

**SECTION 204  
GRADED AGGREGATE BASE**

**204-1 Description.**

Construct a base course composed of graded aggregate.

**204-2 Materials.**

Use graded aggregate material, produced from Department approved sources, which yields a satisfactory mixture meeting all the requirements of these Specifications after it has been crushed and processed as a part of the mining operations.

The Contractor may furnish the material in two sizes of such gradation that, when combined in a central mix plant pugmill, the resultant mixture meets the required specifications.

Use graded aggregate base material of uniform quality throughout, substantially free from vegetable matter, shale, lumps and clay balls, and having a Limerock Bearing Ratio value of not less than 100. Use material retained on the No. 10 sieve composed of aggregate meeting the following requirements:

Soundness Loss, Sodium, Sulfate: AASHTO T104 ..... 15%

Percent Wear: AASHTO T96 (Grading A)

Group 1 Aggregates ..... 45%

Group 2 Aggregates ..... 65%

Group 1: This group of aggregates is composed of limestone, marble, or dolomite.

Group 2: This group of aggregates is composed of granite, gneiss, or quartzite.

Use graded aggregate base material meeting the following gradation:

Sieve Size	Percent by Weight Passing
2 inch	100
1 1/2 inch	95 to 100
3/4 inch	65 to 90
3/8 inch	45 to 75
No. 4	35 to 60
No. 10	25 to 45
No. 50	5 to 25
No. 200	0 to 10

For Group 1 aggregates, ensure that the fraction passing the No. 40 sieve has a Plasticity Index (AASHTO T90) of not more than 4.0 and a Liquid Limit (AASHTO T89) of not more than 25, and contains not more than 67% of the weight passing the No. 200 sieve.

For Group 2 aggregates, ensure that the material passing the No. 10 sieve has a sand equivalent (AASHTO T176) value of not less than 28.

The Contractor may use graded aggregate of either Group 1 or Group 2, but only use one group on any Contract. (Graded aggregate may be referred to hereinafter as “aggregate”.)

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### **204-3 Equipment.**

Provide equipment meeting the requirements of 200-3.

### **204-4 Transporting Aggregate.**

Transport aggregate as specified in 200-4.

### **204-5 Spreading Aggregate.**

Spread aggregate as specified in 200-5.

### **204-6 Compacting and Finishing Base.**

**204-6.1 General:** Meet the requirements of 200-7.1 with density requirements of 204-6.3.

**204-6.1.1 Single-Course Base:** Construct as specified in 200-6.1.1.

**204-6.1.2 Multiple-Course Base:** Construct as specified in 200-6.1.2.

**204-6.2 Moisture Content:** Meet the requirements of 200-6.2.

**204-6.3 Density Requirements:** After attaining the proper moisture conditions, uniformly compact the material to a density of not less than 100% of the maximum density as determined by FM 1-T 180, Method D. ~~Ensure that the minimum density that will be acceptable at any location outside the traveled roadway (such as intersections, crossovers, turnouts, etc.) is 98% of the maximum density.~~ For shoulder only areas and bike/shared use paths, obtain a minimum density of 98% of the maximum density as determined by FM 1-T 180, Method D.

**204-6.4 Density Tests:** Meet the requirements of 200-7.2.2.

**204-6.5 Correction of Defects:** Meet the requirements of 200-6.4.

**204-6.6 Dust Abatement:** Minimize the dispersion of dust from the base material during construction and maintenance operations by applying water or other dust control materials.

### **204-7 Testing Surface.**

Test the surface in accordance with the requirements of 200-7.

### **204-8 Priming and Maintaining.**

Meet the requirements of 200-8.

### **204-9 Thickness Requirements.**

Meet the requirements of 285-6.

### **204-10 Calculations for Average Thickness of Base.**

Calculations for determining the average thickness of base will be made in accordance with 285-7.

### **204-11 Method of Measurement.**

**204-11.1 General:** The quantity to be paid for will be the plan quantity area, in square yards, completed and accepted.

**204-11.2 Authorized Normal Thickness Base:** The surface area of authorized normal thickness base will be the plan quantity area, omitting any areas not allowed for payment under the provisions of 204-9 and omitting areas which are to be included for payment under 204-11.3. The area for payment, of authorized normal thickness base, will be the surface area determined as provided above, adjusted by adding or deducting, as appropriate, the area of base represented by

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the difference between the calculated average thickness, determined as provided in 204-10, and the specified normal thickness, converted to equivalent square yards of normal thickness base.

**204-11.3 Authorized Variable Thickness Base:** As specified in 200-10.3.

**204-12 Basis of Payment.**

Price and payment will be full compensation for all work specified in this Section, including dust abatement, correcting all defective surface and deficient thickness, removing cracks and checks and the additional aggregate required for such crack elimination.

Payment will be made under:

Item No. 285- 7- Optional Base - per square yard.