

Gravel:

Local Road Material Specification

The following specification is for gravel materials used on local roads. It is the material portion only of a larger specification (Section 667) in the New York State Department of Transportation Specification.

LOCAL ROAD GRAVEL SURFACE, BASE, AND SUBBASE COURSES

Description

General

The work consists of furnishing, placing and compacting gravel surface, base and subbase courses in conformity with the lines, grades, thicknesses and typical sections shown on the plans, or as determined by field conditions and ordered in writing by the municipality.

Material Types

Provide materials as specified by the following options.

- **Type A.** Surface quality material with a maximum particle size of 25 mm (1 inch)
- **Type B.** Base quality material with a maximum particle size of 50 mm (2 inches)
- **Type C.** Subbase quality material with a maximum particle size of 75 mm (3 inches)

Materials

Test and Control Methods

All tests shall be performed by laboratories accredited under the AASHTO accreditation program. Materials tests and quality control methods pertaining to the work of this section will be performed in conformance with the procedures contained in the appropriate New York State Department of Transportation (NYSDOT) and/or American Association of State Highway and Transportation Officials (AASHTO) publications which are current on the date of advertisement of bids.

Materials Requirements

Provide materials for local road gravel surface, base, and subbase courses that consist of Sand and Gravel, approved Blast Furnace Slag or Stone that meet the requirements

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contained herein. Provide materials well graded from coarse to fine, and free from organic or other deleterious materials. Any gravel material will be rejected if it is determined to contain any unsound or deleterious materials.

Gradation

Perform sieve analysis in accordance with the AASHTO procedures T 27, T 88 or T 311. Report the following sieves for all tests: 75µm, 425µm, 6.3 mm, 12.5 mm, 19.0 mm, 25.0 mm, 37.5 mm, 50 mm, 75 mm.

Provide material meeting the gradation limits from Table 1.

Soundness

Material for local road gravel surface, base, and subbase courses will be accepted on the basis of Magnesium Sulfate Soundness Loss after four (4) cycles performed according to NYSDOT procedures and Table 2.

Table 1: Percent passing by weight of gravel materials

Sieve (U.S. sieve)	Option Type		
	A (Surface)	B (Base)	C (Subbase)
75 mm (3")			100
50 mm (2")		100	-
37.5 mm (1.5")		85-100	70-100
25.0 mm (1")	100	-	-
19.0 mm (3/4")	85-100	-	-
6.3 mm (1/4")	50-75	30-50	30-55
425 µm (#40)	15-35	5-20	5-25
75 µm (#200)	8-15	0-5	0-8

Plasticity

Determine plasticity using either of the following methods:

- **Plasticity Index.** The Plasticity Index of the material passing the #40 mesh sieve shall meet the values in Table 2. Determine plasticity using AASHTO tests T 89 and T 90.
- **Sand Equivalent.** The sand equivalence of the granular material shall meet the values in Table 2. Determine sand equivalence using AASHTO test T 176.

Table 2: Test and control limits of gravel materials

Material Properties	Material Type		
	A (Surface)	B (Base)	C (Subbase)
Maximum Soundness loss (%)	20	20	25
Plasticity Index	2-9	0-5	0-8
Sand Equivalent	25-40	>40	>35

Elongated Particles

Not more than 30 percent, by weight, of the particles retained on a 12.5 mm sieve shall consist of flat or elongated particles. A flat or elongated particle is defined herein as one which has its greatest dimension more than 3 times its least dimension. Acceptance for this requirement will normally be based on a visual inspection. When the municipality elects to test for this requirement, material with a percentage greater than 30 will be rejected.

Fractured Faces

When the municipality elects to test for this requirement, Type A material shall have at least two fractured faces on 50 percent of the stone particles larger than 12.5 mm or at least one fractured face on 75 percent of the particles larger than 12.5 mm. Type B material shall have at least one fractured face on 50 percent of the stone particles larger than 12.5 mm.



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