ASPHALT BINDER

Section 8 – Production and Construction

Section 8 - 1

Production

- Prepave Conference
  - Prior to paving
  - JMF
  - Materials Source
  - Plant Equipment and Operation
  - Burner Fuels
  - Lime Addition
  - Roller Types and Patterns
  - Lay down Equipment
  - Density Requirements
  - Tack or Seal Coats

Section 8 - 2

Asphalt Mixing Plants

(WYDOT 401.3.3)

- Types
  - Batch Plant
  - Drum Plant
- Capacity > 100t/hour
- Plant Mix Quantity > 5000 tons

Section 8 - 3

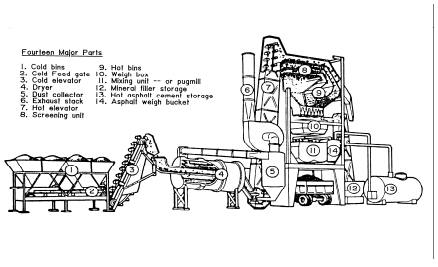
A Drum Mixing Plant

Section 8 - 4

Storage Silo

Section 8 - 5

A Batch Mixing Plant



Section 8 - 6

Aggregate Bins

Section 8 - 7

Mixing & Compaction Temperatures

Table 401.4.9-1

	Lab Mixing Temp F	Lab Compaction Temp F
PG 58-XX	310	285
PG 64-XX	320	295
PG 70-XX	330	305
PG 76-XX	330	305

Section 8 - 8

Asphalt Mix Temperature

Section 8 - 9

Weather Limits

- **Cutoff Dates – May 1 to October 15**
- **In writing, the engineer may extend paving start or finish dates**
- **No placement when conditions prevent proper handling, compacting or finishing**

Section 8 - 10

Plant Mix without Warm Mix Additives

Atmospheric Temperature Limits

Table 401.4.3-1
Air Temperature Limitations

Compacted Thickness of Surface Course Being Placed	Air Temperature
Compacted thickness < 1 in [25 mm]	60 °F [15 °C]
1 in [25 mm] ≤ compacted thickness < 2 in [50 mm]	50 °F [10 °C]
Compacted thickness ≥ 2 in [50 mm]	40 °F [4 °C]
Leveling	50 °F [10 °C]

Section 4 - 11

Plant Mix with Warm Mix Additives

Atmospheric Temperature Limits

Table 401.4.3-2
Air Temperature Limitations Using Warm Mix

Compacted Thickness of Surface Course Being Placed	Air Temperature
Compacted thickness < 1 in [25 mm]	55 - 60 °F [15 °C]
1 in [25 mm] ≤ compacted thickness < 2 in [50 mm]	45 - 50 °F [10 °C]
Compacted thickness ≥ 2 in [50 mm]	35 - 40 °F [4 °C]
Leveling	45 - 50 °F [10 °C]

Section 4 - 12

Hauling

- Release Agents – Paraffin or non petroleum
- No contamination
- Cover as needed

Section 8 - 13

Incorrect Truck-loading Sequence

Section 8 - 14

Correct Truck-loading Sequence

Section 8 - 15

Rollers

- WYDOT 401.3.6
- Meet requirements of subsection 210.3.6
- Capable of reversing direction without backlash
- Shall not adversely affect pavement surface

Section 8 - 16

Asphalt Paver

Section 8 - 17

Compaction

Section 8 - 18

Burner Fuels

WYDOT 401.2.4

- Natural gas
- Used Oil
- Butane
- Propane
- Number 1 and Number 2 fuel oil

Mixing

- Asphalt within 25°F of aggregate

Spreading and Finishing

- Maximum/Minimum lift

Table 401.4.11-1
Single Lift Thickness

Nominal Maximum Aggregate Size (in [mm])	Lift Thickness (in [mm])	
	Minimum	Maximum
⅜ [9]	1 [25]	2 [50]
½ [13]	1½ [38]	3 [75]
¾ [19]	2 [50]	3 [75]

- Longitudinal Joints
  - Top lift coincides with center line and lane line or edge line
  - Offset 6”
  - Not in wheelpaths
  - 1:3

Spreading the Finishing (continued)

- Transverse Joints
  - Taper 1V:6H
  - Taper removed
- Opening to Traffic

Test Strips

- Purpose
  - Verify density can be achieved
  - Verify equipment
  - Verify procedures
- General
  - First 500 t of pavement
  - Produced at normal rate
  - Remain in place
  - No additional Hot Plant Mix until accepted (only leveling can be placed)
- Compaction
  - Immediately after placement
  - Continuous and uniform

Section 8 - 22

Test Strips (continued)

- Sampling and Testing
  - 7 samples from last 300 t
  - If correlation is being done 2 samples per location
  - Random locations – WYDOT selected, contractor core
  - No sample <1 ft for edge
  - Densities by T 230 (Wyoming modified)
- Acceptance
  - If P.F. $\geq$ 1.00 – Accept Test Strip
  - If P.F. < 0.50 – Reject Test Strip
  - If P.F. $\geq$ 0.50 but <1.00 – May be left in place

Section 8 - 23

Test Strips (continued)

- Other Considerations
  - Additional Strips – Contractor Pay
  - JMF Changes – New Test Strip
  - Contractor Request – Contractor Pay
  - Materials Program Request – State Pay
  - Results - < 24 hours
  - Payment – Lump Sum
  - Payment for materials – based on P.F. evaluation

Section 8 - 24

Compaction

- Rolling
  - Immediately after placement
  - Continuous till density achieved
  - Sufficient rollers

Section 8 - 25

Compaction (continued)

- Sampling
  - Seven test/lot on QC/QA projects
  - Lot 1500 t, maximum
  - Sublot – one-seventh of lot
  - Random locations
  - No test < 1 ft for edge
  - AASHTO T 230 (Wyoming Modified) for acceptance
  - Nuclear density gauge – if calibrated, use for quality control only

Section 8 - 26

PMWC

- JMF
  - Passing ½" 100%
  - Passing 3/8" 97-100%
  - Passing #4 ± 5%
  - Passing #8 ± 5%
  - Passing #200 ± 2.0%
  - Mix Temperature JMF Temp. ± 20°F
- Placing and Compaction
  - 3 passes steel wheel in static mode
  - No density requirements
  - Cutoff dates – June 1 to September 15

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