

OUTPUT BALOK INDUK

TABLE: Element Forces - Frames										
Frame	Station	OutputCase	CaseType	StepType	P	V2	V3	T	M2	M3
Text	m	Text	Text	Text	Kgf	Kgf	Kgf	Kgf-m	Kgf-m	Kgf-m
59	0	ENVELOPE	Combination	Max	102,26	10590,53	24,32	13544,46	19,05	56525,5
59	0,38889	ENVELOPE	Combination	Max	102,26	11088,76	24,32	13544,46	9,59	52325,3
59	0,77778	ENVELOPE	Combination	Max	102,26	11586,98	24,32	13544,46	0,23	47939,18
59	1,16667	ENVELOPE	Combination	Max	102,26	12085,21	24,32	13544,46	9,32	43373,88
59	1,16667	ENVELOPE	Combination	Max	14,41	12070,92	4,31	12224,98	9,08	43327,04
59	1,55556	ENVELOPE	Combination	Max	14,41	12569,15	4,31	12224,98	9,34	38639,72
59	1,94444	ENVELOPE	Combination	Max	14,41	13067,37	4,31	12224,98	9,68	35417,23
59	2,33333	ENVELOPE	Combination	Max	14,41	13565,6	4,31	12224,98	10,31	31930,55
59	2,33333	ENVELOPE	Combination	Max	104,6	13936,46	26,73	11079,79	10,97	31886,22
59	2,72222	ENVELOPE	Combination	Max	104,6	14434,68	26,73	11079,79	0,61	27795,95
59	3,11111	ENVELOPE	Combination	Max	104,6	14932,91	26,73	11079,79	9,83	23407,46
59	3,5	ENVELOPE	Combination	Max	104,6	15431,13	26,73	11079,79	20,22	18920,16
59	3,5	ENVELOPE	Combination	Max	102,28	25832,22	27,31	2596,8	20,95	20708,9
59	3,88889	ENVELOPE	Combination	Max	102,28	26666,66	27,31	2596,8	10,33	18900,9
59	4,27778	ENVELOPE	Combination	Max	102,28	27501,1	27,31	2596,8	0,44	23446,02
59	4,66667	ENVELOPE	Combination	Max	102,28	28335,54	27,31	2596,8	10,92	27701,77
59	4,66667	ENVELOPE	Combination	Max	13,64	29733,48	4,77	2940,48	11,36	27749,9
59	5,05556	ENVELOPE	Combination	Max	13,64	30567,92	4,77	2940,48	10,43	31521,94
59	5,44444	ENVELOPE	Combination	Max	13,64	31402,36	4,77	2940,48	9,53	35066,32
59	5,83333	ENVELOPE	Combination	Max	13,64	32236,8	4,77	2940,48	8,81	40134,13
59	5,83333	ENVELOPE	Combination	Max	104,83	33492,27	25,43	3448,54	9,88	40183,56
59	6,22222	ENVELOPE	Combination	Max	104,83	34326,71	25,43	3448,54	0,13	45155,45
59	6,61111	ENVELOPE	Combination	Max	104,83	35161,15	25,43	3448,54	9,9	49943,1
59	7	ENVELOPE	Combination	Max	104,83	35995,59	25,43	3448,54	19,79	54541,7
59	0	ENVELOPE	Combination	Min	-102,26	-34972,9	-24,32	-3471,87	-19,05	-89696,06
59	0,38889	ENVELOPE	Combination	Min	-102,26	-34138,47	-24,32	-3471,87	-9,59	-76272,96
59	0,77778	ENVELOPE	Combination	Min	-102,26	-33304,03	-24,32	-3471,87	-0,23	-63182,19
59	1,16667	ENVELOPE	Combination	Min	-102,26	-32469,59	-24,32	-3471,87	-9,32	-50430,5
59	1,16667	ENVELOPE	Combination	Min	-14,41	-31224,17	-4,31	-3126,43	-9,08	-50273,13
59	1,55556	ENVELOPE	Combination	Min	-14,41	-30389,73	-4,31	-3126,43	-9,34	-38396,46
59	1,94444	ENVELOPE	Combination	Min	-14,41	-29555,29	-4,31	-3126,43	-9,68	-28502,86
59	2,33333	ENVELOPE	Combination	Min	-14,41	-28720,86	-4,31	-3126,43	-10,31	-18863,35
59	2,33333	ENVELOPE	Combination	Min	-104,6	-27433,85	-26,73	-2932,94	-10,97	-18743,66
59	2,72222	ENVELOPE	Combination	Min	-104,6	-26599,41	-26,73	-2932,94	-0,61	-9663,53
59	3,11111	ENVELOPE	Combination	Min	-104,6	-25764,97	-26,73	-2932,94	-9,83	-803,44
59	3,5	ENVELOPE	Combination	Min	-104,6	-24930,53	-26,73	-2932,94	-20,22	7637,21
59	3,5	ENVELOPE	Combination	Min	-102,28	-16036,07	-27,31	-9415,86	-20,95	6179,3
59	3,88889	ENVELOPE	Combination	Min	-102,28	-15537,84	-27,31	-9415,86	-10,33	3918,56

59	4,27778	ENVELOPE	Combination	Min	-102,28	-15039,62	-27,31	-9415,86	-0,44	-5213,56
59	4,66667	ENVELOPE	Combination	Min	-102,28	-14541,39	-27,31	-9415,86	-10,92	-14574,58
59	4,66667	ENVELOPE	Combination	Min	-13,64	-14384,17	-4,77	-10727,18	-11,36	-14701,37
59	5,05556	ENVELOPE	Combination	Min	-13,64	-13885,95	-4,77	-10727,18	-10,43	-24701,71
59	5,44444	ENVELOPE	Combination	Min	-13,64	-13387,72	-4,77	-10727,18	-9,53	-34992,66
59	5,83333	ENVELOPE	Combination	Min	-13,64	-12889,5	-4,77	-10727,18	-8,81	-47325,29
59	5,83333	ENVELOPE	Combination	Min	-104,83	-13092,72	-25,43	-12396,76	-9,88	-47493,89
59	6,22222	ENVELOPE	Combination	Min	-104,83	-12594,5	-25,43	-12396,76	-0,13	-60658,07
59	6,61111	ENVELOPE	Combination	Min	-104,83	-12096,27	-25,43	-12396,76	-9,9	-74156,26
59	7	ENVELOPE	Combination	Min	-104,83	-11598,05	-25,43	-12396,76	-19,79	-87983,67
60	0	ENVELOPE	Combination	Max	101,31	10117,37	24,67	12336,2	19,24	51301,51
60	0,38889	ENVELOPE	Combination	Max	101,31	10615,6	24,67	12336,2	9,65	47281,21
60	0,77778	ENVELOPE	Combination	Max	101,31	11113,82	24,67	12336,2	0,14	43073,15
60	1,16667	ENVELOPE	Combination	Max	101,31	11612,05	24,67	12336,2	9,54	38683,11
60	1,16667	ENVELOPE	Combination	Max	14,05	11432,45	4,34	10953,01	9,51	38643,52
60	1,55556	ENVELOPE	Combination	Max	14,05	11930,67	4,34	10953,01	9,48	34151,18
60	1,94444	ENVELOPE	Combination	Max	14,05	12428,9	4,34	10953,01	9,59	30810,03
60	2,33333	ENVELOPE	Combination	Max	14,05	12927,12	4,34	10953,01	10,24	27534,42
60	2,33333	ENVELOPE	Combination	Max	103,73	13171,58	26,14	9862,39	10,6	27493,89
60	2,72222	ENVELOPE	Combination	Max	103,73	13669,8	26,14	9862,39	0,49	23688,71
60	3,11111	ENVELOPE	Combination	Max	103,73	14168,03	26,14	9862,39	9,74	19585,86
60	3,5	ENVELOPE	Combination	Max	103,73	14666,25	26,14	9862,39	19,9	17363,05
