DAIKOWT 3Ni

GTAW

CRYOGENIC STEELS
3Ni

DESCRIPTION

Welding rod for 3% Ni steels

Solid rod designed for welding low-alloy steels with 3.5% Ni. Suitable for the construction of cryogenic plants and pipelines in the petrochemical industry, and for general low-temperature applications down to -70 °C.

SPECIFICATIONS

EN ISO 14341-B	W 57 P 7 M22 SN71	**AWS A5.28**	ER80S-Ni3
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. %	DEFAULT
C	0.1
Mn	1
Ni	3.5
P	0.01
S	0.01
Mo	0.03
Si	0.6
Cu	0.12

MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT
Tensile strength R_m MPa	550	620
Yield strength $R_{p0.2}$ MPa	490	540
Elongation A (L_0=5d_0) %	17	24
Impact Charpy ISO-V	27J @ -70°C	50J @ -70°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

3Ni

DESCRIPTION

APPLICATION

These consumables are specifically designed for the welding of low-alloy steels containing 3.5% Ni. They are ideal for the construction of cryogenic plants, pipelines in the petrochemical industry, and for general applications requiring reliable performance at low temperatures, down to -80 °C. It is important to preheat according to the base material and the thickness of the piece to be welded. Although AWS (American Welding Society) specifications often require post-weld heat treatment (PWHT), many welds can be left in the "as-welded" state. The necessity for PWHT is generally determined by the relevant and applicable design codes.

ALLOY TYPE

Nominally 3.5% 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 3.5% Nickel.
ASTM: A203 gr. D, E, F, A350 gr. LF3, A352 gr. LC3, A333 Gr. 3
UNS: K22103, K21703, J42015