2024 Standard Specification Training Seminar

2024 Standard Specifications Changes 300 Series Items

Surface Courses and Pavements

2024 Spec. Changes: Items 300, 310, 315, 314, & 316

- **Item 300, Asphalts, Oils, and Emulsions**
- **Item 310, Prime Coat**
- **Item 314, Emulsified Asphalt Treatment**
- **Item 315, Fog Seal**
- **Item 316, Seal Coat**

Item 300, Asphalts, Oils, and Emulsions

- **Asphalt Cement:**
  - Updated Solubility in Trichloroethylene to Solubility
  - Updated 5-hr Polymer Separation to 48-hr test (Tex-540-C)
  - Updated Viscosities for AC-0.6, AC-1.5
  - Removed AC-3, AC-5, AC-10
  - Removed Softening Point Test

Table 2
Asphalt Cement

Property	Test Procedure	Viscosity Grade			
		AC-0.6		AC-1.5	
		Min	Max	Min	Max
Viscosity	T 202				
140°F, poise		40	80	100	200
275°F, poise		0.4	–	0.7	–
Penetration, 77°F, 100g, 5 sec.	T 49	350	–	250	–
Flash point, C.O.C., °F	T 48	425	–	425	–
Solubility, %	T 44	99.0	–	99.0	–
Spot test	Tex-509-C	Neg.		Neg.	
Tests on residue from RTFOT:	T 240				
Viscosity, 140°F, poise	T 202	–	400	–	1,000
Ductility,[1] 77°F	T 51	100	–	100	–
5 cm/min., cm					

1. If AC-0.6 or AC-1.5 ductility at 77°F is less than 100 cm, material is acceptable if ductility at 60°F is more than 100 cm.

Item 300, Asphalts, Oils, and Emulsions

- **Cutback Asphalt:**
  - Updated Solubility in Trichloroethylene to Solubility
  - Removed RC-800, RC-3000; MC-250; MC-2400L, SCM-II

Item 300, Asphalts, Oils, and Emulsions

- **Emulsified Asphalt:**
  - Updated Solubility in Trichloroethylene to Solubility
  - Updated minimum Penetration limit matching AASHTO/ASTM standards
  - Updated FDR EM-HY requirements (added sieve, cement mix, storage stability, etc. , removed rejuvenating agent requirement)
  - Removed tests on rejuvenating agents (esp. CMS-1P, CMS-2P, FDR EM-HY)
  - Removed AES-300, AES-150P, AES-300P, AES-300S, SS-1P (Anionic Emulsions); CRS-2H and CMS-2S (Cationic Emulsions)

Item 300, Asphalts, Oils, and Emulsions

- **Emulsified Asphalt:**
  - Added dilution options 50/50, 40/60, 30/70 (%Emulsion to %Water)
  - *Suppliers will be getting related QM lab numbers following Tex-545-C.*

Table 12
Cationic Diluted Emulsified Asphalt

Property	Test Procedure	Type-Grade: Diluted Slow-Setting					
		CSS-1H 50/50		CSS-1H 40/60		CSS-1H 30/70	
		Min	Max	Min	Max	Min	Max
Viscosity, Saybolt Furol 77°F, sec.	T 72	Report only		Report only		Report only	
Distillation test							
Residue by distillation, % by wt.	T 59	30	–	24	–	18	–
Oil distillate, % by volume of emulsion		–	0.5	–	0.5	–	0.5
Tests on residue from distillation:							
Penetration, 77°F, 100 g, 5 sec.	T 49	40	110	40	110	40	110
Solubility, %	T 44	97.5	–	97.5	–	97.5	–
Ductility, 77°F, 5 cm/min., cm	T 51	80	–	80	–	80	–

