

AS 4055:2021 Wind loads for housing

Amendment No. 1

Revised text amendment

Publishing and Approval Dates

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Summary

This Amendment applies to the following elements:

- Clauses 1.5, 2.101 (new), 2.2, 2.3, 2.4, 2.5, 3.2.1, 3.2.2, 3.2.3, 3.3, A.2.3, A.3.2, A.3.5, A.4, A.4.1 (new), A.4.2 (new), A.5.3, A.5.4.4, A.5.4.5, A.6
- Tables 2.1(A), 2.1(B), 2.2, 2.4, 2.6.1(A), 2.6.1(B), 3.2.1, 3.2.2(A), 3.2.2(B), 5.2(B), 5.2(C), 5.2(D), 5.2(E), 5.2(F), 5.2(G), 5.2(H), 5.2(I), 5.2(J), 5.2(K), 5.2(L), 5.2(M)
- Figures 2.2, A.5.3
- Appendix D

Amendment Details

AS 4055:2021 is amended as follows. The amendments should be inserted in the locations as instructed.

Elements	Instruction/New text
CI 1.5	1 <i>Delete</i> "L, M, T = lower, middle and top third of hill, ridge or escarpment". 2 In notation entry "<i>L</i>", <i>delete</i> "length of a house; or lower part of a hill, ridge or escarpment, in metres", and <i>replace</i> with the following: length of a house in metres
C1 2.101 (new)	Before Clause 2.1, <i>add</i> the following 2.101 General For buildings that satisfy the limitations of Clause 1.1 and the geometric limitations in Clause 1.2, the procedure for determining wind loads on NCC Class 1 and 10a buildings shall be as follows: - Determine site wind classifications using Clause 2.2. - Link the site wind classification to roof and wall classifications using Clause 2.6. - Evaluate wind pressures corresponding to the roof and wall classifications using — - Sections 3, 4 and 5 of this document; or - link the classifications to other NCC referenced documents that present loads and pressures corresponding to the roof and wall classifications. For buildings that do not satisfy the limitations of Clause 1.1, the geometric limits in Clause 1.2, or have N/A values in Table 2.2, this Standard cannot be used to determine wind loads.

Elements	Instruction/New text
	NOTE 1: Refer to AS/NZS 1170.2 for evaluation of wind loads for buildings that are outside the scope, geometric limits or have N/A values in Table 2.2 of this Standard.
Tbl 2.1(A)	Table title, delete “B” and replace with “B1”.
Tbl 2.1(B)	Table title, after “Regions” add “B2”.
CI 2.2	1Delete Item (a) and replace with the following: Geographic wind region of the site as defined in Figure 2.2 (Regions A, B1, B2, C or D, as given in AS/NZS 1170.2). 2After final paragraph, add the following: NOTE: The site wind classifications presented in this Standard use whole numbers. No interpolation should be used in Table 2.2.

Fig 2.2Delete figure and replace with the following:



[SOURCE: AS/NZS 1170.2]

- NOTE 1 Regions are marked with the letters A, B1, B2, C and D.
- NOTE 2 Coastal region boundaries are smooth lines set in from a smoothed coastline by 50 km, 100 km, 150 km and 200 km.
- NOTE 3 Islands within 50 km of the coast are designated in the same region as the adjacent coast.

Figure 2.2 — Boundaries of Regions A, B1, B2, C and D

Tbl 2.2 Delete table, and replace with the following:

