

Dual Shield 8000-Ni2

Dual Shield 8000-Ni2 is an all-position flux cored electrode that deposits 2.5% Ni deposit with an 82 ksi (565 MPa) minimum tensile strength. Dual Shield 8000-Ni2 may be used with CO₂ or argon mixtures. The argon-CO₂ mixtures reduce spatter and further improve weldability especially for small vertical-up fillets. Dual Shield 8000-Ni2 produces superior weld metal properties which make it most desirable for such applications as shipbuilding and heavy machinery construction. The weld metal analysis is similar to an E8018-C1 low hydrogen electrode.

Specifications

Classifications	AWS A5.29 : E81T1-Ni2C-JH8/E81T1-Ni2M H8 AWS A5.36 : E81T1-C1A6-Ni2-H8 AWS A5.36 : E81T1M21A4-Ni2-H8v
Approvals	A.B.S.- 3YSA ASME SFA 5.29 AWS A5.29 : E81T1-Ni2C/Ni2M CERTIFIED BY C.W.B.- AWS A5.29 MIL-E-24403/1 : MIL-81T1-Ni2C-J/Ni2M
Industry	Mobile Equipment Industrial and General Fabrication Bridge Construction Process

Approvals are based on factory location. Please contact ESAB for more information.

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation	Reduction in Area
100% CO₂				
As Welded	550 MPa	605 MPa	26 %	67 %
75% Ar - 25% CO₂				
As Welded	565 MPa	620 MPa	27 %	68 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
100% CO₂		
As Welded	-40 °C	53 J
As Welded	-29 °C	58 J
As Welded	-51 °C	46 J
As Welded	-18 °C	84 J
75% Ar - 25% CO₂		
As Welded	-29 °C	64 J
As Welded	-18 °C	69 J
As Welded	-51 °C	37 J
As Welded	-40 °C	54 J

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni
75% Ar - 25% CO₂					
0.05	1.10	0.40	0.010	0.012	2.20
100% CO₂					
0.05	0.90	0.30	0.010	0.012	2.20

Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Efficiency (%)	TTW Dist.	Deposition Rate
100% CO₂						
1.2 mm	190 A	31 V	952 m/min		19 mm	

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Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Efficiency (%)	TTW Dist.	Deposition Rate
1.6 mm	305 A	27 V	640 m/min		25 mm	
1.2 mm	140 A	21 V	445 m/min		19 mm	
1.6 mm	300 A	30 V	35 cm/min	87 %		4.63 kg/h
1.4 mm	155 A	25 V	381 cm/min	87 %		2 kg/h
1.2 mm	150 A	28 V	508 cm/min	86 %		1.91 kg/h
1.2 mm	215 A	27 V	914 m/min		19 mm	
1.2 mm	330 A	34 V	1524 cm/min	87 %		5.76 kg/h
1.6 mm	450 A	33 V	1016 cm/min	87 %		7.3 kg/h
1.4 mm	360 A	36 V	1143 cm/min	85 %		6.03 kg/h
1.6 mm	315 A	32 V	699 m/min		25 mm	
1.6 mm	305 A	28 V	640 m/min		25 mm	
1.4 mm	430 A	37 V	1524 cm/min	87 %		7.98 kg/h
1.2 mm	215 A	28 V	914 m/min		19 mm	
1.2 mm	210 A	29 V	762 cm/min	86 %		86 kg/h
1.2 mm	290 A	33 V	1270 cm/min	87 %		4.85 kg/h
1.6 mm	365 A	33 V	762 cm/min	86 %		5.58 kg/h
1.6 mm	200 A	24 V	381 m/min		25 mm	
1.2 mm	140 A	23 V	445 m/min		19 mm	
1.6 mm	500 A	39 V	1270 cm/min	87 %		9.11 kg/h
1.4 mm	310 A	33 V	889 cm/min	85 %		4.63 kg/h
1.4 mm	245 A	28 V	635 cm/min	86 %		3.31 kg/h
1.6 mm	190 A	27 V	38 cm/min	87 %		2.77 kg/h
1.2 mm	225 A	29 V	952 m/min		19 mm	
1.6 mm	315 A	32 V	699 m/min		25 mm	
1.2 mm	250 A	30 V	1016 cm/min	87 %		3.86 kg/h
1.6 mm	410 A	33 V	889 cm/min	88 %		6.35 kg/h
1.6 mm	200 A	24 V	381 m/min		25 mm	
1.2 mm	190 A	31 V	952 m/min		19 mm	
1.6 mm	305 A	27 V	640 m/min		25 mm	
1.2 mm	140 A	21 V	445 m/min		19 mm	
1.6 mm	300 A	30 V	35 cm/min	87 %		4.63 kg/h
1.4 mm	155 A	25 V	381 cm/min	87 %		2 kg/h
1.2 mm	150 A	28 V	508 cm/min	86 %		1.91 kg/h
1.2 mm	215 A	27 V	914 m/min		19 mm	
1.2 mm	330 A	34 V	1524 cm/min	87 %		5.76 kg/h
1.6 mm	450 A	33 V	1016 cm/min	87 %		7.3 kg/h
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75% Ar - 25% CO2						
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