

FLOWCHART: WELD 1060 Vertical Shielded Metal Arc Welding

Lecture

- Shop Orientation and Safety
- Chapter 5: Shielded Metal Arc Welding Equipment and Supplies
 - Chapter 5 Review
 - Chapter 5 Test
- Chapter 6: Shielded Metal Arc Welding
 - Chapter 6 Review
 - Chapter 6 Test
- Chapter 31: Procedure and Welder Qualifications
 - Chapter 31 Review
 - Chapter 31 Test

Lab

- Orientation, safety, safe use of equipment.
- Complete padding, t-joints, lap joints, and butt joints with 7018 electrodes in the vertical position to specification.
- Introduction to 3G welds and set up.
- Complete 3G welds to specification.
- Pass 3G guided bend test to specification.

How to properly use an angle grinder

Directions:

Watch the following video: <https://www.youtube.com/watch?v=oJRSkBSb5S8>

Answer the following questions:

1. Sparks from the grinder can exceed what temperature?
2. List 5 PPE items you should wear while using a grinder.
3. What happens when a lower RPM attachment gets put on a higher RPM grinder?
4. If your disc/wheel gets wet or has become rusty, is it useable?
5. If your wheel, abrasives or wire wheels are damaged; what do you do with them?
6. How do you know at what angle to use a disc/wheel?
7. If too much force is applied to the grinder and disc/wheel, what can happen?
8. A cup brush wire wheel is used in what position?
9. Why must the guard be kept on the grinder while in operation?
10. Type 27 attachments have what type of center?

How to read a WPS

Directions:

Watch Video <https://youtu.be/gunvsnJBhu8>

Answer the following questions

1. What weld process was used? -
2. What type of weld joint was used? –
3. What filler material and gas were used? -
4. What was the max inter-pass temperature allowed? -
5. What is the pre and post heat treatment temperature? -

Student Name: _____

Semester: _____

Process:

SMAW	GMAW	GTAW	FCAW	Industrial Qualification
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Position:

Flat	Horizontal	Vertical	Overhead
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Joint Type: Open V Groove

	<u>-20 points</u> deduction for incorrect root reinforcement : <u>before bend</u>	<u>-20 points</u> deduction for incorrect face reinforcement : <u>before bend</u>	<u>-20 points</u> deduction for any porosity: <u>before bend</u>	<u>-100 points</u> for any undercut or incomplete fusion: <u>before bend</u>	<u>-100 points</u> deduction for any defects greater than 1/8" or totaling 1/8": <u>after bend</u>	<u>Total Deductions</u>	<u>Grade</u>
Sample 1							
Sample 2							
Sample 3							
						Highest Grade of the 3	

Additional information on root and face reinforcement:

Root reinforcement: 0-1/8"

Face reinforcement: 0 –1/8"

Comments:

Student Name: _____

Semester: _____

Class:

Flat SMAW	Horizontal SMAW	Vertical SMAW	Overhead SMAW	Industrial Qualification
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Joint Type:

Padding	T - Joint	Lap Joint	Butt Joint
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	-3 points deduction for every 1/8" of undercut	-3 point deduction for every 1/8" of incomplete fusion/ toe out	-3 point deduction for every 1/8" of porosity	-5 point deduction for incorrect throat depth	-1 point for every place of splatter	Total Deductions	Grade
Sample 1							
Sample 2							
Sample 3							
						Average of the three samples	

Comments:

Student Name: _____

Class: _____

Semester: _____

Position:

Flat	Horizontal	Vertical	Overhead
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Joint Type:

T Joint	Lap Joint	Butt Joint
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	<u>-7 points</u> deduction for every 1/8" of undercut	<u>-7 points</u> deduction for every 1/8" of incomplete fusion/ toe out	<u>-7 points</u> deduction for every 1/8" of porosity	<u>-10 points</u> deduction for incorrect throat depth	<u>-2 points</u> for every place of splatter	<u>Total</u> <u>deductions</u>	<u>Grade</u>
Sample 1							
Sample 2							
Sample 3							
						Average of the three samples	

Comments: