

ARDOT Proposed 2027 Standard Specifications

Ready-Mix Producer Review Guide

Focused review for Arkansas Ready Mixed Concrete Association members | September 2026

Purpose of this guide

This is not a substitute for reviewing the proposed specification. It identifies the sections most likely to affect ready-mix producers, explains the practical impact, and highlights issues where producer feedback would be especially valuable. Page references are to the printed page numbers in the proposed 2027 Standard Specifications.

Overall direction: *more flexibility where performance can be demonstrated, with more accountability where production can be measured.*

How to Access the Draft and Submit Comments

ARDOT public review process

START HERE Visit ardot.gov/divisions/construction/standard-specifications/ and open “Proposed 2027 Standard Specifications - Public Review & Comment.” Download the proposed specification PDF and either the Excel or PDF comment form.

- Complete comment form and for multiple comments use second tab of excel form. Identify the Division and Section/Subsection, page number when applicable, existing/proposed language, recommended revision, reason or justification, and your name, organization, and contact information.
- Email completed comment forms to 2027Specs@ardot.gov

Ready-mix review deadlines

Area in this guide	Sections	Comment deadline
Concrete pavement / early strength	501, 504	September 11, 2026
Concrete base products	307, 308	October 9, 2026
Structural concrete / general provisions	801, 808, 109	December 4, 2026

IMPORTANT Ready-mix provisions span several Divisions. Use the deadline for the Division containing the section; late comments may not be considered.

Highest-priority items for producer review

Priority	Section	Pages	Review Focus
HIGH	501.03	348-352	Plant equipment, batch tolerances, tickets, moisture correction, mixer/blade condition
HIGH	501.04	353-356	Tarantula combined gradation, 517 lb/yd ³ , Box Test, reusable Mix IDs, 14-day provisional approval
HIGH	801.05	652-658	Structural mix redesign: standard vs. optimized gradation, 56-day strength, drilled shafts, Flowable Select
HIGH	801.06	659-661	Aggregate QC and the 20 yd ³ air-test frequency for certain Class C fly ash sources
HIGH	808.04 / 808.07	743-753	Weather Management Plan, 90 F structural concrete limit, delivery time, water/air adjustment
MED	504	400-403	New standalone HES/VES requirements, shrinkage testing, opening-strength design
MED	109.01(e)(3)	100	Automatic ticket requirements and data fields
MED	307-308	250-254	Open Graded Concrete Base and Concrete Base requirements

1. Section Crosswalk

Where familiar concrete provisions moved in the proposed book

Current 2014 Reference	Proposed 2027 Reference	What Changed	Pages
Sec. 310	Sec. 307	Open Graded Portland Cement Concrete Base → Open Graded Concrete Base	250-252
Sec. 309	Sec. 308	Portland Cement Concrete Base → Concrete Base	253-254
Sec. 501	Sec. 501	Expanded to Design, Quality Control, and Acceptance of Concrete Pavement	343-368
Sec. 501 HES provisions	Sec. 504	Early Strength Concrete becomes a standalone section covering HES and VES	400-403
Sec. 802	Sec. 801	Concrete for Structures reorganized as Design, Quality Control, and Acceptance of Concrete for Structures	651-665

Current 2014 Reference	Proposed 2027 Reference	What Changed	Pages
Sec. 802 construction provisions	Sec. 808	Structural placement, weather, mixing/delivery, finishing and curing separated into Construction Requirements for Concrete Structures	743+

2. Section 109 - Tickets and Weighing Equipment

Printed page 100

What producers should review. Concrete plant requirements in Section 501 point back to the general ticket requirements in Subsection 109.01(e)(3). The proposed specification requires automatic weighing/ticketing and identifies the data that must appear on the ticket when applicable.

- Plant name and location; unique ticket number; truck/equipment ID; date and time of loading/batching/weighing.
- Batch weights or volumes of individual materials; total quantity; project identification; approved mix design number or Department Mix ID.
- Total water added after initial batching and time of discharge, when applicable.
- Scale calibration at intervals not exceeding 12 months and after relocation, with records retained at the plant.

Producer review question

Can existing ticketing systems reliably capture the proposed data fields - especially added water, Mix ID, and discharge time - without creating manual work or conflicting with current batch software?

