



# DAIKOFCW 3NiB



CRYOGENIC STEELS

3Ni

## DESCRIPTION

### Basic flux cored wire for flat and horizontal position

Basic flux cored wire for welding low-alloy steels with 1% Ni and fine grain steel as well as for -60°C low temperature applications. Suitable for the construction of offshore platforms, pressure vessels and pipelines and also for welding higher strength steel structures where PWHT is impracticable but toughness and crack resistance are required. The wire shows excellent weldability in flat and horizontal position, smooth and bright bead, very low spatter losses, easy to remove slag and exceptional mechanical properties even at low temperatures.

## SPECIFICATIONS

ISO 17632-A	T 46 10 3Ni B M 3 H5	AWS A5.29	E80T5 G H4
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	M21
Positions	PA, PB, PC	Current	DC+

## ASME QUALIFICATIONS

F-No (QW432)	5
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	0.1
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 $R_m$ MPa	-	560
Yield strength $R_{p0.2}$ MPa	-	480
Elongation A ( $L_0=5d_0$ ) %	-	30
Impact Charpy ISO-V	-	100J @ -100°C
Impact Charpy ISO-V	-	-

## WELDING PARAMETERS

	1.2 mm	1.6 mm
Ampere	100A - 300A	160A - 420A
Voltage	16V - 28V	31V - 35V
Packaging	Ø 1,2÷1,6mm	Ø 1,2÷1,6mm
Packaging Type	BS300 spool	BS300 spool

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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DESCRIPTION

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## 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.

