treated with a 10% aqueous solution of H_3PO_4 for 30 seconds. Then, a mixture of 60% bis-GMA and 40% HEMA was applied and light cured for 20 seconds. Finally, a composite resin of TPH™ (L.D. Caulk, Millford, Del.; urethane-modified Bis-GMA, TEGDMA, and barium silicate glass filler (avg. particle size of about 0.7 μm)) was applied and light cured for 60 seconds.

TABLE 12

Assembly #	Protocol	Iris Diam (mm)	Load (kN)	SBS (MPa)	Mean (MPa)	SD (MPa)
A26	3	3.99	0.251	20.1		
138	3	3.97	0.380	30.7		
112	3	3.97	0.384	31.0		
97	3	3.87	0.397	32.1		
108	3	3.95	0.400	32.6		
105	3	3.95	0.223	18.2		
96	3	3.95	0.409	33.3		
50	3	3.95	0.298	24.3	27.8	6.0

Example 7

The following procedures were utilized to obtain results indicated in Tables 13 and 13a below. To dentin, 20 mL of 0.3M PIDAA in acetone:H_2O (1:1 v/v) was applied for 60 seconds. Then, the PIDAA solution was either rinsed and dried (indicated as "RD") or just air dried (indicated as "D"). Thereafter, five coats of 20% PMGDM and 0.07% CQ in acetone were applied to the treated dentin surface, the solvent evaporated with air and light cured for 20 seconds. Next, a composite resin of TPH™ (L.D. Caulk, Millford, Del.; urethane-modified Bis-GMA, TEGDMA, and barium silicate glass filler (avg. particle size of about 0.7 μm)) and light cured for 60 seconds.

TABLE 13

Assembly #	Protocol	Iris Diam (mm)	Load (kN)	SBS (MPa)	Mean (MPa)	SD (MPa)
R5	1a RD	3.96	0.399	32.4		
M49	1a RD	3.96	0.254	20.6		
M70	1a RD	3.96	0.489	39.7		
163	1a RD	3.97	0.284	23.0		
M60	1a RD	3.97	0.272	22.0	27.5	8.2
M67	1a D	3.96	0.269	21.9		
52	1a D	3.96	0.490	39.8		
6	1a D	3.96	0.307	24.9		
116	1a D	3.96	0.362	29.4		
2AL	1a D	3.96	0.430	34.9	30.2	7.3

TABLE 13a

Assembly #	Protocol	Iris Diam (mm)	Load (kN)	SBS (MPa)	Mean (MPa)	SD (MPa)
S49	1a RD	3.97	0.361	29.2		
44	1a RD	3.97	0.107	8.7		
R5	1a RD	3.96	0.248	20.2		
2AL	1a RD	3.96	0.277	22.5		
114	1a RD	3.98	0.363	29.2	21.9	8.4
S43	1a D	3.97	0.327	26.4		
96	1a D	3.97	0.333	26.9		
R28	1a D	3.95	0.318	26.0		
402	1a D	3.95	0.209	17.1		
158	1a D	3.98	0.325	26.1	24.5	4.2

The same procedures as outlined above in this Example were used, except that instead of a 60 second application of the 0.3M PIDAA solution, a 30 second was made. The so-obtained SBS results are provided in Tables 14 and 14a below.

TABLE 14

Assembly #	Protocol	Iris Diam (mm)	Load (kN)	SBS (MPa)	Mean (MPa)	SD (MPa)
203	1b RD	3.96	0.212	17.2		
152	1b RD	3.96	0.344	27.9		
93	1b RD	3.97	0.246	19.9		
158	1b RD	3.97	0.222	17.9		
S27	1b RD	3.97	0.190	15.4	19.7	4.9
G19	1b D	3.96	0.578	46.9		
401	1b D	3.96	0.213	17.3		
96	1b D	3.97	0.390	31.5		
402	1b D	3.96	0.377	30.6		
S49	1b D	3.97	0.265	21.4	29.5	11.4

TABLE 14a

Assembly #	Protocol	Iris Diam (mm)	Load (kN)	SBS (MPa)	Mean (MPa)	SD (MPa)
163	1b RD	3.97	0.338	27.3		
76	1b RD	3.96	0.368	29.9		
1	1b RD	3.96	0.375	30.5		
M82	1b RD	3.96	0.320	26.0		
101	1b RD	3.95	0.420	34.3	29.6	3.2
157	1b D	3.97	0.473	38.2		
105	1b D	3.96	0.415	33.7		
M35	1b D	3.96	0.231	18.8		
555	1b D	3.98	0.321	25.8		
412	1b D	3.98	0.490	39.4	31.2	8.7

Example 8

The same procedures outlined in Example 6 were utilized, except that instead of 0.3M PIDAA in acetone:H_2O (1:1 v/v), a solution of 0.3M PIDAA in acetone:H_2O (1:1 v/v) and 2.5% HNO_3 (aqueous) was applied for 60 seconds followed by rinsing and drying (RD) or just air drying (D). The so-obtained SBS results are indicated in Tables 15 and 15a below.

TABLE 15

Assembly #	Protocol	Iris Diam (mm)	Load (kN)	SBS (MPa)	Mean (MPa)	SD (MPa)
122	1c RD	3.96	0.344	28.0		
555	1c RD	3.96	0.578	47.0		
M132	1c RD	3.97	0.349	28.2		
144	1c RD	3.97	0.289	23.3		
M87	1c RD	3.97	0.341	27.6	30.8	9.25
412	1c D	3.96	0.432	35.1		
M82	1c D	3.96	0.219	17.8		
1	1c D	3.96	0.349	28.3		
M40	1c D	3.97	0.246	19.9		
164	1c D	3.97	0.363	29.3	26.1	7.13

TABLE 15a

Assembly #	Protocol	Iris Diam (mm)	Load (kN)	SBS (MPa)	Mean (MPa)	SD (MPa)
93	1c RD	3.97	0.350	28.2		
203	1c RD	3.96	0.265	21.5		
52	1c RD	3.96	0.334	27.2		
164	1c RD	3.95	0.302	24.7		
401	1c RD	3.98	0.312	25.1	25.3	2.6
144	1c D	3.97	0.352	28.5		