

# TUFMET™ 3Ni.B

Low Alloy Steel ■ AWS E8018-C2-H4

## KEY FEATURES

- Moisture resistant coating
- 3.5% nickel alloyed electrode designed for cryogenic applications down to -80°C (-112°F)

## WELDING POSITIONS

All

## SHIELDING GAS

80% Argon / 20% CO<sub>2</sub> or 100% CO<sub>2</sub>

## CONFORMANCES

<b>AWS A5.5</b>	E8018-C2 -H4
<b>BS EN ISO 25600-A</b>	E 46 6 3Ni B 42
<b>BS EN ISO 25600-B</b>	E5518-N7 P

## TYPICAL APPLICATIONS

- Cryogenic plant construction and piping
- Petrochemical Industry
- Applications specifying impact properties down to -60°C (-76°F)

## DIAMETERS / PACKAGING

Diameter mm (in)	4.5 kg (10 lb) Easy Open Can	4.0 kg (8.8 lb) Easy Open Can	5.6 kg (12.3 lb) Easy Open Can
2.5 (3/32)	TM3NIB-25	TM3NIB-32	TM3NIB-40
3.2 (1/8)			
4.0 (5/32)			

## MECHANICAL PROPERTIES<sup>(1)</sup> – As Required per AWS A5.5/5.5M

	0.2% Proof Stress MPa (ksi)	Tensile Strength MPa (ksi)	Elongation %		Impact energy J (ft•lbf)	
			4.0 dia	5.0 dia	@-60°C (-76°F)	@-75°C (-103°F)
<b>Requirements</b> AWS E2594T1/4	460 min (67 min)	560-680 (80-100)	19 min	20	-	30
<b>Typical Performance<sup>(3)</sup></b>	540 (78)	620 (90)	>22	25	100	>90

## DEPOSIT COMPOSITION<sup>(1)</sup> – As Required per AWS A5.5/5.5M

	%C	%Mn	%Si	%S	%P	%Ni
<b>Requirements</b> AWS E8018-C2	0.10 max	0.30-1.25	0.80 max	0.020 max	0.030 max	3.00-3.75
<b>Typical Performance<sup>(3)</sup></b>	0.05	0.5	0.3	0.01	0.015	3.3

<sup>(1)</sup> Typical all weld metal <sup>(2)</sup> Measured with 0.2% offset <sup>(3)</sup> See test results disclaimer

*Material Safety Data Sheets (MSDS) and Certificates of Conformance are available on our website at [www.lincolnelectric.com](http://www.lincolnelectric.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.

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