

Wet Dog Glass Aptitude Questionnaire for Prospective Employees for Fabrication Shop

Please answer the following questions as well as you are capable. This questionnaire will be used to determine if you are suitable for the available position for employment.

Math

Addition: This is typically used in metal cutting, conduit bending, plumbing, casting and wood shop.

$$240 + 56 = \underline{\hspace{2cm}}$$

$$47 + 35 + 22 = \underline{\hspace{2cm}}$$

Multiplication: This is typically used for checking inventory as well as in plumbing and electrical shops

$$43 \times 7 = \underline{\hspace{2cm}}$$

$$21.5 \times 3 = \underline{\hspace{2cm}}$$

Subtraction: Used in all measuring applications such as in wood, metal, design,

$$63 - 3/16'' = \underline{\hspace{2cm}}$$

$$4.1875 - 1.0625 = \underline{\hspace{2cm}}$$

Division: Used in all measuring applications such as in wood, metal, design

$$62 \frac{1}{4} / 2 = \underline{\hspace{2cm}}$$

Fractions: used in all measuring applications

$$6/8 = \underline{\hspace{1cm}} / 4$$

Tape measure: used in all measuring applications in every part of the fabrication shop.

$$1 \frac{3}{4}'' - 11/16'' = \underline{\hspace{2cm}}$$

$$3 \frac{5}{16}'' - \frac{1}{2}'' = \underline{\hspace{2cm}}$$

How many inches are there in a foot?

Decimals: typically important for reading CAD drawings in the fabrication shop and electrical ratings.

Convert from decimal to fraction: .875'' = , .3125'' = , .5625 = , .9375 =

Important in fabricating molds and finished products.

How many degrees are in a circle?

How many degrees are in a quarter of a circle?

What is the circumference of a 1'' circle?

What angles are in a right triangle?

What angles are in an equilateral triangle?

What is the surface area of a 2" square?

Materials

Name four forms in which raw metal is available in. For example, Sheet, round bar.

In lumber, what are the dimensions of a 2x4? _____

In plumbing, is 1" pipe actually 1" outer diameter? Why or why not?

Processes

Welding—describe the differences between arc, MIG and TIG welding

Metal cutting—for cutting thin metal with a blade, is it better to use a blade with fewer teeth per inch or more teeth per inch?

What makes more noise, a band saw or a cutoff wheel on an angle grinder? Which of these makes lower quality air in the shop?

Metal drilling—why is it beneficial to use a pilot hole for a large drill bit?

Metal grinding—what safety gear should be worn while grinding metal? If grinding metal with other people nearby, what precautions should you make to prevent them from getting injured?

Framing-squaring up a frame—if you have to make a rectangle out of wood or steel, with the corners overlapping, how can you make sure the rectangle is square?

Tools

What adjustments are available to you on a typical drill press?

What is another name for an adjustable wrench?

What is a common tool used in plumbing?

What tools do you have experience with in metal working, woodworking, etc.

Have you mixed high temperature refractory castable before?

Safety

Lifting—Are you physically capable of lifting 65 lbs from the floor up to chest height, as is necessary when pouring a bag of concrete into a concrete mixer?

Eye protection—It is important to understand and follow rules on when to wear certain levels of eye protection. Are you willing to follow our rules even if you think we are wrong?

Hearing protection—name a few types of noises in a fabrication shop that can be damaging to your hearing_____ Are you willing to protect your hearing by using ear plugs and earphones that we provide?

Respiratory protection—Do you have any problems wearing a respirator up to four hours per day?

Electrical

Wire gauges-----name four common wire gauges and the circuit breakers they should be connected to. _____

Conduit bending: for ½” conduit, what offset is required to make a 90 degree bend? _____

Volts: What is voltage? _____

Amps: What is amperage? _____

Phase: What is phase? _____ How many phases is a common residential electrical system? _____

Plumbing

What are the pipe sizes between 1/8” and 2”? _____

Name four common pipe fittings _____

What is the name of a length of pipe that is threaded on both ends? _____

What’s the difference between schedule 10 and schedule 40 pipe, and are they the same outer diameter? _____

How would you go about bending copper tubing? _____

What does NPT mean? _____

Your experience

What experience do you have in working with power tools?

What experience do you have working with wood?

What experience do you have working with metal?

Do you have experience operating a forklift?

Why do you think this job would be interesting to you?