DAIKOWT 2Ni

GTAW

CRYOGENIC STEELS
2Ni

DESCRIPTION

Welding rod for 2% Ni steels

Solid rod designed for welding low-alloy steels for low-temperature applications. Generally, they are used for welding 2.5% nickel steels and other materials that require good toughness at temperatures down to -60 °C.

SPECIFICATIONS

EN ISO 14341-A	W 50 6 M21 2Ni2	**AWS A5.28**	ER80S-Ni2
Shielding	I1	**Positions**	PA, PB, PC, PD, PE, PF
Current	DC-	**Packaging Type**	5kg carton tube

ASME QUALIFICATIONS

F-No (QW432)	6
A-No (QW442)	10

CHEM. COMP. %

C	0.09
Mn	1.1
Ni	2.3
P	0.01
S	0.01
Mo	0.03
Si	0.55
Cu	0.12

MECHANICAL PROPERTIES

	MIN. PER STANDARD	PRODUCT
Tensile strength R_m MPa	550	590
Yield strength $R_{p0.2}$ MPa	500	520
Elongation A (L_0=5d_0) %	24	25
Impact Charpy ISO-V	47J @ -60°C	50J @ -60°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

	1.6 mm	2.4 mm
Ampere	95A - 135A	145A - 205A
Voltage	-	-
Packaging	Ø 1,2÷3,2mm	Ø 1,2÷3,2mm
Packaging Type	5kg carton tube	5kg carton tube

DAIKO

2Ni

DESCRIPTION

APPLICATION

Ideal for the production of storage tanks, process plants, and related piping, this product guarantees excellent fracture toughness properties in welded joints at temperatures down to -60 °C. The inclusion of approximately 2.5% Ni enables microstructural refinement and improves tolerance against procedural variations compared to unalloyed C-Mn weld metals. Additionally, it promotes the formation of a stable patina, essential for maintaining the characteristics of weather-resistant steels, thus representing a valid alternative to the use of corresponding consumables. Preheating should be performed according to the base material and its thickness. While AWS specifications for consumables require post-weld heat treatment (PWHT), many applications can be left in the as-welded condition. The need for PWHT is usually determined by the applicable design codes.

ALLOY TYPE

Nominally 2.5%Ni low alloy steels.

MICROSTRUCTURE

In the as-welded condition the microstructure is ferritic with a component of acicular ferrite for optimum toughness.

MATERIALS

Low temperature applications, fine-grained steels that contain up to 2.5% Nickel.
ASTM: A203 gr. A & B plate, A333 gr. 6 pipe, A350 gr. LF1 & LF2 forgings, A352 gr. LC2 casting
API: 5L X52, 5L X56, 5L X60, 5L X65