

# Special Provision to Item 247

## Flexible Base



Item 247, "Flexible Base," of the Standard Specifications is amended with respect to the clauses cited below. No other clauses or requirements of this Item are waived or changed.

**Section 247.2.1., "Aggregate."** This Section is voided and replaced by the following.

Furnish aggregate of the type and grade shown on the plans and meeting the requirements shown in Table 1. Each source must meet Table 1 requirements for liquid limit, plasticity index, and wet ball mill for the grade specified. Do not use additives, such as but not limited to cement, emulsion, foamed asphalt, or lime, to modify aggregates to meet the requirements of Table 1, unless otherwise shown on the plans.

Unless otherwise shown on the plans, the unconfined compressive strength is waived when the flexible base material meets the #200 sieve requirement.

**Table 1**  
**Material Requirements**

| Property  | Test Method               | Grade 1-2 <sup>3</sup> | Grade 3               | Grade 4               | Grade 5 <sup>3</sup>  |
|---|---------------------------|------------------------|-----------------------|-----------------------|-----------------------|
| Master gradation sieve size (cumulative % retained) |                           | –                      | –                     |                       | –                     |
| 2-1/2"  |                           | 0                      | 0                     |                       | 0                     |
| 1-3/4"  |                           | 0-10                   | 0-10                  |                       | 0-5                   |
| 7/8"  | <a href="#">Tex-110-E</a> | 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 <sup>1, 2</sup>                                |                           | 85-95                  | –                     |                       | –                     |
| Liquid limit, % Max                                 | <a href="#">Tex-104-E</a> | 40                     | 40                    | As shown on the plans | 35                    |
| Plasticity index, Max                               |                           | 10                     | 12                    |                       | 10                    |
| Plasticity index, Min                               | <a href="#">Tex-106-E</a> | As shown on the plans  | As shown on the plans |                       | As shown on the plans |
| Wet ball mill, % Max                                |                           | 40                     | –                     |                       | 40                    |
| Wet ball mill, % Max increase passing the #40 sieve | <a href="#">Tex-116-E</a> | 20                     | –                     |                       | 20                    |
| Min compressive strength <sup>2</sup> , psi         |                           | –                      | –                     |                       | –                     |
| lateral pressure 0 psi                              |                           | 35                     | –                     |                       | –                     |
| lateral pressure 3 psi                              | <a href="#">Tex-117-E</a> | –                      | –                     |                       | 90                    |
| lateral pressure 15 psi                             |                           | 175                    | –                     |                       | 175                   |

- The #200 sieve test is only required to meet the waiver of the unconfined compressive strength. 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.

**Section 247.2.1.2.4., "Type D."** The third sentence is voided and replaced by the following.

Crushed concrete must meet the requirements in Section 247.2.1.3., "Recycled Material," and be managed in a way to provide for uniform quality.

**Section 247.2.1.3., "Recycled Material."** This Section is voided and replaced by the following.

Reclaimed asphalt pavement (RAP) and other recycled materials may be used as shown on the plans. Request approval to blend two or more sources of recycled materials. When RAP is allowed, do not exceed 20% RAP by weight, unless otherwise shown on the plans. The percentage limitations for other recycled materials are as shown on the plans.

Provide recycled materials, other than RAP, that have a maximum sulfate content of 3,000 ppm when tested in accordance with [Tex-145-E](#). Certify accordance with [DMS-11000](#), "Evaluating and Using Nonhazardous Recyclable Materials Guidelines." In addition, recycled materials must be free of reinforcing steel and other objectionable material and have at most 1.5% deleterious material when tested in accordance with [Tex-413-A](#). The liquid limit, plasticity index, wet ball mill, and compressive strength for all recycled materials are waived. When using RAP, crush RAP so that 100% passes the 2-in. sieve and does not exceed a maximum percent loss from decantation of 5.0% when tested in accordance with [Tex-406-A](#). Test RAP without removing the asphalt. The final product must meet the requirements shown in Table 1 for the grade specified, except when the Department requires a specific amount of Department-furnished RAP be added to the blend, unless otherwise shown on the plans.

The Contractor is responsible for uniformly blending the recycled material with the flexible base material to build a stockpile to meet the percentages required. Any Contractor-furnished surplus of recycled materials must remain the property of the Contractor. Remove Contractor-owned recycled materials from the project, and dispose of them in conformance with federal, state, and local regulations before project acceptance.

