



## DESCRIPTION

Solid rod for welding 3%Ni steel

Wire rod designed for welding low-alloy steels with 3,5% Ni. Suitable for the construction of cryogenic plant and pipework in petrochemical industry and for general low temperature applications down to -70°C.

## SPECIFICATIONS

ISO 14341-B	W 57 P 7 M22 SN71	AWS A5.28	ER80S-Ni3
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	11
Positions	PA, PB, PC, PD, PE, PF	Current	DC-

## ASME QUALIFICATIONS

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

## FERRITE

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## PREN

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## HARDNESS

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## 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	VARIANT
Tensile strength R <sub>m</sub> MPa	550	620
Yield strength R <sub>p0.2</sub> MPa	490	540
Elongation A (L <sub>0</sub> =5d <sub>0</sub> ) %	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





# 3Ni

DESCRIPTION

CRYOGENIC STEELS

3Ni

## APPLICATION

Engineered for welding low-alloy steels containing 3.5% Ni, these consumables prove to be highly effective in various applications. Their primary suitability lies in the construction of cryogenic plants and pipework within the petrochemical industry, as well as for general low-temperature purposes extending down to  $-80^{\circ}\text{C}$ . When utilizing these consumables, it's crucial to adhere to a preheating regimen aligned with the specifics of the base material and its thickness. While AWS consumable specifications advocate for post-weld heat treatment (PWHT), it's noteworthy that many fabrications often opt to retain the as-welded condition. The decision on whether to employ PWHT is typically determined by the applicable design codes governing the specific project or application.

## 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.

V 01/2024



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](http://www.daikowelding.com).

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