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	AWS A5.29 : E81T1-Ni2C/Ni2M MIL-E-24403/1 : MIL-81T1-Ni2C-J/Ni2M A.B.S.- 3YSA ASME SFA 5.29 CERTIFIED BY C.W.B.- AWS A5.29
Industry	Mobile Equipment Bridge Construction Industrial and General Fabrication 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 (80 ksi)	605 MPa (88 ksi)	26 %	67 %
75% Ar - 25% CO2				
As Welded	565 MPa (82 ksi)	620 MPa (90 ksi)	27 %	68 %

Typical Charpy V-Notch Properties		
Condition	**Testing Temperature**	**Impact Value**
100% CO2		
As Welded	-18 °C (0 °F)	84 J (62 ft-lb)
As Welded	-29 °C (-20 °F)	58 J (43 ft-lb)
As Welded	-40 °C (-40 °F)	53 J (39 ft-lb)
As Welded	-51 °C (-60 °F)	46 J (34 ft-lb)
75% Ar - 25% CO2		
As Welded	-18 °C (0 °F)	69 J (63 ft-lb)
As Welded	-29 °C (-20 °F)	64 J (47 ft-lb)
As Welded	-40 °C (-40 °F)	54 J (40 ft-lb)
As Welded	-51 °C (-60 °F)	37 J (27 ft-lb)

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

Deposition Data						
Diameter	**Current**	**Voltage**	**Wire Feed Speed**	**Deposition Efficiency (%)**	**TTW Dist.**	**Deposition Rate**
100% CO2						

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Deposition Data						
Diameter	**Current**	**Voltage**	**Wire Feed Speed**	**Deposition Efficiency (%)**	**TTW Dist.**	**Deposition Rate**
1.6 mm (1/16 in.)	315 A	32 V	699 m/min (275 in./min)	-	25 mm (1 in.)	-
1.6 mm (1/16 in.)	305 A	28 V	640 m/min (260 in./min)	-	25 mm (1 in.)	-
1.6 mm (1/16 in.)	200 A	24 V	381 m/min (150 in./min)	-	25 mm (1 in.)	-
1.2 mm (.045 in.)	215 A	28 V	914 m/min (360 in./min)	-	19 mm (3/4 in.)	-
1.2 mm (.045 in.)	140 A	23 V	445 m/min (175 in./min)	-	19 mm (3/4 in.)	-
1.2 mm (.045 in.)	190 A	31 V	952 m/min (375 in./min)	-	19 mm (3/4 in.)	-
1.4 mm (.052 in.)	245 A	28 V	635 cm/min (250 in./min)	86 %	-	3.31 kg/h (7.3 lbs/h)
1.6 mm (1/16 in.)	500 A	39 V	1270 cm/min (500 in./min)	87 %	-	9.11 kg/h (20.1 lbs/h)
1.4 mm (.052 in.)	430 A	37 V	1524 cm/min (600 in./min)	87 %	-	7.98 kg/h (17.6 lbs/h)
1.6 mm (1/16 in.)	450 A	33 V	1016 cm/min (400 in./min)	87 %	-	7.3 kg/h (16 lbs/h)
1.6 mm (1/16 in.)	300 A	30 V	35 cm/min (250 in./min)	87 %	-	4.63 kg/h (10.2 lbs/h)
1.2 mm (.045 in.)	290 A	33 V	1270 cm/min (500 in./min)	87 %	-	4.85 kg/h (10.7 lbs/h)
1.2 mm (.045 in.)	250 A	30 V	1016 cm/min (400 in./min)	87 %	-	3.86 kg/h (8.5 lbs/h)
1.4 mm (.052 in.)	310 A	33 V	889 cm/min (350 in./min)	85 %	-	4.63 kg/h (10.2 lbs/h)
1.2 mm (.045 in.)	210 A	29 V	762 cm/min (300 in./min)	86 %	-	86 kg/h (6.3 lbs/h)
1.4 mm (.052 in.)	155 A	25 V	381 cm/min (150 in./min)	87 %	-	2 kg/h (4.4 lbs/h)
1.4 mm (.052 in.)	360 A	36 V	1143 cm/min (450 in./min)	85 %	-	6.03 kg/h (13.3 lbs/h)
1.6 mm (1/16 in.)	190 A	27 V	38 cm/min (150 in./min)	87 %	-	2.77 kg/h (6.1 lbs/h)
1.6 mm (1/16 in.)	410 A	33 V	889 cm/min (350 in./min)	88 %	-	6.35 kg/h (14 lbs/h)
1.6 mm (1/16 in.)	365 A	33 V	762 cm/min (300 in./min)	86 %	-	5.58 kg/h (12.3 lbs/h)
1.2 mm (.045 in.)	330 A	34 V	1524 cm/min (600 in./min)	87 %	-	5.76 kg/h (12.7 lbs/h)
1.2 mm (.045 in.)	150 A	28 V	508 cm/min (200 in./min)	86 %	-	1.91 kg/h (4.2 lbs/h)
75% Ar - 25% CO2						
1.6 mm (1/16 in.)	305 A	27 V	640 m/min (260 in./min)	-	25 mm (1 in.)	-
1.6 mm (1/16 in.)	315 A	32 V	699 m/min (275 in./min)	-	25 mm (1 in.)	-
1.6 mm (1/16 in.)	200 A	24 V	381 m/min (150 in./min)	-	25 mm (1 in.)	-

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Deposition Data						
Diameter	**Current**	**Voltage**	**Wire Feed Speed**	**Deposition Efficiency (%)**	**TTW Dist.**	**Deposition Rate**
1.2 mm (.045 in.)	225 A	29 V	952 m/min (375 in./min)	-	19 mm (3/4 in.)	-
1.2 mm (.045 in.)	215 A	27 V	914 m/min (360 in./min)	-	19 mm (3/4 in.)	-
1.2 mm (.045 in.)	140 A	21 V	445 m/min (175 in./min)	-	19 mm (3/4 in.)	-