Fiber Optic Cable Attenuation Test Results

Test performed 3/12/99 by Jacob Foor

Attenuation in decibels of fiber #

Spool ID	1	2	3	4	5	6	*Min*	*Max*	*Avg.*	SD
F1	0.24	-0.45	-0.53	-0.53	-0.45	-0.43	-0.53	0.24	-0.36	0.54
F2	0.05	0.47	0.02	0.37	0.59	0.33	0.02	0.59	0.31	0.50
F3	0.07	0.23	0.24	0.24	0.28	0.38	0.07	0.38	0.24	0.45
F4	0.01	0.28	0.06	0.18	0.22	0.14	0.01	0.28	0.15	0.42
F5	0.06	0.78	0.60	0.76	0.36	0.66	0.06	0.78	0.54	0.38
F6	0.62	0.89	0.57	0.55	0.47	0.73	0.47	0.89	0.64	0.23
F7	0.08	0.44	0.12	-0.02	0.12	0.25	-0.02	0.44	0.17	0.23
F8	0.19	0.51	0.22	0.38	0.08	0.08	0.08	0.51	0.24	0.23
F9	0.36	0.95	0.56	0.32	0.43	0.55	0.32	0.95	0.53	0.23
F10	0.03	0.92	-0.01	0.14	0.07	0.30	-0.01	0.92	0.24	0.23
F11	0.55	0.98	0.50	1.12	0.41	0.66	0.41	1.12	0.70	0.25
F12	0.02	0.43	0.09	0.01	0.08	0.29	0.01	0.43	0.15	0.21
F13	-0.25	-0.13	-0.22	-0.26	0.17	-0.15	-0.26	0.17	-0.14	0.28
F14	0.25	0.04	-0.02	-0.30	-0.13	0.10	-0.30	0.25	-0.01	0.28
F15	0.14	-0.43	-0.17	-0.08	0.02	-0.17	-0.43	0.14	-0.12	0.27
F16	0.08	0.24	0.07	-0.29	-0.39	0.04	-0.39	0.24	-0.04	0.26
F17	-0.09	-0.48	0.30	-0.15	0.57	0.03	-0.48	0.57	0.03	0.18
F18	0.33	0.10	0.23	0.18	0.02	0.08	0.02	0.33	0.16	0.22

F1-F12 (70 ft. spools)
F13-F18 (300 ft. spools)

Absolute minimum attenuation of individual fiber: -0.53
Absolute maximum attenuation of individual fiber: 1.12

Average attenuation of fibers in 70 ft. spools: 0.30
Average attenuation of fibers in 300 ft. spools: -0.02
Average attenuation of fibers in all spools: 0.19

Procedure: Using the MLP 4-2 Fiber Optic Test Kit, light was sent through one end of the fiber using the optical light source, and attenuation was measured using the optical power meter, connected to the other end of the fiber. A reference was made to measure attenuation by using a short piece of fiber optic cable between the light source and the meter, and zeroing out the meter (setting it to zero attenuation). Measurements where taken with no prior preparation of the position of the cables. Bending the cables near the ends resulted in 20-50 dB in additional attenuation.