



DESCRIPTION

Solid wire for welding 3%Ni steel

Submerged arc wire 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 -80°C.

SPECIFICATIONS

ISO 14171-A	S2Ni3	AWS A5.23	ENi3
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	DAIKOFLUX 493-W
Positions	PA, PB, PC	Current	DC/AC

ASME QUALIFICATIONS

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

FERRITE

-

PREN

-

HARDNESS

-

CHEM. COMP. %

DEFAULT

C	0.1
Mn	1
Ni	3.5
P	0.01
S	0.01
Mo	0.02
Si	0.15
Cu	0.15

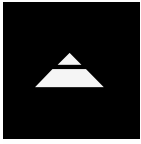
MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R _m MPa	-	630
Yield strength R _{p0.2} MPa	-	550
Elongation A (L ₀ =5d ₀) %	-	24
Impact Charpy ISO-V	-	50J @ -60°C
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

	2.4 mm	3.2 mm	4 mm
Ampere	300A - 410A	430A - 530A	480A - 580A
Voltage	26V - 30V	27V - 31V	27V - 32V
Packaging	Ø 2,0÷4,0mm	Ø 2,0÷4,0mm	Ø 2,0÷4,0mm
Packaging Type	K415 spool and drums. K415 spool and drums. K415 spool and drums.		





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°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.

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