

# 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

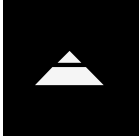
EN ISO 14343-B	SS409Nb	AWS A5.9	ER409Nb
Shielding	M12, M13	Positions	PA, PB, PC, PD, PE, PF, PG
Current	DC+	Packaging Type	Drums, B300, D200 and D100 spools.

## ASME QUALIFICATIONS

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

CHEM. COMP. %	DEFAULT	MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT
C	0.04	Tensile strength R <sub>m</sub> MPa	450	460
Mn	0.65	Yield strength R <sub>p0.2</sub> MPa	250	350
Ni	0.4	Elongation A (L <sub>0</sub> =5d <sub>0</sub> ) %	15	26
Cr	11.5	Impact Charpy ISO-V	-	-
P	0.02	Impact Charpy ISO-V	-	-
S	0.02			
Mo	0.3			
Si	0.5			
Cu	0.16			
		<b>WELDING PARAMETERS</b>	<b>1.0 mm</b>	<b>1.2 mm</b>
		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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## APPLICATION

The 409Nb alloy is distinguished from type ER409 by the addition of niobium, which reacts to form niobium carbide (NbC). This feature prevents the formation of chromium carbides (Cr<sub>3</sub>C<sub>2</sub>), significantly improving corrosion resistance. Furthermore, niobium increases high-temperature resistance and promotes an optimal ferritic microstructure. The consumables associated with this alloy are ideal for welding 12% Cr ferritic steels, used in critical applications such as manifolds, silencers, catalytic converters, and piping. For optimal results, it is recommended to adopt low heat input welding procedures. However, this material is not recommended for applications requiring multiple welding passes.

## 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

## WELDING & PWHT

These welding consumables are specifically formulated to optimize weldability and performance in high-stress environments. They ensure a strong bond and maintain the integrity of the welded components, even under fluctuating thermal conditions.

