

TECH-ROD® 117

Nickel ■ AWS ENiCrCoMo-1

KEY FEATURES

- A covered electrode used for welding of nickel-chromium-cobalt-molybdenum alloys
- The deposited weld metal provides optimum strength and oxidation resistance between 1500°F to 2100°F, especially when welding on base metals of nickel-iron-chromium alloys
- Q2 Lot® - certificates showing actual deposit composition available online

CONFORMANCES

AWS A5.11/A5.11M: 2010 ENiCrCoMo-1
UNS W86117
ASME SFA-A5.11 ENiCrCoMo-1

TYPICAL APPLICATIONS

- Overlay cladding where similar composition is required
- Turbine fabrication

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)	EL117093632	
1/8 (3.2)	14 (355)		EL117125634
5/32 (4.0)	14 (355)		EL117156634
3/16 (4.8)	14 (355)		EL117187634

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

	Tensile Strength Mpa (ksi)	Elongation %
Requirements AWS A5.11/A5.11M:2010	620 (90min)	30 min
Typical Performance Tech-Rod® 117	760 (110)	40

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

	%C	%Mn	%Fe	%P	%S
Requirements⁽²⁾ AWS ENiCrCoMo-1	0.05 - 0.15	0.3 - 2.5	5.0 max	0.03 max	0.015 max
Typical Performance Tech-Rod® 117	0.09	1.1	0.9	0.02	0.008
	%Si	%Cu	%Ni	%Co	
Requirements AWS ENiCrCoMo-1	0.75 max	0.50 max	Remainder	9.0 - 15.0	
Typical Performance⁽²⁾ Tech-Rod® 117	0.47	0.01	50.7	11.4	
	%Cr	%Nb+Ta	%Mo	%Other	
Requirements AWS ENiCrCoMo-1	21.0 - 26.0	1.0 max	8.0 - 10.0	0.50 max	
Typical Performance⁽²⁾ Tech-Rod® 117	24.7	0.9	9.4	-	

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