



American Granite Curb Producers

Blue Sky & Moonlit Rose Granite

| | | | |
|----------------------|-----------------------------|------------------------|---------------------------------|
| Client: | Williams Stone Co. Inc. | Project: | Blue Sky & Moonlit Rose Granite |
| Material: | Blue Sky Gray | Project Number: | 120116 |
| Source: | Blue Sky Quarry (Stockpile) | Lab Number: | 12-0231A |
| Date Sampled: | 2/15/2012 | Sampled By: | Client |
| Date Tested: | 3/20/2012 – 3/29/2012 | Tested By: | Kevin Parrish |

| Report of Compressive Strength of Dimension Stone | | | | | | | |
|---------------------------------------------------|------------|--------|---------|---------|----------------------|-----------|---------------------------|
| Test Method: ASTM C170 | | | | | | | |
| Stone Type: Granite | | | | | | | |
| Specimen | Fabric Dip | Height | Width 1 | Width 2 | Area in ² | Load, lbs | Compressive Strength, psi |
| A | N/A | 2.982 | 2.983 | 2.950 | 8.80 | 198240 | 22500 |
| B | N/A | 2.974 | 2.968 | 2.938 | 8.72 | 226750 | 26000 |
| C | N/A | 2.975 | 2.970 | 2.949 | 8.76 | 202280 | 23100 |
| D | N/A | 2.970 | 2.969 | 2.932 | 8.71 | 207820 | 23900 |
| E | N/A | 2.977 | 2.966 | 2.934 | 8.70 | 218240 | 25100 |
| Avg | | | | | | | 24100 |

- All dimensions in inches. Height to width ratio was approximately 1:1.
- Specimens were tested in an air-dry or a saturated condition.
- The dip of the rock fabric (layering and/or mineral elongation) is the angle between horizontal and the fabric, as tested. Load was applied in a vertical direction.

| Report of Flexural Strength of Dimension Stone Testing | | | | | | |
|--------------------------------------------------------|---------------|-------------------------------------|-------------|-------------|-----------|-------------------|
| Test Method: ASTM C 880 | | | | | | |
| Stone Type: Granite | | Preconditioning Procedure: Oven Dry | | | | |
| Sample# | Dry Weight(g) | Span (in.) | Width (in.) | Depth (in.) | Load lbs. | Flexural Strength |
| 1 | 3288.4 | 14.875 | 3.959 | 1.287 | 1243 | 1421 |
| 2 | 3314.8 | 14.875 | 3.974 | 1.296 | 1345 | 1511 |
| 3 | 3310.5 | 14.875 | 3.970 | 1.293 | 1280 | 1446 |
| 4 | 3315.1 | 14.875 | 3.980 | 1.292 | 1261 | 1424 |
| 5 | 3310.2 | 14.875 | 3.971 | 1.293 | 1317 | 1488 |
| Avg | | | | | | 1458 |

- Specimens were saw-cut for testing by the client.
- Standard deviation 39.9

| Absorption and Bulk Specific Gravity of Dimension Stone | | | | | | |
|---------------------------------------------------------|------------|-------------|-----------------|-----------------------------|-----------------------|------------------------|
| Test Method: ASTM C97 | | | | | | |
| Sample Number | Dry Weight | SSD* Weight | Weight in Water | Absorption, % of Dry Weight | Bulk Specific Gravity | Units Weight lbs/cu ft |
| A | 1114.74 | 1117.68 | 694.25 | 0.26 | 2.633 | 164.4 |
| B | 1101.88 | 1104.79 | 685.95 | 0.26 | 2.631 | 164.2 |
| C | 1114.02 | 1116.97 | 693.72 | 0.26 | 2.632 | 164.3 |
| D | 1119.09 | 1122.02 | 696.62 | 0.26 | 2.631 | 164.2 |
| E | 1112.18 | 1115.06 | 692.48 | 0.26 | 2.632 | 164.3 |
| Avg | | | | 0.26 | 2.632 | 164.3 |

*Saturated surface-dry. All weights are in grams.