3. Sections 307 and 308 - Concrete Base Products

Printed pages 250-254

Section 307 - Open Graded Concrete Base

- 150 lb/yd³ cement content and maximum 0.45 water-cement ratio.
- Mixture must remain permeable and free draining; surface sealing or loss of permeability requires correction.
- QC includes aggregate gradation, moisture, and mixture consistency. Acceptance may include permeability; minimum hydraulic conductivity is 300 ft/day when evaluated.

Section 308 - Concrete Base

- Concrete may be designed under the pavement mixture provisions of Section 501 or as Class A structural concrete under Section 801, as applicable.
- Minimum 2,100 psi is required before opening the base to traffic; this is an opening requirement, not a design strength.
- No separate measurement is made for curing materials, water, or admixtures.

4. Section 501 - Concrete Pavement

Printed pages 343-368

501.02 Materials - SCMs, alkalis, and admixtures

- Cement sources must be on the QPL. Proposed alkali controls include a 0.60% maximum cement alkali content ($\text{Na}_2\text{O} + 0.658 \text{ K}_2\text{O}$) and a combined cement/Class C fly ash alkali limit of 4 lb/yd³.
- Fly ash may replace up to 25% of total cementitious material; slag cement may replace up to 35%, subject to the applicable mixture requirements.
- The proposed framework is intended to make SCMs and chemical admixtures normal mixture-design tools rather than exceptions.

501.03 Plant Requirements - one of the most important producer sections

Topic	Producer Impact	Page
Batch controls	Stationary/central plants use automatic, interlocked batching controls; mobile continuous volumetric mixers are also permitted when compliant.	348
Tickets	Automatic weighing system and ticket printer; individual tickets or a daily printout for dedicated central plants.	348-349
Batch accuracy	Table 501-3: Cement +/-1%; individual aggregates +/-2%; total aggregate +/-2%; water +/-2%; admixture dispensers +/-3%; combined batching error <= +/-0.5% of net batch weight.	349
Aggregate moisture	Free moisture must be measured often enough to control w/cm; batch weights must be corrected for moisture.	351
Admixture dispensing	Dispensers must accurately meter the approved dosage and provide a means to verify quantity dispensed.	351
Mixer condition	Mixer blades/paddles must be replaced when wear exceeds 10% of original depth; ASTM C94 uniformity testing may be required.	352
Plant maintenance	Production can be suspended when plant condition or operation indicates inaccurate batching or noncompliance.	352

Specific items worth Association comment

The 10% blade-wear threshold, the combined +/-0.5% batching-error requirement, partial-load tolerance language, and the data expected from automatic ticketing are all provisions producers should test against actual plant capabilities.

501.04 Mix Design - more optimization, more documentation

- Combined aggregate gradation is evaluated against the Department Tarantula Curve workability zones. Mixtures outside the zone may still be approved with supporting performance data.
- Minimum cementitious content: 517 lb/yd³. Maximum w/cm: 0.45. Fresh air at placement: 4.0%-8.0%. Strength: 4,000 psi at or before 56 days.
- Trial batches must demonstrate air, w/cm, unit weight, yield, strength, and workability. The Box Test (AASHTO TP 137) with photographs is part of the submittal.
- Trial-batch data may be no more than 6 months old at approval. Material-source, gradation, or proportion changes after final approval can trigger a new trial batch.
- Approved mixes receive an official Mix Design Identification Number and are not inherently project-specific; they may be referenced on multiple projects when still applicable.
- Field admixture dosage changes within the manufacturer-recommended range do not require a revised submittal when performance requirements are unaffected.
- A 14-day provisional approval period may allow controlled adjustment of aggregate proportions, cementitious content, w/cm, and admixture dosages while final documentation is completed.

Key opportunity for producers

The provisional-approval process can provide a formal way to optimize a mixture using actual plant, haul, placement, and finishing conditions instead of assuming the first submitted proportions are final.

501.05-501.06 QC and Acceptance

- Aggregate gradation QC: initial test before production, then at least one test per stockpile per 1,000 yd³; combined gradation must stay within the approved JMF and Tarantula limits.
- Unit weight: minimum one test per day per mix design, with a continuous plot maintained for each project.
- For Class C fly ash sources using powdered activated carbon (PAC) for mercury control, air content is tested at the start of placement and at intervals not exceeding 250 yd³, with more testing when results vary by more than 1.5 points.
- Air-content acceptance is at the point of placement. Standard pavement compressive-strength acceptance is 4,000 psi at 56 days unless otherwise specified.

