9600000 POST-TENSIONING COMPONENTS
INTERNAL/INDUSTRY REVIEW COMMENTS

****

Gregory Hunsicker
817-545-4807
ghunsicker@structural.net

Comments: (12-14-16)

1. 960-2.4. Which performance properties need to be tested to prove that a non-virgin material can be used?

Response: The allowance for the use of recycled materials has been deleted from 960-2.4.

2. 960.3.2.1(B)(5). Given corrugated ducts are not permitted for flexible filler, respectfully request consideration of the use of the previous Florida DOT specification (referencing fib 7 instead of fib 75) for the system leak tightness test (System Assessment Test B.5 in fib 75) be given where used for grouted tendons (now primarily cantilever tendons and transverse four strand tendons). There has not yet been widespread adoption of fib 75 and requires significant new testing and potentially modifications for this requirement. The primary change appears to be in increasing the pressure from 1.5psi to 7.25psi. The value of verifying the air tightness is similar with both pressures, however the change in procedure will require, at a minimum, new testing. Ultimately the ducts are always embedded in concrete and will need to withstand much higher pressures during service. We have not seen any performance issues with the components that would necessitate a change.

Response: Regardless of whether or not FDOT had previously adopted fib Bulletin 75, most if not all previously approved PT systems will have to be retested anyway because of other previous revisions to Section 960 related to component types and materials. It is believed that the combination of these other previous revisions and the higher pressure in the fib Bulletin 75 system test will address and remedy systematic grout leakage issues that have been observed in the field, primarily at the grout inlets and valves. Note that the pressure used in the fib Bulletin 75 system test is higher than that of the fib Bulletin 7 system test to make it compatible/equal to the component testing in terms of applied pressure. Because of the system effect (many couplers and connections within the system, a higher pressure loss is permissible in the system test compared to component testing.

3. 960-3.2.1 & 960-3.2.3 & 960-3.2.4. Should these and other full scale system tests follow similar guidance provided about the mock-ups in the IDS Index 21800 Series on which components are tested (i.e. exclude segmental couplers in the full scale tests), using concrete blocks at the trumpet to bearing plate connection, etc.?

Response: Concrete blocks at the anchorages are only required to be used for mockups because of the pressures at which filler materials are required to be injected per Specification 462, i.e. 145 psi (max) for grout and 75 psi (max) for flexible filler. The connections between smooth plastic pipe and the trumpet, and the trumpet and the bearing plate, are only designed to withstand these pressures when embedded in concrete. For system approval, only the 7.25 psi pressure specified in fib Bulletin 75 is required to be used (without concrete blocks at the anchorages).

****