DAIKOWS 208

SAW

NICKEL ALLOYS
Pure Nickel

DESCRIPTION

Solid pure nickel wire rod 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	DAIKOFLUX 960-W	**Positions**	PA, PB, PC
Current	DC/AC	**Packaging Type**	K415 spool and drums.

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*	720
Yield strength $R_{p0.2}$ MPa	0	450
Elongation A (L_0=5d_0) %	0	45
Impact Charpy ISO-V	-	60J @ -196°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS	2.4 mm
Ampere	300A - 410A
Voltage	27V - 33V
Packaging	Ø 1,6÷3,2mm
Packaging Type	K415 spool and drums.

NOTES

SAW mechanical properties depend on wire/flux combination, refer to flux TDS.

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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)

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