Standard Practice for Balanced Mix Design of Asphalt Mixtures Using A Tiered Framework

Reimagining BMD – New AASHTO Provisional Standard

Overview

Northeast Asphalt User/Producer Group
October 30th, 2025

AASHTO PPXXX BMD of Asphalt Mixtures Using A Tiered Framework

BMD Approaches

Approach	Volumetric Requirements	Performance Requirements	Flexibility	Innovation Potential
A - Volumetric Design with Performance Verification	Full compliance.	Full compliance.	Most conservative.	Lowest.
B - Volumetric Design with Performance Optimization	Full compliance at preliminary OBC.	Performance optimization through moderate changes in binder content.	Slightly more flexible than A.	Limited.
C - Performance-Modified Volumetric Design	Some requirements relaxed or eliminated.	Performance optimization by adjusting initial binder content or mixture component properties or proportions.	Less conservative than A & B.	Medium degree.
D - Performance Design	Limited or no requirements.	Performance optimization by adjusting mixture components and proportions.[a]	Least conservative.	Highest degree.

[a] State DOT may set minimum requirements for binder quality & aggregate properties. Once the lab test results meet the performance criteria, the mixture volumetric properties may be checked for use in production.

AASHTO PPXXX BMD of Asphalt Mixtures Using A Tiered Framework

Objective & Why

- Have an AASHTO practice that provides guidance on **how to specify** an asphalt mixture, primarily in terms of mix design.

Aligning with Evolving Mix Design Practice:
Mix design practices go beyond adjusting binder content. Designers modifies other constituents to achieve acceptable BMD test results.

Beyond Mix Design Approval:
The new BMD framework should consider not only *Mix Design Approval* but also *Mix Design* ***Verification*** and *Mixture* ***Acceptance*** during production.

Performance-Oriented Tiers:
Tiers are built around targeted **performance characteristics** (*Permanent Deformation Resistance, Cracking Resistance, etc.)*

Why Reimagining BMD?

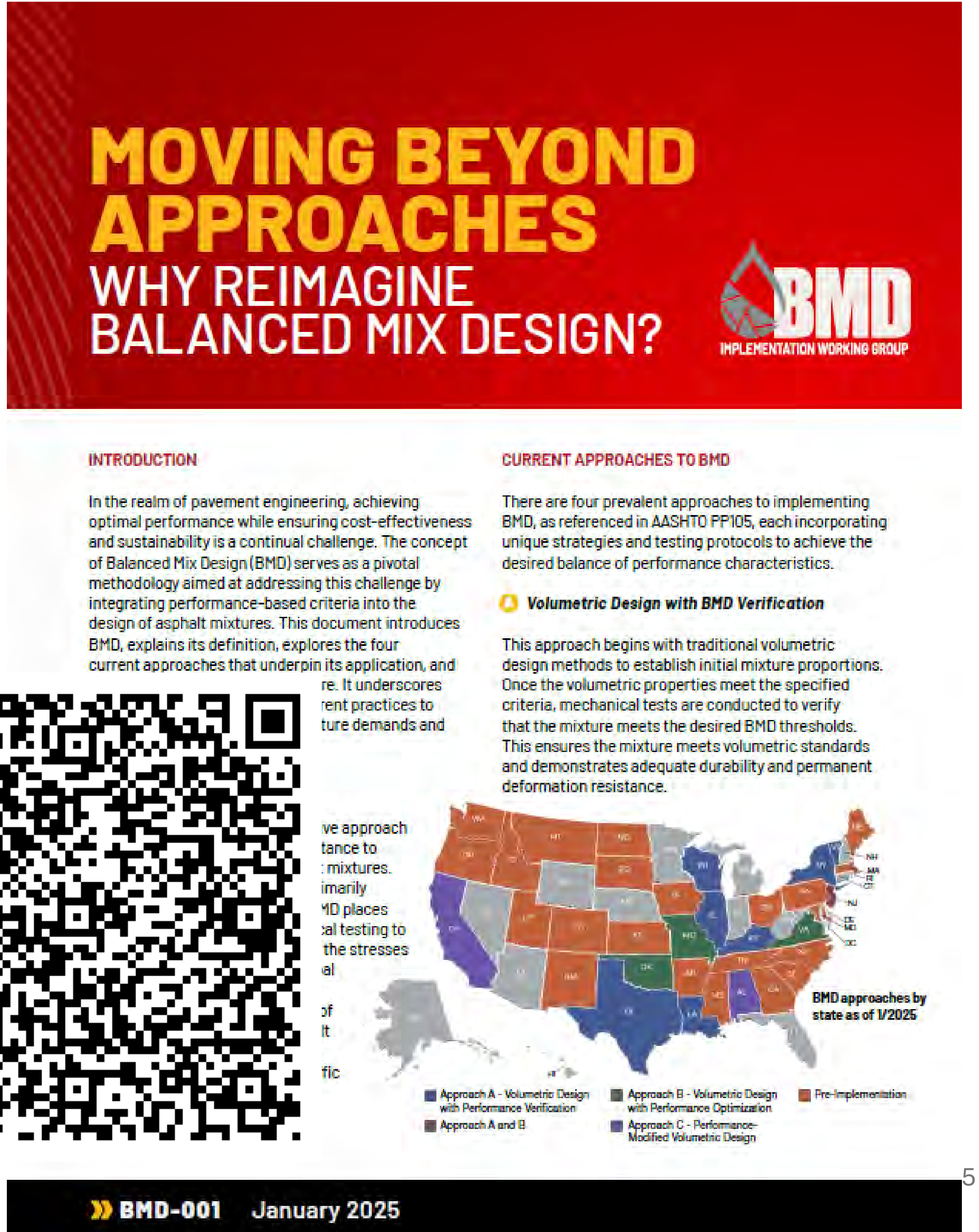
Aligning with Evolving Mix Design Practice:
Mix design practices go beyond adjusting binder content. Designers modifies other constituents (e.g., aggregate gradation, additives) to achieve passing BMD test results.

