

Comments for 462 from Rod Powers

Section 462-4.2.4 specifies a pressure rating of 150psi for the grout caps. This section needs to stipulate a standard test method, if one is available. If none is available, the methods and results need to be spelled out. Specifically, is the pressure momentary or sustained? If sustained, for what period of time? Should the actual test pressure be at some value higher than 150psi? What is the maximum leak-down, if any?

Comments for 462 from Mike Bergin

The one comment under 462-2, We are requiring the laboratory testing plastic ducts to be AMRL inspected.

AMRL does not inspect laboratories that test plastic ducts and there is no other provision for an acceptable lab unless the company is from outside the US.

Donald Bagwell

12/03/2002 05:38 PM

To: Duane F Brautigam/CO/FDOT@FDOT
cc: Michael Bergin/SM/FDOT@FDOT, Charles A Ishee/SM/FDOT@FDOT
Subject: Proposed Specifications Change – D4620000.D01 - Post-Tensioning

After review of the subject proposed specifications the following recommendation is made:

462-4.3 -- Delete the first sentence. This requirement is stated in sepcification 938.

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DYWIDAG-SYSTEMS INTERNATIONAL

Memorandum

To: Duane Brautigam, FDOT
From: Erich Aigner
DSI USA-Bolingbrook
Date: Tuesday, December 17, 2002
Pages: Pages



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Reference: Comments to Changes to B460

Dear Duane,

Attached are my comments to the above section change.

Section 462-2 Certification of System – General Comment:

If any change of a component requires a re-certification, you are limiting the advancement of the industry. But this works both ways; any change request by the Department to solve a problem on site will require a new certification too. It is absolutely immaterial if a little plastic part is temporarily not available to re-certify a system with a different part. The performance of the system will not be jeopardized in any way.

Section 462-4.2.1 Post-Tensioning Anchorages – General Comment:

The requirement to install a second inspection/grout port at the top of the anchor to be accessible from the top surface is very questionable in my opinion and may lead to a new problem down the road. The successful repair of the ~ ¾” – 1” hole after the inspection with or without vacuum grouting depends to 100% on the workmanship. I would rather have a block out accessible from the top deck to perform grouting operations and inspections. This typical block out can be filled with non-shrink concrete after the grouting is finished and any cracks forming afterwards can be injected with epoxy or other suitable material. A small hole in the surface will be overlooked and more important, the smooth surface of the pipe recess will never form a good bond with any material you choose to fill the hole. The required plastic plug at the inspection hole will not provide any guaranty that the anchor will be sealed permanently. If there is no inspector present on every hole, the plug will most likely be forgotten or not screwed in properly, leaving a path open for water to penetrate into the anchor. We all know that concrete cracks, and cracks will form at the weakest section. A crack forming at the face of a block out with a galvanized anchor, plastic grout cap and perfect grouted tendon, by chance or by vacuum injection, makes me feel better than a crack through a hole, which leads directly into the anchor and to the strands. Rest assured, water will find its way. There maybe a minor gap inside the anchor,

which was too small for vacuum injection, but it's not too small for water.

DSI will provide the port to satisfy FDOT's requirements, but we have our reservations.

Section 462-4.2.4 Permanent Grout Caps:

Please eliminate and replace the language “completely covers and seals all exposed”. At the last meeting in Tallahassee it was agreed that a 100% cover is not required since all anchors are galvanized. Besides, the O-ring, which is part of the grout cap, will

always leave a tiny gap between the anchor and the cap and the cap will not seal the metal at this area anyway.

Section 462-4.2.5.6 Smooth Duct:

This section calls for a pressure rated duct with 100 psi. In section 462-4.2.7.1 the duct system should be conditioned with 150 psi. A 100 psi rated duct cannot be conditioned with 150 psi.

Section 462-2 Certification of Post-Tensioning Systems:

This section requires all laboratories testing to be conducted at an AMRL approved lab. The only approvals that AMRL has issued are in regards to asphalts, cements, soils, and the like. There are no labs that have been approved regarding the testing of plastics.

Section 462-4.2.3 Inlets, Outlets, Valves and Plugs:

In this section FDOT insists that all inlets, outlets, valves, and plugs be made from Polypropylene. That would mean that all our grout tubes and grouting accessories would have to be changed from polyethylene. Most of these items are coming from Germany and are used worldwide. It is not possible to change between PP and PE and use the same forms or molds, because the creep factor for PP is different from the PE. Since the PP is more prone to brittleness in cold temperatures, we are trying not to rely on this material. Also, the density of the material is less than that from PE.

Best regards
DSI USA Inc.
Erich Aigner