Blue Max® MIG 308L N

Stainless Steel • AWS ER308/ER308L

Key Features

- Q2 Lot® - Certificate showing actual wire composition and calculated ferrite number (FN) available online
- Available as Batch Managed Inventory
- "N" Designator - cobalt restriction of 0.05% max
- Meets the low Si levels typically required in the nuclear industry
- Meets the low cobalt levels typically required in the nuclear industry.
- Prior to using this material for ASME Boiler and Pressure Vessel Code Section III applications, please contact the Lincoln Electric Specials Department to receive a Certified Material Test Report (CMTR) which meets all requirements of NCA-3860
- Composition controlled to meet nuclear and power generation requirements
- Each spool is identified with AWS classification and LOT number

Typical Applications

- Nuclear power plant components, maintenance and construction
- Power and process industry related piping
- Pressure Vessels

ASME IX Qualification

ASME IX Qualification:	QW432 F-No 6, QW442 A-No 8

Conformances

AWS A5.9/A5.9M: 2006:	ER308, ER308L
ASME SFA-A5.9:	ER308, ER308L

Welding Positions

All

DIAMETERS / PACKAGING

Diameter in (mm)	33 lb (15 kg) Steel Spool
0.035 (0.9)	ED033848
0.045 (1.1)	ED033849

MECHANICAL PROPERTIES[1] – *As Required per AWS A5.9/A5.9M: 2006*

	Yield Strength[2] MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %	Ferrite Number
Requirements - AWS ER308/308L	Not Specified			
Test Results[3] - As-Welded	430 (62)	615 (89)	37	13

Blue Max® MIG 308L N

(AWS ER308/ER308L)

WIRE COMPOSITION – *As Required per AWS A5.9/A5.9M: 2006*

	%C	%Cr	%Ni	%Mo	%Mn
Requirements - AWS ER308L	0.03[2] max.	19.5 - 22.0	9.0 -11.0	0.75 max.	1.0 - 2.5
Test Results[1]	0.02	20.2	9.2	0.03	1.6
	%Si	**%P**	**%S**	**%Cu**	**Total Others**
Requirements - AWS ER308L	0.30 - 0.65	0.03 max.	0.03 max.	0.75 max.	0.50 max.
Test Results[1]	0.44	0.02	0.02	0.11	0.03

TYPICAL OPERATING PROCEDURES

Diameter, Polarity Shielding Gas	CTWD[5] mm (in)	Wire Feed Speed m/min (in/min)	Voltage (Volts)	Approx. Current (Amps)	Deposition Rate kg/hr (lb/hr)
Short Circuit Transfer					
0.035 in (0.9 mm), DC+ 90% He / 7-1/2% Ar / 2-1/2% CO_2	13 (1/2)	3.0 (120)	19-20	55	0.9 (2.0)
	13 (1/2)	4.6 (180)	19-20	85	1.4 (3.0)
	13 (1/2)	5.8 (230)	20-21	105	1.8 (3.9)
	13 (1/2)	7.6 (300)	20-21	125	2.3 (5.0)
	13 (1/2)	8.9 (350)	21-22	140	2.7 (5.9)
	13 (1/2)	10.2 (400)	22-23	160	3.1 (6.7)
0.045 in (1.1 mm), DC+ 90% He / 7-1/2% Ar / 2-1/2% CO_2	13 (1/2)	2.5 (100)	19-20	100	1.1 (2.8)
	13 (1/2)	3.2 (125)	19-20	120	1.5 (3.5)
	13 (1/2)	3.8 (150)	21	135	1.7 (4.2)
	13 (1/2)	4.4 (175)	21	140	2.0 (4.8)
	13 (1/2)	5.6 (220)	22	170	2.6 (6.1)
	13 (1/2)	6.4 (250)	22-23	175	2.9 (6.9)
	13 (1/2)	7.0 (275)	22-23	185	3.2 (7.6)
Axial Spray Transfer					
0.035 in (0.9 mm), DC+ 98% Ar/2% O_2	13 (1/2)	10.2 (400)	22	180	3.1 (6.7)
	13 (1/2)	10.8 (425)	23	190	3.3 (7.1)
	13 (1/2)	11.4 (450)	23	200	3.5 (7.5)
	13 (1/2)	12.1 (475)	23	210	3.7 (8.0)
0.045 in (1.1 mm), DC+ 98% Ar/2% O_2	13 (1/2)	6.1 (240)	23	195	2.8 (6.6)
	13 (1/2)	6.6 (260)	24	230	3.0 (7.2)
	13 (1/2)	7.6 (300)	24	240	3.5 (8.3)
	13 (1/2)	8.3 (325)	25	250	3.8 (9.0)
	13 (1/2)	9.1 (360)	25	260	4.2 (10.0)

IMPORTANT: SPECIAL VENTILATION AND/OR EXHAUST REQUIRED

Fumes from the normal use of some welding products can contain significant quantities of components - such as chromium and manganese - which can lower the 5.0 mg/m^3 maximum exposure guideline for general welding fume. BEFORE USE, READ AND UNDERSTAND THE MATERIAL SAFETY DATA SHEET (MSDS) FOR THIS PRODUCT AND SPECIFIC INFORMATION PRINTED ON THE PRODUCT CONTAINER.

[1]Typical all weld metal. [2]Measured with 0.2% offset. [3]See test results disclaimer on pg. 12. [4]Copper due to any coating on the electrode plus the copper content of the filler metal itself, shall not exceed the stated 0.50% max. [5]CTWD (Contact Tip to Work Distance). Subtract 1/4 in (6.4 mm) to calculate Electrical Stickout. [6]Procedures in the shaded areas are procedures for short circuiting mode using 75% Argon, 25% CO_2. NOTE: For 100% CO_2 procedures, add 1 to 2 volts for short circuit transfer and 2 to 3 volts for globular transfer.