



2024 Standard Specification Training Seminar

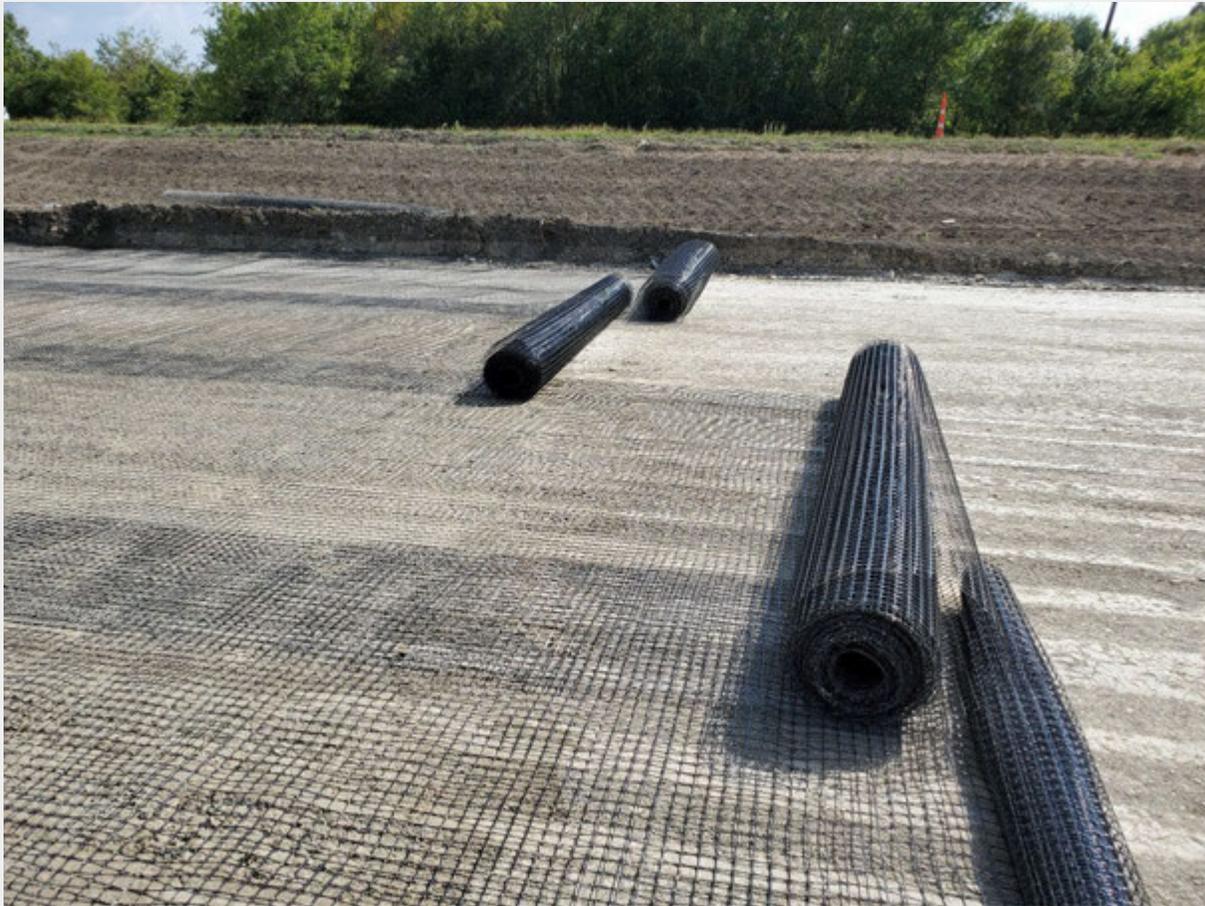


2024 Standard Specifications Changes 200 Series Items

Subgrade Treatments and Base



Item 250 – Geogrid Base Reinforcement



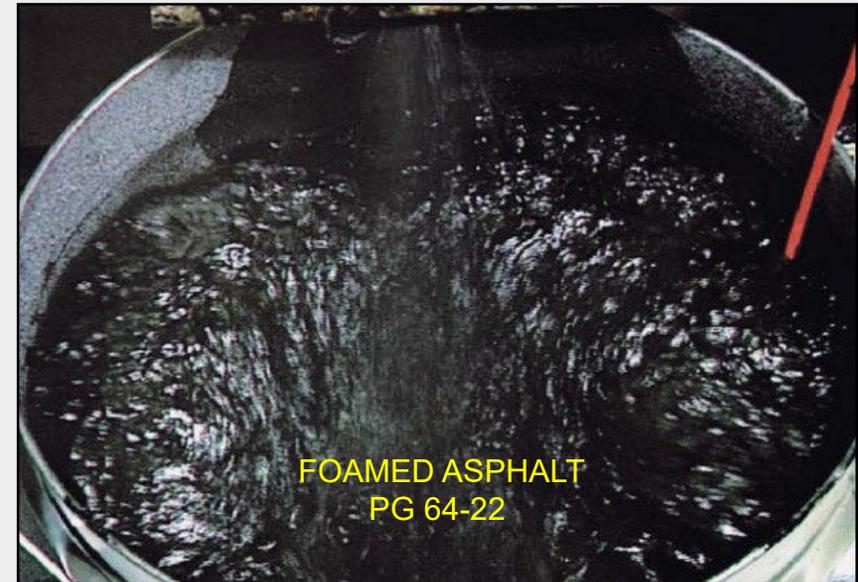


Item 290 – Emulsified Asphalt Treatment (Road-Mixed)





Item 291 – Foamed Asphalt Treatment (Road-Mixed)





Item 295 – Ultra-High-Pressure Water Cutting Treatment





1. Item 263 – Lime Treatment (Plant-Mixed)
 - *Two projects let under 2014 specification, both change ordered to zero quantity.*

2. Item 265 – Fly Ash or Lime-Fly Ash Treatment (Road-Mixed)
 - *Eight projects let under 2014 specification.*
 - *Latest project let 3/2021.*
 - *Fly Ash supply is limited.*

New - Random Density & Moisture Testing Locations



- Added to all embankment (soils) and base specification items.
- Provide the Engineer with the beginning and ending station numbers of the area completed.
- Engineer will determine the width, and the random testing locations in accordance with Tex-115-E, Part IV.
- When the density is less than the specification requirement, Engineer may perform additional testing to determine the extent of the area to correct.





- Added to all base specification items.
