

TECH-ROD® 190

Nickel ■ AWS ENiCu-7

KEY FEATURES

- Dissimilar applications include nickel alloys to copper-nickel alloys
- Q2 Lot® - certificates showing actual deposit composition available online

CONFORMANCES

AWS A5.11/A5.11M: 2010	ENiCu-7
ASME SFA-A5.11	ENiCu-7
UNS	W84190

TYPICAL APPLICATIONS

- Welding nickel-copper alloys to themselves and to steel
- Used for overlay welding as well as for welding clad steels nickel-copper surfacing is required
- Welding nickel-copper alloys to themselves and stainless

DIAMETERS / PACKAGING

Diameter in (mm)	Length in (mm)	8 lb (3.6 kg) Can 24 lb (10.9 kg) Master Carton	10 lb (4.5 kg) Can 30 lb (13.6 kg) Master Can
3/32 (2.4)	12 (305)	EL190093632	
1/8 (3.2)	14 (355)		EL190125634
5/32 (4.0)	14 (355)		EL190156634
3/16 (4.8)	14 (355)		EL190187634

MECHANICAL PROPERTIES - As Required per AWS A5.11/A5.11M:2010

	Tensile Strength Mpa (ksi)	Elongation %
Requirements AWS A5.11/A5.11M:2010	480 (70 min)	30 min
Typical Performance Tech-Rod® 190	500 (72)	44

DEPOSIT COMPOSITION⁽¹⁾ - As Required per AWS A5.11/A5.11M: 2010

	%C	%Mn	%Fe	%P	%S	%Si
Requirements AWS ENiCu-7	0.15	4.0 max	2.5 max	0.02 max	0.015 max	1.5 max
Typical Performance⁽²⁾ Tech-Rod® 190	0.02	2.8	0.9	0.01	0.004	0.60
	%Cu	%Ni	%Al	%Ti	%Other	
Requirements AWS ENiCu-7	Remainder	62 - 69	0.75 max.	1.0 max	0.5 max	
Typical Performance⁽²⁾ Tech-Rod® 190	30	64.5	0.03	0.30	<0.5 max	

TYPICAL OPERATING PROCEDURES

Diameter in (mm)	Length in (mm)	Amperage	
		Flat	Vertical & Overhead
3/32 (2.4)	12 (305)	70-85	65-75
1/8 (3.2)	14 (355)	85-110	80-90
5/32 (4.0)	14 (355)	110-140	100-120
3/16 (4.8)	14 (355)	120-160	110-130

⁽¹⁾Typical all wire chemistry. ⁽²⁾See test results disclaimer on pg. 13.
Safety Data Sheets (SDS) are available on our website at www.lincolnelectric.com