Cooper Stone Corporation

Crushed Aggregate Specifications

Laboratory test results for our three primary crushed-stone products

Contents

1″ Crushed Limestone

Coarse Aggregate · ASTM C33 Size No. 56

Drainage, French drains, septic fields, and base layer for pavers and concrete. Large-grade aggregate where positive water movement is the priority.

3/8″ Crushed Limestone

Fine Aggregate · ASTM C33 Size No. 8

Pipe bedding, walkways, decomposed-aggregate paths, and a ready-mix concrete component. Versatile small-grade stone for fine-detail civil and landscape work.

TXDOT Base

Flexible Base Material · 2014 TxDOT Item 247

Graded 1¾″-minus blend for highways, county roads, parking lots, and certified building pads. Meets TxDOT Type A Grade 1-2 and Type A Grade 5 requirements.

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1″ Crushed Limestone — Laboratory Test Results

ASTM C33 Size No. 56 Coarse Aggregate

Source: Stockpile at Cooper Stone's Quarry, Jarrell, Texas

Gradation Analysis (ASTM C136)

Sieve Size (US Standard)	Percent Passing	ASTM C33 Size No. 56 Requirement	Comment
1-½″	100	100	Meets Requirements
1″	91	90 to 100	Meets Requirements
¾″	48	40 to 85	Meets Requirements
½″	16	10 to 40	Meets Requirements
3/8″	12	0 to 15	Meets Requirements
No. 4	11	0 to 5	Subject to User Approval

Materials Finer Than No. 200 Sieve (ASTM C117)

Property	Value	Notes
No. 200	2.0%	See dependent conditions in ASTM C33

Specific Gravity & Absorption (TEX-403-A)

Property	Value
Bulk Specific Gravity (Saturated Surface-Dry)	2.40
Absorption	5.92%

3/8″ Crushed Limestone — Laboratory Test Results

ASTM C33 Size No. 8 Coarse Aggregate

Source: Stockpile at Cooper Stone's Quarry, Jarrell, Texas

Gradation Analysis (ASTM C136)

Sieve Size (US Standard)	Percent Passing	ASTM C33 Size No. 8 Requirement	Comment
½″	100	100	Meets Requirements
3/8″	98	85 to 100	Meets Requirements
No. 4	11	10 to 30	Meets Requirements
No. 8	7	0 to 10	Meets Requirements
No. 16	7	0 to 5	Meets Requirements

Materials Finer Than No. 200 Sieve (ASTM C117)

Property	Value	Notes
No. 200	5.3%	See dependent conditions in ASTM C33

Specific Gravity & Absorption (TEX-403-A)

Property	Value
Bulk Specific Gravity (Saturated Surface-Dry)	2.46
Absorption	5.46%

TXDOT Base — Laboratory Test Results

Flexible Base Material — 2014 TxDOT Item 247

Source: Stockpile at Cooper Stone's Quarry, Jarrell, Texas — Orangish-Tan Crushed Limestone

Gradation (TEX-110-E) — Cumulative Percent Retained, %

Sieve Size	Measured	Type A Grade 1-2	Type A Grade 3	Type A Grade 5	Comment
2-½″	0	0	0	0	Meets Type A Grade 1-2, 3 & 5
1-¾″	0	0 to 10	0 to 10	0 to 5	Meets Type A Grade 1-2, 3 & 5
7/8″	15	10 to 35	—	10 to 35	Meets Type A Grade 1-2 & 5
3/8″	36	30 to 65	—	35 to 65	Meets Type A Grade 1-2 & 5
No. 4	53	45 to 75	45 to 75	45 to 75	Meets Type A Grade 1-2, 3 & 5
No. 40	90	65 to 90	50 to 85	70 to 90	Meets Type A Grade 1-2 & 5; does not meet Type A Grade 3

Classification Tests — Summary

Test	TxDOT Procedure	Measured	Grade 1-2	Grade 3	Grade 5	Comment
Wet Ball Mill Value	TEX-116-E	39	Max 40	—	Max 40	Meets Requirements
Increase in Passing No. 40 Sieve	TEX-116-E	10	Max 20	—	Max 20	Meets Requirements
Liquid Limit	TEX-104-E	25	Max 40	Max 40	Max 35	Meets Requirements
Plastic Limit	TEX-105-E	16	—	—	—	—
Plasticity Index	TEX-106-E	9	Max 10	Max 12	Max 10	Meets Requirements

Summary

Based on the test results, the sample meets the requirements for TxDOT Type A Grade 1-2 and Type A Grade 5 flexible base material. With the exception of percent retained on the No. 40 sieve, the sample also meets the requirements for TxDOT Type A Grade 3 flexible base material. With the exception of percent retained on the No. 200 sieve, the sample meets the requirements for the Williamson County Subdivision Regulations base material.