

Techalloy® 409Nb

AWS ER409Nb

CONFORMANCES

AWS A5.9 ER409Nb

UNS S40940



Techalloy® 409Nb is a ferritic stainless steel welding wire used to weld Type 409 and 409Ti base materials. The addition of niobium improves corrosion resistance and promotes a ferritic micro-structure. For the best results, welding must be done in a low heat input procedure and is not recommended for multi-pass applications.

DIAMETERS / PACKAGING

Diameter in (mm)		MIG WIRE 33 lb (14.9 kg) Wire Basket	TIG 10 lb (4.5 kg) 30 lb (13.6 kg) Master Carton
0.035	(0.9)	MG409NB035667	
0.045	(1.2)	MG409NB045667	
1/16	(1.6)		TG409NB062638
3/32	(2.4)		TG409NB093638

DEPOSIT COMPOSITION

	%C	%Cr	%Ni	%Mo	%Nb
Requirements AWS ER409Nb	0.08 max	10.5 - 13.5	0.6 max.	0.50 max.	0.075 max.
Typical Performance Techalloy® 409Nb	0.04	11.5	0.4	0.03	0.50
	%Mn	%Si	%P	%S	%Cu
Requirements AWS ER409Nb	0.8 max.	1.0 max.	0.04 max.	0.03 max.	0.75 max.
Typical Performance Techalloy® 409Nb	0.62	0.48	0.02	0.02	0.04

TYPICAL OPERATING PROCEDURES

Process	Diameter in (mm)	Voltage (volts)	Amperage	Gas Flow	Gas
MIG	0.035 (0.9) 0.045 (1.2)	26-29 28-32	160-210 180-250	30-50 CFH	98/99% Argon + 2/1% Oxygen 97% Argon + 3% CO ₂
TIG	1/16 (1.6) 3/32 (2.4)		90-130 120-175	20-40 CFH	100% Argon

Material Safety Data Sheets (MSDS) are available on our website at www.techalloy.com

TEST RESULTS

Test results for mechanical properties, deposit or electrode composition and diffusible hydrogen levels were obtained from a weld produced and tested according to prescribed standards, and should not be assumed to be the expected results in a particular application or weldment. Actual results will vary depending on many factors, including, but not limited to, weld procedure, plate chemistry and temperature, weldment design and fabrication methods. Users are cautioned to confirm by qualification testing, or other appropriate means, the suitability of any welding consumable and procedure before use in the intended application.

CUSTOMER ASSISTANCE POLICY

The Lincoln Electric Company is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

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