60	3,5	ENVELOPE	Combination	Max	102,4	24155,3	26,37	2460,49	20,23	17468,65
60	3,88889	ENVELOPE	Combination	Max	102,4	24989,74	26,37	2460,49	9,98	19348,77
60	4,27778	ENVELOPE	Combination	Max	102,4	25824,18	26,37	2460,49	0,44	23560,54
60	4,66667	ENVELOPE	Combination	Max	102,4	26658,62	26,37	2460,49	10,54	27480,03
60	4,66667	ENVELOPE	Combination	Max	13,14	27973,5	4,67	2747,54	11,02	27523,81
60	5,05556	ENVELOPE	Combination	Max	13,14	28807,94	4,67	2747,54	10,09	30956,08
60	5,44444	ENVELOPE	Combination	Max	13,14	29642,38	4,67	2747,54	9,18	34414,83
60	5,83333	ENVELOPE	Combination	Max	13,14	30476,82	4,67	2747,54	8,71	39062,09
60	5,83333	ENVELOPE	Combination	Max	103,96	31693,36	24,52	3233,23	9,52	39105,68
60	6,22222	ENVELOPE	Combination	Max	103,96	32527,8	24,52	3233,23	0,14	43653,4
60	6,61111	ENVELOPE	Combination	Max	103,96	33362,24	24,52	3233,23	9,55	48016,88
60	7	ENVELOPE	Combination	Max	103,96	34196,68	24,52	3233,23	19,08	52191,37
60	0	ENVELOPE	Combination	Min	-101,31	-33919,27	-24,67	-3442,35	-19,24	-85084,14
60	0,38889	ENVELOPE	Combination	Min	-101,31	-33084,83	-24,67	-3442,35	-9,65	-72066,68
60	0,77778	ENVELOPE	Combination	Min	-101,31	-32250,39	-24,67	-3442,35	-0,14	-59379,71
60	1,16667	ENVELOPE	Combination	Min	-101,31	-31415,95	-24,67	-3442,35	-9,54	-47029,02
60	1,16667	ENVELOPE	Combination	Min	-14,05	-30211,6	-4,34	-3192,87	-9,51	-46873,47
60	1,55556	ENVELOPE	Combination	Min	-14,05	-29377,16	-4,34	-3192,87	-9,48	-35337,26
60	1,94444	ENVELOPE	Combination	Min	-14,05	-28542,72	-4,34	-3192,87	-9,59	-25470,49
60	2,33333	ENVELOPE	Combination	Min	-14,05	-27708,29	-4,34	-3192,87	-10,24	-16187,52
60	2,33333	ENVELOPE	Combination	Min	-103,73	-26464,51	-26,14	-3020,89	-10,6	-16071,95
60	2,72222	ENVELOPE	Combination	Min	-103,73	-25630,07	-26,14	-3020,89	-0,49	-7356,42

60	3,11111	ENVELOPE	Combination	Min	-103,73	-24795,63	-26,14	-3020,89	-9,74	1138,51
60	3,5	ENVELOPE	Combination	Min	-103,73	-23961,2	-26,14	-3020,89	-19,9	7235,15
60	3,5	ENVELOPE	Combination	Min	-102,4	-14970,57	-26,37	-9353,92	-20,23	7112,71
60	3,88889	ENVELOPE	Combination	Min	-102,4	-14472,34	-26,37	-9353,92	-9,98	1401,63
60	4,27778	ENVELOPE	Combination	Min	-102,4	-13974,12	-26,37	-9353,92	-0,44	-7159,37
60	4,66667	ENVELOPE	Combination	Min	-102,4	-13475,89	-26,37	-9353,92	-10,54	-15946,35
60	4,66667	ENVELOPE	Combination	Min	-13,14	-13302,37	-4,67	-10556,18	-11,02	-16064,6
60	5,05556	ENVELOPE	Combination	Min	-13,14	-12804,15	-4,67	-10556,18	-10,09	-25461,42