- *Miscellaneous areas are those that typically involve handwork or discontinuous paving operations, such as temporary detours, driveways, mailbox turnouts, crossovers, gores, spot level-up areas, and other similar areas.*
- *Miscellaneous and small areas are not subject to density testing but may be tested as directed.*



204, Sprinkling

- *Unit of Measure (UOM) will be referenced as TGL for 1,000 gallons.*
- *Addresses confusion from UOM of MG - Millie Gallons that has been mistaken for Mega Gallons.*

210, Rolling – *Editorial Only.*

216, Proof Rolling – *Editorial Only.*





Unconfined compressive strength for Grade 1-2 may be waived.

- *Unless otherwise shown on the plans, the unconfined compressive strength is waived when the flexible base material meets a #200 sieve requirement.*
- *#200 sieve requirement added to material requirements.*
- *When the #200 sieve requirement does not meet specification, the unconfined compressive strength is required.*



Item 247 – Flexible Base



- #200 sieve requirement is only applicable to stockpile samples, 85 – 95% retained (5 – 10% passing).
- Compressive strength and #200 sieve requirements are waived when treating the flexible base with asphalt, cement, or lime, unless otherwise shown on the plans.
- Grade 3 may be substituted for Grade 1-2 or 5 only when treating with an additive. Must meet wet ball mill requirements of the substituted grade.

