

Product: FabCO Triple 7 Diameter: .045" Shielding Gas: C1 (100% CO2) Current/Polarity: DCEP Classification: E71T-1 H8, E71T-9 H8 Specification: AWS A5.20/A5.20M:2005 Test Completed: 8/04/2023

Certificate of Conformance For AWS D1.8/D1.8M, Seismic Supplement

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Test Settings	High Heat Input	Low Heat Input		Lot- # C608862501171	AWS D	1.8	High Heat Input	Low Heat Input	
	82.9 kJ/in	28.2 kJ/in		Mechanical Properties	Requirem	nents	82.9 kJ/in	28.2 kJ/in	
Voltage	25	27.5		Test Reference #			PD8878	PD8877	
Current (amps)	220	290							
WFS (ipm)	350	490							
Travel Speed (ipm)	3.99	17		Tensile Strength (psi)	70.00	00	71 500	83 100	
Stick Out	5/8"	5/8"		Yield Strength (psi)	58.00	00	61,200	77,900	
# of passes	1	19		Elongation (%)	22		29	25	
# of layers	4 2004/25			Average Charpy V-notch					
Preneat Temp. °F	500+/-25	200+/-25			40		169	92	
Weld Position	3G	1G		170 1					
To at O attin an	Link Linet Invest	L ave the at largest		-4 # 1100074	• 1		likela i la st la sud	1	
l est Settings	High Heat Input	Low Heat Input		Lot-# H600/1	AWS D	1.8 Jents	High Heat Input	Low Heat Input	
	81.7 kJ/in	31.7 kJ/in	┥	Mechanical Properties	Requirem	iento	81.7 kJ/in	31.7 kJ/in	
Voltage	25	27		Test Reference #			PE6604	PE6602	
Current (amps)	220	290							
WFS (Ipm)	4.0	1/ 8		Topoilo Strongth (poi)					
Stick Out	5/8"	5/8"		Vield Strength (psi)	70,00	00	77,100	94,200	
# of passes	8	15		Flongation (%)	58,00	00	67,500	89,600	
# of lavers	4	6		Average Charpy V-notch	22		30	22	
Preheat Temp. °F	300+/-25	RT		Impact Properties ft•lbs @	10		10.1	20	
Interpass Temp. °F	500+/-50	200+/-25		+70 °F	40		134	69	
Weld Position	3G	1G							
Test Settings	High Heat Input	Low Heat Input		Lot- # D61355		1 8	High Heat Input	Low Heat Input	
	80.3 kJ/in	29.9 kJ/in		Mechanical Properties	Requirem	nents	80.3 kJ/in	29.9 kJ/in	
Voltage	25	27	1	Test Reference #			PE1364	PE1362	
Current (amps)	225	290			1				
WFS (ipm)	375	600							
Travel Speed (ipm)	4.22	15.7		Tensile Strength (psi)	70.00	00	72 100	90,000	
Stick Out	5/8"	3/4"		Yield Strength (psi)	58.00	00	62 800	84 700	
# of passes	6	14		Elongation (%)	22	00	29	22	
# of layers	4	5		Average Charpy V-notch					
Preheat Temp. %	300+/-25 500±/ 50	K I 200±/ 25		Impact Properties ft•lbs @	40		139	104	
Interpass Temp. *F	36	2001/-23 1G		+70 -F					
	00	10							
I	D: ££	sible Undregen T	osted :	n accordance with AWE AF 20/45 2	M Cla	160 14			
	Dinus	& Extended Ex	posur	e - in accordance with AWS A5.20/A5.2	1.8M	use I(,		
Condition Lot -		Lot - #		Test Reference #		Average (ml/100g)			
As Received	As Received			LIR6000	HB6999		4.7 (ml/100g)		
7 Day Exposure		H60071		прозаз			4.7 (111/10)	ug)	

Jun Can

James Owens, Quality Assurance Specialist



Product: FabCO Triple 7 Diameter: .045" Shielding Gas: M21-ArC-25 Current/Polarity: DCEP Classification: E71T-1 H8, E71T-9 H8 Specification: AWS A5.20/A5.20M:2005 Test Completed: 8/04/2023