Table 2.2 — Site wind classification from wind region and site conditions

Wind region	TC	Topographic classification												
		T0	T0	T0	T1	T1	T1	T2	T2	T2	T3	T3	T4	T5
		FS	PS	NS	FS	PS	NS	FS	PS	NS	PS	NS	NS	NS
A	3	N1	N1	N1	N1	N2	N2	N2	N2	N2	N3	N3	N3	N4
	2.5	N1	N1	N2	N1	N2	N2	N2	N3	N3	N3	N3	N4	N4
	2	N1	N2	N2	N2	N2	N3	N2	N3	N3	N3	N3	N4	N4
	1	N2	N2	N3	N2	N3	N3	N3	N3	N3	N4	N4	N4	N5
B1	3	N2	N2	N3	N2	N3	N3	N3	N3	N4	N4	N4	N4	N5
	2.5	N2	N3	N3	N3	N3	N3	N3	N4	N4	N4	N4	N5	N5
	2	N2	N3	N3	N3	N3	N4	N3	N4	N4	N4	N5	N5	N6
	1	N3	N3	N4	N3	N4	N4	N4	N4	N5	N5	N5	N6	N6
B2	3	C1	C1	C1	C1	C1	C2	C1	C2	C2	C2	C2	C3	C3
	2.5	C1	C1	C1	C1	C2	C2	C2	C2	C2	C3	C3	C3	C4
	2	C1	C2	C2	C1	C2	C2	C2	C2	C3	C3	C3	C4	C4
	1	C1	C2	C2	C2	C2	C3	C2	C3	C3	C3	C4	C4	N/A
C	3	C1 (0-50)	C2 (0-15) C1 (15-50)	C2 (0-30) C1 (30-50)	C2 (0-5) C1 (5-50)	C2 (0-45) C1 (45-50)	C2 (0-50)	C2 (0-35) C1 (35-50)	C3 (0-10) C2 (10-50)	C3 (0-25) C2 (25-50)	C3 (0-35) C2 (35-50)	C3 (0-50)	C4 (0-15) C3 (15-50)	C4 (0-50)
	2.5	C1 (0-50)	C2 (0-35) C1 (35-50)	C2 (0-50)	C2 (0-30) C1 (30-50)	C2 (0-50)	C3 (0-20) C2 (20-50)	C2 (0-50)	C3 (0-30) C2 (30-50)	C3 (0-45) C2 (45-50)	C3 (0-50)	C4 (0-10) C3 (10-50)	C4 (0-40) C3 (40-50)	N/A (0-25) C4 (25-50)
	2	C2 (0-20) C1 (20-50)	C2 (0-50)	C2 (0-50)	C2 (0-50)	C3 (0-20) C2 (20-50)	C3 (0-35) C2 (35-50)	C3 (0-15) C2 (15-50)	C3 (0-50)	C3 (0-50)	C4 (0-15) C3 (15-50)	C4 (0-30) C3 (30-50)	N/A (0-10) C4 (10-50)	N/A (0-45) C4 (45-50)
	1	C2 (0-50)	C3 (0-20) C2 (20-50)	C3 (0-35) C2 (35-50)	C3 (0-15) C2 (15-50)	C3 (0-50)	C4 (0-5) C3 (5-50)	C3 (0-40) C2 (40-50)	C4 (0-15) C3 (15-50)	C4 (0-35) C3 (35-50)	C4 (0-45) C3 (45-50)	N/A (0-10) C4 (10-50)	N/A (0-40) C4 (40-50)	N/A (0-50)

Table 2.2 (continued)