**Table 1
Material Requirements**

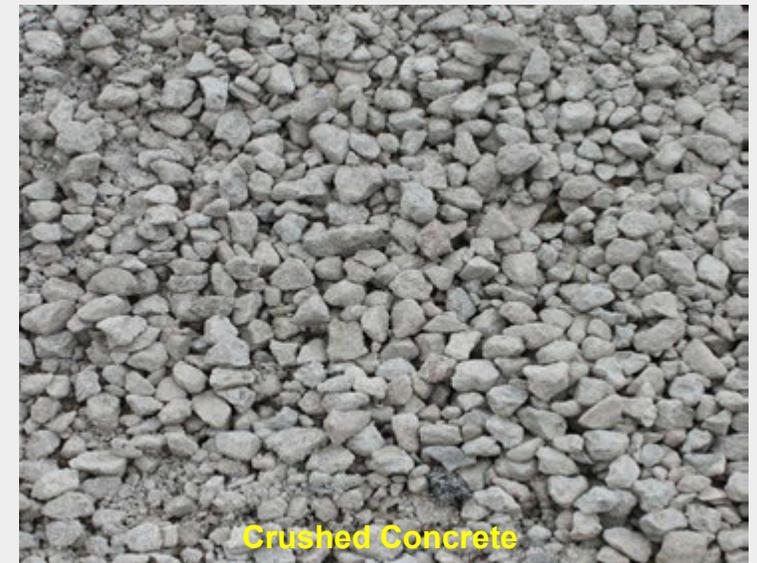
Property	Test Method	Grade 1-2 ³	Grade 3	Grade 4	Grade 5
Master gradation sieve size (cumulative % retained)	Tex-110-E			As shown on the plans	
2-1/2"		0	0		0
1-3/4"		0-10	0-10		0-5
7/8"		10-35	-		10-35
3/8"		30-65	-		35-65
#4		45-75	45-75		45-75
#40		65-90	50-85		70-90
#200^{1,2}		85-95	-	-	
Liquid limit, % Max	Tex-104-E	40	40	As shown on the plans	35
Plasticity index, Max	Tex-106-E	10	12		10
Plasticity index, Min		As shown on the plans	As shown on the plans		As shown on the plans
Wet ball mill, % Max	Tex-116-E	40	-		40
Wet ball mill, % Max increase passing the #40 sieve		20	-		20
Min compressive strength ² , psi	Tex-117-E				
lateral pressure 0 psi		35	-		-
lateral pressure 3 psi		-	-	90	
lateral pressure 15 psi		175	-	175	

- The #200 sieve test is only required to meet the waiver of the unconfined compressive strength requirement. The #200 sieve test requirement is only applicable to stockpile samples from Section 247.2.4.**
- Compressive strength and #200 sieve test requirements are waived when the flexible base is mixed with or without existing material and treated with cement, emulsion, foamed asphalt, or lime, unless otherwise shown on the plans.**
- Grade 3 may be substituted for Grade 1-2 or Grade 5 when the flexible base is mixed with or without existing material and treated with cement, emulsion, foamed asphalt, or lime, as approved. The Grade 3 flexible base must meet the wet ball mill requirements of Grade 1-2 or Grade 5 as applicable.**



Recycled Materials

- *Removed language referencing ‘Department-Furnished’ recycled materials.*
- *Applies to recycled materials supplied by the Contractor when shown on the plans.*
- *Final product must meet requirements in Table 1 of material requirements for the grade specified except when the Department requires the use of Department-furnished RAP, unless otherwise shown on the plans.*





Stockpile Approval

New section added with two subsections.

1. Sampling
2. Referee Testing.





Sampling

- *Contractor and the Engineer will sample flexible base from completed stockpiles at the same time.*
- *Contractor will witness the Engineer's sampling and sample the stockpile for their own testing.*
- *Contractor may sample the stockpile for the Engineer when shown on the plans. The Engineer must witness the sampling.*





Referee Testing

- *MTD is the referee laboratory and only applicable for stockpile testing.*
- *MTD may designate an approved laboratory as the referee laboratory as deemed necessary. Laboratory cannot be performing any testing under this Item for the Engineer or Contractor.*
- *The Contractor may request referee testing when the Engineer's test results fail to meet any of the material requirements and the Contractor's sample for the same failing Department test, passes.*





Density and Moisture Control

- *Requirement for Contractor to measure moisture content and report the results the same day to the Engineer has been removed.*
- *Language has been added directed to the Contractor to maintain moisture during compaction within $\pm 2.0\%$ of the optimum moisture content from the moisture-density curve.*





Ride Quality

- *Reprofile and correct sections that fail to maintain ride quality before the placement of the surface treatment, as directed.*
- *Unless ride deterioration is due to environmental impact, traffic, or other incidents outside the Contractor's control, perform this work at no additional expense to the Department, as approved.*



- Editorial changes.
- Miscellaneous and Small Areas.



Dry Application – *Quicklime*

Slurry Application – *Quicklime or Commercial Lime Slurry*

Carbide lime slurry removed, not used for any 2014 lettings.





