

TABLE C2
EXTERNAL PRESSURE COEFFICIENTS ($C_{p,e}$) FOR
MULTI-SPAN BUILDINGS—SAW-TOOTH ROOFS

Wind direction (θ) degrees	Surface reference (see Figure C2)								
	A	B	C	D	M	N	W	X	Y
0	0.7	-0.9	-0.9	-0.5, 0.2	-0.5, 0.5	-0.5, 0.3	-0.3, 0.5	-0.4	-0.2
180	-0.2	-0.2, 0.2	-0.3	-0.2, 0.2	-0.4	-0.4	-0.7	-0.3	0.7

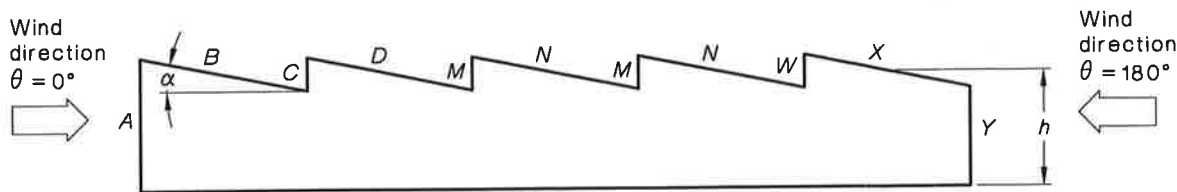


FIGURE C2 EXTERNAL PRESSURE COEFFICIENTS ($C_{p,e}$) FOR MULTI-SPAN BUILDINGS—SAW-TOOTH ROOFS

C3 BUILDINGS WITH CURVED ROOFS

For external pressure coefficients ($C_{p,e}$) of curved, arched or domed roofs with profiles approximating a circular arc, wind directions normal to the axis of the roof shall be obtained from Table C3.

When two values are listed, the roof shall be designed for both values. In these cases, roof surfaces may be subjected to either positive or negative values due to turbulence. Alternative combinations of external and internal pressures (see Clause 2.5) shall be considered, to obtain the most severe conditions for design.

All pressure coefficients shall be used with the value of wind speed applying at average roof height (h).

External pressure coefficients ($C_{p,e}$) for wind directions parallel to the axis (ridge) of arched roofs shall be obtained from Table 5.3(A).

The zero values provided for the windward quarter are alternative values for action effects, such as bending, which are sensitive to pressure distribution. (Turbulence and fluctuations in pressure will produce a range of values occurring at different times during a wind event.)

For arched roofs, the effect of breadth-to-span ratio shall be taken into account by multiplying all the coefficients in Table C3 by a factor of $(b/d)^{0.25}$, where b = breadth normal to the wind and d = span (see Figure C3). If $(b/d)^{0.25}$ is less than 1.0, it shall be taken as 1.0.

Table C3 provides external pressure coefficients for circular arc roofs with no substantial interference to the airflow over the roof. Where a ridge ventilator of a height at least 5% of the total height of the roof is present, the external pressure coefficient on the central half of the roof (T) shall be modified by adding +0.3; that is, the value of a negative coefficient (suction) is reduced by 0.3. Such reductions shall not be made for the wind direction along the axis of the roof, for which the ridge ventilator has little effect on the airflow and resulting external pressures.

All combinations of external pressure coefficients on U, T and D shall be checked.