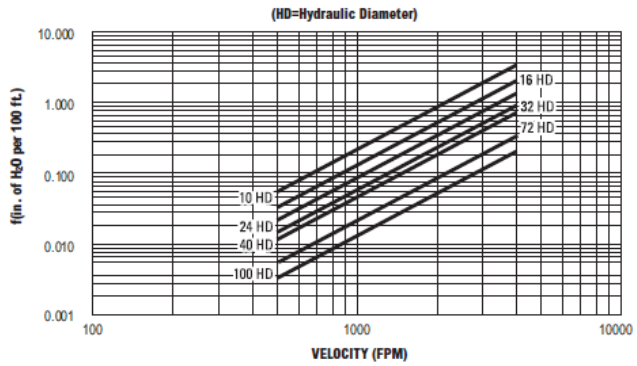
Friction Loss / Pressure Drop vs. Velocity
K-Flex Duct® Liner Gray Versus Fiberglass

In designing an air handling system, friction loss/pressure drop is an important factor to consider. Pressure drop is associated with the friction loss associated with the liner material (i.e. metal, fiberglass, or elastomeric insulation), as well as the air velocity (FPM) and size/shape of the duct.

For comparison purposes, the raw data and a chart depicting typical results for fiberglass (1.5 pcf) liner and elastomeric liner are shown. The data for the fiberglass product is quite comprehensive in showing a wider velocity and duct size range.

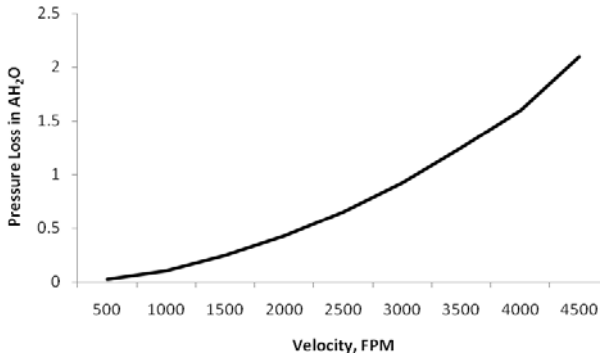
When comparing the elastomeric liner with the fiberglass product, one can see that the elastomeric product shows a slightly lower pressure drop per 100 feet of similar duct size and velocity. This is probably due to the smoother surface of the elastomeric liner.

Fiberglass



FPM	Hydraulic Diameter						
Velocity	10"	16"	24"	32"	40"	72"	100"
500	.054	.030	.018	.012	.009	.005	.003
600	.077	.042	.025	.018	.013	.007	.004
700	.104	.057	.034	.024	.018	.009	.006
800	.134	.074	.044	.031	.023	.011	.008
900	.169	.093	.056	.039	.029	.014	.010
1000	.207	.114	.068	.048	.036	.018	.012
2000	.806	.443	.266	.186	.141	.069	.046
3000	1.797	.988	.594	.415	.315	.153	.103
4000	3.179	1.748	1.050	.734	.557	.271	.181
5000	4.952	2.724	1.636	1.143	.867	.422	.283

Elastomeric (13.5” Diameter)



Velocity, FPM	Pressure Loss in AH_2O
500	0.025
1000	0.105
1500	0.250
2000	0.430
2500	0.650
3000	0.925
3500	1.250
4000	1.600
4500	2.100

Refer to Technical Bulletin TA74 for additional data. For more technical information, please contact K-Flex USA technical services at 800-765-6475.