Table 12A
Diluted Specialty Emulsions

Property	Test Procedure	Type-Grade: Diluted Slow-Setting					
		AE-P 50/50		AE-P 40/60		AE-P 30/70	
		Min	Max	Min	Max	Min	Max
Viscosity, Saybolt Furol 122°F, sec.	T 72	Report only		Report only		Report only	
Asphalt emulsion distillation to 500°F followed by cutback asphalt distillation of residue to 680°F:	T 59 and T 78						
Residue after both distillations, % by wt.		20	–	16	–	12	–
Total oil distillate from both distillations, % by volume of emulsion		12.5	20	10.0	16	7.5	12
Tests on residue after all distillations:							
Solubility, %	T 44	97.5	–	97.5	–	97.5	–
Float test, 122°F, sec.	T 50	50	200	50	200	50	200

Item 300, Asphalts, Oils, and Emulsions

- **Performance-Graded Binders:**
  - Updated 5-hr Polymer Separation test to 48-hr test (Tex-540-C)
  - Updated allowable maximum DSR PAV parameter [G*.Sin(d))] from 5000 kPa to 6000 kPa as long as Phase Angle ≥ 42 deg.
  - Removed reference to Item 340.

Items 310, Prime Coat

- Removed Reference to separate MPL for prime coat binders removed. Now it only allows Item 300 compliant materials to be used in prime coats.

2.1. **Binder**. Use material of the type and grade shown on the plans in accordance with Item 300, "Asphalts, Oils, and Emulsions~~," or as listed in the Department's MPL for prime coat binders.."~~

Items 314, Emulsified Asphalt Treatment

- Removed the reference to *Item 204, Sprinkling*.
- Re-defined Diluted Emulsion as a %volume-based mixture of Emulsion and Water.
- Defined how treatment is measured in terms of payment.

2. MATERIALS

Furnish materials of the type and grade shown on the plans and in accordance with the following.

2.1. **Emulsion**. Furnish emulsified asphalt in accordance with Item 300, "Asphalts, Oils, and Emulsions."

2.2. **Emulsion and Water Mixture**. Dilute the emulsion by adding water to create a mixture containing a proportion of emulsion, expressed as a percentage of total volume, in conformance with the percentage shown on the plans or as directed.

5. MEASUREMENT

~~The treatment will be measured by the gallon of emulsified asphalt used in the emulsified asphalt and water mixture.~~

The treatment will be measured by the gallon of emulsion at the specified dilution ratio. Material will be measured at the applied temperature by strapping the tank before and after road application. The distributor-calibrated strap stick will be used for measuring the emulsion and water mixture level in the distributor asphalt tank. The certified tank chart will be used to determine the beginning gallons and the final gallons in the distributor tank. The quantity to be measured for payment will be the difference between the beginning gallons and the final gallons.

Items 315, Fog Seal

- Removed the reference for water to *Item 204.2, Materials*.
- Re-defined Diluted Emulsion as a %volume-based mixture of Emulsion and Water.
- Defined how treatment is measured in terms of payment.

2. MATERIALS

Furnish materials of the type and grade shown on the plans in accordance with the following.

2.1. **Emulsion**. Furnish emulsified asphalt in accordance with Item 300, "Asphalts, Oils, and Emulsions."

2.2. **Emulsion and Water Mixture**. Dilute the emulsion by adding water to create a mixture containing a proportion of emulsion, expressed as a percentage of total volume, that meets the percentage shown on the plans or as directed.

5. MEASUREMENT

~~The treatment will be measured by the gallon of emulsified asphalt used in the emulsified asphalt and water mixture.~~

The treatment will be measured by the gallon of emulsion at the specified dilution ratio. Material will be measured at the applied temperature by strapping the tank before and after road application. The distributor-calibrated strap stick will be used for measuring the emulsion and water mixture level in the distributor asphalt tank. The certified tank chart will be used to determine the beginning gallons and the final gallons in the distributor tank. The quantity to be measured for payment will be the difference between the beginning gallons and the final gallons.

