buildings, the algebraic sum of the pressures acting on opposite faces of each building surface shall be taken into account.

26.5 WIND HAZARD MAP

26.5.1 Basic Wind Speed

The basic wind speed, *V*, used in the determination of design wind loads on buildings and other structures shall be determined from Fig. 26.5-1 as follows, except as provided in Section 26.5.2 and 26.5.3:

For Risk Category II buildings and structures – use Fig. 26.5-1A.
For Risk Category III and IV buildings and structures – use Fig. 26.5-1B.
For Risk Category I buildings and structures - use Fig. 26.5-1C.

The wind shall be assumed to come from any horizontal direction. The basic wind speed shall be increased where records or experience indicate that the wind speeds are higher than those reflected in Fig. 26.5-1.

26.5.2 Special Wind Regions

Mountainous terrain, gorges, and special wind regions shown in Fig. 26.5-1 shall be examined for unusual wind conditions. The authority having jurisdiction shall, if necessary, adjust the values given in Fig. 26.5-1 to account for higher local wind speeds. Such adjustment shall be based on meteorological information and an estimate of the basic wind speed obtained in accordance with the provisions of Section 26.5.3.

26.5.3 Estimation of Basic Wind Speeds from Regional Climatic Data

In areas outside hurricane-prone regions, regional climatic data shall only be used in lieu of the basic wind speeds given in Fig. 26.5-1 when (1) approved extreme-value statistical-analysis procedures have been employed in reducing the data; and (2) the length of record, sampling error, averaging time, anemometer height, data quality, and terrain exposure of the anemometer have been taken into account. Reduction in basic wind speed below that of Fig. 26.5-1 shall be permitted.

In hurricane-prone regions, wind speeds derived from simulation techniques shall only be used in lieu of the basic wind speeds given in Fig. 26.5-1 when approved simulation and extreme value statistical analysis procedures are used. The use of regional wind speed data obtained from anemometers is not permitted to define the hurricane wind-speed risk along the Gulf and Atlantic coasts, the Caribbean, or Hawaii.

In areas outside hurricane-prone regions, when the basic wind speed is estimated from regional climatic data, the basic wind speed shall not be less than the wind speed associated with the specified mean recurrence interval, and the estimate shall be adjusted for equivalence to a 3-sec gust wind speed at 33 ft (10 m) above ground in Exposure C. The data analysis shall be performed in accordance with this chapter.

26.5.4 Limitation

Tornadoes have not been considered in developing the basic wind-speed distributions.

26.6 WIND DIRECTIONALITY

The wind directionality factor, K_d, shall be determined from Table 26.6-1. This directionality factor shall only be included in determining wind loads when the load combinations specified in Sections 2.3 and 2.4 are used for the design. The effect of wind directionality in determining wind loads in accordance with Chapter 31 shall be based on an analysis for wind speeds that conforms to the requirements of Section 26.5.3.

26.7 EXPOSURE

For each wind direction considered, the upwind exposure shall be based on ground surface roughness that is determined from natural topography, vegetation, and constructed facilities.

26.7.1 Wind Directions and Sectors

For each selected wind direction at which the wind loads are to be determined, the exposure of the building or structure shall be determined for the two upwind sectors extending 45º either side of the selected wind direction. The exposure in these two sectors shall be determined in accordance with Sections 26.7.2 and 26.7.3, and the exposure whose use would result in the highest wind loads shall be used to represent the winds from that direction.

26.7.2 Surface Roughness Categories

A ground Surface Roughness within each 45° sector shall be determined for a distance upwind of the site as defined in Section 26.7.3 from the categories defined in the following text, for the purpose of assigning an exposure category as defined in Section 26.7.3.