

DUAL SHIELD II 712X AWS A5.20: E71T-1MJH8/T-9MJH8/T-12MJH8

FEATURES

Dual Shield II 712X is an all-position flux cored wire intended for applications requiring outstanding weld metal toughness. This X Series wire, in combination with 75% Argon/25% CO₂ shielding gas, can produce Charpy V-notch impact results of more than 50 ft-lb (68 J) at -60°F (-51°C) and Crack Tip Opening Displacement (CTOD) results of more than 20 mils (0.5 mm) at -40°F (-40°C). Dual Shield II 712X also provides the smooth arc and low spatter levels characteristic of Dual Shield flux cored wires.

Applications include off-shore oil components, shipbuilding and heavy equipment where exceptional Charpy impact/low temperature toughness is required.

CLASSIFICATIONS AND APPROVALS

- AWS A5.20: E71T-1MJH8/T-9MJH8/T-12MJH8
- ASME SFA 5.20
- CERTIFIED BY C.W.B.- CSA W48
- A.B.S. - 3SA, 4YSA
- D.N.V. - IV YS
- L.R. - 4YS,40S

WELDING PROCESS

- FCAW (Flux Core)

INDUSTRIES

- Heavy Equipment
- Shipbuilding
- Offshore Oil

TYPICAL MECHANICAL PROPERTIES

Shielding Gas 75/25	
Yield Strength	78 ksi, 540 MPa
Tensile Strength	83 ksi, 570 MPa
Elongation (In 2", 51 mm)	28%

CHARPY V-NOTCH PROPERTIES

Shielding Gas 75/25	
Testing Temperature	
0°F (-18°C)	129 ft-lb, 175 J
-40°F (-40°C)	93 ft-lb, 125 J

WELD METAL ANALYSIS

Shielding Gas 75/25	
C	0.05%
Mn	1.1%
Si	0.3%
P	0.009%
S	0.010 %

DUAL SHIELD II 712X continued

DEPOSITION TABLE					
Diameter in (mm)	Amps	Volts	Wire Feed Speed ipm (cm/min)	Shielding Gas	Deposition Rate lb/hr (kg/hr)
.045 (1.2)	129	19.5	160 (406)	75/25	
	141	20.2	190 (483)	75/25	
	153	20.9	219 (556)	75/25	
	165	21.6	249 (632)	75/25	
	177	22.3	278 (706)	75/25	
	189	23.0	308 (782)	75/25	
	200	23.7	337 (856)	75/25	
	212	24.4	367 (932)	75/25	
	224	25.1	396 (1006)	75/25	
	236	25.8	426 (1082)	75/25	
	248	26.5	455 (1156)	75/25	9.3 (4.21)
	.052 (1.4)	135	20.0	130 (330)	75/25
148		20.6	153 (389)	75/25	
160		21.1	176 (447)	75/25	
173		21.7	199 (505)	75/25	
185		22.2	222 (564)	75/25	
198		22.8	245 (622)	75/25	
210		23.3	268 (681)	75/25	
223		23.9	291 (739)	75/25	
235		24.4	314 (798)	75/25	
248		25.0	337 (856)	75/25	
260		25.5	360 (914)	75/25	9.4 (4.26)
1/16 (1.6)		195	23.8	145 (368)	75/25
	213	24.0	160 (406)	75/25	
	231	24.3	175 (445)	75/25	
	249	24.5	190 (383)	75/25	
	267	24.8	205 (521)	75/25	
	285	25.0	220 (559)	75/25	
	303	25.3	235 (597)	75/25	
	321	25.5	250 (635)	75/25	9.6 (4.35)

DUAL SHIELD II 712X continued

VERTICAL UP WELDING PARAMETERS								
Gas: 75/25 .045"			Gas: 75/25 .052"			Gas: 75/25 1/16"		
WFS ipm	Volts	Amps	WFS ipm	Volts	Amps	WFS ipm	Volts	Amps
160	19.5	129	130	20.0	135	145	23.8	195
190	20.2	141	153	20.6	148	160	24.0	213
219	20.9	153	176	21.1	160	175	24.3	231
249	21.6	165	199	21.7	173	190	24.5	249
278	22.3	177	222	22.2	185	205	24.8	267
308	23.0	189	245	22.8	198	220	25.0	285
337	23.7	200	268	23.3	210	235	25.3	303
367	24.4	212	291	23.9	223	250	25.5	321
396	25.1	224	314	24.4	235			
426	25.8	236	337	25.0	248			
455	26.5	248	360	25.5	260			

FULL RANGE WELDING PARAMETERS							
Gas: 75/25 .045"				Gas: 75/25 .052"			
WFS ipm	Volts	Amps	Tip to Work in	WFS ipm	Volts	Amps	Tip to Work in
140-240	22-26	130-200	3/8-1/2	125-270	24-28	135-250	1/2-5/8
240-305	24-27	165-225	1/2-3/4	270-370	27-30	225-295	5/8-3/4
305-470	27-29	185-265	3/4-1	370-540	28-32	245-355	3/4-1

FULL RANGE WELDING PARAMETERS			
Gas: 75/25 1/16"			
WFS ipm	Volts	Amps	Tip to Work in
140-240	24-28	185-285	5/8-3/4
240-320	27-30	250-340	3/4-1
320-460	28-32	285-400	1-1 ¹ / ₄

DUAL SHIELD II 712X continued

PART NUMBER / PRODUCT INFORMATION		
Part Number	Description	UPC
245019757	DS II 712X 045X33#AWS	662303082178
245019765	DS II 712X 052X33#AWS	662303082185
245019773	DS II 712X 1/16X33#AWS	662303082192
245019781	DS II 712X 1/16x60#CL	