DAIKOWM 2Ni

GMAW

CRYOGENIC STEELS
2Ni

DESCRIPTION

Solid wire for welding 2%Ni steel

Rod wire designed for welding low-alloyed steels for low temperature applications. Typically, they are used for welding 2.5% Nickel steels and other materials requiring good toughness at temperatures as low as -60°C.

SPECIFICATIONS

EN ISO 14341-A	G 50 6 M21 2Ni2	**AWS A5.28**	ER80S-Ni2
Shielding	M20, 21	**Positions**	PA, PB, PC, PD, PE, PF
Current	DC+	**Packaging Type**	Drums, B300, D200 and D100 spools.

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

	1.0 mm	1.2 mm
Ampere	100A - 220A	150A - 360A
Voltage	18V - 28V	30V - 34V
Packaging	Ø 0,8÷1,6mm	Ø 0,8÷1,6mm
Packaging Type	Drums, B300, D200 and D100 spools.	Drums, B300, D200 and D100 spools.

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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