Beyond Mix Design Approval:
The new BMD framework should consider not only *Mix Design Approval* but also *Mix Design **Verification*** and *Mixture **Acceptance*** during production.

Performance-Oriented Tiers:
Tiers are built around targeted **performance characteristics** (*Permanent Deformation Resistance*, *Cracking Resistance*, *Moisture Damage Resistance*, & *Surface Characteristics*).

Why Reimagining BMD?

- Balance performance in terms of Engineering, Economic, & Environment.
- Updated methodology:
  - Start with baseline requirements for constituents, volumetric properties, & mechanical test results.
  - Shift focus toward mechanical testing, allowing more flexibility in material selection.
  - Prioritize performance optimization, with reduced reliance on constituent & volumetric requirements.
- Integrate effectively into QA programs to ensure consistency during production.
- Support adoption of innovative materials to meet performance requirements.
- Enable construction & maintenance of durable & cost-effective asphalt pavements.


MOVING BEYOND APPROACHES

WHY REIMAGINE BALANCED MIX DESIGN?

BMD IMPLEMENTATION WORKING GROUP

INTRODUCTION

In the realm of pavement engineering, achieving optimal performance while ensuring cost-effectiveness and sustainability is a continual challenge. The concept of Balanced Mix Design (BMD) serves as a pivotal methodology aimed at addressing this challenge by integrating performance-based criteria into the design of asphalt mixtures. This document introduces BMD, explains its definition, explores the four current approaches that underpin its application, and

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CURRENT APPROACHES TO BMD

There are four prevalent approaches to implementing BMD, as referenced in AASHTO PP105, each incorporating unique strategies and testing protocols to achieve the desired balance of performance characteristics.

Volumetric Design with BMD Verification

This approach begins with traditional volumetric design methods to establish initial mixture proportions. Once the volumetric properties meet the specified criteria, mechanical tests are conducted to verify that the mixture meets the desired BMD thresholds. This ensures the mixture meets volumetric standards and demonstrates adequate durability and permanent deformation resistance.

BMD approaches by state as of 1/2025

Approach A - Volumetric Design with Performance Verification
Approach A and B
Approach B - Volumetric Design with Performance Optimization
Approach C - Performance-Modified Volumetric Design
Pre-Implementation

BMD-001 January 2025

Objective

- Have an AASHTO practice that provides guidance on **how to specify** an asphalt mixture, primarily in terms of mix design.

