

"DELTA" SECTIONS:

EMX 07, ELINA, AND PHOENIX

Some new flying wing airfoils this time! These come courtesy of DELTA, magazine of FSV Versmold, a club in Germany devoted solely to tailless sailplanes. These sections appeared in issue #6 and all three were designed by Dr. Martin Lichte of VFW Fokker, a German aerospace company. Dr. Lichte is also the author of a book entitled "Nurflugelmodelle, Grundlagen fur Entwicklung und Einsatz" ("Only-wing-models, Foundations for Development and Use"), published by Verlag fur Technik und Handwerk GmbH in Germany.

The EMX 07 and ELINA sections require wings with aspect ratios of 10 or more and sweepback of 10° . Set up this way neither will require geometrical twist. A wing loading of 9.5 to 13.5 oz/ft² is recommended. The EMX 07 is a good profile to use for thermal flying and has a low sink rate. The ELINA is simply "a hellishly fast" section, probably best suited to the slope. The PHOENIX airfoil is for lightly loaded (under 7.5 oz./ft²) wings designed as floaters. For the PHOENIX section, 10° of sweep should again be used, along with about 3° of geometrical twist. (With sweepback the tips should be at a lower angle of attack than the root.) The L/D of this airfoil should be excellent.

X	EMX 07		ELINA		PHOENIX	
	Yu	Yl	Yu	Yl	Yu	Yl
0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.25	1.82	-0.87	1.75	-0.94	1.60	-0.60
2.50	2.73	-1.12	2.53	-1.32	2.41	-0.71
5.00	3.99	-1.43	3.58	-1.84	3.57	-0.83
7.50	4.94	-1.62	4.33	-2.24	4.43	-0.88
10.00	5.67	-1.77	4.86	-2.58	5.10	-0.92
15.00	6.71	-2.01	5.56	-3.16	6.08	-1.01
20.00	7.24	-2.21	5.87	-3.59	6.62	-1.10
25.00	7.45	-2.39	5.94	-3.90	6.87	-1.19
30.00	7.34	-2.54	5.82	-4.07	6.83	-1.28
40.00	6.60	-2.75	5.30	-4.04	6.21	-1.45
50.00	5.47	-2.82	4.55	-3.74	5.21	-1.60
60.00	4.20	-2.76	3.72	-3.25	4.06	-1.66
70.00	2.94	-2.52	2.83	-2.62	2.87	-1.58
80.00	1.78	-1.97	1.92	-1.84	1.76	-1.33
90.00	0.83	-1.26	1.06	-1.04	0.78	-0.89
95.00	0.45	-0.76	0.61	-0.61	0.42	-0.49
100.00	0.15	-0.15	0.14	-0.14	0.09	-0.09

