

Article Abstract

Title:	Experimental study of wind-induced pressures on buildings of various geometries
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Abstract:	This paper presents the experimental investigation of wind pressure distributions on models of typical plan shape buildings over an extended range of wind incidence angles of 0° to 180° at an interval of 15°. Two L-shaped and two T-shaped models of same plan area and height but having the different dimensions were tested in a closed circuit wind tunnel under boundary layer flow. The models were made from Perspex sheets at a geometrical scale of 1:300. Fluctuating values of wind pressures are measured at pressure points on all the sides of the models and mean, maximum, minimum and r.m.s. values of pressure coefficients were evaluated from pressure records. It is observed that plan shape and dimensions of models significantly affects the wind pressure distributions on different faces of the models. The location and magnitude of the measured peak pressure co-efficient vary considerably with wind direction. The influence of shifting the upstream block from edge of the downstream block to center of it, which transforms the L-shape into T-shape model, is also noticeable on the pressure coefficient distribution.
Keywords:	Wind pressure coefficients; L-shape and T-shape models; Wind tunnel testing; Wind incidence angle.