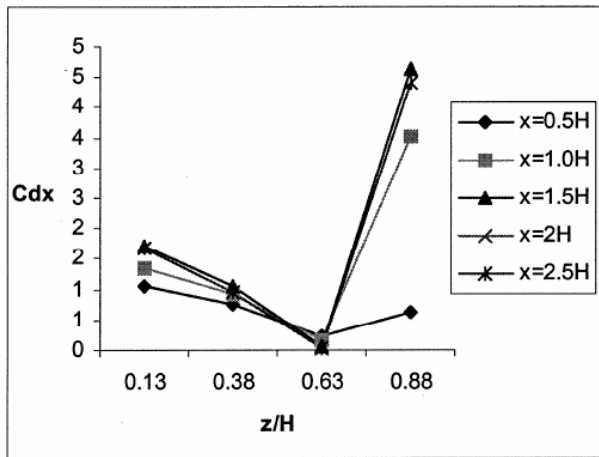


Teshome, E. J. and F. Haghigat, Zonal Models for Indoor Air Flow – A Critical Review, The International Journal of Ventilation, Vol. 3, No. 2, pp. 119-129, 2004.

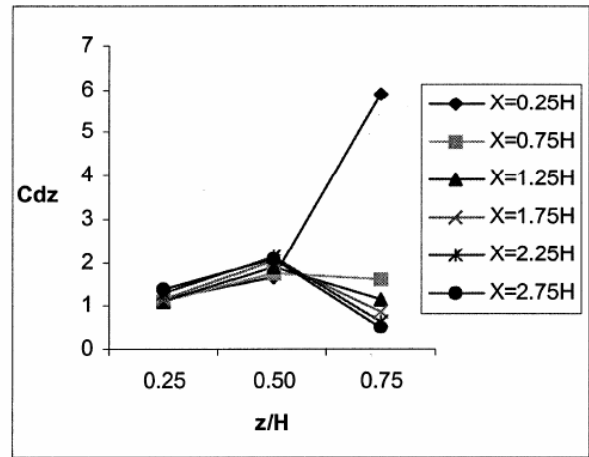
The test case is used as a geometry for the evaluation of a variable flow coefficient c_d in the power law zonal model

$$V = c_d (\Delta P)^{0.5}$$

It is shown that a zonal model can predict the air distribution if the flow coefficient is allowed to have a variation between 0 and 6 in the flow domain.



(a)



(b)

Values of the flow coefficient along four vertical sections (a) for horizontal flow c_{dx} and (b) c_{dz} for vertical flow.

The method has also been discussed in:

Teshome, E. J. and F. Haghigat, On the Validity of Zonal Model in Simulating Indoor Airflow, CIB World Building Congress 2004, Toronto 2004.