*NOT about how to **develop** a mix design.*

*NOT about how to **evaluate** a mix design for acceptance.*

AASHTO PPXXX BMD of Asphalt Mixtures Using A Tiered Framework

Development Timeline

- **Aug 2024:** IWG meeting and idea approved.
- **Oct–Dec 2024:** outline and initial draft.
- **Jan 2025:** outside review by impacted groups (AASHTO, agency, contractors, academia, FHWA, NAPA, etc.)
- **Feb 2025:** addressing of comments received & reorganizing.
- **Mar–Apr 2025:** review by IWG / addressing comments made by IWG membership.
- **June 2025:** TS 2D ballot
- **August 2025:** COMP annual meeting

- **June 2025 TS 2D Ballot Results:**
  - *Passed with one negative vote (OH).*
  - *75+ comments.*

AASHTO PPXXX BMD of Asphalt Mixtures Using A Tiered Framework

Summary of Comments

- Primarily editorial comments:
  - *Updated / added references to other relevant testing standards*.
  - *Streamlining narrative portion*.
- Most significant comments:
  - OH (negative) – desired to keep current Approaches – lack of clarity between Tiers.
  - FHWA – clarification on purpose for standard and differentiation between Tiers.
  - ME & others – tests selected for the Example tables in Appendix.

AASHTO PPXXX BMD of Asphalt Mixtures Using A Tiered Framework

Who was involved?

- National
  - FHWA
  - NAPA
  - BMD IWG
- Academic
  - NCAT
  - UNR
  - TTI
- Industry
- States
  - VA
  - IL
  - LA
  - WI
  - ME
  - NJ

BMD IMPLEMENTATION WORKING GROUP

Members

Dave VanderWeele (Rieth Riley), Chair
Angela Byeke (Virginia Department of Transportation), Vice-Chair
Fan Yin (National Center for Asphalt Technology), Secretary
Amy Epps-Martin (Texas A&M University)
Chris Duman (Oregon Department of Transportation)
Deb Mishra (Oklahoma State University)
Elie Hajj (University of Nevada, Reno)
Eshan Dave (University of New Hampshire)
Finch Troxler (Troxler Electronic Laboratories)
Jeff Lewis (Brox Industries)
Jim Purcell (Municipality of Princeton, New Jersey)
Jim Warren (Texas Asphalt Pavement Association)
Justin Barfield (Alabama Geneva County)
Kate DeCarlo (Heritage Research Group)
Marty McNamara (Granite Construction)
Mike Anderson (Asphalt Institute)
Oak Metcalfe (Montana Department of Transportation)
Sam Cooper III (Louisiana Transportation Research Center)
Sean McLaughlin (Washington State Department of Transportation)
Shane Buchanan (CRH Americas Materials)
Walaa Mogawer (University of Massachusetts Dartmouth)

What’s Different?

Approaches A–D: Refer to the **design methodology** and how mechanical tests are integrated into or guides the mix design process.

Tiers 1–3: Refer to a mixture **specification level** and how much flexibility is allowed in constituents and volumetric properties versus relying on mechanical tests.

Core Elements & Benefits

- Begin with baseline **constituent, volumetric, and performance** metrics.
- Shift focus to **mechanical testing** to enable material flexibility.
- Optimize for **performance characteristics** (permanent deformation, cracking—load and non-load related, moisture, and surface characteristics)
- Integrate into **QA programs** for production consistency and performance assurance.
- Enable use of **innovative materials** and **application-based** designs.

Reimagining BMD

Key Concepts

Approaches = How you design, **Tiers** = How you specify and accept.

- Tiers **go beyond mix approval**: include **verification and acceptance** during production.
- BMD is not limited to binder tweaks—**aggregate gradation**, **additives**, and **production consistency** all play a role.
- Constituent and volumetric properties can **remain useful as report-only** to aid production quality control.
- The tiered framework allows agencies to **adopt BMD at their own pace** based on experience and resources.

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Design & Construction Considerations

Definition

- Ensure mixture meets functional & performance needs.

Application & Location

- High-traffic highways → Dense-graded or Stone Matrix Asphalt (SMA) for durability & skid resistance.
- Residential streets → Fine-graded mixture for aesthetics, smoothness, & easier placement.

Construction Constraints

- Right-of-way limitations may require more workable/compactable materials.
- Workability affects placement, compaction, durability, & smoothness.

Design Considerations

- Selection of mixture type, NMAS, and additives optimizes production, placement, and performance.