Items 316, Seal Coat

- Replaced the reference for Item 340 to Item 341.
- Added SP316-002 (2019) S&T requirements as Section 4.8.5.

4.8.5. **Sampling.** Collect all samples in accordance with Tex-500-C from the distributor and with witness by the Engineer.

At least once per project, collect split samples of each binder grade and source used. The Engineer will submit one split sample to the Materials and Tests Division (MTD) for testing and retain the other split sample.

In addition, collect one sample of each binder grade and source used on the project for each production day. The Engineer will retain these samples.

- *Measurement of aggregate quantity in cubic yards "unless otherwise shown on the plans"*
- *"Hauling will be paid by force account work.* Hauling of any aggregate to consolidate stockpiles at the end of the project when directed by the Engineer will be paid by force account work."

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2024 Spec. Changes: Items 341, 342, 344, 346, 347, & 348

- **Item 341, Dense-Graded Hot-Mix Asphalt**
- **Item 342, Permeable Friction Course**
- **Item 344, Superpave Mixtures**
- **Item 346, Stone-Matrix Asphalt**
- **Item 347, Thin Overlay Mixtures**
- **Item 348, Thin Bonded Friction Course**

Item #s that are affected by change

- **Section within the Specification**. ~~Language that has been removed from the specification will be red and have a strike through.~~ New language that has been added to the specification will be highlighted yellow.

Navigation Key

Item 341, 344, 346, 347

Fine Aggregate		
Linear shrinkage, %, Max	Tex-107-E	3
Sand equivalent, %, Min	Tex-203-F	45[3]
Organic impurities	Tex-408-A	Note 4

1. Used to estimate the magnesium sulfate soundness loss in accordance with Section 341~~076~~.2.1.1.2., "Micro-Deval Abrasion."
2. Only applies to crushed gravel.

~~2.~~ The Department may perform Tex-252-F on fine aggregates not meeting this minimum requirement. Fine aggregates with a methylene blue value of 10.0 mg/g or less~~below~~ may be used.

3.

~~3.~~4. Optional test.

- Note added to Sand Equivalent to allow Methylene Blue

- **Lime and Liquid Antistripping Agent**. ~~If stripping is observed during testing or during production, the Engineer may require the addition of lime or antistrip.~~ Lime or liquid antistripping agent is required when shown on the plans.

Item 341, 344, 346

- Surface, intermediate, and base mixes referenced in Tables 4 and 5 are defined as follows, unless otherwise shown on the plans:
  - **Surface**. The final HMA lift placed at the top of the pavement structure; ~~or placed directly below mixtures produced in accordance with items 316, 342, 347, or 348.~~
  - **Intermediate**. Mixtures placed below an HMA surface mix and less than or equal to 8.0 in. below the riding surface; and
  - **Base**. Mixtures placed greater than 8.0 in. ~~from~~ below the riding surface. Unless otherwise shown on the plans, mixtures used for bond breaker are defined as base mixtures.

*SMA still designates surface and non-surface, however, “surface” definition has changed

Item 341

Table 4
Maximum Allowable Amounts of RAP[1]

Maximum Allowable Fractionated RAP (%)		
Surface	Intermediate	Base
~~15~~20.0	~~25~~30.0	~~30~~35.0

1. Must also meet the recycled binder to total binder ratio shown in Table 5.

Table 5
Allowable PG Binders and Maximum Recycled Binder Ratios

Originally Specified PG Binder	Allowable Substitute PG Binder for Surface Mixes	Allowable Substitute PG Binder for Intermediate and Base Mixes	Maximum Ratio of Recycled Binder[1] to Total Binder (%)		
			Surface	Intermediate	Base
76-22	70-22	70-22	~~10.0~~15.0	~~20.0~~25.0	~~25.0~~30.0
70-22	Note 2	64-22	~~10.0~~15.0	~~20.0~~25.0	~~25.0~~30.0
64-22	Note 2	Note 2	~~10.0~~15.0	~~20.0~~25.0	~~25.0~~30.0
76-28	70-28	70-28	~~10.0~~15.0	~~20.0~~25.0	~~25.0~~30.0
70-28	Note 2	64-28	~~10.0~~15.0	~~20.0~~25.0	~~25.0~~30.0
64-28	Note 2	Note 2	~~10.0~~15.0	~~20.0~~25.0	~~25.0~~30.0

1. Combined recycled binder from RAP and RAS. RAS is not permitted in surface mixtures unless otherwise shown on the plans.
2. No binder substitution is allowed.

