

# 6.3mm Thin Asphalt Overlay (Thin Hot Mix Asphalt Overlay or Thinlay)

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CMD

# Specification features

- **New Section 412 in Pub. 408**
  - **SUPERPAVE MIXTURE DESIGN,  
CONSTRUCTION OF PLANT-MIXED  
HMA/WMA 6.3MM THIN ASPHALT  
OVERLAY COURSES**
- **Pub 242 changes**
  - Usage guidance in chapter 5.
  - Changes to add this new material to chapters 9, 10, 11, & 12.

# Specification features

- **Aggregates: Changes to Section 703**
  - **SRL**
    - **Coarse Aggregate – SRL** as listed in Bulletin 14.
      - **AASHTO #89 and #9** Being added to Section 703.
      - **AASHTO #9** Need to be sampled and pass **quality** and **SRL** testing to be used in 6.3mm asphalt.
      - **AASHTO #89** Will be approved based on the AASHTO # 8 quality and SRL test results.
    - **Fine aggregate –**
      - **Manufactured fine aggregate** must be manufactured from the same parent rock as SRL rated coarse aggregate.
      - **Natural Fine Aggregate** – Must be sent for SRL determination.

# Specification features

- **Aggregates:**
  - **Consensus properties:**
    - Same as superpave except:
      - Flat and Elongated Maximum 10 percent for 1:5 ratio, **and** Maximum 20 percent for 1:3 ratio.
- **Can make WMA or HMA.**
- **RAP & RAS**
  - No RAP or RAS allowed

# Specification features

- **Design Gyration** for all roadways = **75**
- **Design VMA** = **16.5% minimum**
- **Drain down test** (AASHTO 305) required for mixes with greater than 7.0% asphalt content.
- **Binder Grade** is **PG 76-22 only**. Possible future inclusion of PG 64-22.

# Specification features

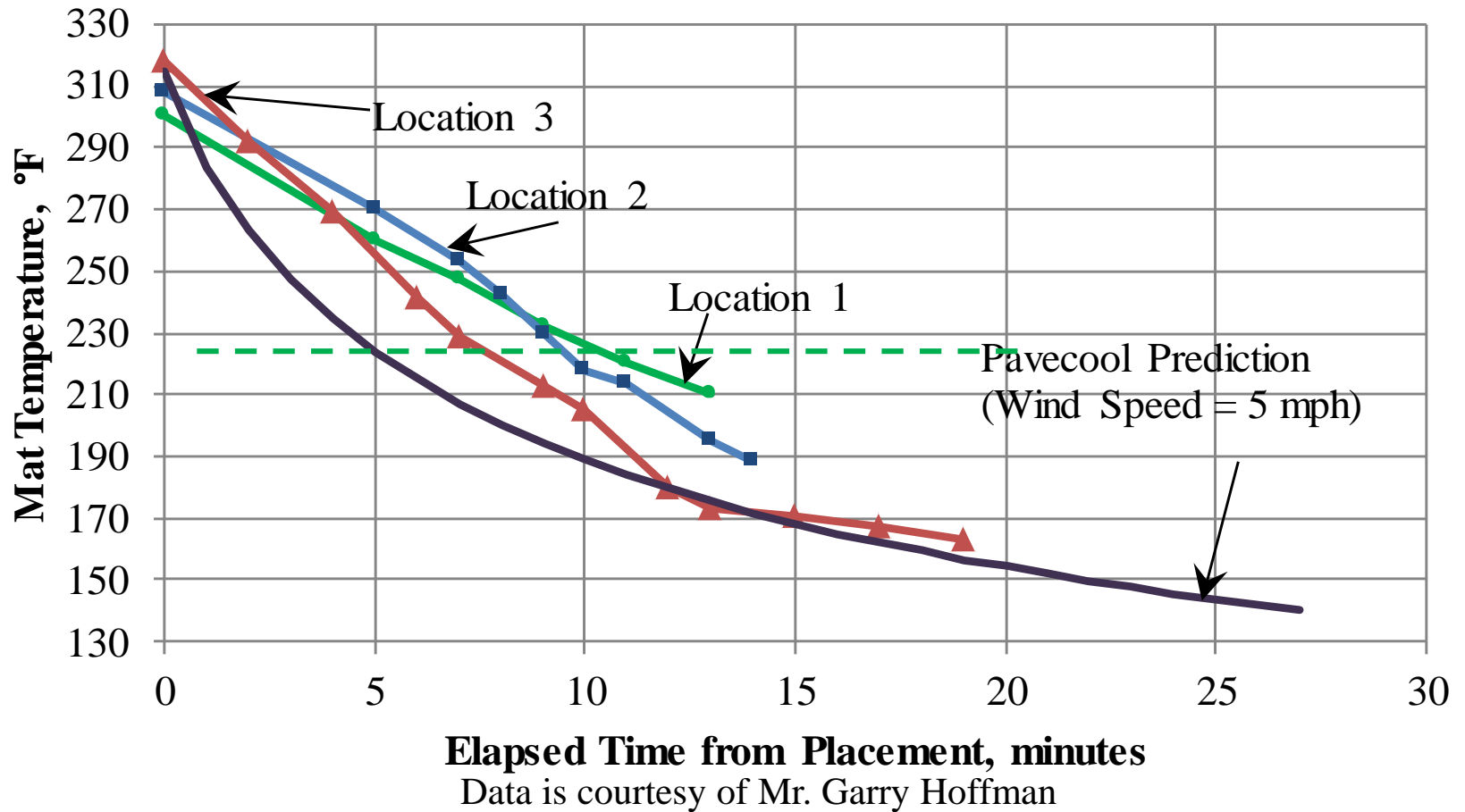
- **Mixture Acceptance:**
  - **Certification or Lot.**
    - Lot acceptance includes
      - Asphalt content.
      - Percent passing 200 sieve.
- **Density Acceptance:**
  - Optimum rolling pattern

