

2003 SUPER LIGHT WEIGHT BRIDGE BUILDING CONTEST

by Dr. Howard S. Kliger

The sixth annual Super Light Weight Bridge competition was held at SAMPE 2003 on May 13th. This year we had 55 teams registered, and 42 showed up for testing. Of the 42, 12 were professional entries and 30 were University teams. We also had 1 entry from Brazil and 5 from New Zealand.

The bridge structure this year returned to the simple twin supports of the earlier contests. Of course we added a few new twists. First, we had an open competition between students and professionals. Winning P/W ratios from previous years didn't show that either group was superior so we threw them all into the same pots. This year we had categories of best bridge using carbon, glass, boron or braid. We also required that all University teams provide a poster highlighting some aspect of their bridge. The Poster session was a huge success as almost 30 posters lined the hallway next to the technical sessions.

Awards were given for the highest ratios of ultimate load to bridge weight for the four



categories listed above. Awards were also given for best posters.

Five sponsored awards of \$250 each were given to first place winners in the Kit categories and the poster session. These were:

- Carbon/kit: D. Gregory, Cerritos College (Sponsor: High Performance Composites Magazine)
- Glass/kit: Univ. Washington (Sponsor: Owens Corning Fiberglas)
- Boron/kit: Univ. Washington (Sponsor: Specialty Materials Inc.)
- Braid/kit: Univ. Washington (Sponsor: A&P Technologies)
- Poster: Jason Lyons, Drexel Univ. (Sponsor: Boeing Corp.)



As you can see, the University of Washington student SAMPE chapter did quite well. In total, we gave away almost \$2800 in prize money as well as the usual assortment of composite tennis racquets, fishing rods, a titanium driver and a composites training course from Abaris, all donated by the sponsors.

The final results are shown on page 81. Individual load-displacement plots are available by accessing the United website at www.tensiletest.com or through the SAMPE website link.

We must thank our 47 sponsors for this year. This is the largest number of sponsors in the 6 contest years. They provided the materials for the kits and the cash and product hardware for the prizes. Without their support, we can't run this contest. We also thank United Testing Systems for providing the tensile machine used to load the bridges at the Exhibition. Finally, thanks to Joe Davis and Matt Zeller from the Civil Engineering department of Rutgers University. They helped with the book keeping at the testing and with packaging and shipping the kits for the contest.



THANKS to our sponsors!



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SAMPE 2003 BRIDGE BUILDING CONTEST FINAL RESULTS

School / Name	Bridge (grams)	Failure Weight (lbs)	Ratio Load P/wt
Carbon - Kit Materials			
Cerritos College / D.Gregory	1383	11888	8.6
Univ. Auckland (2)	788	4162	5.3
Univ. Washington (1)	1208	5941	4.9
Philadelphia Univ. / R.Graziano	459	1389	3.0
Cal Poly San Luis Obispo (2)	515	1515	2.9
South Dakota School of Mines (1)	1134	3204	2.8
South Dakota School of Mines (4)	860	2284	2.7
Cal Poly San Luis Obispo (1)	385	849	2.2
Cal Poly San Luis Obispo (4)	352	585	1.7
Daniel Kowalik	857	1475	1.7
Cal Poly San Luis Obispo (3)	499	653	1.3
Drexel Univ.	591	86	0.1
Glass - Kit Materials			
Univ. Washington (2)	1467	6591	4.5
Univ. Dayton (3)	587	1887	3.2
Cal State Univ. Los Angeles / A.Tcharssov	856	2337	2.7
Univ. Dayton (4)	428	1113	2.6
Yves Mathieu	1102	2652	2.4
Roberto Gouvea Paton	720	1623	2.3
Trevor Gundberg	1265	2726	2.2
Univ. Auckland (3)	445	888	2.0
Mt. Miguel High School / L.Parker	825	1327	1.6
Cal Poly San Luis Obispo (5)	317	290	0.9
Univ. Auckland (1)	1302	599	0.5
Boron - Kit Materials			
Univ. Washington (3)	457	1757	3.8
Stan Stawski / Scaled Composites	144	403	2.8
Braid - Kit Materials			
Univ. Washington (4)	1149	7428	6.5
Univ. Dayton (1)	438	2136	4.9
Univ. Dayton (2)	406	1863	4.6
Carbon - Non Kit Materials			
Stan Stawski / Scaled Composites	334	7987	23.9
Western Washington Univ.	563	5268	9.4
Lance Smith / Hexcel	414	3726	9.0
D.Senn / High Modulus Engineering (2)	276	2422	8.8
D.Senn / High Modulus Engineering (1)	330	1300	3.9
UC Santa Barbara Univ (3)	308	1058	3.4
UC Santa Barbara Univ (2)	242	714	3.0
James Jones / Diab	2779	7752	2.8
UC Santa Barbara Univ (1)	310	433	1.4
Rob Sjostedt / Air Logistics	71	90	1.3
Winona State Univ. (1)	217	246	1.1
South Dakota School of Mines (2)	1245	1111	0.9
South Dakota School of Mines (3)	1077	516	0.5
Glass - Non Kit Materials			
Cerritos College / J.Ohashi	1298	2286	1.8
Winona State Univ. (2)	299	270	0.9
Boron - Non Kit Materials			
Hans Neubert / Programmed Composites	552	3228	5.8
POSTER SESSION			
Drexel University	First		
Univ. Dayton	Second		
Univ. Auckland	(tie) Third		
Univ. Auckland	Third		
Western Washington Univ.	Fourth		