- Item 341
  - Table 4: Increase in allowable RAP Bin by 5%
  - Table 5: Increase in RBR by 5%

*Keep in mind that surface definitions have changed, so your mix may now be considered intermediate as well

Item 341, 347

- Item 341
  - **Design Requirements.** ~~A Texas Gyratory Compactor (TGC) may be used when shown on the plans.~~ Design the mixture using a Superpave Gyratory Compactor (SGC)
- Item 347
  - **Design Requirements.** ~~The Contractor may design the mixture using a Texas Gyratory Compactor (TGC) or a Superpave Gyratory Compactor (SGC).~~ Design the mixture using a Superpave Gyratory Compactor (SGC), and 50 gyrations as the design number of gyrations (Ndesign). Use a target laboratory-molded density of 96.0% to design the mixture; however, adjustments can be made to the Ndesign value as noted in Table 7. The Ndesign level may be reduced to a minimum of 35 gyrations at the Contractor's discretion.

*TGC is no longer allowed. Currently only active in HMCL, LRA, Patching Mix

Item 342, 344, 346, 347, 348

- Item 342
  - PFCR-F and PFCR-C have been removed from the specification
  - Exempt production removed
- Item 344
  - The “Restricted Zone” or “Reference Zone” has been removed from the specification
- Item 346
  - SMAR-C has been removed from the specification
- Item 347
  - Exempt production removed
- Item 348
  - PFCR-C has been removed from the specification
  - Exempt production removed

Item 346, 347

- **Design Requirements.** Use an approved laboratory from the Department's MPL to perform the Hamburg Wheel test and provide results with the mixture design or provide the laboratory mixture and request that the Department perform the Hamburg Wheel test. Use an approved laboratory from the Department's MPL to perform the Overlay test and provide results with the mixture design or provide the laboratory mixture and request that the Department perform the Overlay test.

Item 341, 344

- Note 1 modification
  - Historical language stated: When the rut depth is less than 3 mm, the "Engineer may require" the contractor to lower the gyrations to 35.
  - New language: "The Hamburg Wheel Test will have a minimum rut depth of 2.5 mm"

Table 10
Hamburg Wheel Test Requirements

High-Temperature Binder Grade	Test Method	Minimum # of Passes @ 12.5 mm[1] Rut Depth, Tested @ 50°C
PG 64 or lower	Tex-242-F	10,000[2]
PG 70		15,000[3]
PG 76 or higher		20,000

1. The Hamburg Wheel Test will have a minimum rut depth of 2.5 mm. ~~When the rut depth at the required minimum number of passes is less than 3 mm, the Engineer may require the Contractor to lower the Ndesign level (SGC) to a minimum of at least 35 gyrations.~~
2. May be decreased to a minimum of ~~at least~~ 5,000 passes when shown on the plans.
3. May be decreased to a minimum of ~~at least~~ 10,000 passes when shown on the plans.

