

FLUX CORED

Oxford Alloy[®] 81T1-Ni1C

AWS A5.29 E81T1-Ni1C • Low Alloy Steel



Key Features

- 81T1-Ni1C is capable of producing weld deposit with tensile strength exceeding 590N/mm² with superior impact properties at low temperature.
- Provides stable arc, less spatters, smooth weld beads and good weldability.
- Ideal for welding ASTM A302, A572, A575 and A734 steel.
- Used in offshore structure, low temperature storage tank, shipbuilding and construction.
- Preheat Temperature at 135-165 degree C and Interpass Temperature at 135-165 degree C.

Conformances

AWS ASME SFA 5.29
E81T1-Ni1C

Chemical Composition - As required per AWS 5.36

C	Mn	Si	P	Ni	Mo	Cr	S	V
0.12 max	1.75 max	0.80 max	0.03 max	0.80-1.10	0.035 max	0.15 max	0.03 max	0.05 max

Mechanical Properties - As required by AWS 5.36

	Tensile Strength MPa	Yield Strength MPa	Elongation %	Charpy V-Notch J (ft-lbf) @ -40 °C
Typical Results - As welded	623	584	28	121

Shielding Gas

100% CO₂

Typical Welding Parameters

Diameter		Process	Flat		Horizontal Flat		Vertical Up	
in	(mm)		Volt	Amps	Volt	Amps	Volt	Amps
.045	(1.2)	FCAW	23-30	120-300	22-26	120-300	23-30	200-260
1/16	(1.6)	FCAW	25-34	180-400	21-27	180-400	23-30	230-280

Diameters & Packaging

Oxford Alloys USA			Oxford Alloys Asia Pacific		
Diameter (in)	Spool Dimension (in)	Spool Weight (lbs)	Diameter (mm)	Spool Dimension (mm)	Spool Weight (kgs)
.045	12	33 lb spool	1.2	270	15 kg spool
1/16	12	33 lb spool	1.6	270	15 kg spool

Actual test results may vary. Refer test result disclaimer on page 160.