**Section 247.2.4., "Stockpile Approval."** This Section is added.

Stockpile is approved when the Engineer's test results meet the material requirements shown in Table 1.

**Section 247.2.4.1., "Sampling."** This Section is added.

The Contractor and the Engineer will sample flexible base from completed stockpiles in accordance with [Tex-100-A](#). Personnel conducting sampling must be certified by the Department-approved soils and base certification program.

Sampling stockpiles may be located at the production site or at the project location. The Contractor must witness the Engineer's sampling and sample the stockpile for their own testing, and label as deemed necessary.

Sample the stockpile for the Engineer as shown on the plans. When the Contractor samples the stockpile for the Engineer, the Engineer will witness the sampling of material designated for the Engineer and the Materials and Tests Division (MTD). The Engineer will label their sampling containers as "Engineer" and "MTD," or as deemed necessary.

The Engineer will take immediate possession of the sample containers for the Engineer and MTD. The Engineer will maintain custody of the samples until all testing and reporting are completed.

**Section 247.2.4.2., "Referee Testing."** This Section is added.

Referee testing is applicable for stockpile testing only. MTD is the referee laboratory. MTD may designate a laboratory from the Department's MPL for *Commercial Laboratories Approved for Flexible Base Referee Requests* as the referee laboratory as deemed necessary. The designated laboratory must not perform 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 shown in Table 1 and when the Contractor's sample from Section 247.2.4.1., "Sampling," for the same failing Department test passes. The tests must be performed by a laboratory on the Department's MPL for *Commercial Laboratories Approved for Flexible Base Referee Requests*. Submit the request by email within 5 working days after receiving failing test results from the Engineer. Include completed test reports passing the applicable requirements shown in Table 1 in the email.

Record and submit completed test reports electronically on Department-provided templates in their original format meeting the applicable material requirements shown in Table 1. Use Department-provided templates to record and calculate all test data. The Engineer and the Contractor will provide any available test results to the other party when requested.

**Section 247.4.3., "Compaction."** The first paragraph is voided and replaced by the following.

Compact using density control unless otherwise shown on the plans. Multiple lifts are permitted as shown on the plans or approved. Bring each layer to the moisture content directed. When necessary, sprinkle the material in accordance with Item 204, "Sprinkling." Maintain moisture during compaction within  $\pm 2.0\%$  of the optimum moisture content as determined in accordance with [Tex-113-E](#).

**Section 247.4.3.2., "Density Control."** This Section is voided and replaced by the following.

Compact to at least 100% of the maximum dry density and within  $\pm 2.0\%$  of the optimum moisture content as determined in accordance with [Tex-113-E](#), unless otherwise shown on the plans. Provide the Engineer with the beginning and ending station numbers of the area completed for testing. The Engineer will determine roadway density and moisture content of completed sections in accordance with [Tex-115-E](#), Part I. The Engineer will determine random locations for testing in accordance with [Tex-115-E](#), Part IV. Do not achieve density by drying the material after compaction.

When the density is less than 100% of the maximum dry density, the Engineer may perform additional testing to determine the extent of the area to correct. The Engineer may accept the section if no more than one of the five most recent density tests is below the specified density and the failing test is no more than 3 pcf below the specified density.

**Section 247.4.3.3., "Miscellaneous and Small Areas."** This Section is added.

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 random sampling procedure but may be tested as directed.

**Section 247.4.6., "Ride Quality."** This Section is voided and replaced by the following.

Measurement of ride quality only applies to the final travel lanes that receive a one- or two-course surface treatment for the final riding surface, unless otherwise shown on the plans. Measure the ride quality of the base course either before or after the application of the prime coat, as directed, and before placement of the surface treatment. Use a certified profiler operator on the Department's MPL. When requested, furnish the Engineer with documentation for the person certified to operate the profiler.

Provide all profile data to the Engineer in electronic data files within 3 days of measuring the ride quality using the format specified in [Tex-1001-S](#). The Engineer will use Department software to evaluate longitudinal profiles to determine areas requiring corrective action. Correct 0.1-mi. sections with an average international roughness index (IRI) value greater than 100 in. per mile to an IRI value of 100 in. per mile or less, unless otherwise shown on the plans. Re-profile 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.