Item 341, 342, 344, 346, 347, 348

- Clarification of “The Engineer will be allowed 10 working days” throughout each specification.
  - Upon receiving the sample from the Contractor, the Engineer will be allowed 10 working days to provide… (Hamburg and Overlay results if applicable, for Design and Trial Batch)
- **Ignition Oven Correction Factors.**
  - No longer requires a Level 2 Technician to develop correction factors. A Level 2 must still batch and mix the samples, however, the ignition oven burn washed gradation, and correction factor determination can be performed by a Level 1A.
  - Based on a FHWA Stewardship review, TxDOT MUST witness the mixing and batching of correction factors.
    - New test method Tex-236-F, Part III

- **Ignition Oven Correction Factors.**
  - Contractor:

    Notify the Engineer prior to performing Tex-236-II. Allow the Engineer to witness the mixing of ignition oven correction factor samples.

    If the Engineer witnesses the mixing of the ignition oven correction factor samples, provide the Engineer with identically prepared ~~split~~ samples of the mixtures…

- **Ignition Oven Correction Factors.**
  - Engineer:

    The Engineer can determine ignition oven correction factors by one of the following options:

    - Witness the mixing of ignition oven correction factor samples by the Contractor in accordance with Tex-236-F, Part III. The Engineer will use the identically prepared samples provided by the Contractor to determine the aggregate and asphalt correction factors for the ignition oven in accordance with Tex-236-F, Part II.
    - If the Engineer does not witness the mixing of ignition oven correction factor samples, the Engineer will prepare the samples to determine the aggregate and asphalt correction factors for the ignition oven in accordance with Tex-236-F, Part. II.

    Notify the Contractor prior to performing Tex-236-F, Part II. Allow the Contractor to witness the Engineer performing Tex-236-F, Part II.

- **Approval of Lot 1 Production.** The Engineer will authorize the Contractor to proceed with JMF2 for Lot 1 production after a passing Hamburg result on the trial batch is achieved from a laboratory listed on the Department's MPL. The Contractor may proceed at their own risk with Lot 1 production without the results from the Hamburg Wheel test on the trial batch. The addition of a WMA additive to facilitate mixing or as a compaction aid does not require a new laboratory mixture design, trial batch, or both. Current JMF changes that exceed the operational tolerances of JMF2 in accordance with Table 9 may require a new laboratory mixture design, trial batch, or both.

*Note that table numbers will vary by specification

- **Production Operations.** Perform a new trial batch when the plant or plant location is changed. All asphalt source changes will require a passing Hamburg result from a laboratory listed on the Department's MPL. The Contractor may proceed at their own risk with Lot 1 production without the results from the Hamburg wheel test on the trial batch. All aggregate source changes will require a new laboratory mixture design and trial batch.

- **Placement Operations.** Collect haul tickets from each load of mixture delivered to the project and provide the Department's copy to the Engineer approximately every hour, or as directed. Use a hand-held thermal camera or infrared thermometer, when a thermal imaging system is not used, to measure and record the internal temperature of the mixture as discharged from the truck or Material Transfer Device (MTD) before or as the mix enters the paver. Measure the mixture temperature at a minimum frequency of one per ten trucks, or as approved by the Engineer.

Item 341, 342, 344, 346, 347, 348

- **Weather Conditions.**
  - Unless specified by general note, the following sentence was removed from all specifications: ~~"the Engineer may restrict the Contractor from paving surface mixtures if the ambient temperature is likely to drop below 32°F within 12 hr. of paving."~~
- **Compaction.**
  - Add to all specifications: Complete all compaction operations with breakdown rollers before the pavement temperature drops below 180°F ~~160°F~~ unless otherwise allowed. Compaction with a pneumatic or light finish roller operated in static mode is allowed for pavement temperatures above 160°F. ~~The Engineer may allow compaction with a light finish roller operated in static mode for pavement temperatures below 160°F.~~
  - Add to Item 347: Use Tex-246-F to test and verify that the compacted mixture meets the water flow requirements. Measure the water flow once per sublot at locations directed by the Engineer. The water flow rate should be greater than 120 sec. Investigate the cause of the water flow rate test failures and take corrective actions during production and placement to ensure the water flow rate is greater than 120 sec. Suspend production if 2 consecutive water flow rate tests fail unless otherwise approved. Resume production after the Engineer approves changes to production or placement methods. Take additional water flow measurements when the minimum temperature of the uncompacted mat is below the temperature requirements in Table 12.