Certificate of Conformance For AWS D1.8/D1.8M, Seismic Supplement

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Test Settings	High Heat Inp	ut Low Heat Input		Lot- # C608862501171	AWS	D1.8	High Heat Input	Low Heat Input
	82.5 kJ/in	27.6 kJ/in		Mechanical Properties	Require	ments	82.5 kJ/in	27.6 kJ/in
Voltage	25	27	1 [Test Reference #			PD8880	PD8879
Current (amps)	220	290						
WFS (ipm)	350	490						
Travel Speed (ipm)	4	17		Tensile Strength (psi)	70.0	00	78 200	90 500
Stick Out	5/8"	5/8"		Yield Strength (psi)	58.0		67 100	86,000
# of passes	7	19		Elongation (%)	22	>	28	23
# of layers	4			Average Charpy V-notch		-		_0
Preheat Temp. °F	300+/-25	RI 2001/25		Impact Properties ft•lbs @	40)	130	94
Interpass Temp. °F	300+/-50	200+/-25		+70 °F				-
Weld Position	30	10						
Test Settings	High Heat Inp	ut Low Heat Input		H60071	AWS	D1.8	High Heat Input	Low Heat Input
	78.8 kJ/in	30.8 kJ/in		Mechanical Properties	Require	ments	78.8 kJ/in	30.8 kJ/in
Voltage	24	27		Test Reference #			PE6605	PE6606
Current (amps)	220	300						
WFS (ipm)	375	600						
Travel Speed (ipm)	4.2	15.75		Tensile Strength (psi)	70.0	00	84.500	101.000
Stick Out	5/8	5/8		Yield Strength (psi)	58,0	000	75,300	95,000
# of passes	0	6		Elongation (%)	22	2	27	23
# of layers	300+/-25	RT		Average Charpy V-holon				
Internace Temp. °F	500+/-50	200+/-25			40)	129	113
Weld Position	3G	1G		176 1				
Tost Sottings	High Host Inp	ut Low Heat Input		Lot # D61355	1		High Heat Input	Low Heat Input
Test Settings	79.9 k l/in			Mochanical Properties	AWS D Requirer	D1.8 ments	79.9 k l/in	20.2 k l/in
	70.0 KJ/III	23.2 KJ/III	-	Toot Deference #	-		70.0 KJ/III	DE1262
Voltage	24.5	20	ŀ	Test Reference #			PE 1305	FE1303
Current (amps)	375	290						
Travel Speed (ipm)	4 20	16 1		Tensile Strength (psi)				
Stick Out	5/8"	3/4"		Yield Strength (psi)	70,0	00	85,000	99,400
# of passes	7	16		Elongation (%)	58,0	00	72,400	97,000
# of lavers	4	6		Average Charpy V-notch	22	2	26	24
Preheat Temp. °F	300+/-25	RT		Impact Properties ft•lbs @	40	`	407	400
Interpass Temp. °F	500+/-50	200+/-25		+70 °F	40	J	137	123
Weld Position	3G	1G						
	Di	ffusible Hydrogen - T & Extended Ex	ested cposu	l in accordance with AWS A5.20/A5.2 Ire - in accordance with AWS D1.8/D	0M, Cla 1.8M	use 1	6	
Condition		Lot - #		Test Reference #		Average (ml/100g)		/100g)
As Received	1	H60071		HB6998			4.2 (ml/10	0g)
7 Day Exposu	ire	H60071		HB7041 5.0 (ml/100g)				

June Can

James Owens, Quality Assurance Specialist



Product: FabCO Triple 7 Diameter: .052" Shielding Gas: C1 (100% CO2) Current/Polarity: DCEP Classification: E71T-1 H8, E71T-9 H8 Specification: AWS A5.20/A5.20M:2005 Test Completed: 8/04/2023

