the net pressures on the windward and leeward surfaces of the parapet. The provisions guide the designer to the correct GC_p and velocity pressure to use for each surface, as illustrated in Fig. C29.7-1.

Interior walls that protrude through the roof, such as party walls and fire walls, should be designed as windward parapets for both MWFRS and components and cladding.

The internal pressure that may be present inside a parapet is highly dependent on the porosity of the parapet envelope. In other words, it depends on the likelihood of the wall surface materials to leak air pressure into the internal cavities of the parapet. For solid parapets, such as concrete or masonry, the internal pressure is zero because there is no internal cavity. Certain wall materials may be impervious to air leakage, and as such have little or no internal pressure or suction, so using the value of GC_{pi} for an enclosed building may be appropriate. However, certain materials and systems used to construct parapets containing cavities are more porous, thus justifying the use of the GC_{pi} values for partially enclosed buildings, or higher. Another factor in the internal pressure determination is whether the parapet cavity connects to the internal space of the building, allowing the building's internal pressure to propagate into the parapet. Selection of the appropriate internal pressure coefficient is left to the judgment of the design professional.

C29.9 MINIMUM DESIGN WIND LOADING

This section specifies a minimum wind load to be applied horizontally on the entire vertical projection of the building or other structure, as shown in Fig. C27.4-1. This load case is to be applied as a separate load case in addition to the normal load cases specified in other portions of this chapter.

REFERENCES

American Society of Civil Engineers (ASCE). (1961). "Wind forces on structures." *Trans. ASCE,* 126(2), 1124–1198.

American Society of Civil Engineers (ASCE). (1987). *Wind tunnel model studies of buildings and structures,* American Society of Civil Engineers, New York, Manual of Practice, No. 67.

Cook, N. J. (1990). *The designer's guide to wind loading of building structures, Part II.* Butterworths Publishers, London.

Davenport, A. G., Grimmond, C. S. B., Oke, T. R., and Wieringa, J. (2000). "Estimating the roughness of cities and sheltered country." *Preprint of the 12th AMS Conference on Applied Climatology*, 96–99.

Ginger, J. D., Reardon, G. F., and Langtree, B. A. (1998a). "Wind loads on fences and hoardings." In *Proceedings of the Australasian Structural Engineering Conference,* 983–990.

Ginger, J. D., Reardon, G. F., and Langtree, B. L. (1998b). "Wind loads on fences and hoardings." Cyclone Structural Testing Station, James Cook University.

Goel, R. K., and Chopra, A. K. (1997). "Period formulas for moment-resisting frame buildings." *J. Struct. Engrg.*, 123(11), 1454–1461.

Holmes, J. D. (1986). *Wind tunnel tests on free-standing walls at CSIRO*, CISRO Division of Building Research, Internal Report 86/47.

Hosoya, N., Cermak, J. E., and Steele, C. (2001). "A wind-tunnel study of a cubic rooftop ac unit on a low building." Americas Conference on Wind Engineering, American Association for Wind Engineering.

International Organization for Standardization (ISO). (1997). *Wind actions on structures,* ISO 4354.

Kopp, G. A., and Traczuk, G. (2008). "Wind loads on a roof-mounted cube," Boundary Layer Wind Tunnel Laboratory, University of Western Ontario, London, Ontario, Canada, BLWT-SS47-2007.

Krayer, W. R., and Marshall, R. D. (1992). "Gust factors applied to hurricane winds." *Bull. American Meteorological Soc.*, 73, 613–617.

Letchford, C. W. (1985). "Wind loads on free-standing walls." Department of Engineering Science, University of Oxford, Report OUEL 1599/85.

Letchford, C. W. (1989). "Wind loads and overturning moments on free standing walls." In *Proceedings of the 2nd Asia Pacific Symposium on Wind Engineering.*

Letchford, C. W. (2001). "Wind loads on rectangular signboards and hoardings." *J. Wind Engrg. Industrial Aerodynamics,* 89, 135–151.

Letchford, C. W., and Holmes, J. D. (1994). "Wind loads on free-standing walls in turbulent boundary layers." *J. Wind Engrg. Industrial Aerodynamics,* 51(1), 1–27.

Letchford, C. W., and Robertson, A. P. (1999). "Mean wind loading at the leading ends of free-standing walls." *J. Wind Engrg. Industrial Aerodynamics*, 79(1), 123–134.