

Dual Shield II 100-D1

Dual Shield II 100-D1 is an all-position flux cored electrode specially formulated to weld quenched and tempered steels that require a postweld heat treatment using 75% Ar / 25% CO₂ shielding gas. Dual Shield II 100-D1 was designed to weld oil field components made of 4130, 8630, API X-80 and similar steels.

Specifications

Classifications	ASME SFA 5.36 ASME SFA 5.29 AWS A5.36 : E101T1-M21A4-D1 AWS A5.29 : E101T1-GM
Industry	Mobile Equipment Industrial and General Fabrication Civil Construction

Typical Tensile Properties

Condition	Yield Strength	Tensile Strength	Elongation	Reduction in Area
75% Ar - 25% CO₂				
Stress Relieved 8 hour(s) 635 °C	585 MPa	650 MPa	26 %	58 %
As Welded	650 MPa	705 MPa	23 %	58 %

Typical Charpy V-Notch Properties

Condition	Testing Temperature	Impact Value
75% Ar - 25% CO₂		
Stress Relieved	-32 °C	27 J

Typical Weld Metal Analysis %

C	Mn	Si	S	P	Ni	Mo
75% Ar - 25% CO₂						
0.06	1.60	0.40	0.01	0.009	0.82	0.33

Deposition Data

Diameter	Current	Voltage	Wire Feed Speed	Efficiency (%)	Deposition Rate
75% Ar - 25% CO₂					
1.4 mm	430 A	37 V	1524 cm/min	87 %	8.0 kg/h
1.4 mm	360 A	36 V	1143 cm/min	85 %	6.0 kg/h
1.4 mm	245 A	28 V	635 cm/min	86 %	3.3 kg/h
1.2 mm	290 A	33 V	1270 cm/min	87 %	4.8 kg/h
1.6 mm	365 A	33 V	762 cm/min	86 %	5.5 kg/h
1.6 mm	190 A	27 V	38 cm/min	87 %	2.8 kg/h
1.2 mm	210 A	29 V	762 cm/min	86 %	2.8 kg/h
1.6 mm	410 A	33 V	889 cm/min	88 %	6.3 kg/h
1.2 mm	250 A	30 V	1016 cm/min	87 %	3.9 kg/h
1.6 mm	300 A	30 V	35 cm/min	87 %	4.6 kg/h
1.2 mm	150 A	28 V	508 cm/min	86 %	1.9 kg/h
1.4 mm	155 A	25 V	381 cm/min	87 %	2.0 kg/h
1.4 mm	310 A	33 V	889 cm/min	85 %	4.6 kg/h

Recommended Welding Parameters

Current	Wire Diameter	TTW Dist.	Voltage	Wire Feed Speed
75% Ar - 25% CO₂				
200-225 A	1.2 mm	12.7-19 mm	24-27 V	660-965 cm/min

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Recommended Welding Parameters

Current	Wire Diameter	TTW Dist.	Voltage	Wire Feed Speed
295-355 A	1.4 mm	19-25.4 mm	27-31 V	864-1194 cm/min
225-265 A	1.2 mm	19-25.4 mm	27-29 V	965-1321 cm/min
135-250 A	1.4 mm	12.7-16 mm	22-26 V	279-584 cm/min
285-340 A	1.6 mm	19-25.4 mm	27-30 V	508-762 cm/min
340-400 A	1.6 mm	25.4-31.75 mm	28-32 V	762-1067 cm/min
185-285 A	1.6 mm	16-19 mm	24-28 V	279-508 cm/min
130-200 A	1.2 mm	9.5-12.7 mm	22-26 V	381-660 cm/min
250-295 A	1.4 mm	16-19 mm	25-29 V	584-864 cm/min