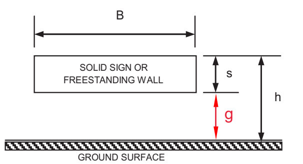
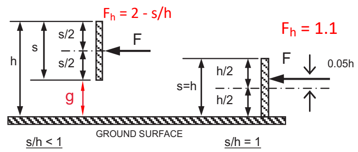
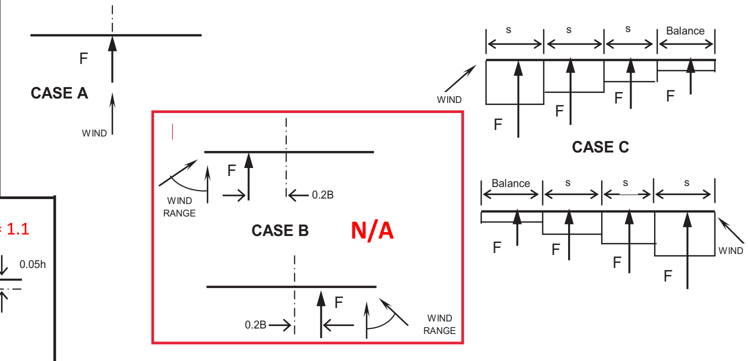
Solid Freestanding Walls & Solid Freestanding Signs



ELEVATION VIEW



CROSS-SECTION VIEW



PLAN VIEWS

C_f, CASE A ~~& CASE B~~ Case A for line posts away from ends & corners

Clearance Ratio, s/h	Aspect Ratio, B/s											
	≤ 0.05	0.1	0.2	0.5	1	2	4	5	10	20	30	≥ 45
1	1.80	1.70	1.65	1.55	1.45	1.40	1.35	1.35	1.30	1.30	1.30	1.30
0.9	1.85	1.75	1.70	1.60	1.55	1.50	1.45	1.45	1.40	1.40	1.40	1.40
0.7	1.90	1.85	1.75	1.70	1.65	1.60	1.60	1.55	1.55	1.55	1.55	1.55
0.5	1.95	1.85	1.80	1.75	1.75	1.70	1.70	1.70	1.70	1.70	1.70	1.75
0.3	1.95	1.90	1.85	1.80	1.80	1.80	1.80	1.80	1.80	1.85	1.85	1.85
0.2	1.95	1.90	1.85	1.80	1.80	1.80	1.80	1.80	1.85	1.90	1.90	1.95
≤ 0.16	1.95	1.90	1.85	1.85	1.80	1.80	1.85	1.85	1.85	1.90	1.90	1.95

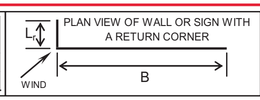
C_f, CASE C for posts near ends & corners

Region (horizontal distance from windward edge)	Aspect Ratio, B/s								
	2	3	4	5	6	7	8	9	10
0 to s	2.25	2.60	2.90	3.10*	3.30*	3.40*	3.55*	3.65*	3.75*
s to 2s	1.50	1.70	1.90	2.00	2.15	2.25	2.30	2.35	2.45
2s to 3s		1.15	1.30	1.45	1.55	1.65	1.70	1.75	1.85
3s to 10s			1.10	1.05	1.05	1.05	1.05	1.00	0.95

Region (horizontal distance from windward edge)	Aspect Ratio, B/s	
	13	≥ 45
0 to s	4.00*	4.30*
s to 2s	2.60	2.55
2s to 3s	2.00	1.95
3s to 4s	1.50	1.85
4s to 5s	1.35	1.85
5s to 10s	0.90	1.10
>10s	0.55	0.55

*Values shall be multiplied by the following reduction factor when a return corner is present:

L_r / s	Reduction Factor
0.3	0.90
1.0	0.75
≥ 2	0.60



Return Corner Reduction Factor, R_3 If not applicable, R_3 = 1.0

Notes:

1. The term "signs" in notes below also applies to "freestanding walls". and solid / mostly solid fences. (ε or ε' > 0.7)
2. Signs with openings comprising less than 30% of the gross area are classified as solid signs. Force coefficients for solid signs with openings shall be permitted to be multiplied by the reduction factor $(1 - (1 - \varepsilon)^{1.5})$. Inverted Fence Opening Reduction Factor, $R_1 = 1 / (1 - (1 - \varepsilon)^{1.5})$
3. To allow for both normal and oblique wind directions, the following cases shall be considered:
   For s/h < 1:
   CASE A: resultant force acts normal to the face of the sign through the geometric center.
   CASE B: resultant force acts normal to the face of the sign at a distance from the geometric center toward the windward edge equal to 0.2 times the average width of the sign. Case B not used for fencing
   For B/s ≥ 2, CASE C must also be considered:
   CASE C: resultant forces act normal to the face of the sign through the geometric centers of each region.
   For s/h = 1:
   The same cases as above except that the vertical locations of the resultant forces occur at a distance above the geometric center equal to 0.05 times the average height of the sign.
4. For CASE C where s/h > 0.8, force coefficients shall be multiplied by the reduction factor (1.8 - s/h).
5. Linear interpolation is permitted for values of s/h, B/s and L_r/s other than shown.
6. Notation:
   B: horizontal dimension of sign, in feet (meters);
   h: height of the sign, in feet (meters);
   s: vertical dimension of the sign, in feet (meters);
   ε: ratio of solid area to gross area;
   L_r: horizontal dimension of return corner, in feet (meters)

Force Height Adjustment Factor, F_h

For s/h = 1.0, F_h = 1.1

For s/h < 1.0, F_h = 2 - s/h

This provides equivalent results to raising the force application height.

For ε or ε' ≤ 0.7, F_h = 1.0

Case C Reduction Factor, R_2 for solid / mostly solid fencing / heavily iced open fencing / open fencing w/ windscreen. (ε or ε' > 0.7)