D	3	C2 (0-35) C1 (35-50)	C3 (0-20) C2 (20-50)	C3 (0-30) C2 (30-50)	C3 (0-20) C2 (20-50)	C3 (0-40) C2 (40-50)	C4 (0-10) C3 (10-50)	C3 (0-35) C2 (35-50)	C4 (0-20) C3 (20-50)	C4 (0-30) C3 (30-50)	N/A (0-5) C4 (5-50)	N/A (0-15) C4 (15-50)	N/A (0-35) C4 (35-50)	N/A (0-50)
	2.5	C3 (0-10) C2 (10-50)	C3 (0-35) C2 (35-50)	C4 (0-5) C3 (5-50)	C3 (0-30) C2 (30-50)	C4 (0-15) C3 (15-50)	C4 (0-25) C3 (25-50)	C4 (0-10) C3 (10-50)	C4 (0-30) C3 (30-50)	N/A (0-10) C4 (10-50)	N/A (0-20) C4 (20-50)	N/A (0-30) C4 (30-50)	N/A (0-45) C4 (45-50)	N/A (0-50)
	2	C3 (0-25) C2 (25-50)	C4 (0-5) C3 (5-50)	C4 (0-15) C3 (15-50)	C4 (0-5) C3 (5-50)	C4 (0-25) C3 (25-50)	N/A (0-5) C4 (5-50)	C4 (0-20) C3 (20-50)	N/A (0-15) C4 (15-50)	N/A (0-25) C4 (25-50)	N/A (0-30) C4 (30-50)	N/A (0-40) C4 (40-50)	N/A (0-50)	N/A (0-50)
	1	C4 (0-5) C3 (5-50)	C4 (0-25) C3 (25-50)	N/A (0-5) C4 (5-50)	C4 (0-25) C3 (25-50)	N/A (0-15) C4 (15-50)	N/A (0-25) C4 (25-50)	N/A (0-10) C4 (10-50)	N/A (0-30) C4 (30-50)	N/A (0-40) C4 (40-50)	N/A (0-50)	N/A (0-50)	N/A (0-50)	N/A (0-50)

Key

FS = Full shielding

PS = Partial shielding

NS = No shielding

TC = Terrain Category

N/A = Not applicable, that is, beyond the scope of this Standard (use AS/NZS 1170.2)

NOTE For wind Regions C and D, the numbers in brackets indicate the distance in km from the outer boundary (smoothed coastline or higher wind region), that the wind classification applies to. For example, C3 (0 to 10) C2 (10 to 50) means that houses within 0 to 10 km of the outer boundary (smoothed coastline or higher wind region) have a C3 wind classification and houses between 10 and 50 km from the outer boundary have a C2 wind classification.

CI 2.3 1 Delete NOTE 5 text.2 Delete NOTE 6 text and *replace* with the following:

NOTE 5: Terrain categories are the same as those in AS/NZS 1170.2. Terrain Category 4, as defined in AS/NZS 1170.2, is not applicable to this document.

3 Delete NOTE 7 text and *replace* with the following:

NOTE 6: Vegetation is considered differently for terrain categories in this clause and for shielding classes in Clause 2.5.

CI 2.4 Sixth paragraph, *delete* "(T)".**Tbl 2.4** Table header, *delete* "(L)", "(M)" and "(T)".**CI 2.5** 1 NOTE 1, *delete* "B" and *replace* with "B1".2 Second paragraph, after "Regions" *add* "B2".3 List item (a), *delete* first paragraph and *replace* with the following:

Full shielding (FS) — Full shielding shall apply where at least two rows of houses or similar-sized permanent obstructions are within 100 m of the site and surround the house being considered. In Regions A and B1, permanent, closely spaced trees with a height greater than the proposed house and extending equivalent to three rows of houses shall be determined to provide full shielding. Full shielding shall be only for houses within Topographic Classes T0, T1 and T2.

- 4 List item (b), NOTE 4, *delete* “B” and *replace* with “B1”.

Tbl 2.6.1(A) Table title, *delete* “B” and *replace* with “B1”.

Tbl 2.6.1(B) Table title, after “Regions”, *add* “B2,”.

Cl 3.2.1 First paragraph, *delete* “B” and *replace* with “B1”.

Tbl 3.2.1 Table title, *delete* “B” and *replace* with “B1,”.

Cl 3.2.2 First paragraph, after “Regions” *add* “B2,”.

Tbl 3.2.2(A) Table title, after “Regions”, *add* “B2,”.

Tbl 3.2.2(B) Table title, after “Regions”, *add* “B2,”.

Cl 3.2.3 After clause text, *add* the following:

NOTE: See Clause A.4.1 for further guidance on pressures on PV systems on roofs.

Cl 3.3 Formula variable list, third row, *delete* “ Q_u ” and *replace* with “ q_u ”.