5. Section 504 - Early Strength Concrete

Printed pages 400-403

New standalone section. HES and VES concrete are separated from the general paving provisions. VES applies when required opening strength must be achieved within 6 hours or less.

- Allows Type III or approved rapid-setting cementitious materials, or other cementitious systems combined with accelerators when performance is demonstrated.

- SCMs may be used only when trial-batch data demonstrate opening strength, 56-day strength, and shrinkage compliance.
- Admixture compatibility documentation is required. Approved accelerators, shrinkage reducers, retarders, water reducers, and air entrainers may be used.
- Concrete intended for opening to traffic must achieve at least 2,500 psi at opening and 4,000 psi at 56 days.
- Maximum discharge temperature 95 F; maximum w/cm 0.45; air 4.0%-8.0%.
- Trial batch includes opening-time cylinders, 56-day cylinders, and shrinkage bars. Maximum 28-day shrinkage is 0.045%.

Producer review question

Is the proposed shrinkage-test procedure practical for routine HES/VES mixture qualification, and is the 0.045% criterion appropriate for the rapid-strength materials producers expect to use?

6. Section 801 - Concrete for Structures

Printed pages 651-665

Major reorganization. The proposed Section 801 focuses on mixture design, QC, acceptance, and dispute resolution for structural and incidental concrete. Plant requirements generally flow directly from Section 501.03.

801.05 Standard vs. Optimized Gradation

- Class A, S, S(AE), and Seal can use the standard gradation path. S and S(AE) also have an optimized gradation path using combined gradation/Tarantula concepts.
- For S and S(AE), standard gradation has a 564 lb/yd³ minimum cement content; optimized gradation reduces that minimum to 517 lb/yd³.
- S(AE) remains 4.0%-8.0% air with maximum 0.44 w/cm; proposed specified strength is 4,000 psi at 56 days. Class S is 3,500 psi at 56 days with maximum 0.49 w/cm.
- Mixtures outside the Tarantula workability zone may be approved when workability/stability are demonstrated by paste-volume management, admixtures, documented field performance, or approved testing.

Drilled Shaft Concrete - DS and DS-1

- Plant-produced trial batch of at least 3 yd³ using the actual materials and admixtures. Trial batching is witnessed unless otherwise approved.
- Target properties include 18-26 in. slump flow, ≤10% static segregation, VSI ≤1, and passing slump-flow retention.
- Temperature-simulation testing is added for each 20 F increase above the initial trial-batch temperature up to expected production conditions.
- Mixture must maintain at least 12 in. slump flow for the planned placement time plus 1 additional hour without unacceptable segregation.

High-value industry feedback

Producers that routinely furnish drilled-shaft concrete should review the temperature simulation, retention time, test methods, and plant trial-batch requirements against actual Arkansas haul and placement conditions.

Flowable Select Concrete - Class FS

- Formalizes a self-leveling, non-structural flowable material for backfill and void filling.
- Typical cementitious content 250-400 lb/yd³ and expected compressive strength approximately 50-300 psi.
- Coarse aggregate is not used unless approved; admixtures may control flow, stability, and set. Mixes outside the typical cementitious range require written explanation.

7. Section 801 QC, Acceptance, and Disputes

Printed pages 659-665

- Structural aggregate gradation QC: initial results before production, then one test per stockpile per 500 yd³, with at least one gradation test per bridge structure before placement.
- For optimized mixtures, combined gradation must remain within JMF tolerances and the Tarantula workability zone.
- When Class C fly ash uses PAC for mercury control, proposed air testing is at the beginning of placement and at intervals not exceeding 20 yd³. This is substantially more frequent than the pavement requirement.
- Department acceptance is lot-based, with explicit full-pay, reduced-pay, and rejection limits for air and strength. Repeated lot failures can suspend concrete operations.
- Air disputes may use hardened air-void analysis (ASTM C457) on companion cylinders. Strength disputes focus on sampling, fabrication, curing, transport, calibration, and testing procedures; core strength does not replace the acceptance result.

