



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

ISO 14341-A	G 50 6 M21 2Ni2	AWS A5.28	ER80S-Ni2
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	M20, 21
Positions	PA, PB, PC, PD, PE, PF	Current	DC+

ASME QUALIFICATIONS

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

FERRITE

FERRITE	-
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PREN

PREN	-
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HARDNESS

HARDNESS	-
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CHEM. COMP. %

DEFAULT

C	0.09
Mn	1.1
Ni	3.5
P	0.01
S	0.01
Mo	0.03
Si	0.55
Cu	0.12

MECHANICAL PROPERTIES

	MIN	VARIANT
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 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.





2Ni

DESCRIPTION

CRYOGENIC STEELS

2Ni

APPLICATION

Ideal for fabricating storage tanks, process plants, and associated pipework, especially in scenarios demanding good fracture toughness from as-welded joints, even in temperatures as low as -60°C . The addition of approximately 2.5% Ni enhances microstructural refinement and procedural tolerance compared to plain CMn weld metal. It also supports the formation of a stable patina, meeting the characteristics of weathering steels, offering an alternative to using matching consumables. Preheating should align with the base material and its thickness. While AWS consumable specifications may recommend PWHT, many fabrications may be left as-welded, with the necessity for PWHT generally determined by 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.

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The information in this datasheet is the result of detailed research and is considered accurate as of the publication date. However, we cannot guarantee its complete accuracy, and it is subject to change without notice. Actual results may vary due to many factors like welding procedures, material composition, temperature conditions, bevel configuration, and specific manufacturing techniques. We accept no liability for any errors or omissions in this datasheet. For the most current information, please visit www.daikowelding.com.

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