

# Materials Compliance 101



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# Agenda

- Why Does Materials Compliance Matter?
- Project Materials Coordinator
- Buy America Provisions
- E-Guide
- Certifications
- Approved lists/PAL
- QMP Issues
- Shop Drawings
- Additional Special Provisions (ASP)
- Records Retention
- Resources
- Questions/Answers



# Why Does Material Compliance Matter?

- Evolving Expectations
- FHWA, WisDOT and LAB Emphasis
- Legal Aspects of Section 106

*“The Department  
does not want  
material  
NOT MEETING  
contract specifications  
incorporated into  
the work.”  
-- CMM 8-10.5.1*





# Consequences of **Non-Compliance**

- Documentation Submitted/Accepted Prior to Work Being Done
- Non-Conforming Materials
- Remove / Replace
- Credits



# Case Study #1

## Project: Bridge Deck Pour

The contractor missed a random QC test on two separate occasions during the bridge deck pour. The material was allowed to remain in place but a credit for 10% of the bid item was assessed for material not tested. An additional credit of \$250 per test missed was assessed. The total amount of concrete placed without a test was 78 CY, 34 CY from Lot 17, Unit 1 deck pour and 44 CY from Lot 19, Unit 2 deck pour.





# Case Study #1

**Credit for material not tested but allowed to remain in place on this project:**

- 34 CY from Lot 17
- Unit 1 deck pour + 44 CY from Lot 19
- Unit 2 deck pour = 78 CY of material allowed to remain in place
- 10% credit on unit price of bid item =  $10\% \times \$400/\text{CY} = \$40/\text{CY}$

**Total Credit for Non-Performance of QMP =  
 $\$40/\text{CY} \times 78 \text{ CY} = \$3,120$**

**Credit for tests not performed (\$250/test)**

- One test in lot 17 missed = \$250
- One test in lot 19 missed = \$250

**Total credit for missed tests = \$500**

**Total Non-Performance  
of QMP Credit**

**$[\$3,120 + \$500]$**

**= \$3,620**



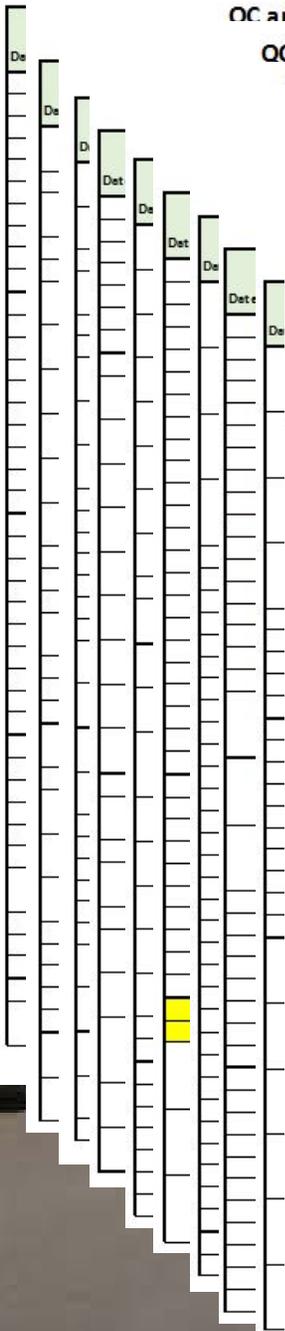


**Case**

**Project**

This large project is being performed under contract and the contractor needs to perform concrete tests re \$3620.

The contractor is performing random



QC and QV test Results - Bridge Structure

Structure Yardage = 14,500 - Total Number of Lots: 29

Date Sampled:	Lot-Sublot	Random Location	Air	Slump	Temp (F)	Location	QC and QV test Results - Bridge Structure
9/25/2014	30-7	14827	6.4	3.25	73	42" Parapet 1214+20- 1217+20	QC and QV test Results - Bridge Structure



## Case Study #2

### Project: **Concrete Pavement & Concrete Ancillary QMP Non-Compliance**

This project reconstructed an urban intersection.

A Subcontractor completed a small quantity of concrete pavement (hand work), and ancillary concrete work consisting of curb and gutter and sidewalk. The contractor performed start-up testing for the ancillary work, but couldn't show any documentation for random testing. They also didn't separate the paving concrete from the ancillary concrete. All QC and QV testing that was completed showed satisfactory results in the field and adequate strength.