# Specification features

- **Tack coat:**
  - Proper application and adequate quantity's of tack are very important for thin asphalt layers.
  - New tack specification **SOL 481-17-01**.
- **Weather limitations:**
  - Air and Surface Temperatures 50° and rising.
  - For paving season extensions, compaction needs to be completed in less than 10 minutes.

# Weather limitations

THMAO Project - N. Cameron Street, WB, Passing Lane  
Mat Temperature (Spot Measurement) - 7/23/12 - 7/24/12





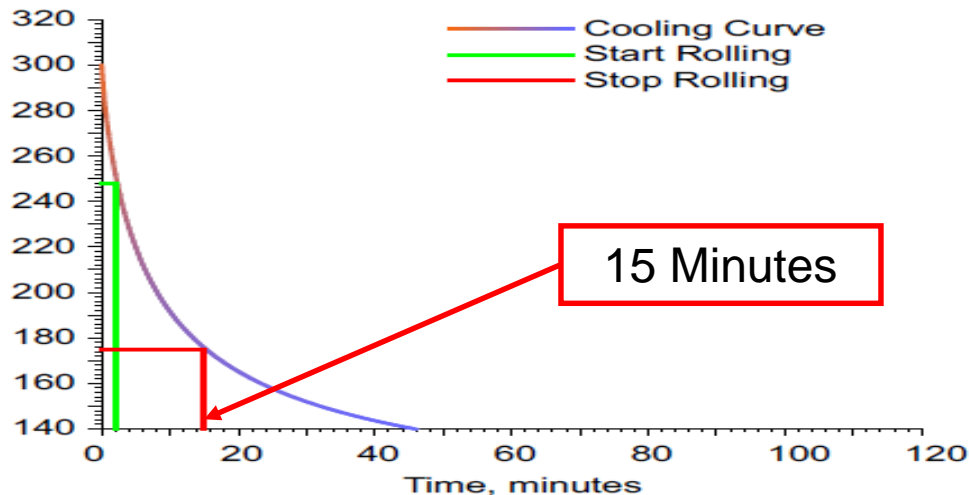
# Thinlay Compaction

## PaveCool 3.0 Report

Project: 6.3mm Thinlay

Date & Time		Start Rolling*	Stop Rolling*
1/3/2017 9:25 AM		2 minutes (248 °F)	15 minutes (175 °F)
Mix Type	Binder Grade	Thickness	Delivery Temp.
Fine/Dense	PG 76-22	1.00 in.	300 °F
Air Temp.	Wind Speed	Sky	Latitude
70 °F	5 mph	Clear & Dry	41 ° North
Existing Surface	Moisture	State	Surface Temp.
Asphalt			110 °F