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Performance Characteristics

- **Rutting**
  - Tier 3
  - Tier 2
  - Tier 1
- **Load-Related Cracking**
  - Tier 3
  - Tier 2
  - Tier 1
- **Non-Load-Related Cracking**
  - Tier 3
  - Tier 2
  - Tier 1
- **Moisture Damage**
  - Tier 3
  - Tier 2
  - Tier 1
- **Surface Characteristics**
  - Tier 3
  - Tier 2
  - Tier 1

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Performance Characteristics

Specification Category	Specification Mix Parameters	Standard
Constituent	**Aggregate**	
	Consensus & Source Properties	AASHTO
	Binder	
	PG Grading & Other Tools	AASHTO
Volumetric	Compaction Level & Volumetrics	AASHTO
Mechanical	Mechanical Property Tests (Index Tests)	AASHTO/ ASTM State Standards

Reimagining BMD Performance Characteristics

Category	Specification Mix Parameters	Standard
Constituent	Aggregate	
	Coarse Aggregate Angularity (CAA)	T 335
	Fine Aggregate Angularity (FAA)	T 304
	LA Abrasion	T 96
	Micro-Deval Abrasion	T 327
	Uncompacted Void Content of Coarse Aggregate	T 326
	Binder	
	Elastic Recovery	T 301
	Percent Recovery using MSCR	R 92
	High Temperature PG (PGHT)	M 320
	High Temperature PG (PGHT–MSCR)	M 332
Volumetric	Gyration Compaction Level	R 35
	Volumetric Properties (Va, VMA, VFA, Vbe, $P_{0.075}/P_{be}$)	M 323
Mechanical	Asphalt Pavement Analyzer (APA), Rut Depth at Specified Cycles	T 340
	High Temperature Indirect Tensile (HT-IDT) Strength	ASTM D6931 ALDOT-458; VTM-145
	Resistance to Plastic Flow, Hveem Stabilometer Value	T 246
	Hamburg Wheel Track Test (HWTT), Passes to a Specified Rut Depth	T 324
	Ideal Rutting Test (IDEAL-RT), Rutting Tolerance Index	ASTM D8360
	Stress Sweep Rutting (SSR) Test, Rutting Strain Index	TP 134

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The Tiers

Tier Level	Definition
Tier I	**Minimal relaxation** from existing specifications, limited to one or more volumetric properties associated with the targeted performance characteristic. No changes are required to related constituent material requirements. Applicable when early or limited performance data supports minor specification adjustments.
Tier II	**Moderate relaxation** and/or removal of specification requirements, involving at least one constituent and one volumetric property, with a total of three or more changes. All changes pertain only to properties tied to the targeted performance characteristic. Applicable when strong laboratory and field performance data support expanded flexibility.
Tier III	**Maximum reliance** on mechanical testing, retaining no more than two specification requirements (constituent and/or volumetric) related to the performance characteristic. Applicable when the mechanical test has undergone extensive filed validation, allowing performance-based control with minimal prescriptive requirements.

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Tiers Example – Rutting

Performance Characteristics = Rutting

Base specification = AASHTO M 323

Tier I

- ✓ Mechanical Test
- ✓ Allowable air void range of 2% – 4%
- ✓ Remainder of requirements remain

Tier II

- ✓ Mechanical Test
- ✓ Allowable air void range of 2% – 4%
- ✓ Reduced FAA minimums
- ✓ Removed all CAA requirements
- ✓ Remainder of requirements remain

Tier III

- ✓ Mechanical Test
- ✓ Remove all other related requirements except:
  - ✓ L.A. Abrasion
  - ✓ Minimum High Temperature binder grade

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Tiers Example – Different Tiers

Performance Characteristics = Rutting & Non-Load Related Cracking

Cracking

Tier I

- ✓ Mechanical Test
- ✓ Allowable air void range of 3% – 5%
- ✓ Remainder of requirements remain

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Rutting

Tier II

- ✓ Mechanical Test
- ✓ Allowable air void range of 2% – 5%
- ✓ Removed maximum VFA
- ✓ Reduced FAA minimums
- ✓ Removed all CAA requirements
- ✓ Remainder of requirements remain

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Net Result

- ✓ Mechanical Tests
- ✓ Allowable air void range of 3% – 5%
- ✓ Min VFA with no maximum
- ✓ Reduced FAA minimums
- ✓ Removed all CAA requirements

Reimagining BMD

Applications of Mixture Specifications

- **Mix Design Approval**
  - Mix design approval refers to the formal process by which a submitted mix design is reviewed & authorized by the relevant agency or authority.
- **Mix Design Verification**
  - Mix design verification ensures that an approved mixture continues to meet specifications & performance criteria.
- **Mixture Acceptance**
  - This standard practice addresses the specification requirements for the asphalt mix design & is not intended to cover the acceptance of the mixture in production.

