

DAIKOWS 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	DAIKOFLUX 493-W	Positions	PA, PB, PC
Current	DC/AC	Packaging Type	K415 spool and drums.

ASME QUALIFICATIONS

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

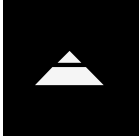
CHEM. COMP. %	DEFAULT	MECHANICAL PROPERTIES	MIN. PER STANDARD	PRODUCT
C	0.04	Tensile strength R_m MPa	450	460
Mn	0.65	Yield strength $R_{p0.2}$ MPa	250	350
Ni	0.4	Elongation A ($L_0=5d_0$) %	15	26
Cr	11.5	Impact Charpy ISO-V	-	-
P	0.02	Impact Charpy ISO-V	-	-
S	0.02			
Mo	0.3			
Si	0.5			
Cu	0.16			
		WELDING PARAMETERS		2.4 mm
		Ampere	250A - 420A	
		Voltage	28V - 32V	
		Packaging	Ø 2,0÷4,0mm	
		Packaging Type	K415 spool and drums.	

NOTES

SAW mechanical properties depend on wire/flux combination, refer to flux TDS.



The information contained in this technical data sheet is provided for information purposes only, based on data believed to be reliable at the date of publication, and does not constitute a warranty or contractual commitment. Actual performance may vary depending on operating and application conditions; it is the user's responsibility to verify the suitability of the product for the intended application. The manufacturer disclaims any liability for errors, omissions, or improper use. For the latest version, please refer to www.daikowelding.com.



409Nb

DESCRIPTION

FERRITIC - MARTENSITIC STAINLESS
STEEL
409Nb

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 (Cr₃C₂), 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.

