

Product Type: TM-115  
 Classification: E110T5-K3C, E110T5-K3M H4  
 Specifications: AWS A5.29-2005, ASME SFA5.29  
 Diameter Tested: 1/6", 3/32"  
 Date Tested: 08/26/10  
 Date Generated: 8/26/2010

This is to certify that the product named above and supplied on the referenced order number is of the same classification, manufacturing process, and material requirements as the material which was used for the test that was concluded on the date shown, the results of which are shown below. All tests required by the specifications shown for classification were performed at that time and the material tested met all requirements. It was manufactured and supplied by the Quality System Program of Hobart Brothers, which meets the requirements of ISO9000, ANSI/AWS A5.01, and other specification and Military requirements, as applicable.

### Test Settings

Shielding Medium	Amps / Polarity	Volts	WFS in/min(m/min)	ESO in(mm)	Preheat F(C)	Interpass F(C)	Travel Speed in/min(cm/min)
SG-C 100%CO2	450 / DCEP	27	180 (4.6)	1 (25)	300(149)	300(149)	14 (35.6)
SG-AC-25	425 / DCEP	26	195 (5)	1 (25)	300(149)	300(149)	13 (33)
SG-C 100%CO2	300 / DCEP	26	257 (6.5)	.75 (19)	300(149)	300(149)	12 (30.5)
SG-AC-25	300 / DCEP	25	257 (6.5)	.75 (19)	300(149)	300(149)	12 (30.5)

### Mechanical Properties - Tensile

Shielding Medium	Ref. No.	Testing Conditions	Ult. Tensile Strength psi (MPa)	Yield Strength psi (MPa)	Elong.% in 2"
SG-C 100%CO2	PB3213	As Welded	110,000 ( 755 )	102,000 ( 701 )	19
SG-AC-25	PB3214	As Welded	113,000 ( 776 )	103,000 ( 713 )	22
SG-C 100%CO2	PB3125	As Welded	122,000 ( 842 )	106,000 ( 733 )	23
SG-AC-25	PB3137	Aged 48 Hrs 200F	128,000 ( 882 )	104,000 ( 714 )	21

### Mechanical Properties - Impact

Shielding Medium	Ref. No.	Testing Conditions	Temp. F (C)	Individuals ft.lb.(J)	Avg. ft.lb.(J)	Type
SG-AC-25	PB2982	As Welded	-60 (-51)	35,33,34 (47,45,46)	34 ( 46 )	Charpy-V-Notch
SG-C 100%CO2	PB3213	As Welded	-60 (-51)	57,48,60 (77,65,81)	55 ( 75 )	Charpy-V-Notch
SG-AC-25	PB3214	As Welded	-60 (-51)	76,74,82 (103,100,111)	77 ( 105 )	Charpy-V-Notch
SG-C 100%CO2	PB2962	As Welded	-60 (-51)	45,44,44 (61,60,60)	44 ( 60 )	Charpy-V-Notch

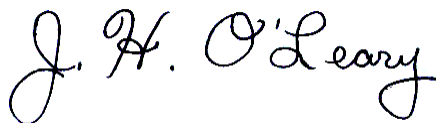
Ref.No.	Radiographic Inspection	Fillet Weld Test			
PB3213	Conforms	Horizontal :	Overhead :	Vertical :	Vertical :
PB3214	Conforms	Horizontal :	Overhead :	Vertical :	Vertical :
PB2962	Conforms	Horizontal :	Conforms	Overhead :	Vertical :
PB2982	Conforms	Horizontal :	Conforms	Overhead :	Vertical :

### Chemical Analysis

Shielding Medium / Ref. No	C	Mn	P	S	Si	Cu	Cr	V	Ni	Mo	Al	Ti	Nb	Co	B	W	Sn	Fe	Sb	N	Mg	Zn	Be
SG-C 100%CO2 / CB05259	0.06	1.74	0.009	0.012	0.42	0.06	0.03	< .01	2.56	0.36	*	*	*	*	*	*	*	*	*	*	*	*	*
SG-AC-25 / CB05260	0.06	1.83	0.009	0.010	0.48	0.06	0.03	< .01	2.60	0.40	*	*	*	*	*	*	*	*	*	*	*	*	*
SG-AC-25 / CB11826	0.04	1.42	0.007	0.012	0.32	0.04	0.04	< .01	2.04	0.35	*	*	*	*	*	*	*	*	*	*	*	*	*
SG-C 100%CO2 / CB11827	0.04	1.47	0.007	0.012	0.35	0.04	0.04	< .01	2.08	0.37	*	*	*	*	*	*	*	*	*	*	*	*	*

### Diffusible Hydrogen Collected per AWS A4.3

SG-C 100%CO2	2.0 ml/100g of weld metal for 1/16 in diameter
SG-AC-25	2.5 ml/100g of weld metal for 1/16 in diameter
SG-AC-25	2.9 ml/100g of weld metal for 3/32 in diameter
SG-C 100%CO2	2.4 ml/100g of weld metal for 3/32 in diameter



Joe O'Leary, Quality Assurance Rep.

Certification and Limited Warranty - Data for the above supplied product are those obtained when welded and tested in accordance with the above specification. All tests for the above classification were satisfied. Other tests and procedures may produce different results. Hobart Brothers produces welding consumables under continuing quality assurance programs audited and approved by the American Bureau of Shipping ("ABS").