

4100200 Precast Concrete Box Culvert.
COMMENTS FROM INTERNAL/INDUSTRY REVIEW

Karen Byram

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Comments: (8-30-11) The materials section should also include references to QPL products by use of an asterisk or double asterisk. See the materials section in S400 as an example.

Response: Added QPL sentence after material list and marked material requiring QPL approved products. cah

Doug Holdener

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Comments: (9-26-11) Rinker concurs with the correction to the joint design/manufacturing criteria from ASTM C443 (current spec) to C1677 (proposed). We suggest that the term “watertight” in the Section 410 spec be clarified that it applies to an in-plant test rather than a field test. For example, “Provide water-tight joints, as determined through in-plant testing, when shown in the contract documents.”

Response:

After further review, the term “water-tight” will no longer be substituted for “soil-tight” in 410-11.2 since the intent of ASTM C1677 is to provide a “leak resistant” joint through in-plant testing. As such the changes to 410-11.4 have also been rescinded.

Pat McCann

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Comments: (9-26-11) District 4 Construction offers the following comments: 410-6.4.5 Tongue and Groove Joints or Ends: Ensure the planes formed by the ends of box sections do not vary perpendicular from the joint axis by more than the following: 1. Profiled Rubber Gasket Joints (ASTM C-1677): 1/8 inch/ft of internal span with a maximum 5/8 inch for internal spans or heights less than or equal to 7 feet, and a maximum of 3/4 inch for internal spans greater than 7 feet. I am having a hard time visualizing what tolerance we are trying to measure here. Can you consider re-wording? I would suggest some wording if I understood what we were trying to measure.

Response:

The wording is consistent with ASTM C1677 Section 7. We will add “of” as shown highlighted above to clarify. As an example a 4’x4’ box would have an allowance of 4’ x 1/8”/ft = 1/2” variation on the projection of the tongue from the theoretical flat plane at the end of the box section. This is to ensure the joints line up straight without excessive variation in the gaps between sections.

Barry Smith
850-414-4776

Comments: (9-29-11) Does the QPL need to be referenced in the material requirements?

Response: Same as first comment above. cah

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Roman Selig
Hamilton Kent

Precast Concrete Structures Association, Precast Concrete Structures Association (PCSA)
Comment: (10-10-11) Roman's concern is that the new joint specification ASTM C1677 does not directly list the rubber gasket material properties but only references them in another ASTM (C1619). He would like to see this ASTM added to the Materials Section under 410-2 and in 410-11.2 (see attached markups in green). Non-Shrink GroutSection 934

Joint Materials..... ASTM C-443~~1619~~, ASTM C-877

.....ASTM C-1677 or ASTM C-990

Geotextile FabricsSection 985

* The gradation requirements of aggregates are not applicable when using dry-cast concrete sections.

410-11.2 Profile Rubber Gaskets: Install field joints in accordance with the joint manufacturer's instructions and meet the following:

1. Meet the requirements of ~~Article 6 of~~ ASTM C-1619~~443~~ and ASTM C-1677,
2. Store all gaskets in a cool place prior to use,
3. Furnish to the Engineer written details regarding configuration of the joint and

Response: Personally I think that the reference within ASTM C1677 is sufficient, but I will defer to your office's recommendation. As a minimum we need to delete the reference to ASTM C443 in 410-2, which I previously overlooked.
