

November 12, 2014 Posting to Ohio Concrete website as link to 2013 Ohio DOT QC/QA Concrete

ODOT Adoption of New Concrete Mix Classifications & QC/QA Specifications for 2013

Provided below is a summary of the 2013 concrete specification changes pertaining to the move by ODOT to the new QC class designations and QC/QA concrete testing requirements including hyperlinks for access to the 2013 CMS item and supplement.

Note: Changes occurring on items in the 2013 specifications book are identified in Supplement Specification 800 while updates to individual Supplements are modified separately with the new effective date which all supersede the existing specifications. These revisions were introduced and accepted under ODOT's Concrete Pavement or Structures Committee which Ohio Concrete is each active in. Provided for your use and reference is the website link to ODOT's active changes page under the Division of Construction Management:

<http://www.dot.state.oh.us/Divisions/ConstructionMgt/OnlineDocs/Pages/ProposalNotesSupplementalSpecificationsandSupplements.aspx>

ODOT has also posted helpful instructional guides and tools to aid in the submittal of a Job Mix Formula (JMF) at

<http://www.dot.state.oh.us/Divisions/ConstructionMgt/Materials/Pages/JMF-SUBMITTAL-FORM.aspx>

Item 451 & 452 - Reinforced and Non-Reinforced PCC Paving

<http://www.dot.state.oh.us/Divisions/ConstructionMgt/OnlineDocs/Specifications/2013CMS/450/451.htm>

<http://www.dot.state.oh.us/Divisions/ConstructionMgt/OnlineDocs/Specifications/2013CMS/450/452.htm>

- Concrete called out as QC 1, QC MS or QC FS per Item 499
- Added compressive strength as a payment factor with pavement thickness (existing)
 - note that this not incentive based, only deductions
- Maximum concrete temperature limit raised from 90 degrees to 95

Item 455 - QC Plan, Testing and Assurance for QC/QA Concrete (New)

<http://www.dot.state.oh.us/Divisions/ConstructionMgt/OnlineDocs/Specifications/2013CMS/450/455.htm>

- New spec that outlines the minimum requirements for QC Plan when QC/QA concrete is required (called out in bid item)
- Revised wording and requirement for air testing, maximum temperature control limit

Item 499 - Concrete-General

<http://www.dot.state.oh.us/Divisions/ConstructionMgt/OnlineDocs/Specifications/2013CMS/450/499.htm>

- Revise most all concrete mixtures off current 'prescription' Class mixtures (C, S,F, MS, FS, HP) to 'performance' QC designation with mix design requirements based on minimum strength, minimum cementitious content, required air content range, maximum permeability, aggregate grading requirement with performance data/results from field and/or lab trials. (Refer to new Supplement 1126 for JMF submittals)
 - New mass concrete mix added as QC 4
 - QC MS and QC FS stay as old Class MS and FS straight cement type
 - QC Misc included as old Class 'C' with max w/cm at 0.50 for small incidental usage were new QC mixes are not needed
- Maximum concrete temperature limit raised from 90 degrees to 95
- JMF requirements moved to new Supplement 1126
- New QC 5 for use in Item 519 and Item 524 - per Supplement Specification 800
- Remove time limitation of concrete delivery & discharge of 60 minutes, only as 90 minutes - per Supplement Specification 800

Item 511 - Concrete for Structures

<http://www.dot.state.oh.us/Divisions/ConstructionMgt/OnlineDocs/Specifications/2013CMS/500/511.htm>

- Concrete identified as QC 1 through QC 4 and pre-selected by designer
- Requirement for QCP (Quality Control Plan) when required per bid item designation - refers to Item 455
- Inclusion of a Concrete Cylinder Curing Box (CCCB)

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- Addition of mass concrete requirements
- Maximum concrete temperature limit raised from 90 degrees to 95
- Remove air temperature-retarding admixture requirement, per Supplement Specification 800
- Pay factor modifications
 - Removal of any incentives (strength consistency) to only disincentives by Percent- Within-Limits for concrete requiring QC/QA
 - Must meet strength requirement for concrete without QC/QA or refers to non-spec material (Item 106.07)

Supplement 1126 - Developing and Submitting a PCC Mix Design for Acceptance (New)

http://www.dot.state.oh.us/Divisions/ConstructionMgt/Specification%20Files/1126_07172015_for_2013.pdf

- New supplement for procedures for testing PCC mix designs and submitting for ODOT acceptance and issuance of JMF including strength, permeability and aggregate gradation when required. Note that use of existing JMFs for QSC1 or QSC2 mixes permitted but conversion to include well graded with or without cementitious quantity changes is required.
 - A. New QC 1, QC 2, QC 3 or QC 4 Mix Designs
 - B. Requirements to convert an existing QSC1 or QSC2 JMF to a Well-Graded QC 1 or QC 2 JMF with no change in cementitious quantity
 - C. Requirements to convert an existing QSC1 or QSC2 JMF to a Well-Graded QC 1 or QC 2 JMF with changes in cementitious quantity
 - D. High-Early Strength Mix Designs, Class QC MS or QC FS
 - E. New QC MISC Mix Designs
 - F. New QC 5 Mix Design in 1" or 3/8" nominal maximum size coarse aggregate - per Supplement Specification 800
- Documentation and Electronic Submittal Requirements

Supplement 1127 - Pay Factors Determination for Pavement and Structure Concrete (New)

http://www.dot.state.oh.us/Divisions/ConstructionMgt/Specification%20Files/1127_07172015_for_2013.pdf

New supplement for providing direction to apply pay factors for structures and pavement concrete when identified with QC/QA requirements in Item 511 and Item 451

- Examples for structures and pavement concrete provided.