APPENDIX: EXAMPLE OF ASPHALT MIXTURE DESIGN REQUIREMENTS

- **Tables X1.1, X1.2 , and X1.3** list performance characteristic parameters at various Tiers.
- Parameters include **min**, **max**, **range**, **value**, & **report-only** options.
  - **Range** applies when both a minimum & maximum are specified.
  - **Value** is used when an exact requirement, such as gyration levels, is set by the agency.
  - **Report-only** parameters provide information for quality assurance but are not used for pass/fail or payment criteria.

APPENDIX: EXAMPLE #1

			Specification Requirements					
			Permanent Deformation (Tier 1)	**Load Related Cracking (Tier 1)**	**Non-load Related Cracking (Tier 1)**	**Moisture Damage (Tier 1)**	**Surface Characteristics (Tier 1)**	**Overall Summary**
Constituent	Aggregates	FAA (T 304)	Min.	Min.	–	–	–	Min.
		CAA (T 335)	Min.	Min.	–	–	–	Min.
		Flat and Elongated Particles (ASTM D4791)	–	–	–	–	Max.	Max.
		Sand equivalent (T 176)	–	Min.	Min.	Min.	–	Min.
		LA abrasion (T 96)	Max.	–	–	–	Max.	Max.
		Polish Value (ASTM D3319)	–	–	–	–	Min.	Min.
		Natural sand content	Report only	Report only		–	–	Report only
	Binder	Delta Tc (T 387)	–	Min.	Min.	–	–	Min.
		PGHT (M 320)	Min.	–	–	Min.	–	Min.
		PGLT (M 320; M 332)	–	–	Max.	Max.	–	Max.
		GRP (T 315)	–	Max.	–	–	–	Max.
		MSCR recovery (R 92)	Min.	–	Min.	–	–	Min.
	Additives	Polymer content	Min.	–	Min.	–	–	Min.
		Antistrip type and dose	–	–	–	Min.	–	Min.
Volumetric	Design gyrations by traffic level (R 35)		Value	Value	Value	Value	Value	Value
	Va (M 323)		Range	Range	Range	–	–	Range
	VFA (M 323)		Max.	–	–	Report only	–	Max.
	VMA (M 323)		–	Min.	Min.	–	–	Min.
	$P_{0.075}/P_{be}$ (M 323)		–	Range	–	Range	–	Range
	Aggregate gradation		Report only					Report only
	Design asphalt binder content		Report only					Report only
	Design Va		Report only					Report only
	Gmm (T 209)		Report only					Report only
Mechanical	HWTT, passes to a specified rut depth (T 324)		Min.	–	–	–	–	Min.
	HWTT, passes for stripping inflection point (T 324)		–	–	–	Min.	–	Min.
	IDEAL-CT, cracking tolerance index (ASTM D8225)		–	Min.	–	–	–	Min.
	DCT at low temperature, fracture energy (ASTM D7313)		–	–	Min.	–	–	Min.
	Dynamic Friction Test (DFT) number (PP 104)		–	–	–	–	–	–
	Indirect tensile strength ratio, TSR (T 283)		–	–	–	Report only	–	Report only