Certificate of Conformance For AWS D1.8/D1.8M, Seismic Supplement

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Test Settings	High Heat Inp	ut Low Heat Input	Lo	ot- # H01757	AWS D1	.8	High Heat Input	Low Heat Input	
	83.3 kJ/in	30.7 kJ/in		Mechanical Properties	Requirem	ents	83.3 kJ/in	30.7 kJ/in	
Voltage	25	26		Test Reference #			PE6579	PE6576	
Current (amps)	225	270							
WFS (ipm)	260	350							
Travel Speed (ipm)	4	13.6		Tensile Strength (psi)	70.00	00	77 200	85 700	
Stick Out	3/4″	3/4″		Yield Strength (psi)	58.00	00	67.100	81.000	
# of passes	8	10		Elongation (%)	22		28	26	
# of layers	4 300+/-25	DT DT		Average Charpy v-notch					
Preneat Temp. *F	500+/-50	200+/-25			40		140	160	
Weld Position	3G	1G		170 1					
Toot Sottingo	High Heat Inn			at # D61255	<u>г</u>		High Heat Input	Low Heat Innut	
Test Settings	81.7 k l/in			Mechanical Properties	AWS D1 Requirem	.8 ents	81.7 k l/in	20 9 k l/in	
		29.9 KJ/III					01.7 KJ/III	29.9 KJ/III	
Voltage	20.0 230	20 275		I ESI REIEFENCE #	 		PE 1321	FE1320	
Current (amps)	230	350							
Travel Speed (inm)	4.32	14.35		Tensile Strength (psi)					
Stick Out	5/8"	3/4"		Yield Strength (psi)	70,00	00	74,900	87,700	
# of passes	7	16		Elongation (%)	58,00)0	65,600	82,500	
# of layers	4	6		Average Charpy V-notch	22		32	25	
Preheat Temp. °F	300+/-25	RT		Impact Properties ft•lbs @	40		112	128	
Interpass Temp. °F	500+/-50	200+/-25		+70 °F	-0		112	120	
Weld Position	3G	1G							
Test Settings	High Heat Inp	ut Low Heat Input	Lo	ot- # D61354	AWS D1	.8	High Heat Input	Low Heat Input	
	80.2 kJ/in	29.9 kJ/in		Mechanical Properties	Requirem	ents	80.2 kJ/in	29.9 kJ/in	
Voltage	25.5	26		Test Reference #			PE1349	PE1347	
Current (amps)	225	275							
WFS (ipm)	260	350		T 1 00 11 (1)					
Travel Speed (ipm)	4.3 5/8"	14.35		I ensile Strength (psi)	70,00	00	74,900	86,300	
Slick Oul	5/6	16		Flongation (%)	58,00	00	63,300	80,400	
# of layers	4	6		Average Charpy V-notch	22		29	25	
Preheat Temp ^o F	300+/-25	RT		Impact Properties ft-lbs @			. – .		
Interpass Temp. °F	500+/-50	200+/-25		+70 °F	40		1/4	124	
Weld Position	3G	1/G							
	Di	ffusible Hydrogen - To & Extended Ex	ested in posure	accordance with AWS A5.20/A5.2 - in accordance with AWS D1.8/D	0M, Clau 1.8M	se 16	6		
Condition Lot -		Lot - #		Test Reference #		Average (ml/100g)			
As Received	ł	H01757		HB7000		4.6 (ml/100g)			
7 Day Exposu	re	H01757		HB7043		8.4 (ml/100g)			

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James Owens, Quality Assurance Specialist



Product: FabCO Triple 7 Diameter: .052" Shielding Gas: M21-ArC-25 Current/Polarity: DCEP Classification: E71T-1 H8, E71T-9 H8 Specification: AWS A5.20/A5.20M:2005 Test Completed: 8/04/2023

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Test Settings	High Heat Input	Low Heat Input	L	ot- # H01757	AWS D1	.8	High Heat Input	Low Heat Input	
	81.2 kJ/in	30.7 kJ/in		Mechanical Properties	Requireme	ents	81.2 kJ/in	30.7 kJ/in	
Voltage	24	25		Test Reference #			PE6569	PE6573	
Current (amps)	225	275							
WFS (ipm)	255	367							
Travel Speed (ipm)	4.0	13.4		Tensile Strength (psi)	70.00	00	86.400	99.300	
Stick Out	3/4"	3/4"		Yield Strength (psi)	58.00	00	74.200	94.400	
# of passes	0	6		Elongation (%)	22	-	28	23	
# of layers	4 300+/-25	BT 0		Average Charpy V-holon					
Internase Tomp ^o E	500+/-50	200+/-25			40		171	143	
Weld Position	3G	1G		170 1					
		_							
Toot Cottingo	Link Linet Innut			at # D04255			High Heat Input	Low Hoot Innut	
Test Settings				01-# D61355	AWS D1 Requirement	.8 ents			
-	02.7 KJ/IN	29.0 kJ/in	┥┝				02.7 KJ/IN	29.0 KJ/IN	
Voltage	24	25		lest Reference #			PE1319	PE1318	
Current (amps)	230	275							
Traval Speed (ipm)	4 05	14 24		Tensile Strength (psi)					
Stick Out	5/8"	3/4"		Yield Strength (psi)	70,00	00	83,100	100,000	
# of passes	7	16		Elongation (%)	58,00	00	69,400	96,300	
# of lavers	4	6		Average Charpy V-notch	22		29	22	
Preheat Temp. °F	300+/-25	RT		Impact Properties ft•lbs @	40		100	125	
Interpass Temp. °F	500+/-50	200+/-25		+70 °F	40		122	155	
Weld Position	3G	1G							
Test Settings	High Heat Input	Low Heat Input	L	ot- # D61354	AWS D1	.8	High Heat Input	Low Heat Input	
	79.7 kJ/in	30.0 kJ/in		Mechanical Properties	Requireme	ents	79.7 kJ/in	30.0 kJ/in	
Voltage	24.5	25		Test Reference #			PE1350	PE1348	
Current (amps)	225	275							
WFS (ipm)	255	350							
Travel Speed (ipm)	4.2	13.75		Tensile Strength (psi)	70.00	00	80,800	99,000	
Stick Out	5/8 7	3/4		Yield Strength (psi)	58,00	00	68,400	93,600	
# of passes	4	6		Elongation (%)	22		30	23	
# 01 layers Preheat Temp ⁰ E	300+/-25	RT		Impact Properties ftelbs					
Internass Temp. ^o F	500+/-50	200+/-25		+70 °F	40		130	117	
Weld Position	3G	1G							
	Diffu	sible Hydrogen - To	ested in	accordance with AWS A5.20/A5.2	0M, Clau	se 10	5		
Condition		Lot - #	posult	Test Reference #		Average (ml/100g)		/100g)	
As Received					HB7001		5.1 (ml/100g)		
7 Day Exposure		H01757		HB7001			5.1 (ml/10	0g)	

