

2013 APAM Conference MDOT HMA Update

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Hot Mix Asphalt (HMA) Update

- Longitudinal Joint Specification
- Reclaimed Asphalt Pavement (RAP)/ Recycled Asphalt Shingles (RAS) Specification
- Warm Mix Asphalt (WMA)
- Safety Edge/Every Day Counts (2)
- Crumb Rubber Pilot Project
- Capital Preventive Maintenance (CPM) Binder Selection
- Witness Samples for HMA Binder
- HMA Ultra-Thin Overlay
- Ride Quality- Fine Toothed Mill
- Core Handling Procedure
- Local Agencies

Longitudinal Joint 12SP501Y

- April 2012
 - ✓ Joints with same mix and lift on both sides of joint
 - ✓ Incentive for densities over 91.5%
 - ✓ \$1 per foot pay item, reduced for densities below 90.5%
 - ✓ Remove and Replace below 88%, no payment
- June 2012
 - ✓ All longitudinal joints
- October 2012
 - ✓ Removed \$1 per foot pay item
 - ✓ Incentive/Disincentive Remain
 - ✓ Other minor changes

Longitudinal Joint 12SP501Y

Future Changes

- Minimum number of cores on small projects
- Construction staging issues
- Minimum core thickness
- Remove and replace Issue









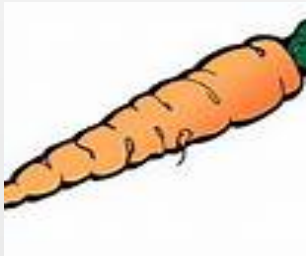


Longitudinal Joint 12SP501Y

Density History



- 2009- Informational Average Density 89.8
- 2011- Pilot 90.7 (Carrot, Small Stick)
- 2012- FUSP 91.6 (Bigger Stick (hammer))



vs.



RAP/RAS 12SP501G

- December 2012 Reclaimed Asphalt Pavement (RAP) Specification
 - ✓ Removed exclusion limiting E3 and higher mixes used as leveling or top course to 17% RAP (changed to 27%)
 - ✓ Corresponding change to 12SP904. No longer limiting RAP to 17% when a polymer binder is specified.
- Recycled Asphalt Shingles (RAS)
 - ✓ Working on specification for permissive use of RAS
 - ✓ Once finalized it will be retroactive to December 2012 RAP specification

RAP/RAS 12SP501G

- Recycled Asphalt Shingles (RAS)
 - ✓ RAS materials must not contribute more than 17% by weight of the total binder content
 - ✓ Material from manufacturing of asphalt roofing shingles (post-manufacturer RAS) or from tear-off shingles from residential structures (post-consumer RAS)
 - ✓ Stockpile separately
 - ✓ May blend with 20% fine aggregate
 - Helps avoid clumping and assists in metering from feed bins
 - Blended RAS and fine aggregate considered final RAS product (not fine aggregate)
 - ✓ 95-100% passing 3/8 inch sieve, 90-100% passing no. 4
 - ✓ Tier 2 and Tier 3 requires blending chart if RAS used

Warm Mix Asphalt 12SP501Z

Current Specification

- Permissive use specification
- E10, E3, E1, E03 LVSP
- Water Foaming
- BOHIM12-09- For projects specifying Superpave Mix Types E30, E50 or GGSP, Construction Field Services (CFS) must be consulted and approve of the change.

Warm Mix Asphalt 12SP501Z

Future

- Looking into allowing use on E30, E50 and Gap Graded Superpave
- Looking into allowing chemical additives (mirror Colorado program)
 - Evotherm
 - Advera
- Every Day Counts- Federal Highway Administration (FHWA)
 - Every Day Counts is designed to identify and deploy innovation aimed at shortening project delivery, enhancing the safety of our roadways, and protecting the environment.

Every Day Counts 2/Safety Edge

- The Safety Edge is a simple but extremely effective solution that can help save lives by allowing drivers who drift off highways to return to the road safely
- Instead of a vertical drop-off, the Safety Edge consolidates the edge of the pavement at 30 degrees



Safety Edge

- MDOT finalizing policy on Safety Edge
 - All temporary roads
 - Roads without rumble strips and speed limit ≥ 45 mph



Crumb Rubber Pilot Project

M-57 Grand Region

- Allows Wet Process or Terminal Blend (contractor's option)
- 3 binders (64-22, 70-22P, 70-22 crumb rubber modified)
- 6000 tons HMA 5E3 Crumb Rubber Modified
- Possible Open House/Educational Session
- Bids
 - ✓ Low Bidder- \$79.45 vs \$85.83
 - ✓ 2nd Bidder- \$71.15 vs \$102.97

Capital Preventive Maintenance (CPM) Binder Selection

- Concern over premature cracking on CPM projects
- Focus is on low end of binder grade
- Goal is to have changes in place for 2014. This timeline may be accelerated.

Capital Preventive Maintenance (CPM) Binder Selection

Com. ADT 0-300	Com. ADT 301-700	Com. ADT 701-1000	Com. ADT 1001-3400	Com. ADT ≥3401
LVSP/E03	5E1	5E3	5E10	GGSP or 5E30
PG 58-28*	PG58-28*	PG64-28*	PG64-28*	PG70-28P*

* Use PG58-34 asphalt binder in the Superior Region for full depth flexible pavements. Use PG58-28 asphalt binder in the Superior Region for composite pavements

Witness Samples for HMA Binders

- Partnering with the Federal Highway Administration (FHWA)
- Goal is to have one witness sample per asphalt binder grade on every project
- Timeliness- Encouraging witness samples early in process & timely delivery to Lansing

Additional Items/Notes

- HMA Ultra-Thin Overlay
 - ✓ Working to convert from Marshall Mix to Gyratory Mix
- Local Agency
 - ✓ FUSP for Roller Method Acceptance
- Ride Quality
 - ✓ Fine toothed mill- allow on projects with old Ride Quality specification
- Core Handling Procedure

Good Government In Action

- Good Government In Action
 - Adoption of methods to make strategically important changes
 - Focus on closing performance gaps for anything strategically important
 - Customer satisfaction is the primary goal
- HMA Operations Wildly Important Goal
 - Focus on dispute resolution turn around time
 - Ties into customer service

HMA Operations

- HMA Operations
 - John Barak- Asphalt Materials
 - Nathan Maack- Mix Design
 - Tim Crook- HMA Binders
 - Marc Beyer- Materials/Mixtures/Field Expertise
 - Eric Oudsema- HMA Lab
- Capital Preventive Maintenance Engineer/Warranty Administration
 - Erin Chelotti

Questions?

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