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| Modulus of Rupture of Dimension Stone | | | | |
|---------------------------------------|-------------|---------------------------------------|---------------------|-------------------------|
| Test Method: ASTM C99 | | | | |
| Stone Type: Granite | | Preconditioning Procedure: Oven Dried | | |
| Sample# | Width (in.) | Thickness, (in.) | Breaking Load, lbs. | Modulus of Rupture, psi |
| 1 | 3.97 | 2.203 | 4818 | 2627 |
| 2 | 3.981 | 2.198 | 4586 | 2504 |
| 3 | 4.05 | 2.206 | 4261 | 2271 |
| 4 | 3.957 | 2.201 | 4400 | 2411 |
| 5 | 3.95 | 2.201 | 4558 | 2502 |
| Avg | 3.982 | 2.202 | 4525 | 2463 |

- The rift is the plane on which the rock splits most easily.
- Specimens were saw-cut for testing by the client. There was no discernable rift direction.
- Test span length 7.0 inches



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Blue Sky & Moonlit Rose Granite 2

| | | | |
|----------------------|-------------------------|------------------------|---------------------------------|
| Client: | Williams Stone Co. Inc. | Project: | Blue Sky & Moonlit Rose Granite |
| Material: | Blue Sky Gray (Wet) | Project Number: | 120116 |
| Source: | Blue Sky Quarry | Lab Number: | 12-0231B |
| Date Sampled: | 2/15/2012 | Sampled By: | Client |
| Date Tested: | 3/26/2012 | Tested By: | Kevin Parrish |

| Report of Compressive Strength of Dimension Stone | | | | | | | |
|---------------------------------------------------|------------|--------|---------|---------|----------------------|-----------|---------------------------|
| Test Method: ASTM C170 | | | | | | | |
| Stone Type: Granite | | | | | | | |
| Specimen | Fabric Dip | Height | Width 1 | Width 2 | Area in ² | Load, lbs | Compressive Strength, psi |
| A | N/A | 2.981 | 2.975 | 2.984 | 8.88 | 183280 | 20600 |
| B | N/A | 3.064 | 2.974 | 3.052 | 9.08 | 168350 | 18500 |
| C | N/A | 2.987 | 2.970 | 2.970 | 8.82 | 176090 | 20000 |
| D | N/A | 2.979 | 2.979 | 2.991 | 8.91 | 193500 | 21700 |
| E | N/A | 2.965 | 2.968 | 3.036 | 9.01 | 136260 | 15100 |
| Avg | | | | | | | 19200 |

- All dimensions in inches. Height to width ratio was approximately 1:1.
- Specimens were tested in an air-dry or a saturated condition.
- The dip of the rock fabric (layering and/or mineral elongation) is the angle between horizontal and the fabric, as tested. Load was applied in a vertical direction.

| Report of Flexural Strength of Dimension Stone Testing | | | | | | |
|--------------------------------------------------------|---------------|--------------------------------------|-------------|-------------|-----------|-------------------|
| Test Method: ASTM C 880 | | | | | | |
| Stone Type: Granite | | Preconditioning Procedure: Saturated | | | | |
| Sample# | Dry Weight(g) | Span (in.) | Width (in.) | Depth (in.) | Load lbs. | Flexural Strength |
| 1 | 3341.6 | 14.875 | 3.984 | 1.301 | 1233 | 1372 |
| 2 | 3308.5 | 14.875 | 3.949 | 1.298 | 1261 | 1422 |
| 3 | 3373.7 | 14.875 | 4.025 | 1.296 | 1243 | 1379 |
| 4 | 3345.6 | 14.875 | 3.988 | 1.299 | 1206 | 1344 |
| 5 | 3331.7 | 14.875 | 3.984 | 1.294 | 1308 | 1470 |
| Avg | | | | | | 1397 |

- Specimens were saw-cut for testing by the client.
- Standard deviation 49.5

| Modulus of Rupture of Dimension Stone | | | | |
|---------------------------------------|-------------|--------------------------------------|---------------------|-------------------------|
| Test Method: ASTM C99 | | | | |
| Stone Type: Granite | | Preconditioning Procedure: Saturated | | |
| Sample# | Width (in.) | Thickness, (in.) | Breaking Load, lbs. | Modulus of Rupture, psi |
| 1 | 3.986 | 2.210 | 3955 | 2133 |
| 2 | 3.975 | 2.209 | 4057 | 2196 |
| 3 | 3.971 | 2.200 | 3890 | 2125 |
| 4 | 3.977 | 2.207 | 3982 | 2159 |
| 5 | 3.973 | 2.199 | 4075 | 2227 |
| Avg | 3.976 | 2.205 | 3992 | 2168 |

- The rift is the plane on which the rock splits most easily. There was no discernable rift direction.
- Specimens were saw-cut for testing by the client
- Test span length 7.0 inches



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