C, without the need for post-weld heat treatments (PWHT).

ALLOY TYPE

Low carbon pure nickel weld metal with titanium de-oxidation.

MICROSTRUCTURE

In the as-welded condition the microstructure consists of almost pure nickel austenite. It is strongly ferromagnetic at room temperature.

MATERIALS

EN W.Nr.: 2.4066 (Ni 99.6), 2.4068(LC-Ni99), 2.4061 (LC Ni 99.6)
UNS: N02200, N02201
PROPRIETARY: Nickel 200, 201 (Special Metals), Nickel 99.6, 99.2 (VDM)