

Measured holding force of a single APAK 20.0 snowguard : **0.31** [kN]

D: distance between snowguards' rows on the PV array surface (= module width for landscape/horizontal configurations, or module lenght for portrait/vertical configurations) : **1.76** [m]

Number of APAK 20.0 snowguards per linear meter of horizontal or landscape modules

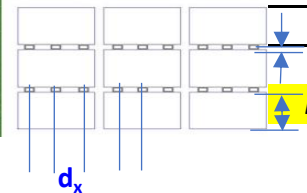
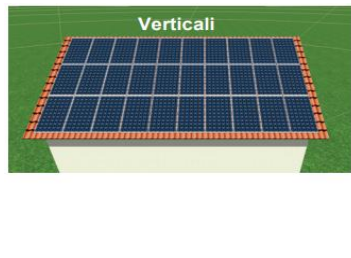
Snow height on the ground [cm]				Snow load		Roof pitch in degrees [°]																							
Fresh	Settled	Old	Wet	N/m ²	kN/m ²	5	10	15	20	25	30	35	40	45	50	55	60												
50	25	14	13	500	0.5	0.08	3	0.15	3	0.22	3	0.28	3	0.34	3	0.38	3	0.41	3	0.43	3	0.44	3	0.43	3	0.41	3	0.38	3
75	38	21	19	750	0.8	0.11	3	0.23	3	0.33	3	0.42	3	0.51	3	0.57	3	0.62	3	0.65	3	0.66	3	0.65	3	0.62	3	0.57	3
100	50	29	25	1000	1.0	0.15	3	0.30	3	0.44	3	0.57	3	0.67	3	0.76	3	0.83	3	0.87	3	0.88	3	0.87	3	0.83	3	0.76	3
125	63	36	31	1250	1.3	0.19	3	0.38	3	0.55	3	0.71	3	0.84	3	0.95	4	1.03	4	1.08	4	1.10	4	1.08	4	1.03	4	0.95	4
150	75	43	38	1500	1.5	0.23	3	0.45	3	0.66	3	0.85	3	1.01	4	1.14	4	1.24	5	1.30	5	1.32	5	1.30	5	1.24	5	1.14	4
175	88	50	44	1750	1.8	0.27	3	0.53	3	0.77	3	0.99	4	1.18	4	1.33	5	1.45	5	1.52	5	1.54	5	1.52	5	1.45	5	1.33	5
200	100	57	50	2000	2.0	0.31	3	0.60	3	0.88	3	1.13	4	1.35	5	1.52	5	1.65	6	1.73	6	1.76	6	1.73	6	1.65	6	1.52	5
225	113	64	56	2250	2.3	0.34	3	0.68	3	0.99	4	1.27	5	1.52	5	1.71	6	1.86	7	1.95	7	1.98	7	1.95	7	1.86	7	1.71	6
250	125	71	63	2500	2.5	0.38	3	0.75	3	1.10	4	1.41	5	1.69	6	1.91	7	2.07	7	2.17	7	2.20	NO	2.17	7	2.07	7	1.91	7
275	138	79	69	2750	2.8	0.42	3	0.83	3	1.21	4	1.56	6	1.85	6	2.10	7	2.27	NO	2.38	NO	2.42	NO	2.38	NO	2.27	NO	2.10	7
300	150	86	75	3000	3.0	0.46	3	0.90	3	1.32	5	1.70	6	2.02	7	2.29	NO	2.48	NO	2.60	NO	2.64	NO	2.60	NO	2.48	NO	2.29	NO
325	163	93	81	3250	3.3	0.50	3	0.98	4	1.43	5	1.84	6	2.19	NO	2.48	NO	2.69	NO	2.82	NO	2.86	NO	2.82	NO	2.69	NO	2.48	NO
350	175	100	88	3500	3.5	0.53	3	1.05	4	1.54	5	1.98	7	2.36	NO	2.67	NO	2.89	NO	3.03	NO	3.08	NO	3.03	NO	2.89	NO	2.67	NO
375	188	107	94	3750	3.8	0.57	3	1.13	4	1.65	6	2.12	7	2.53	NO	2.86	NO	3.10	NO	3.25	NO	3.30	NO	3.25	NO	3.10	NO	2.86	NO
400	200	114	100	4000	4.0	0.61	3	1.20	4	1.76	6	2.26	NO	2.70	NO	3.05	NO	3.31	NO	3.47	NO	3.52	NO	3.47	NO	3.31	NO	3.05	NO
425	213	121	106	4250	4.3	0.65	3	1.28	5	1.87	7	2.40	NO	2.87	NO	3.24	NO	3.51	NO	3.68	NO	3.74	NO	3.68	NO	3.51	NO	3.24	NO
450	225	129	113	4500	4.5	0.69	3	1.35	5	1.98	7	2.55	NO	3.03	NO	3.43	NO	3.72	NO	3.90	NO	3.96	NO	3.90	NO	3.72	NO	3.43	NO
475	238	136	119	4750	4.8	0.73	3	1.43	5	2.09	7	2.69	NO	3.20	NO	3.62	NO	3.93	NO	4.12	NO	4.18	NO	4.12	NO	3.93	NO	3.62	NO
500	250	143	125	5000	5.0	0.76	3	1.50	5	2.20	NO	2.83	NO	3.37	NO	3.81	NO	4.13	NO	4.33	NO	4.40	NO	4.33	NO	4.13	NO	3.81	NO
525	263	150	131	5250	5.3	0.80	3	1.58	6	2.31	NO	2.97	NO	3.54	NO	4.00	NO	4.34	NO	4.55	NO	4.62	NO	4.55	NO	4.34	NO	4.00	NO
550	275	157	138	5500	5.5	0.84	3	1.66	6	2.42	NO	3.11	NO	3.71	NO	4.19	NO	4.55	NO	4.77	NO	4.84	NO	4.77	NO	4.55	NO	4.19	NO
575	288	164	144	5750	5.8	0.88	3	1.73	6	2.53	NO	3.25	NO	3.88	NO	4.38	NO	4.75	NO	4.98	NO	5.06	NO	4.98	NO	4.75	NO	4.38	NO
600	300	171	150	6000	6.0	0.92	3	1.81	6	2.64	NO	3.39	NO	4.04	NO	4.57	NO	4.96	NO	5.20	NO	5.28	NO	5.20	NO	4.96	NO	4.57	NO
625	313	179	156	6250	6.3	0.96	4	1.88	7	2.75	NO	3.54	NO	4.21	NO	4.76	NO	5.17	NO	5.42	NO	5.50	NO	5.42	NO	5.17	NO	4.76	NO
650	325	186	163	6500	6.5	0.99	4	1.96	7	2.86	NO	3.68	NO	4.38	NO	4.95	NO	5.38	NO	5.63	NO	5.72	NO	5.63	NO	5.38	NO	4.95	NO
675	338	193	169	6750	6.8	1.03	4	2.03	7	2.97	NO	3.82	NO	4.55	NO	5.14	NO	5.58	NO	5.85	NO	5.94	NO	5.85	NO	5.58	NO	5.14	NO

Resulting snow load on snowguards in kN, depending on snow load in kN/m² and roof pitch, according to EN 1991-1-3, cl. 6.4

Color coding - n. of APAK snowguards per linear meter in the horizontal direction:

3	4	5	6	7	NO
50.0	33.3	25.0	20.0	16.7	Snowguards not effective

Resulting distance d_x between snowguards [cm]:



A: Distance between two adjacent PV modules' edges **20.0 mm**
INPUT: maximum distance in the horizontal plan between rows of snowguards or between the first row of hooks from top and the ridge

