

Multi-State Advanced Manufacturing	RELEASE DATE	09/09/2015		
Consortium	VERSION	v 001		
US DOL SPONSORED TAACCCT GRANT: TC23767	PAGE	1 of 4		
PRIMARY DEVELOPER: Kevin Ridge, Welding Instructor, Henry Ford College				

# Shielded Metal Arc Welding – Flat and Horizontal Project 1 – Specification and Print

Weld Type	4 Fillet Welds
Welding Process	SMAW
Position	Flat
Material	¼" Steel
Joint Type	Tee Flat
Backing Option	
Backing Material	

Polarity	DC+
Electrode	E6013 1/8, E7024 1/8, E6010 1/8, E7018 1/8
Transfer Mode	
Tungsten Electrode	
Shielding Gas	
Flow Rate	
Cup Size	

	Welding Procedure								
Weld Layers	Pass No.	Process	Filler Metal Classification	Filler Metal Diameter in (mm)	Current Amps	Current Type and Polarity	Wire Feed Speed	Volts	Remarks
Multi Pass to top		SMAW	E6013	1/8	90a	DC+			
			E7024	1/8	140a				
			E6010	1/8	80a				





PRIMARY DEVELOPER: Kevin Ridge, Welding Instructor, Henry Ford College

### Shielded Metal Arc Welding – Flat and Horizontal

Project 1 – Specification and Print

		E7018	1/8	120a		

Heat Treatment:

Preheat Temperature:

Post Heat Temperature:

Interpass Temperature: Quench after 2-3 passes

**Stress Relieving:** 

**Technique:** 4 Multi-pass fillet welds in flat positions using 4 different electrodes. Each side is to be filled to the top using multi-pass stringer technique.

Number of Electrodes: whatever it takes

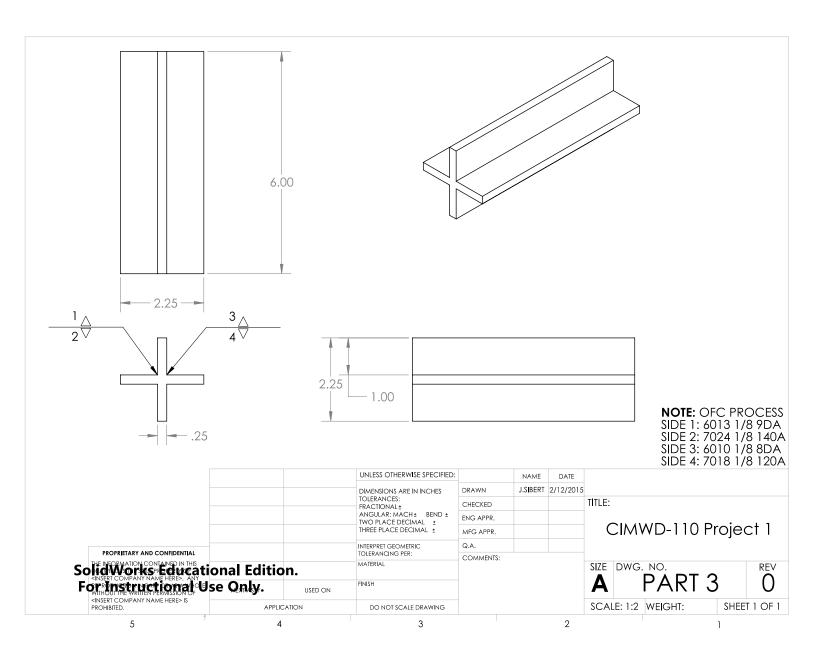
Additional Notes: Show instructor progress every 30 minutes, minimum.





Multi-State	RELEASE DATE	09/09/2015			
Advanced Manufacturing					
Consortium	VERSION	v 001			
US DOL SPONSORED TAACCCT GRANT: TC23767	PAGE	3 of 4			
PRIMARY DEVELOPER: Kevin Ridge, Welding Instructor, Henry Ford College					

## Shielded Metal Arc Welding – Flat and Horizontal Project 1 – Specification and Print



**(** 



Multi-State Advanced Manufacturing	RELEASE DATE	09/09/2015
Consortium	VERSION	v 001
US DOL SPONSORED TAACCCT GRANT: TC23767	PAGE	4 of 4
PRIMARY DEVELOPER: Kevin Ridge, Welding Inst	tructor, Henry Ford College	

**Shielded Metal Arc Welding – Flat and Horizontal** *Project 1 – Specification and Print* 

#### **SAFETY DISCLAIMER:**

M-SAMC educational resources are in no way meant to be a substitute for occupational safety and health standards. No guarantee is made to resource thoroughness, statutory or regulatory compliance, and related media may depict situations that are not in compliance with OSHA and other safety requirements. It is the responsibility of educators/employers and their students/employees, or anybody using our resources, to comply fully with all pertinent OSHA, and any other, rules and regulations in any jurisdiction in which they learn/work. M-SAMC will not be liable for any damages or other claims and demands arising out of the use of these educational resources. By using these resources, the user releases the Multi-State Advanced Manufacturing Consortium and participating educational institutions and their respective Boards, individual trustees, employees, contractors, and sub-contractors from any liability for injuries resulting from the use of the educational resources.

#### **DOL DISCLAIMER:**

This product was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration. The product was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership.

#### **RELEVANCY REMINDER:**

M-SAMC resources reflect a shared understanding of grant partners at the time of development. In keeping with our industry and college partner requirements, our products are continuously improved. Updated versions of our work can be found here: <u>http://www.msamc.org/resources.html</u>.

