

Unit Standard 30570
Demonstrate knowledge of
welding in the motor industry

Level 3 Credit 3 v1

Student Name:

School:

Date:

Marked By: _____ **Mark** _____ **%**

Feedback: **Excellent work**
 Good work

Please attempt all questions
Please resubmit

USEFUL WEBLINKS

MIG Welding

<http://youtu.be/ayQLOSJ3VhE>
<http://youtu.be/5KrwmK7df-s>
<http://youtu.be/AZbCTg8otRc>
<http://youtu.be/U1GTgDQFE4A>

Shielding Gases

<http://youtu.be/TVM969GD44w>

Welding Joints

<http://youtu.be/dMLWKqdn920>
<http://youtu.be/8JzqWBIs7yc>

Oxy Acetylene Welding Plant

<http://youtu.be/aa6SSbX-88E>

Regulators

<http://youtu.be/hDm0MDd6IGc>

Setting Up

<http://youtu.be/pDYgNvW2o2Y>

Setting Up For Cutting

<http://youtu.be/rJ1GlyHRK4E>

Adjusting the Flame

<http://youtu.be/OReUnBkmdYo>

Using the Plant

<http://youtu.be/l6HVJHsOGa0>

Gas Tungsten Arc Welding

<https://youtu.be/P5m9-Xmqrk8>
<https://youtu.be/GLTxG31Kw8M>

Setting Up

<https://youtu.be/QLnskChFu6w>

TIG Welding

https://youtu.be/tNYmo2_DI6c
<https://youtu.be/7bvAJIUaJdQ>

Setting Up Mig Plant

<http://youtu.be/6eB9gnktmDI>
<http://youtu.be/YkmQYwK8c1k>

Duty Cycle

<http://youtu.be/XhWwDoythac>

Welding Faults

<http://youtu.be/hDm0MDd6IGc>

Preparing Metal for Welding

<http://youtu.be/3ZFnaP9QJ6k>

Brazing and Welding

<http://youtu.be/TQP8EBQRvr0>

Soldering

<http://youtu.be/Q9G9gaokqvM>

Thermal Heating

<http://youtu.be/MrfVc4bgARU>

Thermal Cutting

<http://youtu.be/RLwH3GKpVvo>

Handling Cylinders

<http://youtu.be/dMw1SjVI0gc>

REVIEW QUESTIONS ONE

- Q1 How should you prepare a metal surface for welding?
- Q2 How should you prepare a metal surface with a thickness of more than 3mm for welding?
- Q3 List four types of welding joints.
- Q4. List three ways to protect vehicle electronics when welding.
- Q5. List the possible causes for lack of penetration when welding:
- Q6 Identify and explain the possible causes for each of the following welding faults
- Irregular weld shape

Undercutting

Porosity

REVIEW QUESTIONS TWO

- Q7 Explain how a MIG welder produces an arc for welding
- Q8 Explain how the duty cycle works
- Q9 All MIG welders have an amperage rating. Explain the term amperage rating.
- Q10 Explain how the wire feed unit operates

Q11 Explain the purpose of the earth clamp.

Q12 Outline the procedure involved in setting up the Metal Inert Gas (MIG) welding plant for welding.

Q13 Name the 4 types of shielding gases used when MIG welding.

Q14 Explain the purpose of shielding gases when welding.

Q15 What is the recommended MIG wire stick out length?

Q16 What is the recommended MIG handgun welding angle?

Q17 What is the recommended MIG handgun travel speed?

REVIEW QUESTIONS THREE

Q18 What do the letters GTAW indicate and what is it more commonly known as?

Q19 Why is tungsten used as an electrode?

Q20 List three TIG applications in the motor industry:

Q21 How should a tungsten electrode be prepared to weld steel?

- Q22 Why is necessary to use AC when welding aluminium?
- Q23 List three types of shielding gases that may be used when TIG welding:
- Q24 Why is it important to use an earth clamp close to work piece?
- Q25 Why are welds that use AC typically not as tidy as those that use DC?
- Q26 Outline the procedure involved in setting up the (TIG) welding plant for welding.

Q27 What is the typical hand gun holding angle when TIG welding?

REVIEW QUESTIONS FOUR

Q28 Explain how oxygen can become a hazard when used in oxy-acetylene welding.

Q29 List three characteristics of acetylene gas.

Q30 Explain why oxygen is mixed with acetylene during oxy-acetylene welding.

Q31 Name the three types of flames that can be used during oxy-acetylene welding.

Q31 Detail four points to remember when dealing with acetylene cylinders.

Q32 Complete the following sentences.

are precision designed to
operating requirements. The at which and fuel
gases can be used at the are considerably the pressures
in the .

Q33 Explain in your own words, how a gas regulator operates.

Q34 List two ways each of the following can be identified.

Oxygen hose

Acetylene hose

Q35 Explain why hoses burned by a flashback need to be replaced.

Q36 Where are check valves normally located?

Q37 Explain the term flashback.

Q38 List three possible causes of flashback.

Q39 List three functions of a flashback arrestor.

Q40 What is the main factor to be considered when selecting a welding tip?

REVIEW QUESTIONS FIVE

- Q41 Explain why cylinders should be positioned so that the cylinder outlets are pointing away from each other.
- Q42 Describe in your own words the procedure known as “cracking the cylinder”.
- Q43 List two differences between an oxygen regulator and an acetylene regulator.
- Q44 Outline the procedure involved in setting up the (OAW) welding plant for welding.
- Q45 Which flame adjustment is most commonly used in welding?

Q46 Describe how each of the following flame adjustments can be identified:

Carburising flame

Neutral flame

Oxidising flame

Q47 Explain in your own words how an oxidising flame can be achieved.

Q45 Outline the procedure involved when shutting down an (OAW) welding plant.