- Unconfined compressive strength of treated material.
 - ✓ *Greater than 50 psi for treated subgrade.*
 - ✓ *Greater than 150 psi for treated base or treated base mixed with existing material*
 - ✓ *Strength requirements may be different when shown on the plans.*

- When flexible base is added, strength of the stockpiled base is waived.

Item 275 – Cement Treatment (Road-Mixed)



- Unconfined compressive strength of treated material must be greater than 150 psi, unless otherwise shown on the plans.
- When flexible base is added, strength of the stockpiled base is waived unless otherwise shown on the plans.





Ride Quality

- *When shown on the plans, measurement of ride quality applies to final travel lanes with a one- or two-course surface treatment for the final riding surface.*
- *Same language as Item 247, Flexible Base.*



- *No changes to unconfined compressive strength requirements.*
 - ✓ *L – minimum 500 psi*
 - ✓ *M – minimum 300 psi*
 - ✓ *N – as shown on the plans.*

- *Strength of the stockpiled flexible base before mixing is waived unless otherwise shown on the plans.*



Materials – Mixing Plant

- *Language and requirements from Item 520, Weighing and Measuring Equipment have been added.*
 - ✓ Equip plants with automatic proportioning and metering devices, **certified scales, and scale installations.**
 - ✓ Use belt scales for proportioning aggregate that are **accurate to within 1.0% based on the average of three test runs,** where no individual test run exceeds 2.0% from the average.
 - ✓ Provide personnel, facilities, and equipment for checking scales as approved. **Check all weighing and measuring equipment after each move and at least once every 6 mo. or when requested.**



Microcracking

- *Only required when shown on the plans, not the default requirement.*
- *No changes to the requirements.*



Item 292 – Asphalt Treatment (Plant-Mixed)



Harmonized language with Item 341 Hot-Mix Asphalt specification.

- *Additives, Antistripping & Warm-Mix Asphalt.*
- *Certification & Reporting*
- *Coring & Sampling*
- *Ignition Oven Correction Factors*
- *Measurement and Payment*
- *Miscellaneous Areas*
- *Recycled Materials*
- *Storage, Heating, Mixing, and Discharge of Materials*
- *Sampling Asphalt and Tack Coat Binders*
- *Tack Coat*



Recycled Asphalt Pavement (RAP)

- *Unfractionated RAP removed.*
- *Fractionated RAP increased to 35%.*





Mixture Design

- *Requires Tex-204-F, Part IV, Superpave mixture design procedure.*
- *Target laboratory-molded density from 96.0 to 97.0%.*
- *50 to 75 gyrations, may be changed within 35 to 100 gyrations when approved.*
- *Grade 3 revised to be applicable to 1” bond breaker mixtures.*
 - ✓ Finer gradation
 - ✓ Higher minimum asphalt content.



Trial Batch Testing

Engineer will sample and test within one full working day.

- ✓ Asphalt Content
- ✓ Gradation
- ✓ Indirect Tensile Strength
- ✓ Laboratory-Molded Density





Production Testing

- *Engineer will sample and perform production tests.*
- *Laboratory-molded density must be within $96.0 \pm 1.0\%$.*
- *Gradation of aggregate must be within 5% of the trial batch gradation and within master grading limits.*
- *Asphalt content cannot be less than the minimum asphalt content and not vary by more than 0.5% from the optimum asphalt content from the mixture design.*



Placement Sampling - Coring

- *Random coring locations.*
- *Trimming, witnessing, and custody of cores the same as hot-mix asphalt specifications.*
- *Minimum untrimmed core height eligible for density testing is 1.75 in.*
 - ✓ Thin bond breakers not subject to coring and in-place air void requirements.



Density Control

- *Contain 3.8 to 8.5% in-place air voids, unless otherwise shown on the plans.*
- *In-place air voids determined from roadway cores.*
- *Measured from the bulk specific gravity and theoretical maximum specific gravity (Rice gravity).*



Density Control – When air voids are not within acceptable range.

- *Take immediate corrective action.*
- *Engineer may suspend operations or allow Contractor to continue operations for no more than one day while taking corrective action.*
- *Suspend operations if in-place air voids are not within acceptable range within one full day of operation.*



Ride Quality is only required when shown on the plans using Surface Test Type A.

- *2014 specification requires Surface Test Type A unless otherwise shown on the plans.*