Building Wake

Figure 13-1: Key to Stability Classes

Table 13-1 KEY TO STABILITY CATEGORIES

Surface Wind Speed (at 10 m), m/sec	Day			Night	
	Incoming Solar Radiation			Thinly Overcast or ≥4/8 Low Cloud	≤3/8 Cloud
	Strong	Moderate	Slight		
2	A	A-B	B		
2-3	A-B	B	C	E	F
3-5	B	B-C	C	D	E
5-6	C	C-D	D	D	D
6	C	D	D	D	D

The neutral class, D, should be assumed for overcast conditions during day or night.

Figure 13-1 is used to estimate stability class, and displays the following information:

Surface Wind Conditions at 10 m (m/sec)	**Daytime Conditions (insolation)**			**Night Conditions (cloudiness)**	
	Strong	**Moderate**	**Slight**	**Thin or ≥4/8**	**≤3/8**
<2	A	A-B	B		
2 to 3	A-B	B	C	E	F
3 to 5	B	B-C	C	D	E
5 to 6	C	C-D	D	D	D
>6	C	D	D	D	D
The neutral class, D, should be assumed for overcast conditions during day or night.					

Figure 13-2: Horizontal Dispersion Coefficient as a Function of Downwind Distance from the Source

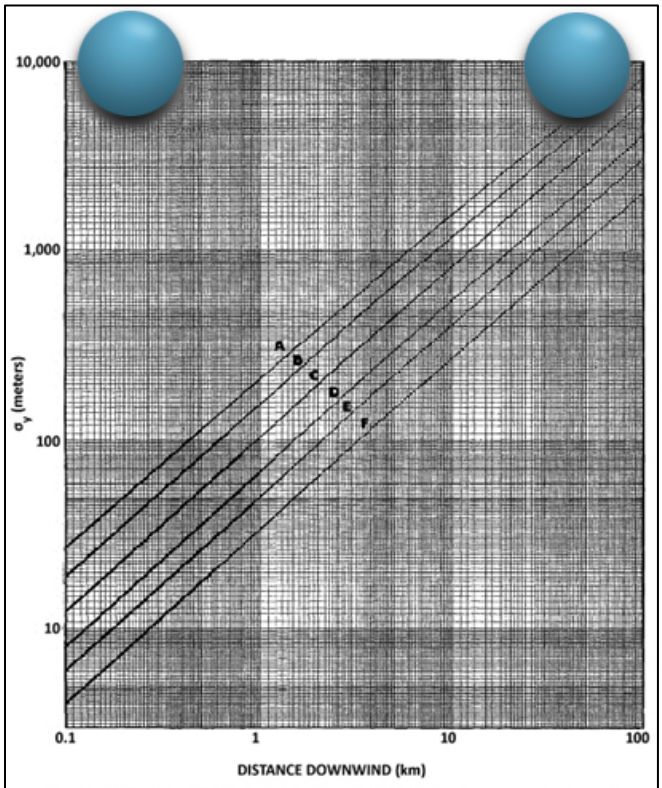

Figure 13-2. Horizontal dispersion coefficient as a function of downwind distance from the source.

This table is used to estimate sigma sub y. The log log graph is read along the bottom out to a desired distance (in km) up to the appropriate stability class line, then left to the sigma sub y value in meters.

Figure 13-3: Vertical Dispersion Coefficient as a Function of Downwind Distance from the Source

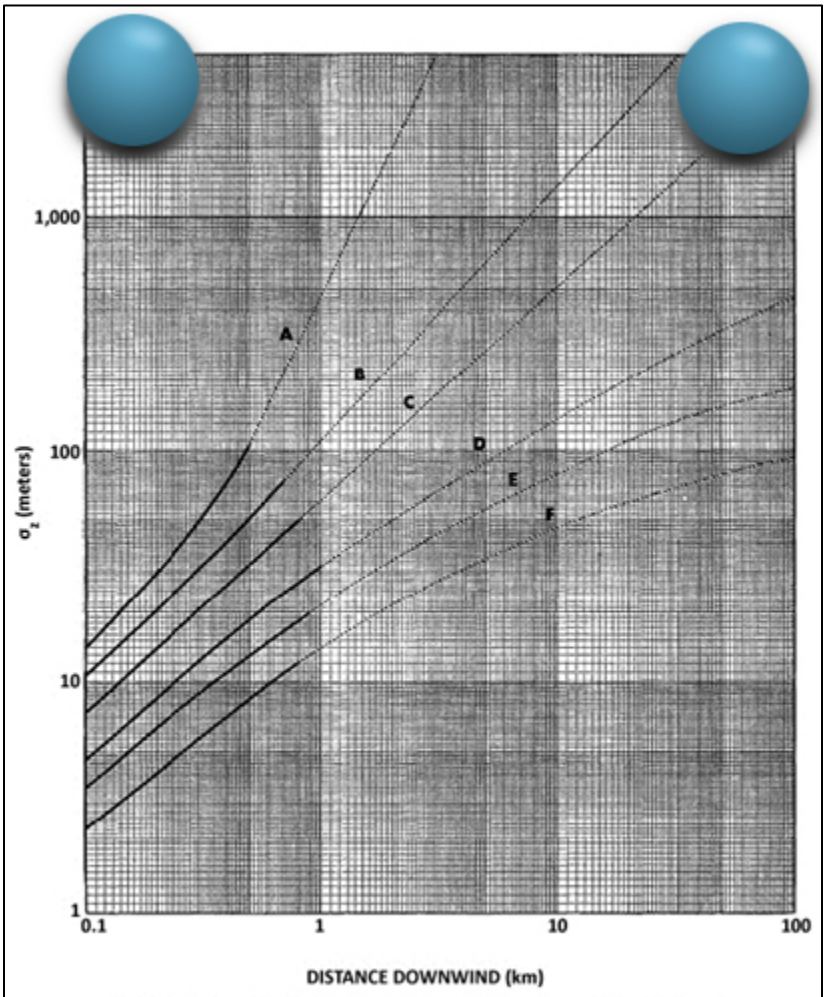

Figure 13-3. Vertical dispersion coefficient as a function of downwind distance from the source.

This table is used to estimate sigma sub z. The log log graph is read along the bottom out to a desired distance (in km) up to the appropriate stability class line, then left to the sigma sub z value in meters.