## Case Study #2 - Summary

Total Value of Subcontract Work Performed:  
\$46,066.75

**Ancillary Items = \$5,763.35 Credit**

- 10% Credit for Non Random Testing
- 10% Credit for Improper Testing & Documentation

**Concrete Pavement = \$8,625.00 Credit**

- 50% Credit for No QMP Testing
  - *Remove & Replace Criteria*

**Total Credit**

[\$5,763.35 + \$8,625.00]

**= \$14,388.35**





# **COMPLIANCE -** **What does it look like?**



**COMMUNICATION!!!**

# COMPLIANCE - What does it look like?

- Buy America
- Certification of Compliance
- Certified Report of Tests
- Approved Lists
- QMP Documentation





# Project Materials Coordinator

- Formerly Designated Materials Person
- Contractual requirement on every project
  - CPMP Prime Contractor
  - WPMC WISDOT or consultant staff
- HTCP training available
  - Consideration to make this training a requirement, with certification process
  - Consideration to require subcontractor PMP



# Buy America

- What Bid Items are covered by Buy America?
  - Anything that contains iron or steel
  - Also includes coatings
- This remains a FHWA emphasis area
- WS4567 Form, signed by Prime prior to closure
- Not “Buy Americann”



# E-Guide

- Link <http://www.atwoodsystems.com>
- Specific document is created for every project
  - Lists the material requirement for each individual bid item
    - Accounts for item quantities
    - Required documentation
      - Diary entry
      - Certification of Compliance
      - Certified report of tests
      - Approved lists (current)
      - QMP Documentation
- WPMC or Project Leader can also provide a copy

**DESLAURIERS**

August 5, 2005

Re: Neoprene Compression Pads and Retaining Cups

Dear Diane:

Deslauriers, Inc. certifies that all Econ-O-Cap® brand compression pads and retaining cups are manufactured in strict compliance with all of the specifications of ASTM C1231 and AASHTO T22.

Our pads are certified to be within 5 units of the specified Shore A durometer hardness and conform to ASTM D2000 line call out:

M2BC514A14B14  
M2BC614A14B14  
M2BC714A14B14

Where:

M	=	Metric
2BC	=	Neoprene
5(6,7)	=	Durometer Hardness x 10
14	=	Tensile strength in kilo/sq cm X 10
A14	=	Heat aging test
B14	=	Compression set test

Sincerely,



Laura Paclons  
Customer Service Manager

**Certification of Compliance**





## **Common Issues - Certification of Compliance**

- Name of WisDOT Bid Item not included
- Name of manufacturer or supplier missing
- Title and signature of qualified representative is missing
- Date isn't current
- "Buy America" documentation missing for steel and coatings





## **Common Issues – Certified Reports of Tests**

- Name of WisDOT Bid item not included
- Specification that this material satisfies is missing (AASHTO/ASTM/etc.)
- Not all required test results are included
- Identification missing (Heat Number/Lot Number/etc.)
- Title and signature of qualified representative is missing
- Date isn't current



*Doing Business*

# Approved Lists

## Approved product lists - 2015

The following files are in Adobe PDF  format, except where noted.

- [Aggregate report](#)
- [Approved lists](#) (miscellaneous)
- [Beamguard](#)
- [Concrete aggregate report](#)
- [Concrete curing compounds](#)
  
- [Electrical qualified product list \(QPL\)](#)
- [Erosion control product acceptability list \(PAL\)](#)
- [Glass Beads](#)
- [Noise barrier systems](#)
- [Nuclear gauge list](#)
  
- [Nuclear policy](#)
- [Paint structural-steel new](#)
- [Paint structure maintenance](#)
- [Paint systems for exposed pilings](#)
- [Pavement marking QPL](#)
  
- [Pipe precast](#)
- [Sign sheeting products](#)
- [Wall systems](#)



# Quality Management Program

Standard Specification Section 106 - Control of Materials

<http://wisconsin.gov/rdwy/stndspec/ss-01-06.pdf#ss106>

## QMP Base Course

- CMM <http://wisconsin.gov/rdwy/cmm/cm-08-34.pdf#cm8-34>
- Common Problems
  - Missed Tests/Not enough tests for placed quantity
  - Testing at the incorrect tonnage
  - Small quantities
  - Production testing vs. Placement testing
  - All organic test sheets with full name of sampler/tester

## QMP Concrete Pavement and Structures

- Standard Specification 715  
<http://wisconsin.gov/rdwy/stndspec/ss-07-15.pdf#ss715>
- Common Problems
  - Testing at incorrect yardage
  - Missed Tests
  - QC vs. PC test type
  - Rebar, dowel bars, curing