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James Owens, Quality Assurance Specialist



Product: FabCO Triple 7 Diameter: 1/16" Shielding Gas: C1 (100% CO2) Current/Polarity: DCEP Classification: E71T-1 H8, E71T-9 H8 Specification: AWS A5.20/A5.20M:2005 Test Completed: 07/31/2023

Certificate of Conformance For AWS D1.8/D1.8M, Seismic Supplement

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Test Settings	High Heat Inpu	It Low Heat Input		Lot- # G64695	AWS D	01.8	High Heat Input	Low Heat Input	
	78.1 kJ/in	30.5 kJ/in		Mechanical Properties	Requiren	nents	78.1 kJ/in	30.5 kJ/in	
Voltage	25	26		Test Reference #			PE6464	PE6471	
Current (amps)	225	260							
WFS (ipm)	180	240							
Travel Speed (ipm)	4.1	13.7		Tensile Strength (psi)	70.0	00	78 300	84 500	
Stick Out	3/4″	3/4″		Yield Strength (psi)	58.0	00	70,700	80.000	
# of passes	8	7		Elongation (%)	22	2	30	25	
# of layers	4 300+/-25	/ PT		Average Charpy V-notch					
	500+/-23	200+/-25			40)	218	143	
Weld Position	3G	1G		170 1					
Toot Cottingo				Lat # DC1290	1		Link Leat Innut		
Test Settings				Lot- # D61260	AWS D Requiren	01.8 nents		29.7 k l/im	
	02.4 KJ/IN	20.7 KJ/IN	┥				02.4 KJ/IN	20.7 KJ/IN	
Voltage	25	20	-	l est Reference #			PE1257	PE1250	
Current (amps)	220	200							
Travel Speed (ipm)	4 01	14 18		Tensile Strength (psi)					
Stick Out	3/4"	3/4"		Yield Strength (psi)	70,0	00	72,900	82,700	
# of passes	6	19		Elongation (%)	58,0	00	63,000	77,900	
# of lavers	3	7		Average Charpy V-notch	22	<u>,</u>	32	26	
Preheat Temp. °F	300+/-25	RT		Impact Properties ft•lbs @	40	`	06	07	
Interpass Temp. °F	500+/-50	200+/-25		+70 °F	40	,	90	07	
Weld Position	3G	1G							
Test Settings	High Heat Inpu	It Low Heat Input		Lot- # D61354	AWS D	01.8	High Heat Input	Low Heat Input	
	81.7 kJ/in	29.0 kJ/in		Mechanical Properties	Requiren	nents	81.7 kJ/in	29.0 kJ/in	
Voltage	25	26		Test Reference #			PE1287	PE1286	
Current (amps)	225	260							
WFS (ipm)	185	215		T H O (H (N)					
Travel Speed (ipm)	4.13	14.04		I ensile Strength (psi)	70,0	00	77,700	85,800	
Stick Out	6	19		Flongation (%)	58,0	00	67,300	81,100	
# of layers	3	7		Average Charpy V-notch	22	2	28	27	
Preheat Temp ^o F	300+/-25	RT		Impact Properties ft-lbs @					
Interpass Temp ^o F	500+/-50	200+/-25		+70 °F	40)	74	145	
Weld Position	3G	1G							
	Dif	fusible Hydrogen - To & Extended Ex	ested posu	in accordance with AWS A5.20/A5.2 re - in accordance with AWS D1.8/D	0M, Cla 1.8M	use 10	5		
Condition Lot - #		Lot - #		Test Reference #		Average (ml/100g)			
As Received	1	G64695		HB6960		4.8 (ml/100g)			
7 Day Exposu	re	G64695		HB7019		5.6 (ml/100g)			

