



1. Where in the AISC *Specification for Structural Steel Buildings* is the topic of fatigue covered?
 - a. Chapter A
 - b. Chapter J
 - c. Chapter 3
 - d. Appendix 3

2. True or False: A structural steel with a minimum yield stress $F_y = 50$ ksi, has significantly improved fatigue performance as compared to a structural steel with an $F_y = 36$ ksi.
 - a. True
 - b. False

3. True or False: Steel elements whose stress ranges are not in tension need not be reviewed for fatigue.
 - a. True
 - b. False

4. True or false: AISC 360-16 Appendix 3 is applicable to structures experiencing corrosion fatigue.
 - a. True
 - b. False

5. Which of the following gives the dominant stress variables for welded details with respect to fatigue?
 - a. Stress range and maximum tensile stress
 - b. Stress range and material specified minimum yield stress
 - c. Maximum tensile stress and notch severity
 - d. Stress range and notch severity

6. What is the threshold allowable stress range?
 - a. Maximum stress range demand on a member
 - b. Maximum stress range allowed for a member
 - c. Stress range where indefinite design life of the member will occur
 - d. Stress range considered for low-cycle fatigue





7. What is the stress category for fillet welds loaded transverse to the direction of stress?
 - a. A and B
 - b. B and C
 - c. C and C'
 - d. C' and G
 - e. C'' and C

8. The maximum permitted stress due to peak cyclic loads is:
 - a. $0.6F_y$
 - b. $0.66F_y$
 - c. $0.9F_y$
 - d. F_y

9. AISC 360-16 Appendix 3 is applicable when the number of full cycles exceeds:
 - a. 10,000 cycles
 - b. 15,000 cycles
 - c. 20,000 cycles
 - d. 30,000 cycles

10. Which of the following are "stress risers" for fatigue behavior?
 - a. Surface discontinuity
 - b. Weld Flaw
 - c. Hole
 - d. Instability
 - e. Geometry
 - f. High seismic forces
 - g. A, B, and C only
 - h. A, B, C and E only