APPENDIX: EXAMPLE #2

			Specification Requirements					
			Permanent Deformation (Tier 2)	Load Related Cracking (Tier 2)	Non-load Related Cracking (Tier 2)	Moisture Damage (Tier 2)	Surface Characteristics (Tier 2)	Overall Summary
Constituent	Aggregates	FAA (T 304)	Report only	Report only	–	–	–	Report only
		CAA (T 335)	Min.	Min.	–	–	–	Min.
		Flat and Elongated Particles (ASTM D4791)	–	–	–	–	Max.	Max.
		Sand equivalent (T 176)	–	Min.	Min.	Min.	–	Min.
		LA abrasion (T 96)	Max.	–	–	–	Max.	Max.
		Polish Value (ASTM D3319)	–	–	–	–	Report Only	Report only
		Natural sand content	–	–		–	–	–
	Binder	Delta Tc (T 387)	–	Min.	Min.	–	–	Min.
		PGHT (M 320)	Min.	–	–	Report only	–	Min.
		PGLT (M 320; M 332)	–	–	Max.	Report only	–	Max.
		GRP (T 315)	–	Max.	–	–	–	Max.
		MSCR recovery (R 92)	Min.	–	–	–	–	Min.
	Additives	Polymer content	Report only					Report only
		Antistrip type and dose	–	–	–	Report only	–	Report only
Volumetric	Design gyrations by traffic level (R 35)		Value	Value	Value	Value	Value	Value
	Va (M 323)		Min.	–	–	–	–	Min.
	VFA (M 323)		Report only	–	Report only	Report only	–	Report only
	VMA (M 323)		–	Min.	Min.	–	–	Min.
	$P_{0.075}/P_{be}$ (M 323)		–	Range	–	Range	–	Range
	Aggregate gradation		Report only					Report only
	Design asphalt binder content		Report only					Report only
	Design Va		Report only					Report only
	Gmm (T 209)		Report only					Report only
Mechanical	HWTT, passes to a specified rut depth (T 324)		Min.	–	–	–	–	Min.
	HWTT, passes for stripping inflection point (T 324)		–	–	–	Min.	–	Min.
	IDEAL-CT, cracking tolerance index (ASTM D8225)		–	Min.	–	–	–	Min.
	DCT at low temperature, fracture energy (ASTM D7313)		–	–	Min.	–	–	Min.
	Dynamic Friction Test (DFT) number (PP 104)		–	–	–	–	Min.	Min.
	Indirect tensile strength ratio, TSR (T 283)		–	–	–	Report only	–	Report only

APPENDIX: EXAMPLE #3

			Specification Requirements					
			Permanent Deformation (Tier 3)	Load Related Cracking (Tier 3)	Non-load Related Cracking (Tier 3)	Moisture Damage (Tier 3)	Surface Characteristics (Tier 3)	Overall Summary
Constituent	Aggregates	FAA (T 304)	Report only	Report only	–	–	–	Report only
		CAA (T 335)	Report only	Report only	–	–	–	Report only
		Flat and Elongated Particles (ASTM D4791)	–	–	–	–	Max.	Max.
		Sand equivalent (T 176)	–	Min.	Report only	Min.	–	Min.
		LA abrasion (T 96)	Report only	–	–	–	Report Only	Report only
		Polish Value (ASTM D3319)	–	–	–	–	–	–
		Natural sand content	–	Report only		–	–	Report only
	Binder	Delta Tc (T 387)	–	Report only	Report only	–	–	Report only
		PGHT (M 320)	Report only	–	–	–	–	Report only
		PGLT (M 320; M 332)	–	Report only	Max.	–	–	Max.
		GRP (T 315)	–	Max.	–	–	–	Max.
		MSCR recovery (R 92)	Min.	–	–	–	–	Min.
	Additives	Polymer content	Report only					Report only
		Antistrip type and dose	–	–	–	Report only	–	Report only
Volumetric	Design gyrations by traffic level (R 35)		Value	Value	Value	Value	Value	Value
	Va (M 323)		–	–	–	–	–	–
	VFA (M 323)		Report only	–	Report only	–	–	Report only
	VMA (M 323)		–	–	Report only	–	–	Report only
	$P_{0.075}/P_{be}$ (M 323)		–	–	–	Report only	–	Report only
	Aggregate gradation		Report only					Report only
	Design asphalt binder content		Report only					Report only
	Design Va		Report only					Report only
	Gmm (T 209)		Report only					Report only
Mechanical	HWTT, passes to a specified rut depth (T 324)		Min.	–	–	–	–	Min.
	HWTT, passes for stripping inflection point (T 324)		–	–	–	Min.	–	Min.
	IDEAL-CT, cracking tolerance index (ASTM D8225)		–	Min.	–	–	–	Min.
	DCT at low temperature, fracture energy (ASTM D7313)		–	–	Min.	–	–	Min.
	Dynamic Friction Test (DFT) number (PP 104)		–	–	–	–	Min.	Min.
	Indirect tensile strength ratio, TSR (T 283)		–	–	–	Min.	–	Min.