Tbl 5.2(B) *Delete* table and *replace* with the following:

Table 5.2(B) — Hip roofs and side wind on gable roofs — Pressure (kPa) on area of elevation — Single storey or upper floor of two storeys

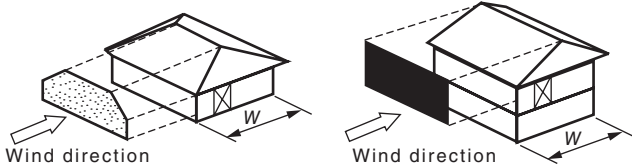
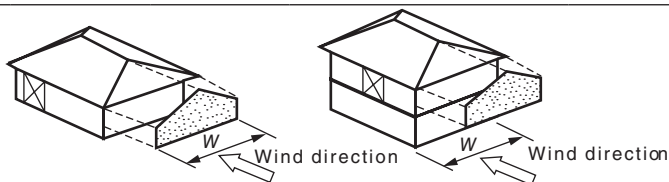
Single storey or upper floor of two storeys — 2.4 m storey, 0.3 m floor								
Width (m)	Roof pitch (degrees)							
	0	5	10	15	20	25	30	35
 N1: Wind on side								
4	0.61	0.53	0.48	0.45	0.49	0.56	0.56	0.57
5	0.61	0.52	0.46	0.44	0.49	0.56	0.55	0.57
6	0.61	0.50	0.43	0.44	0.50	0.56	0.55	0.57
7	0.61	0.49	0.41	0.44	0.50	0.56	0.55	0.58
8	0.61	0.47	0.39	0.44	0.51	0.56	0.55	0.58
9	0.61	0.46	0.37	0.44	0.51	0.56	0.55	0.58
10	0.61	0.45	0.35	0.43	0.51	0.56	0.55	0.58
11	0.61	0.44	0.34	0.43	0.51	0.55	0.55	0.58
12	0.61	0.42	0.32	0.42	0.50	0.55	0.54	0.58
13	0.61	0.41	0.31	0.41	0.50	0.55	0.54	0.58
14	0.61	0.40	0.30	0.41	0.50	0.54	0.54	0.58
15	0.61	0.39	0.29	0.40	0.49	0.54	0.54	0.58
16	0.61	0.39	0.28	0.40	0.49	0.54	0.53	0.57

Table 5.2(B) (continued)



N1: Wind on end

4	0.67	0.62	0.59	0.56	0.58	0.60	0.59	0.60
5	0.67	0.61	0.57	0.55	0.58	0.59	0.58	0.60
6	0.67	0.60	0.55	0.54	0.58	0.59	0.58	0.60
7	0.67	0.59	0.53	0.54	0.57	0.59	0.58	0.60
8	0.67	0.58	0.52	0.54	0.57	0.59	0.58	0.60
9	0.67	0.57	0.50	0.53	0.57	0.59	0.58	0.60
10	0.67	0.56	0.49	0.53	0.57	0.58	0.57	0.60
11	0.67	0.55	0.47	0.52	0.56	0.58	0.57	0.60
12	0.67	0.55	0.46	0.51	0.56	0.58	0.57	0.60
13	0.67	0.54	0.45	0.50	0.56	0.57	0.56	0.59
14	0.67	0.53	0.44	0.50	0.55	0.57	0.56	0.59
15	0.67	0.52	0.43	0.49	0.55	0.57	0.56	0.59
16	0.67	0.52	0.42	0.48	0.54	0.56	0.56	0.59

Tbl 5.2(C) Delete table and replace with the following:

Table 5.2(C) — Hip roofs and side wind on gable roofs — Pressure (kPa) on area of elevation — Lower storey of two storeys