Mix Temperature, °F



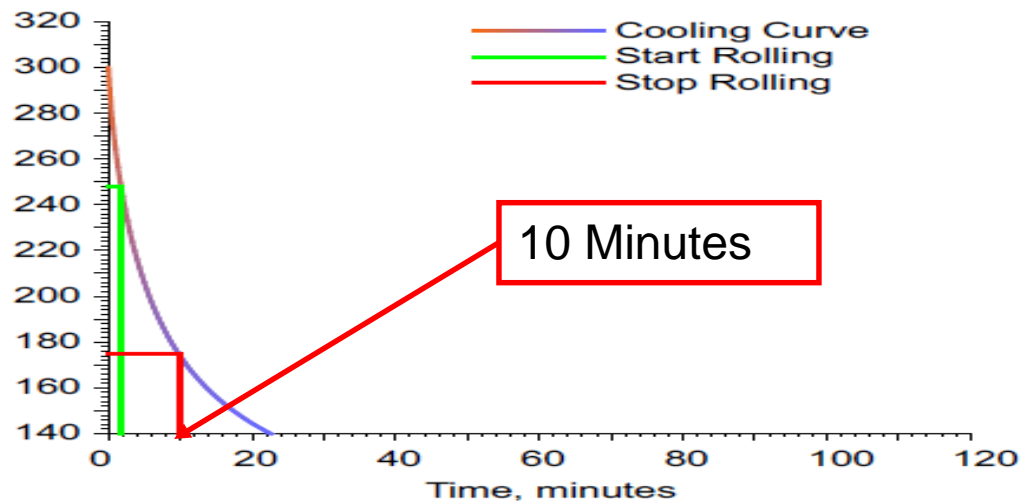
# Thinlay Compaction

## PaveCool 3.0 Report

Project: 6.3mm Thinlay

Date & Time		Start Rolling*		Stop Rolling*	
1/3/2017 9:25 AM		2 minutes (248 °F)		10 minutes (175 °F)	
Mix Type	Binder Grade	Thickness	Delivery Temp.		
Fine/Dense	PG 76-22	1.00 in.	300 °F		
Air Temp.	Wind Speed	Sky	Latitude		
70 °F	5 mph	Clear & Dry	41 ° North		
Existing Surface	Moisture	State	Surface Temp.		
Asphalt			70 °F		