EXAMPLE SUMMARY

Property			Example #1	Example #2	Example #3
Constituent	Aggregates	FAA (T 304)	Min.	Report only	Report only
		CAA (T 335)	Min.	Min.	Report only
		Flat and Elongated Particles (ASTM D4791)	Max.	Max.	Max.
		Sand equivalent (T 176)	Min.	Min.	Min.
		LA abrasion (T 96)	Max.	Max.	Report only
		Polish Value (ASTM D3319)	Min.	Report only	–
		Natural sand content	Report only	–	Report only
	Binder	Delta Tc (T 387)	Min.	Min.	Report only
		PGHT (M 320)	Min.	Min.	Report only
		PGLT (M 320; M 332)	Max.	Max.	Max.
		GRP (T 315)	Max.	Max.	Max.
		MSCR recovery (R 92)	Min.	Min.	Min.
	Additives	Polymer content	Min.	Report only	Report only
		Antistrip type and dose	Min.	Report only	Report only
Volumetric	Design gyrations by traffic level (R 35)		Value	Value	Value
	Va (M 323)		Range	Min.	–
	VFA (M 323)		Max.	Report only	Report only
	VMA (M 323)		Min.	Min.	Report only
	$P_{0.075}/P_{be}$ (M 323)		Range	Range	Report only
	Aggregate gradation		Report only	Report only	Report only
	Design asphalt binder content		Report only	Report only	Report only
	Design Va		Report only	Report only	Report only
	Gmm (T 209)		Report only	Report only	Report only
Mechanical	HWTT, passes to a specified rut depth (T 324)		Min.	Min.	Min.
	HWTT, passes for stripping inflection point (T 324)		Min.	Min.	Min.
	IDEAL-CT, cracking tolerance index (ASTM D8225)		Min.	Min.	Min.
	DCT at low temperature, fracture energy (ASTM D7313)		Min.	Min.	Min.
	Dynamic Friction Test (DFT) number (PP 104)		–	Min.	Min.
	Indirect tensile strength ratio, TSR (T 283)		Report only	Report only	Min.

EXAMPLE SUMMARY

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		Sand equivalent (T 176)	Min.	Min.	Min.
		LA abrasion (T 96)	Max.	Max.	Report only
		Polish Value (ASTM D3319)	Min.	Report only	–
		Natural sand content	Report only	–	Report only
	Binder	Delta Tc (T 387)	Min.	Min.	Report only
		PGHT (M 320)	Min.	Min.	Report only
		PGLT (M 320; M 332)	Max.	Max.	Max.
		GRP (T 315)	Max.	Max.	Max.
		MSCR recovery (R 92)	Min.	Min.	Min.
	Additives	Polymer content	Min.	Report only	Report only
		Antistrip type and dose	Min.	Report only	Report only
Volumetric	Design gyrations by traffic level (R 35)		Value	Value	Value
	Va (M 323)		Range	Min.	–
	VFA (M 323)		Max.	Report only	Report only
	VMA (M 323)		Min.	Min.	Report only
	$P_{0.075}/P_{be}$ (M 323)		Range	Range	Report only
	Aggregate gradation		Report only	Report only	Report only
	Design asphalt binder content		Report only	Report only	Report only
	Design Va		Report only	Report only	Report only
	Gmm (T 209)		Report only	Report only	Report only
Mechanical	HWTT, passes to a specified rut depth (T 324)		Min.	Min.	Min.
	HWTT, passes for stripping inflection point (T 324)		Min.	Min.	Min.
	IDEAL-CT, cracking tolerance index (ASTM D8225)		Min.	Min.	Min.
	DCT at low temperature, fracture energy (ASTM D7313)		Min.	Min.	Min.
	Dynamic Friction Test (DFT) number (PP 104)		–	Min.	Min.
	Indirect tensile strength ratio, TSR (T 283)		Report only	Report only	Min.

AASHTO PPXXX BMD of Asphalt Mixtures Using A Tiered Framework

What’s next?

- Hopefully approval by COMP for publication as a provisional standard in 2026.
- BMD IWG ready to work on deployment of the new Standard through outreach and education efforts.
  - Presentations at Asphalt-User Producer Groups, TRB, etc.
  - Coordination with ongoing efforts (e.g., FHWA-UNR AIEI, NCHRP 09-71).
  - Update of existing resources (NAPA BMD Resource Guide, TRB BMD Glossary) to reflect Tiers.
  - Others?
- BMD IWG turning attention to BMD in Production / Quality Assurance.
  - Framework or other guidance.

Acknowledgments

BMD IWG

IMPLEMENTATION WORKING GROUP

https://www.asphaltpavement.org/expertise/engineering/resources/bmd-resource-guide/bmd-iwg

Members of the:

- Asphalt industry (producers, material suppliers, and associations).
- Agencies (DOTs, Counties, or Public Works Departments).
- Academia.
- Testing equipment suppliers