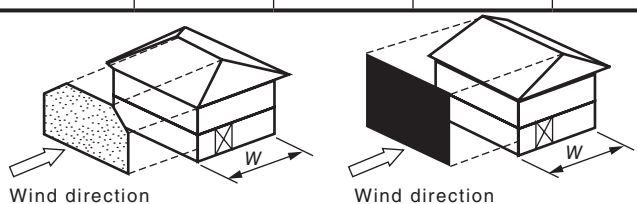
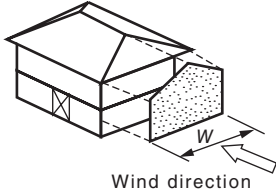
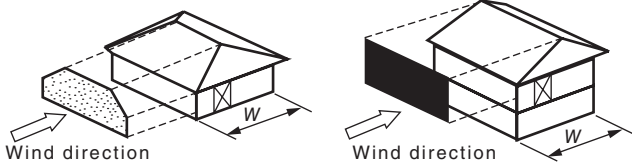
Lower storey of two storeys — 2.4 m storey, 0.3 m floor								
Width (m)	Roof pitch (degrees)							
	0	5	10	15	20	25	30	35
								
N1: Wind on side								
4	0.61	0.58	0.56	0.54	0.54	0.60	0.62	0.61
5	0.61	0.58	0.55	0.53	0.53	0.59	0.61	0.60
6	0.61	0.57	0.54	0.52	0.52	0.59	0.60	0.59
7	0.61	0.57	0.53	0.51	0.52	0.59	0.59	0.59
8	0.61	0.56	0.53	0.50	0.52	0.58	0.58	0.59
9	0.61	0.55	0.52	0.49	0.52	0.58	0.58	0.59
10	0.61	0.55	0.51	0.48	0.52	0.58	0.57	0.59
11	0.61	0.54	0.50	0.48	0.52	0.58	0.57	0.59
12	0.61	0.54	0.49	0.48	0.52	0.58	0.57	0.59
13	0.61	0.53	0.48	0.48	0.52	0.58	0.57	0.59

Table 5.2(C) (continued)

14	0.61	0.53	0.47	0.48	0.52	0.58	0.57	0.59
15	0.61	0.52	0.46	0.48	0.53	0.58	0.57	0.59
16	0.61	0.52	0.45	0.48	0.53	0.58	0.57	0.59
								
N1: Wind on end								
4	0.67	0.65	0.64	0.63	0.63	0.63	0.64	0.63
5	0.67	0.65	0.63	0.62	0.62	0.63	0.63	0.63
6	0.67	0.64	0.63	0.61	0.62	0.63	0.63	0.63
7	0.67	0.64	0.62	0.61	0.62	0.63	0.62	0.63
8	0.67	0.64	0.61	0.60	0.62	0.63	0.62	0.63
9	0.67	0.63	0.61	0.60	0.62	0.62	0.62	0.63
10	0.67	0.63	0.60	0.60	0.62	0.62	0.62	0.63
11	0.67	0.63	0.59	0.60	0.62	0.62	0.61	0.62
12	0.67	0.62	0.59	0.60	0.61	0.62	0.61	0.62
13	0.67	0.62	0.58	0.59	0.61	0.62	0.61	0.62
14	0.67	0.62	0.57	0.59	0.61	0.62	0.61	0.62
15	0.67	0.61	0.57	0.59	0.61	0.61	0.61	0.62
16	0.67	0.61	0.56	0.58	0.61	0.61	0.60	0.62

Tbl 5.2(D) Delete table and replace with the following:

Table 5.2(D) — Hip roofs and side wind on gable roofs — Pressure (kPa) on area of elevation — Single storey or upper floor of two storeys

Single storey or upper floor of two storeys — 2.4 m storey, 0.3 m floor								
Width (m)	Roof pitch (degrees)							
	0	5	10	15	20	25	30	35
								
N2: Wind on side								
4	0.84	0.74	0.67	0.63	0.68	0.77	0.77	0.79
5	0.84	0.71	0.64	0.60	0.68	0.77	0.76	0.79
6	0.84	0.69	0.60	0.60	0.69	0.77	0.76	0.79
7	0.84	0.67	0.57	0.61	0.70	0.77	0.76	0.80
8	0.84	0.65	0.54	0.61	0.70	0.77	0.76	0.80
9	0.84	0.64	0.51	0.61	0.71	0.77	0.76	0.81
10	0.84	0.62	0.49	0.60	0.71	0.77	0.76	0.81