

Rail Welding Instructor Examination

Sample Questions

1. What colour are Propane cylinders painted and how are the connections threaded?
 - a. Maroon, with left-hand threaded connections a. _____
 - b. Signal red, with right-hand threaded connections b. _____
 - c. Orange, with left-hand threaded connections c. _____
 - d. Signal red, with left-hand threaded connections d. _____

2. Can a regulator supplied for use with Propane gas, be used with Acetylene gas?
 - a. Yes, if it fits and does not leak a. _____
 - b. No, not under any circumstances b. _____
 - c. Yes, if permission is given by the Supervisor/Manager c. _____
 - d. It does not matter as both are fuel gases d. _____

3. The flame condition is set by which of the following methods?
 - a. Adjusting the regulator pressure adjusting screws a. _____
 - b. Adjusting the blowpipe control valves b. _____
 - c. Adjusting the cylinder valves c. _____
 - d. If the pressures are set correctly, the flame will adjust itself d. _____

4. Checks for leaks are carried out by which of the following methods?
 - a. Using a salty solution and brush a. _____
 - b. Listening for the sound of escaping gas b. _____
 - c. Using a leak detection spray c. _____
 - d. Using soap and water d. _____

5. Up to what limit can moulds be modified in the web to accommodate the welding of rails of different profiles but nominally the same contour and for which special moulds have not been designed or supplied?
 - a. 1mm a. _____
 - b. 2mm b. _____
 - c. 3mm c. _____
 - d. 5mm d. _____

6. The preparation of rail ends for aluminothermic welding can be carried out with which of the following processes?
 - a. Disc cutting a. _____
 - b. Sawing b. _____
 - c. Oxy-fuel gas cutting c. _____
 - d. All of the above d. _____

7. Which type of microstructure gives the highest hardness for comparable compositions
- a. Ferrite a. _____
 - b. Bainite b. _____
 - c. Pearlite c. _____
 - d. Martensite d. _____
8. What are the principle alloying elements in Grade 260 rail steel used in the UK?
- a. C, Mn, Mo, Nb and V a. _____
 - b. C, Mn, Ni, Nb and V b. _____
 - c. C, Mn, Si, Nb and V c. _____
 - d. C, Mn, Si, Mo, Ni, Nb and V d. _____
9. Where are the stamp marks to be applied when an aluminothermic weld has been completed?
- a. On the front edge of the rail head within the weld a. _____
 - b. On the back edge of the rail head within the weld b. _____
 - c. On the front edge of the rail web within the weld c. _____
 - d. On the back edge of the rail web within the weld d. _____
10. Which rail steel grade has the paint markings 1 x blue & 1 x white?
- a. 110kg/mm²Cr a. _____
 - b. BSC AREA 90 b. _____
 - c. UIC Grade B c. _____
 - d. LCAMS d. _____
11. Lack of adequate preheat during MMA weld repair of plain rail can cause?
- a. Porosity a. _____
 - b. Cracking b. _____
 - c. Lack of fusion c. _____
 - d. Slag entrapment d. _____
12. For MMA welding with AC power supply, what open circuit voltage is normally required?
- a. 40V a. _____
 - b. 60V b. _____
 - c. 80V c. _____
 - d. 100V d. _____

13. Why is it necessary to bake electrodes?
- a. To remove moisture which can break down during welding and transfer hydrogen to the weld deposit a. _____
 - b. To improve the electrode efficiency b. _____
 - c. To improve productivity c. _____
 - d. All of the above d. _____
14. What is the temper bead technique?
- a. Starting the arc over the underlying layer then going backwards to melt out the previous bead crater before going forwards with the arc a. _____
 - b. Depositing the final weld pass so that it is not melting into the base material in order to refine the previous structures and not produce hardened microstructures in critical areas b. _____
 - c. Depositing the weld beads in each subsequent layer of the weld at right angle to the weld beads in the underlying layer c. _____
 - d. None of the above d. _____
15. Which of the following elements are added to increase the strength of steel?
- a. V a. _____
 - b. S b. _____
 - c. P c. _____
 - d. H d. _____