

DUAL SHIELD 7100 Ultra

Tech Data Sheet

Industry

Civil Construction
Automotive
Process
Rail Road Car
Mobile Machinery
Bridge Construction
Shipbuilding
General Fabrication



Welding Process

FCAW (Flux Core)

Classifications/Approvals

TUV
L.R.- 3S,3YS(H10)
B.V.- SA3YM(H)
G.L.- 3YH15S
CONTROLAS
DEUTSCHE BAHN
AWS A5.20; E71T-1CH8/T-1M/T-9CH8/T-9M
A.B.S.- 3SA,3YSA
CERTIFIED BY C.W.B.- CSA W48
D.N.V.- III YMS

Welding Position

All Position

Filler Metal Type

Mild Steel

Shielding Gas

100% CO₂
Argon Based Mix

AWS Classifications

AWS A5.20; E71T-9
AWS A5.20; E71T-1

Dual Shield 7100 Ultra is an all-position wire with a uniquely balanced formulation to provide greater deposition and improved welding productivity. This product has a wider range of operating parameters and produces lower welding fume than other E71T-1 flux cored wires. The low spatter levels and easy slag removal minimizes post weld cleanup. Dual Shield 7100 Ultra can be used with either CO₂ or 75% Ar/25% CO₂. This versatility in gas selection provides the fabricator greater flexibility in choosing both wire and gas. This all-position wire is extremely versatile for a variety of applications including railcar and earth moving equipment, as well as general structural steel fabrication.

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Available Parts			
Part No.	Size	Weight	Package
248000671	.035	10	Spool
248000622	.035	33	Spool
248000036	.045	10	Spool
248005035	.045	15	Spool
248000044	.045	33	Spool
248000358	.045	33	Spool
248000366	.045	33	Spool
248000747	.045	33	Spool
248000689	.045	33	Spool Bulk Pack
248000200	.045	33	
248000564	.045	500	Marathon Pack
248000119	.045	60	Coil
428800031	.045	60	Spool
248000267	.045	600	Octagon Marathon Pack
248000069	.052	10	Spool
248005043	.052	15	Spool
248000168	.052	250	Octagon Marathon Pack
248000010	.052	33	Spool
248000754	.052	33	Spool
248000697	.052	33	Spool Bulk Pack
248000721	.052	50	Coil Bulk Pack
248000606	.052	500	Marathon Pack
248000127	.052	60	Coil
248000713	.052	60	Coil Bulk Pack
248000283	.052	600	Octagon Marathon Pack
248000085	1/16	10	Spool
248005050	1/16	15	Spool
248000234	1/16	250	Octagon Marathon Pack
248000028	1/16	33	Spool
248000218	1/16	33	Spool
248000762	1/16	33	Spool
248000598	1/16	500	Marathon Pack
248000101	1/16	60	Coil
248000614	1/16	60	Coil Bulk Pack
248000291	1/16	600	Octagon Marathon Pack
248000531	1/16	850	Reel

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Deposition Data							
Diameter	Wire Feed Speed	Amps	Volts	Shielding Gas	TTW Dist.	Deposition Rate	Efficiency
0.035 in.	250 ipm	105 A	24 V	CO-2	0.625 in.	2.8 lb/hr	85.8 %
0.035 in.	400 ipm	140 A	25 V	CO-2	0.625 in.	4.6 lb/hr	87.0 %
0.035 in.	475 ipm	165 A	25.5 V	CO-2	0.625 in.	5.5 lb/hr	87.5 %
0.035 in.	550 ipm	185 A	27 V	CO-2	0.625 in.	6.3 lb/hr	87.6 %
0.035 in.	750 ipm	215 A	29 V	CO-2	0.625 in.	8.6 lb/hr	87.9 %
0.045 in.	200 ipm	140 A	24 V	CO-2	0.625 in.	3.6 lb/hr	77.8 %
0.045 in.	300 ipm	192 A	25.5 V	CO-2	0.625 in.	5.5 lb/hr	79.3 %
0.045 in.	400 ipm	230 A	27 V	CO-2	0.75 in.	7.4 lb/hr	81.8 %
0.045 in.	500 ipm	275 A	28.5 V	CO-2	0.75 in.	9.6 lb/hr	83.1 %
0.045 in.	600 ipm	308 A	30 V	CO-2	0.75 in.	11.8 lb/hr	84.5 %
0.052 in.	150 ipm	150 A	23.5 V	CO-2	0.75 in.	3.6 lb/hr	75.8 %
0.052 in.	200 ipm	190 A	24 V	CO-2	0.75 in.	4.9 lb/hr	77.8 %
0.052 in.	300 ipm	250 A	25.5 V	CO-2	0.75 in.	7.7 lb/hr	81.7 %
0.052 in.	400 ipm	300 A	27 V	CO-2	0.75 in.	10.3 lb/hr	82.5 %
0.052 in.	500 ipm	345 A	28.5 V	CO-2	0.75 in.	13.3 lb/hr	84.7 %
0.052 in.	600 ipm	375 A	30 V	CO-2	0.75 in.	16.2 lb/hr	88.5 %
0.062 in.	150 ipm	195 A	24 V	CO-2	0.75 in.	5.5 lb/hr	85.0 %
0.062 in.	250 ipm	290 A	25.5 V	CO-2	0.75 in.	9.2 lb/hr	86.5 %
0.062 in.	300 ipm	325 A	26.5 V	CO-2	0.75 in.	10.9 lb/hr	85.9 %
0.062 in.	350 ipm	352 A	27 V	CO-2	0.75 in.	13.1 lb/hr	88.1 %
0.062 in.	400 ipm	382 A	28.5 V	CO-2	0.75 in.	14.7 lb/hr	86.8 %
0.062 in.	500 ipm	455 A	30.5 V	CO-2	0.75 in.	18.3 lb/hr	87.1 %

Typical Mechanical Properties	
As Welded 75% Ar / 25% CO ₂	
Yield Strength	78 ksi (540 MPa)
Tensile Strength	88 ksi (605 MPa)
Elongation in 2"	26 %
As Welded CO ₂	
Yield Strength	75 ksi (515 MPa)
Tensile Strength	85 ksi (585 MPa)
Elongation in 2"	26 %

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Typical Charpy V-Notch Impact Properties	
Testing Temperature 0°F (-18°C)	
As Welded CO2	43 ft.-lbs. (58 J)
As Welded 75% Ar / 25% CO2	42 ft.-lbs. (57 J)
Testing Temperature -20°F (-29°C)	
As Welded CO2	25 ft.-lbs. (34 J)
As Welded 75% Ar / 25% CO2	35 ft.-lbs. (47 J)

Typical Undiluted Weld Metal Analysis	
CO2	
C	0.02 %
Mn	1.3 %
Si	0.5 %
P	0.010 %
S	0.013 %
75% Ar / 25% CO2	
C	0.03 %
Mn	1.6 %
Si	0.6 %
P	0.010 %
S	0.012 %