



DAIKOWM 409Nb



FERRITIC - MARTENSITIC STAINLESS
STEEL
409Nb

DESCRIPTION

Nb stabilised solid ferritic stainless steel wire rod

These wire rods deposit a ferritic stainless weld metal which is used to weld Type 409 and 409Ti base materials. The addition of niobium improves corrosion resistance, increases strength at high temperature, promotes a ferritic micro-structure. Niobium is used instead of titanium because oxidation losses across the arc generally are lower. Not recommended for multi-pass applications. Consumables used for welding similar 12% Cr ferritic steels in application such as catalytic converters and mufflers.

SPECIFICATIONS

ISO 14343-B	SS409Nb	AWS A5.9	ER409Nb
DIN	-	Werkstoff Number	-
Certifications	-	Shielding	M12, M13
Positions	PA, PB, PC, PD, PE, PF, PG	Current	DC+

ASME QUALIFICATIONS

F-No (QW432)	6	FERRITE	-	PREN	12.49	HARDNESS	-
A-No (QW442)	6						

CHEM. COMP. %

DEFAULT

C	0.04
Mn	0.65
Ni	0.4
Cr	11.5
P	0.02
S	0.02
Mo	0.3
Si	0.5
Cu	0.16

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R_m MPa	450	460
Yield strength $R_{p0.2}$ MPa	250	350
Elongation A ($L_0=5d_0$) %	15	26
Impact Charpy ISO-V	-	-
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WELDING PARAMETERS

	1 mm	1.2 mm
Ampere	160A - 220A	200A - 270A
Voltage	25V - 29V	26V - 30V
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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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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APPLICATION

This ferritic stainless steel welding wire is designed for welding Type 409 and 409Ti base materials. The incorporation of niobium enhances corrosion resistance and fosters a ferritic microstructure. Distinguished from ER409 by the addition of niobium, which aids in forming niobium carbides (NbC) to prevent the development of chromium carbides (Cr₃C₂), this variant significantly improves corrosion resistance. Moreover, the introduction of niobium enhances strength at elevated temperatures. These consumables are ideal for welding similar 12% Cr ferritic steels, especially in exhaust system components like manifolds, mufflers, catalytic converters, and tubing. To achieve optimal welding results, it is advised to employ a low-heat-input procedure, and caution should be exercised when considering multi-pass applications.

ALLOY TYPE

Ferritic stabilized stainless solid welding wire of 12% Cr and 0,4% Nb type.

MICROSTRUCTURE

Ferrite.

MATERIALS

Used for welding similar 12% Cr ferritic steels.

ASTM: 409, 409Ti, 409Nb, 439, 430.