Jun Can

James Owens, Quality Assurance Specialist



Product: FabCO Triple 7 Diameter: 1/16" Shielding Gas: M21-ArC-25 Current/Polarity: DCEP Classification: E71T-1 H8, E71T-9 H8 Specification: AWS A5.20/A5.20M:2005 Test Completed: 07/31/2023

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Test Settings	High Heat Inp	ut Low Heat Input	L	_ot- # G64695	AWS D	1.8	High Heat Input	Low Heat Input	
	78.7 kJ/in	29.8 kJ/in		Mechanical Properties	Requirem	nents	78.7 kJ/in	29.8 kJ/in	
Voltage	24	25		Test Reference #			PE6453	PE6454	
Current (amps)	225	280							
WFS (ipm)	180	240							
Travel Speed (ipm)	4.1	14		Tensile Strength (psi)	70.0	00	82 600	94 100	
Stick Out	3/4"	3/4"		Yield Strength (psi)	58.0	00	71,300	91,100	
# of passes	8	17		Elongation (%)	22	00	28	27	
# of layers	4			Average Charpy V-notch			-		
	500+/-25	200+/-25			40		149	153	
Mold Desition	3G	1G		+70 F					
		10							
					· · · · · ·				
lest Settings	High Heat Inp	Low Heat Input		.ot- # D61280	AWS D	1.8 Jonts	High Heat Input	Low Heat Input	
	80.8 kJ/in	29.8 kJ/in		Mechanical Properties	Requiren	lents	80.8 kJ/in	29.8 kJ/in	
Voltage	24.5	26		Test Reference #			PE1247	PE1246	
Current (amps)	225	260							
WFS (ipm)	100	210		Tanaila Otranath (nai)					
Travel Speed (ipm)	4.10 3///"	3///"		Viold Strongth (psi)	70,0	00	77,500	86,900	
	6	19		Elongation (%)	58,0	00	67,300	82,900	
# of layers	3	7		Average Charpy V-notch	22		32	29	
Preheat Temp ^o F	300+/-25	RT		Impact Properties ft-lbs @					
Interpass Temp. °F	500+/-50	200+/-25		+70 °F	40		136	158	
Weld Position	3G	1G							
Test Settings	High Heat Inp	ut Low Heat Input	L	-ot- # D61354	A14/6 D	4.0	High Heat Input	Low Heat Input	
	83.0 kJ/in	29.2 kJ/in		Mechanical Properties	Requirem	nents	83.0 kJ/in	29.2 kJ/in	
Voltage	24	26		Test Reference #			PE1285	PE1284	
Current (amps)	225	260							
WFS (ipm)	185	218							
Travel Speed (ipm)	3.91	13.93		Tensile Strength (psi)	70.0	00	91 200	04.000	
Stick Out	3/4"	3/4"		Yield Strength (psi)	70,00 58.0	00	67,300	94,000	
# of passes	6	19		Elongation (%)	22	00	28	25	
# of layers	3	7		Average Charpy V-notch	~~~		20	20	
Preheat Temp. °F	300+/-25	RI		Impact Properties ft•lbs @	40		121	143	
Interpass Temp. °F	500+/-50	200+/-25		+70 °F	_				
Weld Position	36	16							
L									
	Di	& Extended Ex	ested in posure	n accordance with AWS A5.20/A5.20	0M, Clau 1.8M	use 10)		
Condition Lot - #				Test Reference #			Average (ml/100g)		
As Received	1	G64695		HB6959		6.6 (ml/100g)			
7 Day Exposu	re	G64695		HB7018			5.5 (ml/10	0g)	

June Can

James Owens, Quality Assurance Specialist