

2009 Super Lightweight Bridge and Wing Building Contests

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The SAMPE '09 Symposium and Exhibition hosted the 12th annual Super Light Weight Bridge competition and the 5th annual Light Weight Wing competition. This year we pre-registered a total of 69 teams from 17 Universities, split 56/13 for the bridge/wing contests. We also had an outstanding display of student posters in the registration area.

We estimate there were about 75 students attending the Exhibition as a direct result of their participation in the contests. This year Tinius Olsen provided the test machine and SAMPE provided a large display/test area near the entrance to the Exhibition.

The four bridge categories were the same as last year – carbon kit, carbon non-kit, glass kit and natural fiber. This year the maximum bridge weight was 650 grams. Last year it was 750 grams, and before that, there was no weight limit. Eventually, the bridges will be as light as the wings.

The wings were particularly exciting this year. They were 36 inches wide with winglets that had to support a torque load in addition to the center span load. The wing had to support a center load with a maximum 2 inch deflection. The wing having the largest load to weight ratio was the winner.

Results for both contests are given in the table on page 53. Video clips of many of the tests are available on line at www.tiniusolsen.com.

All of the awards were given out at the Student Awards Breakfast on Wednesday, May 20th. As in previous years, we were able to give away more than \$6000 in prize money as well as a number of composite tennis racquets from Prince and a composite training course from Abaris. First place awards were presented by Boeing Co and High Performance Composites Magazine.

Once again, we thank our sponsors for their support. They provided the materials for the kits and the cash and product hardware for the prizes. Tinius Olsen provided the tensile machine used to load the bridges at the Exhibition. We also acknowledge the very strong financial support of Boeing Corp.

One final note - after 12 years and more than 1000 student participants with at least 700 bridges and wings, Howard Kliger will be stepping down as Bridge Building Chairman. Professor Narendra Taly of California State University, Los Angeles, will be taking over. Please give him your support.

Final Standings

	wt(grams)	P(lbs)	P/wt	Finish
Bridge - Carbon Kit				
US Naval Academy	434	3830	8.81	1
Univ. Washington	636	4530	7.12	2
US Naval Academy	505	3370	6.67	3
US Naval Academy	642	4030	6.27	4
US Naval Academy	640	3120	4.88	5
Univ Delaware	634	2800	4.41	6
Univ. Delaware	456	1896	4.16	7
Cerritos College	649	2170	3.34	8
<i>Others</i>				
Cerritos College	650	1839	2.82	
Univ. British Columbia	489	1023	2.09	
McGill Univ.	573	1074	1.87	
McGill Univ.	628	1111	1.77	
McGill Univ.	636	566	0.89	
Drexel Univ.	484	704	1.45	
Texas State San Marcos	558	1201	2.15	
Cal State LA	528	569	1.08	
South Dakota School of Mining & Tech	423	378	0.89	
Bridge - Carbon Non-Kit				
Univ. Washington	628	9520	15.20	1
Univ. Washington	645	9650	14.90	2
Western Washington Univ.	566	7340	12.90	3
Western Washington Univ.	500	6220	12.40	4
Western Washington Univ.	400	4880	12.20	5
Western Washington Univ.	472	5420	11.40	6
Univ. Washington	644	6380	9.90	7
Western Washington Univ.	425	3890	9.10	8
<i>Others</i>				
Univ. British Columbia	641	2040	3.18	
Univ California Santa Barbara	621	3000	4.84	
Univ. Nevada Las Vegas	573	1858	3.24	
Western Washington Univ.	407	2530	6.22	
South Dakota School of Mining & Tech	699	1227	1.75	D/Q
Brigham Young Univ.	650	5040	7.76	
Bridge - Glass Kit				
US Naval Academy	515	2310	4.48	1
Univ. Washington	646	2610	4.05	2
Univ. Delaware	648	2320	3.58	3
US Naval Academy	504	1460	2.90	4
Univ. Delaware	623	1178	1.89	5
Texas State San Marcos	548	638	1.16	6
<i>Others</i>				
McGill Univ.	638	248	0.39	
Univ Dayton	649	143	0.22	
Univ. Dayton	457	274	0.60	
North Carolina State Univ.	386	282	0.73	
Bridge - Natural Fibers				
Univ. Washington	611	2240	3.67	1
Univ. Washington	647	1508	2.33	2
McGill Univ.	650	1397	2.15	3
Univ. Delaware	625	1031	1.65	4
Texas State San Marcos	599	983	1.64	5
Univ. British Columbia	642	560	0.82	6
Texas State San Marcos	639	495	0.77	7
Texas State San Marcos	420	306	0.73	8
<i>Others</i>				
Cerritos College	612	147	0.24	
Cerritos College	1154	507	0.44	D/Q
Drexel Univ.	561	213	0.38	
Univ. Dayton	506	66	0.13	
Wing				
	wt(grams)	P max at 2.0"	P/wt	Finish
Univ. Maryland	426	1438	3.37	1
Univ. Maryland	463	1343	2.9	2
Univ. Maryland	351	700	1.99	3
Univ. Washington	339	675	1.99	3
Univ. Delaware	533	991	1.86	5
Univ. Maryland	404	660	1.64	6
Univ. Delaware	507	703	1.38	7
South Dakota School of Mining & Tech	479	422	0.88	8
Univ Nevada Las Vegas	291	235	0.81	9
Univ. Maryland	246	221	0.90	D/Q
Posters - wing				
	Place			
Univ. Nevada Las Vegas	1			
Univ. Maryland	2			
Univ. Maryland	3			
Posters - bridge				
	Place			
McGill Univ.	1			
Univ. British Columbia	2			
McGill Univ.	3			

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