# Quality Management Program

## QMP Ancillary Concrete

- Standard Specification 716

<http://wisconsin.gov/rdwy/stnds/spec/ss-07-16.pdf#ss716>

- Common Problems

Material Class/Mix grade

QC test every 100cy – cylinders cast every 200cy

Daily Reports – complete and turned in

QC versus PC test type

## QMP HMA Pavement

- Discussed in Standard Specification 460

<http://wisconsin.gov/rdwy/stnds/spec/ss-04-60.pdf#ss460>

- Common Problems

Lot Layout

MRS data

All organic test sheets with full name of sampler/tester



Materials sampling and testing methods and documentation procedures prescribed in chapter 8 of the CMM are mobilized into the contract by standard spec 106.3.4.1 and standard spec 106.3.4.3.1.

Standard specification references to concrete testing and sampling methods contained in this chapter:

Standard spec 701.2.5 ..... equipment calibration

Standard spec 701.3 ..... random sampling

**8-30.1 Scope**

This section is intended to provide guidance to the contractor's quality control personnel and engineer's quality assurance and/or verification personnel for performing the quality management functions required under the various WisDOT Quality Management Program (QMP) provisions. The section provides references, procedures, and examples for inspection, sampling, testing, and documentation. The provision for the quality management program is the controlling document for the work. Both this section and the project provisions should be available to project quality management personnel who should become thoroughly familiar with their content.

**8-30.2 Quality Management Program**

The primary goals of the QMP are to provide consistent construction quality, ensure effective use of personnel, and maintain cooperation throughout all phases of the work. The foundation of the concept is to develop partnerships so that the exchange of information becomes commonplace. Working together will be enhanced if all participants communicate openly, honestly, and with respect for each other.

Before construction, the contract parties (contractor and engineer) should discuss the work included under the QMP provisions. Questions regarding QMP work should either be resolved or the mechanisms should be in place to resolve issues before the work begins.

**8-30.3 Highway Technician Certification Program (HTCP)**

The Highway Technician Certification Program (HTCP) is offered through the University of Wisconsin-Platteville, in association with the Wisconsin Department of Transportation. The QMP provisions require sampling and testing of material to be performed by a HTCP certified person. The HTCP, in consultation with WisDOT and industry, provides instruction and certifies that individuals have demonstrated the ability to perform quality management activities required for highway work contracted by WisDOT.

Some of the QMP provisions allow for an Assistant Certified Technician (ACT) to help conduct sampling, testing, and documentation. An ACT must successfully complete the ACT course and be registered by the department as an ACT before performing QMP sampling and testing. The ACT course and registration is administered through the HTCP. The director of the HTCP is responsible for the activities of the program. To receive information about the program, contact Ray Spellman, HTCP Director, at the following address:

University of Wisconsin - Platteville  
49 Ottensman Hall  
1 University Plaza  
Platteville, WI, 53818-3099  
phone: (608) 342-1545  
fax: (608) 342-1982

or check out the website at:

<http://www.uwplatt.edu/htcp/>

**QMP Documents**





# Shop Drawings

- Who Approves Shop Drawings?
  - In short – NOBODY!
  - Contractors and suppliers must meet plan details, requirements, and documentation
- Project Staff can complete a cursory review
  - Call out obvious deficiencies
  - Not formal approval
- Temporary structures require BOS approval



# Additional Special Provisions (ASP)

- Found in every proposal
- Every ASP does not apply to every project
- ASP 1 – Trans Grad Program
- ASP 3 – DBE Program
- ASP 4 – Prompt Payment
- ASP 6 – Modifications to Standard Specifications
  - Immediate corrections or additions to annual spec revisions
  - Often gets missed, and often has materials documentation impacts
- ASP 7 – CRCS Payment Reporting
  - 1<sup>st</sup> Tier Subs and all DBE Subs/Suppliers



# Records Retention

- Section 106 Requirements
- ANY document for ANY product at ANY time
  - Project specific, not a general certification
- 5 year minimum retention
  - From project closure, not when included in work
- Records audit process
  - Various types and levels of reviews and audits
  - FHWA
  - Legislative Audit Bureau
  - WisDOT



# Available Resources

Project Materials Coordinator

Standard Specifications

<http://roadwaystandards.dot.wi.gov/standards/stnds-spec/index.htm>

Construction & Materials Manual (CMM)

<http://roadwaystandards.dot.wi.gov/standards/cmm/index.htm>

Approved Products List

<http://www.dot.wisconsin.gov/business/engrserv/approvedprod.htm>

Quality Management Program

<http://roadwaystandards.dot.wi.gov/standards/qmp/index.htm>



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