

Rodding Granite Countertops Test Results

All test performance results listed in order of lowest (1) to highest (24) strengths.

Test No.	Piece No.	Description	Load (pounds) Upon Visible Crack	Deflection (inch) at Load Establishing Crack (for visible changes in planes)
1	9A	Polyester Only	4	0.140
2	9B	Polyester Only	N/A	N/A
3	10A	Epoxy Only	0	0.125
4	10B	Epoxy Only	0	0.180
5	1A	No Reinforcement	139	0.049
6	1B	No Reinforcement	140	0.055
7	2A	Rectangle Rod/Polyester	119	0.090
8	2B	Rectangle Rod/Polyester	N/A	N/A
9	4A	Rectangle Rod/Epoxy	114	0.300
10	4B	Rectangle Rod/Epoxy	165	0.490
11	11A	1/8" x 3/8" Rod/Polyester	157	0.497
12	11B	1/8" x 3/8" Rod/Polyester	190	0.650
13	5A	Round Rod/Epoxy	244	0.790
14	5B	Round Rod/Epoxy	144	0.550
15	6A	Fiberglass	220	1.000
16	6B	Fiberglass	192	1.125
17	3A	Round Rod/Polyester	225	0.375
18	3B	Round Rod/Polyester	230	0.450
19	8A	Fiberglass/Rectangle Rod	400	0.920
20	8B	Fiberglass/Rectangle Rod	380	0.940
21	7A	Fiberglass/Round Rod	450	1.100
22	7B	Fiberglass/Round Rod	475	1.170
23	VA	Vanity Top Unreinforced	62	0.328
24	VB	Vanity Top/Square Rods Polyester Reinforced	202	0.425

- Test # 1, 2, 3, 4 Inserting only polyester resin or epoxy into the cut groove weakens the stone.
- Test # 5, 6 The stone is not reinforced. This is the base point of comparison with the other tests. The stone fails at 139–140 lb. psi and 1/16" deflection.
- Test # 7, 8, 9, 10 Rectangular rods tend to strengthen the stone and increase deflection before ultimate failure. Stones thus reinforced are able to withstand loads comparable with unreinforced stone and the stone's deflection range is enhanced.
- Test # 11, 12, 13, 14 Round rods increase average deflection before failure from 0.07175" to 0.7475" (900%), and will accept higher loads than other shape rods.
- Test # 15, 16 Fiberglass reinforcement increases the load tolerance by 50% and the deflection before failure by about 1600%.
- Test # 17, 18 Round rods significantly strengthen the stone by 50% in load and 600% in deflection.
- Test # 19, 20 Round rods with fiberglass on the bottom face produce the highest values, with an increase in ability to withstand load by 300% and deflection over unreinforced stone increased 1600%.

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