Item 341, 342, 344, 346, 347, 348

- Note 3 was modified for all specifications to allow 20°F instead of 10°F. Additional technology was also added to include:
  - Chemical WMA additive as a compaction aid
  - MTD with remixing capabilities
  - Paver hopper insert with remixing capabilities

*Note that this table and temperatures may differ slightly for each specification

Table 156
Minimum Mixture Placement Temperature

High-Temperature Binder Grade[1]	Min.~~imum~~ Placement Temperature ~~(Before Entering Paving Operationer)~~[2,3,4]
PG 64	260˚F
PG 70	270˚F
PG 76	280˚F

1. The high-temperature binder grade refers to the high-temperature grade of the virgin asphalt binder used to produce the mixture.
2. The mixture temperature must be measured using a hand-held thermal camera or infrared thermometer immediately before entering MTD or paver.
3. Minimum placement temperatures may be reduced 20°F if using a chemical WMA additive as a compaction aid, MTD with remixing capabilities, or paver hopper insert with remixing capabilities. ~~Minimum placement temperatures may be reduced 20°F if using a chemical WMA additive as a compaction aid or MTD with remixing capabilities.~~
4. When using WMA, the minimum placement temperature is 215°F.

- **Production Sampling.**
  - **Mixture Sampling**. The Engineer will perform or witness the sampling of production sublots from trucks at the plant in accordance with Tex-222-F. The sampler will split each sample into three equal portions in accordance with Tex-200-F and label these portions as “Contractor,” “Engineer,” and “Referee.”
  - **Blind Sample.** For one sublot per lot, the Engineer will sample, split, and test a “blind” production sample instead of the random sample collected by the Contractor. The location of the Engineer’s “blind” sample will not be disclosed to the Contractor prior to sampling. The Engineer’s “blind” sample may be randomly selected in accordance with Tex-225-F for any sublot or selected at the discretion of the Engineer. The Engineer may sample and test an additional blind sample when the random sampling process does not result in obtaining a sample.

    For one sublot per lot, the Contractor will obtain a “blind” production sample collected by the Engineer. If desired, the Contractor may witness the collection of blind samples. Test either the “blind” or the random sample; however, referee testing for the sublot (if applicable) will be based on a comparison of results from the “blind” sample.

- **Hamburg Wheel Test.** The Engineer may perform a Hamburg Wheel test on plant produced mixture at any time during production. ~~In addition to testing production samples, the Engineer may obtain cores and perform Hamburg Wheel tests on any areas of the roadway where rutting is observed.~~ Suspend production until further Hamburg Wheel tests meet the specified values when the production ~~or core~~ samples fail the Hamburg Wheel test criteria in accordance with Table 8. ~~Core samples, if taken, will be obtained from the center of the finished mat or other areas excluding the vehicle wheel paths.~~ The Engineer may require up to the entire sublot of any mixture failing the Hamburg Wheel test to be removed and replaced at the Contractor's expense.

  If the Department-approved laboratory's Hamburg Wheel test results in a "remove and replace" condition, the Contractor may request that the Materials and Tests Division determine the final disposition of the material in question by re-testing the failing material.

Item 341, 342, 344, 346, 347, 348

- **Miscellaneous Areas.**
  - Added to all specifications: “pavement repair sections under 300 linear feet”
  - Added to Item 342, 347, 348: Miscellaneous areas are not subject to thermal profiles or water flow testing.

- **Informational Shear Bond Strength Testing.** The Engineer will select one random sublot within the first four lots of the project for shear bond strength testing. Obtain full depth cores in accordance with Tex-249-F unless the HMA is being placed directly on concrete pavement. Label the cores with lot and sublot numbers and provide to the Engineer. Inspector must use pertinent Department form to document the Control Section Job (CSJ), producer of the tack coat, mix type, and shot rate. The Engineer will ship the cores to the Materials and Tests Division or district laboratory for shear bond strength testing. Results from these tests will not be used for specification compliance.

