



1. Welds:
 - a. are generally required to develop the strength of the parts they join.
 - b. are generally NOT required to develop the strength of the parts they join.
 - c. are required to have the same chemistry as the parts they join.
 - d. cannot have a strength greater than the parts they join.

2. Longer single pass fillet welds are usually:
 - a. more economical than shorter multi-pass welds.
 - b. stronger than shorter multi-pass welds.
 - c. more evenly loaded than shorter multi-pass welds.
 - d. are associated with greater distortion than shorter multi-pass welds.

3. One-sided fillet and PJP groove welds:
 - a. are the best option for most connection designs.
 - b. are a good choice as long as the in-service loading conditions do not involve tension.
 - c. are stronger in tension than in shear.
 - d. are not prohibited but their use should be approached with caution.

4. One-sided fillet and PJP groove welds:
 - a. should be used to resist loads transverse to their longitudinal axes (tension).
 - b. can be used to resist loads along to their longitudinal axes (shear).
 - c. are commonly used to attach flanges to the web of plate girders.
 - d. a and c.
 - e. b and c.

5. Welding position:
 - a. should be considered when designing welded joints.
 - b. is no longer a design consideration because all welding is now performed by robots that can easily hang under the steel and weld upside down.
 - c. is not a design consideration because a good welder should be able to weld in any position.
 - d. is something that can be left to ironworkers to work out.





6. A fillet weld loaded transverse to its longitudinal axis tends to be _____ than a fillet weld loaded along its longitudinal axis tends.
 - a. stronger and more ductile
 - b. weaker but more ductile
 - c. stronger but less ductile
 - d. weaker and less ductile

7. The likelihood of lamellar tearing:
 - a. can be reduced by proper detailing of the joint.
 - b. usually occurs while the weld is cooling and shrinking.
 - c. tends to be reduced by current steel-making practices.
 - d. All of the above.
 - e. None of the above.

8. Use of a directional strength increase:
 - a. is required for fillet welds that are not loaded along their longitudinal axes.
 - b. is permitted for fillet welds if strain compatibility of the various weld elements is considered.
 - c. is permitted for both fillet welds and PJP groove welds if strain compatibility of the various weld elements is considered,
 - d. is most commonly employed when designing one-sided fillet welds and PJP groove welds.

9. Larger welds:
 - a. are always better.
 - b. can lead to distortion.
 - c. always result in stronger joints.
 - d. increase in cost in proportion to their nominal size.



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10. Weld backing:

- a. must always be removed.
- b. in most cases can be left in place.
- c. is no longer used and has been replaced by back-gouging.
- d. is a means of strengthening an existing weld.



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