

CHAPTER EIGHT

REVIEW QUIZ

The lessons you have learned in this course are going to help you do a better job as an Inspector. This Review Quiz is intended to help you determine how much you have learned. It will also help you prepare for the Examination.

Here are some instructions on how to take the quiz.

1. Remember, the objective is not to test your memory. The objective is to help you evaluate how well you have learned the material and how well you can think through your everyday work problems.
2. When you take this quiz, make sure that you will not be disturbed for about an hour.
3. Attempt all questions.
4. You may refer to the course material if you get stuck on a question. But first try to reason out the problem.
5. Finally, keep track of your answers. Instructions on how to grade yourself follow the Review Quiz. If you score less than 90% on the quiz, do not be disappointed. Go back and study the course materials once again and reattempt the questions with which you had difficulty.

REVIEW QUIZ

- 1) Any deviations between the original survey and the actual structure location should be evaluated prior to the _____ of bearing areas.
- 2) True or false: it is acceptable to cut one rebar during the process of drilling holes for anchor bolts.
- 3) Pot bearings can accommodate _____ movements and _____ in any direction, not just in the direction of the girder's length.
- 4) For a fixed bearing, is it acceptable for the centerline of bearing of the beam to be misaligned with the centerline of bearing of the pedestal, by a ¼ inch?
- 5) What is the rule of thumb used in determining the amount of expansion and contraction in steel?
- 6) For bolted girder splices, all bolts required by the plans must be installed and fully tightened prior to the removal of _____ or any other _____.
- 7) True or false: the Contractor is required to establish a procedure for making sure that fastener assembly LOTs are identified properly and that elements of different lots are not mixed together.
- 8) The contact surfaces of joint or connection plates are referred to as what?
- 9) Tightening of a bolted connection should be symmetrical, starting from the _____ rigid parts of the joint at the _____ and working _____.
- 10) What is the minimum required bolt tension for a 1¼ inch diameter ASTM A 325 bolt?
- 11) The typical minimum gap required for proper DTI use is _____ inches.
- 12) True or false: for the turn-of-nut method, the longer the bolt is, the greater the required turn.

- 13) If you find that even one sample bolt fails to develop the required torque when the torque test is performed, must the Contractor torque test all the bolts?
- 14) In most structures, a _____ amount of reaming and drilling to match up holes in steel plate connections is allowable.
- 15) The stirrups in the top of prestressed beams are used for what?
- 16) Beams should be picked up and supported only at the _____ pickup points, unless the plans state otherwise.
- 17) Why are post-tensioning tendons grouted?
- 18) Which issues and concerns below should be discussed with the Contractor at the pre-operations meeting that takes place before deck construction begins?
 - A) Changes to the original Level I or II Concrete Quality Control Plan that are unique to the deck construction operation and a review of the Level II plan with regard to concrete transport and delivery and who will be responsible for coordination of these issues by the Contractor during construction.
 - B) Review of the approved forming system plan.
 - C) Locations for concrete sampling and testing as well as concrete cylinder storage arrangements.
 - D) Review of concrete placement sequence, equipment - such as vibrators - and the number of workers that will be involved in the operation.
 - E) Method of placing, finishing and curing concrete.
 - F) Use of tattletales if required.
 - G) Other precautions, requirements and "What Ifs" or contingency plans. For example: the use of

emergency bulkheads; the Contractor's plans for protecting the fresh concrete from the rain; the various curing requirements and time limits in the different parts of the structure; procedures for keeping the concrete within specified temperature ranges; and minimum required concrete placement rates.

- 19) The thicker slab sections over the beam flanges are referred to as what?
- 20) Expansion joint openings are referenced to ___ degrees F in order to ensure the proper opening widths will be provided.
- 21) True or false: if buildup depths are too thick, it could indicate there is an error in locating the finished grade elevation or that girder cambers are too large.
- 22) Is hot bending, welding or flame cutting of rebars allowed?
- 23) Screeding machines must be adjustable to account for the different _____ and _____ .
- 24) During the screed dry run, measurements should be taken approximately every ___ feet longitudinally and transversely over the forms at each beam flange end and at the slab edges.
- 25) What is the minimum production rate for placing deck concrete when placements are 50 cubic yards or less?
- 26) The vibrator should be placed in the concrete often enough so that the circles of influence _____, which will assure that the entire volume of concrete is fully consolidated.
- 27) What is your role during the straight edging process?
- 28) True or false: for the deck surface for long bridges, variances of more than 0.6 in. per 25 ft. for isolated high points will only require spot grinding by the Contractor if the overall variance is within tolerance.
- 29) Can grooving be performed before the smoothness evaluation is complete and accepted?

- 30) Before a barrier wall is placed, the deck surface under where the barrier will be placed must have a _____ texture and any _____ concrete fragments or other debris must be removed before concrete is placed.
- 31) For the slip form method of barrier wall placement, deviations of horizontal alignment behind the machine should not be greater than how much as measured from the midpoint of a 10 feet straightedge?
- 32) For the slip form method, all barrier wall surface _____ , _____ and _____ must be patched with mortar.
- 33) A closed drainage system collects the deck water and discharges it into a _____ or into a _____ or _____ pond.
- 34) What is the purpose of slope protection?
- 35) Is the purpose of a weep hole to allow water to enter the ground beneath the slope pavement so it stays moist?
- 36) True or false: only paint top coats are required to be on the QPL.
- 37) Steel members must arrive at the job site with what coat of paint already applied?
- 38) Poor protection of adjacent property, during painting operations, can result in what undesirable outcomes?
- 39) For painting jobs, can the top or finish coat be applied before all previously applied coats are at full thickness?
- 40) If the relative humidity is 70% and the air temperature is 90 degrees: above what steel temperature is it OK to paint?

COMPUTING YOUR GRADE

Count your incorrect answers and if there are four or less, you got 90% or more correct which means you understood the lessons well. If you got more than four incorrect, thoroughly review the lessons that covered your incorrect answers before you attempt the final examination.

ANSWERS TO QUESTIONS

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| 1) scribing | 12) True |
| 2) False, rebars must never be cut | 13) Yes |
| 3) very large, rotation | 14) reasonable |
| 4) No, the alignment must be exact | 15) To tie the beams and the deck slab together. |
| 5) Expansion or contraction = 1/8 inch per 100 ft. for each 15 degree F increment above or below 70° F . | 16) designated |
| 6) falsework, temporary support | 17) To prevent corrosion of the tendon. |
| 7) True | 18) A, B, C, D, E, F, G |
| 8) faying surfaces | 19) buildups |
| 9) most, center, outward | 20) 70, 21 |
| 10) 71,000 lbs. | 21) True |
| 11) 0.005 | 22) No |
| | 23) crowns, elevations |

- 24) 10, 3
- 25) 20 cubic yards/hour
- 26) overlap
- 27) To check that straightedge intervals are followed and deviations are corrected properly.
- 28) False, 0.3 inches
- 29) No
- 30) rough, loose
- 31) 2 inch
- 32) pinholes, pockmarks, blemishes
- 33) sewer system, retention, detention
- 34) To prevent erosion of slopes.
- 35) No
- 36) False, all coats
- 37) prime or shop
- 38) negative public relations and lawsuits
- 39) No
- 40) 83 degrees F