Item 341, 344, 346

- **Segregation (Density Profile).** Test for segregation using density profiles in accordance with Tex-207-F, Part V. Density profiles are not required and are not applicable when using a thermal imaging system. Density profiles are not applicable in areas described in Section 341.4.9.3.1.4., “Miscellaneous Areas.”

  Perform a minimum of one density profile per sublot. Perform additional density profiles when any of the following conditions occur, unless otherwise approved:

  - areas that are identified by either the Contractor or the Engineer with severe thermal segregation;
  - any visibly segregated areas that exist;
  - the paver stops due to lack of material being delivered to the paving operations and the temperature of the uncompacted mat before the initial break down rolling is less than the temperatures shown in Table 17.

Table 17
Minimum Uncompacted Mat Temperature Requiring a Segregation Profile[1]

High-Temperature Binder Grade[2]	Minimum Temperature of the Uncompacted Mat Allowed Before Initial Break Down Rolling[3,4,5]
PG 64	<250˚F
PG 70	<260˚F
PG 76	<270˚F

1. Only applicable to paver stops that occur due to lack of material being delivered to the paving operations and when not utilizing a thermal imaging system.
2. The high-temperature binder grade refers to the high-temperature grade of the virgin asphalt binder used to produce the mixture.
3. The surface of the uncompacted mat must be measured using a hand-held thermal camera or infrared thermometer.
4. Minimum uncompacted mat temperature requiring a segregation profile may be reduced 20°F if using a chemical WMA additive as a compaction aid, MTD with remixing capabilities, or paver hopper insert with remixing capabilities.
5. When using WMA, the minimum uncompacted mat temperature requiring a segregation profile is 215°F.

Item 341, 344, 346

- **Exempt Production.** The mixture may be deemed as exempt production when mutually agreed between the Engineer and the Contractor or when shown on the plans. Exempt production may be used for the following conditions:
  - anticipated daily production is less than 500 tons;
  - total production for the project is less than 5,000 tons;
  - pavement repair sections equal to or greater than 300 feet. For pavement repair sections less than 300 feet, refer to Section 341.4.9.3.1.4., “Miscellaneous Areas.”

  Exempt production is not eligible for referee testing. For exempt production, the Contractor is relieved of all production and placement QC/QA sampling and testing requirements, except for coring operations when required by the Engineer. When mutually agreed between the Engineer and the Contractor, production sampling will be allowed at the point of delivery. When 100 tons or more per day are produced, the Engineer must perform acceptance tests for production and placement in accordance with Table 16.

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2024 Spec. Changes: Items 360 & 361