Mix Temperature, °F

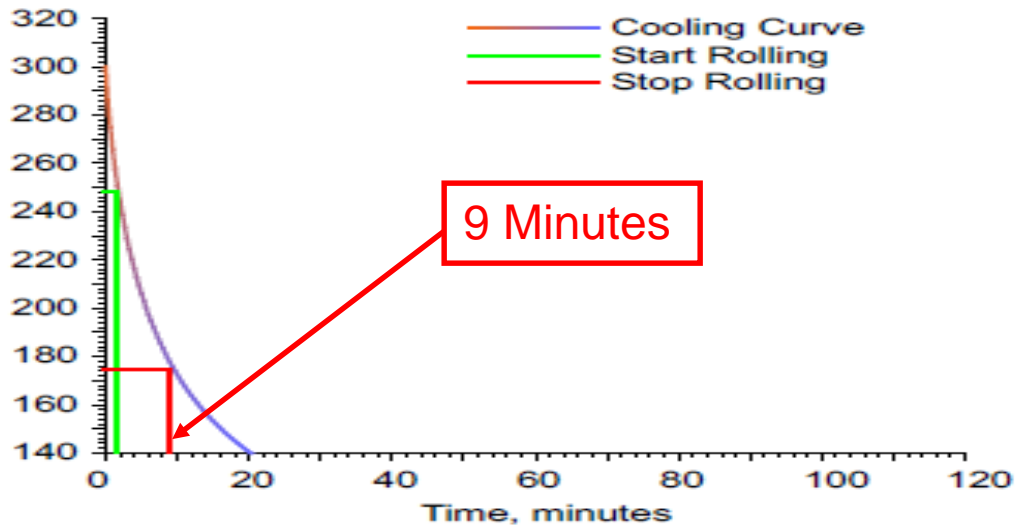


# Thinlay Compaction

## PaveCool 3.0 Report

Date & Time		Start Rolling*		Stop Rolling*	
1/9/2017 10:20 AM		2 minutes (248 °F)		9 minutes (175 °F)	
Mix Type	Binder Grade	Thickness	Delivery Temp.		
Fine/Dense	PG 58-34	1.00 in.	300 °F		
Air Temp.	Wind Speed	Sky	Latitude		
50 °F	5 mph	Clear & Dry	41 ° North		
Existing Surface	Moisture	State	Surface Temp.		
Granular Base	Dry	Unfrozen	50 °F		

Mix Temperature, °F

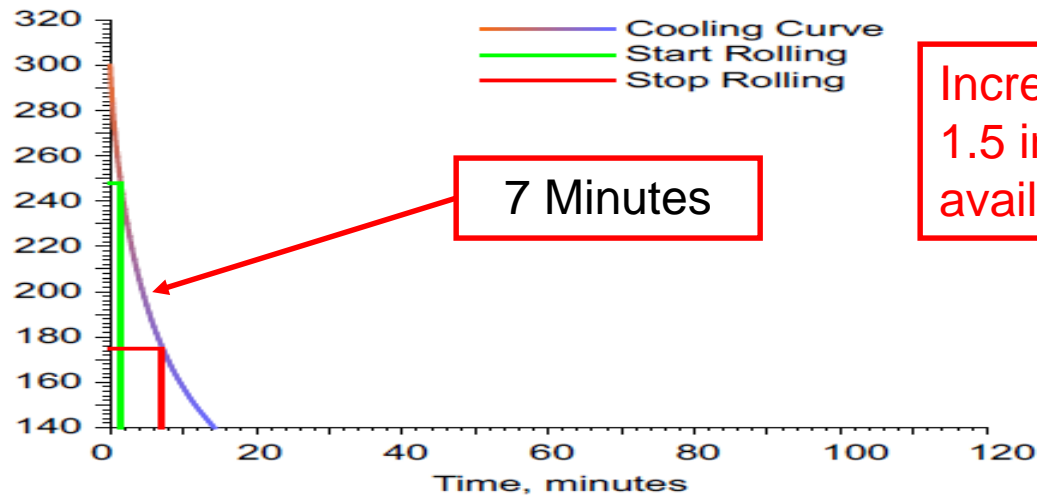


## PaveCool 3.0 Report

Project: 6.3mm Thinlay

Date & Time		Start Rolling*		Stop Rolling*	
1/3/2017 9:25 AM		1 minutes (248 °F)		7 minutes (175 °F)	
Mix Type	Binder Grade	Thickness	Delivery Temp.		
Fine/Dense	PG 76-22	1.00 in.	300 °F		
Air Temp.	Wind Speed	Sky	Latitude		
40 °F	5 mph	Clear & Dry	44° North		
Existing Surface	Moisture	State	Surface Temp.		
Asphalt			40 °F		

Mix Temperature, °F



Increasing the thickness to 1.5 inches increases time available to 14 minutes.

# Summary

- **Thin Asphalt A Good Tool for Surface Treatment.**
- **Improved Ride and Friction.**
- **Minimal Rutting Observed.**
- **Reflective cracking will occur.**

# Summary

- **Proper Base Repair is a MUST.**
- **Pay special attention to tack coat application.**
- **Thin layers loose heat faster and need to be compacted sooner. (Within 10 minutes.)**
- **Aggregate producers that anticipate making this mixture can submit Type A, AASHTO #9s for quality testing and SRL now.**

# Current Status

- **2nd round Clearance Transmittal sent for circulation 3/8/17.**
- **Should see the CT very soon.**
- **Hope to have available for Districts to specify in contracts by end of summer.**

# Questions?

