

STRUCTURE BULLETIN

NCDOT Construction Unit

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Current Issues: Hi-Lo Thermometers

Section 420-7(A) of the Standard Specifications states: "Provide and place, at directed locations, a sufficient number of maximum-minimum recording thermometers to provide an accurate record of the temperature surrounding the concrete during the entire protection period."

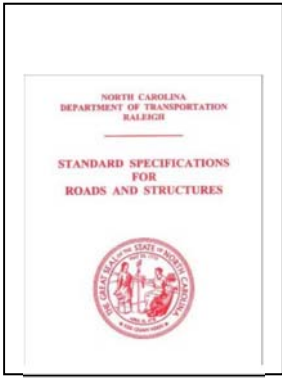
Any time the specifications require the concrete to be insulated during cold weather the contractor should have several Maximum/Minimum thermometers placed under the blankets. These should be regularly checked. Each morning one of your first tasks should be to verify that the temperature around the concrete has not dropped below 50°F for a period of 72 hours for straight cement mixes or 7 days for fly ash mixes. The earlier in the curing process, the more important keeping the temperature up.

If concrete freezes before sufficient strength is obtained it can fracture and even fall apart. If the temperature drops too low later in the process I can slow the hydration process. If this happens too early and the temperature drops to far the mix may never gain the full strength called for.



Bridge seats:

Bridge seats can be a difficult area to finish, especially when the anchor bolts are being cast into the cap. This makes it all the more important to check the bridge seats after the forms are removed and before setting the girders or bearings. As soon as it is practical the bridge seats should be checked with a level. If you find the seat is not flat and level corrections need to be made before proceeding. Correcting a bridge seat should almost always be done by grinding, not adding additional material. If you have any questions about it, give us a call.



Special Provision Questions:

Question: Can the contractor use "squirt" DTI's on our project?



Answer: Occasionally you may be asked if it is acceptable for the contractor to use a so called "squirt" DTI, or direct tension indicator, on high strength structural steel connections.

In a nutshell, we don't care. The DTI is identical whether it is a standard DTI or a squirt DTI. The difference is the addition of a silicone material in the depression forming the DTI dimple. As the DTI is compressed the silicone material is squeezed out of the depression (see inset picture) and gives a visual indicator that the deformation has been compressed.

That being said, we do not use this visual indicator as a confirmation of acceptance. We will still check a **minimum** of 10% of the bolts in a connection with a feeler gauge. The silicone is solely for the convenience of the contractor.

New Training

See at left bottom

Upcoming Dates for 2018 Winter Inspector Training

Div	Dates	Contact
1	Mar. 7-8	Randy Hall
2	Mar. 5-6	Randy Hall
3&4	Feb. 14 - 15, 27	David Candela
5	Mar. 27 - 28	Troy Brooks
6	Feb. 28 - Mar. 1	John Partin
7	Feb 21-22	Aaron Griffith
8	Mar. 12 - 13	John Partin
9	Feb. 20-22	Vickie Davis
10	Jan. 30 - Feb 1	Darin Waller
11&12	Feb. 12-13	Brian Skeens
13	Mar. 20-21	Aaron Powell
14	Mar. 7-8	Aaron Powell

If you have a topic you would like to see addressed in a future edition of the Structure Bulletin please [email](mailto:acoched@ncdot.gov) us at either acoched@ncdot.gov or aeerwood@ncdot.gov