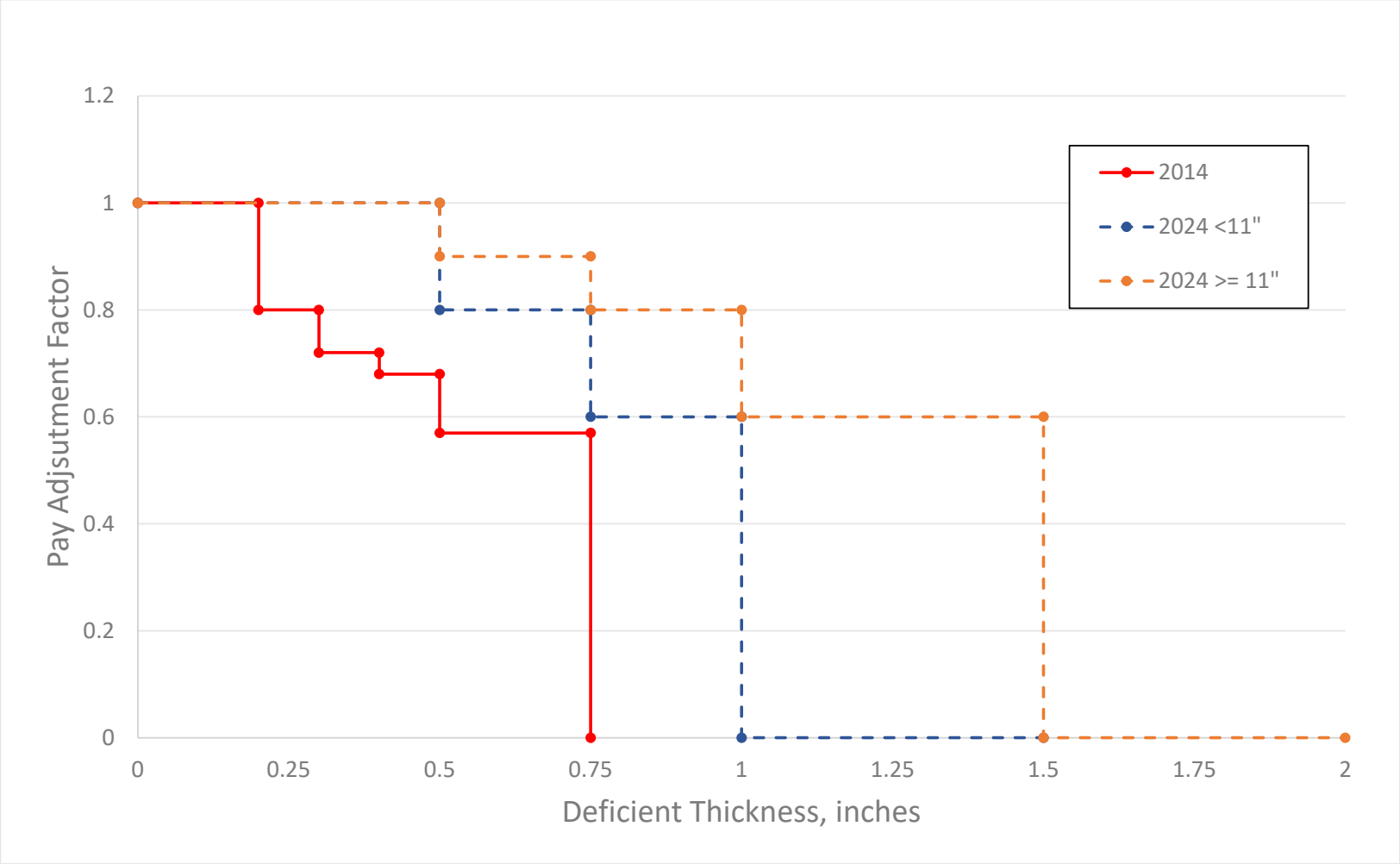
- **Item 360, Concrete Pavement**
- **Item 361, Full-Depth Repair of Concrete Pavement**

Item 360 Concrete Pavements

- Removed Flexural Strength testing
- Created DMS-7325, “Dowel Bars for Concrete Pavements”
- Removed Alternate Reinforcing Materials
- Allow anchor pins to remain in final pavement
- Removed all job control testing – TxDOT to perform all acceptance testing
- Added testing of epoxy grouted long. steel
- Added requirement for repairing honeycombed areas
- Curbs now completely covered by Item 529
- Longitudinal tining now default
- Engineer to evaluate uncontrolled cracking
- Engineer will check saw cut depths

Item 360 Concrete Pavements

- Clarified Opening to Traffic requirements
- Thickness pay adjustment revisions



Item 361 Full Depth Repair of Concrete Pavement

- Title Change
- Moved half-depth repair to Item 720
- Require estimate of number of epoxy cartridges
- Clarified that new base is not needed
- Added Maturity method reference
- Measurement changed to Cubic Yard measured in place