DAIKOWS 409Nb

SAW

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**	DAIKOFLUX 493-W
Positions	PA, PB, PC	**Current**	DC/AC

ASME QUALIFICATIONS

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

FERRITE

-

PREN

12.49

HARDNESS

-

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

	2.4 mm
Ampere	250A - 420A
Voltage	28V - 32V
Packaging	Ø 2,0÷4,0mm
Packaging Type	K415 spool and drums.

409Nb

DESCRIPTION

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.

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