Priority Association review item

The 20 yd³ air-test frequency for certain Class C fly ash sources should be evaluated for feasibility, staffing burden, truck flow impacts, and whether an alternate control approach could provide equivalent assurance.

8. Section 808 - Production, Delivery, and Weather

Printed pages 743-753 and following

Weather Management Plan (WMP)

- Project-specific plan covers production, transport, placement, finishing, curing, hot/cold weather, evaporation, precipitation, and sudden changes.
- Internal concrete temperature is capped at 160 °F. For structural concrete, placement temperature is capped at 90 °F, except Class A may be 95 °F.
- At 85 °F and rising, hot-weather controls may include chilled water, ice, aggregate cooling, cooler production periods, and set-retarding/hydration-stabilizing admixtures.

- The WMP specifically includes dispatch and placement controls to meet delivery/discharge time requirements.

Mixing, adjustment, and delivery

- No re-tempering. Additional approved water used to maintain slump is followed by approximately 20 mixer revolutions at mixing speed.
- Low air may be adjusted before placement by adding air-entraining admixture under Contractor QC procedures, followed by at least 30 revolutions at mixing speed and retesting.
- Normal discharge limit is 90 minutes after water is introduced to cement. An extension may be approved when discharge temperature is within 10 °F of ambient and consistency is maintained; total time may never exceed 120 minutes.
- Hot weather or accelerated-setting conditions can require a shorter allowable delivery time under the approved mix design and WMP.

Producer review questions

How will the 90 °F structural temperature limit affect summer production? Are chilled water/ice capabilities widely available? Are the 90/120-minute rules workable for long-haul structural placements? How should water and air adjustments be documented on the load ticket?

9. Recommended Association Review Checklist

Questions to answer before comments are finalized

- ☐ Can current plant controls, scales, admixture systems, and ticket printers meet the proposed 501.03 and 109 requirements without major upgrades?
- ☐ Is the 10% mixer-blade wear limit measurable and practical across the truck fleet? What documentation establishes original blade depth?
- ☐ Are the proposed batch tolerances and combined +/-0.5% error requirement compatible with typical plant equipment and partial loads?
- ☐ Is the Tarantula/Box Test approval path sufficiently flexible for Arkansas aggregate sources and locally available intermediate aggregate sizes?
- ☐ Is 6-month trial-batch freshness appropriate, or will it create unnecessary repeat testing for stable, routinely produced mixtures?
- ☐ Does the 14-day provisional approval process provide enough authority to make useful production adjustments without repeated resubmittals?
- ☐ Are the 250 yd³ pavement and 20 yd³ structural PAC-fly-ash air-test frequencies justified and operationally feasible?
- ☐ Are the drilled-shaft retention and elevated-temperature trial requirements representative of real Arkansas placement durations and summer temperatures?
- ☐ Are the 90 °F structural temperature limit and 90/120-minute delivery rules achievable statewide without unreasonable cost or rejected loads?

- Are responsibilities clear when the specification assigns QC to the Contractor but the producer is expected to supply plant data, samples, adjustments, and technical support?
- What additional data should inspectors/contractors record when a problem is observed so the producer can troubleshoot the issue before site conditions change?

Information producers may want to bring to the review meeting

- Examples of current batch tickets and what fields are/are not captured automatically.
- Plant calibration capabilities, scale/dispenser accuracy, mixer inspection practices, and blade-replacement criteria.
- Examples of mixtures that benefited from aggregate optimization, lower paste content, SCMs, or dosage adjustments.
- Real haul-time and hot-weather examples where 90 °F or 90-minute limits would have affected production.
- Experience with PAC-treated Class C fly ash and the amount of air variability actually observed.
- Drilled-shaft case studies showing slump-flow retention, temperature, haul time, and placement duration.
- Real-world problem cases: symptoms observed, information received from the project, root cause, and corrective action.

Bottom line

The most useful producer comments will identify provisions that prevent good concrete from being optimized, requirements that cannot be reliably measured or documented, and places where a small specification change would improve communication or process control without reducing performance.

Primary reference: ARDOT Proposed 2027 Standard Specifications for Highway Construction, proposed draft reviewed September 2026. Current 2014 section references are included only to help users navigate from familiar provisions.