60	5,44444	ENVELOPE	Combination	Min	-13,14	-12305,92	-4,67	-10556,18	-9,18	-35403
60	5,83333	ENVELOPE	Combination	Min	-13,14	-11807,7	-4,67	-10556,18	-8,71	-47051,34
60	5,83333	ENVELOPE	Combination	Min	-103,96	-12002,8	-24,52	-12165,13	-9,52	-47210,24
60	6,22222	ENVELOPE	Combination	Min	-103,96	-11504,57	-24,52	-12165,13	-0,14	-59674,53
60	6,61111	ENVELOPE	Combination	Min	-103,96	-11006,35	-24,52	-12165,13	-9,55	-72472,84
60	7	ENVELOPE	Combination	Min	-103,96	-10508,12	-24,52	-12165,13	-19,08	-85600,43
61	0	ENVELOPE	Combination	Max	101,99	10268,32	23,76	12119,56	18,53	51781,03
61	0,38889	ENVELOPE	Combination	Max	101,99	10766,54	23,76	12119,56	9,29	47702
61	0,77778	ENVELOPE	Combination	Max	101,99	11264,77	23,76	12119,56	0,14	43435,15
61	1,16667	ENVELOPE	Combination	Max	101,99	11762,99	23,76	12119,56	9,19	38986,14
61	1,16667	ENVELOPE	Combination	Max	13,56	11583,6	4,42	10769,78	9,19	38945,12
61	1,55556	ENVELOPE	Combination	Max	13,56	12081,83	4,42	10769,78	9,14	34393,23
61	1,94444	ENVELOPE	Combination	Max	13,56	12580,05	4,42	10769,78	9,46	31023,04
61	2,33333	ENVELOPE	Combination	Max	13,56	13078,28	4,42	10769,78	10,32	27679,96
61	2,33333	ENVELOPE	Combination	Max	103,35	13307,69	25,18	9703,96	10,21	27638,15
61	2,72222	ENVELOPE	Combination	Max	103,35	13805,92	25,18	9703,96	0,46	23771,83
61	3,11111	ENVELOPE	Combination	Max	103,35	14304,14	25,18	9703,96	9,42	19607,97
61	3,5	ENVELOPE	Combination	Max	103,35	14802,37	25,18	9703,96	19,19	17377,12
61	3,5	ENVELOPE	Combination	Max	102,74	24188,7	25,43	2516,7	19,52	17463,1
61	3,88889	ENVELOPE	Combination	Max	102,74	25023,14	25,43	2516,7	9,63	19398,49
61	4,27778	ENVELOPE	Combination	Max	102,74	25857,58	25,43	2516,7	0,44	23592,97
61	4,66667	ENVELOPE	Combination	Max	102,74	26692,01	25,43	2516,7	10,15	27494,73
61	4,66667	ENVELOPE	Combination	Max	13,01	27988,36	4,57	2661,6	10,67	27537,86
61	5,05556	ENVELOPE	Combination	Max	13,01	28822,8	4,57	2661,6	9,75	30943,88
61	5,44444	ENVELOPE	Combination	Max	13,01	29657,24	4,57	2661,6	8,87	34397,19
61	5,83333	ENVELOPE	Combination	Max	13,01	30491,68	4,57	2661,6	8,79	39022,85
61	5,83333	ENVELOPE	Combination	Max	103,2	31705,33	23,66	3031,35	9,2	39065,68
61	6,22222	ENVELOPE	Combination	Max	103,2	32539,77	23,66	3031,35	0,14	43589,62
61	6,61111	ENVELOPE	Combination	Max	103,2	33374,21	23,66	3031,35	9,21	47929,26
61	7	ENVELOPE	Combination	Max	103,2	34208,65	23,66	3031,35	18,41	52079,91
61	0	ENVELOPE	Combination	Min	-101,99	-34011,44	-23,76	-3193,46	-18,53	-85327,32
61	0,38889	ENVELOPE	Combination	Min	-101,99	-33177	-23,76	-3193,46	-9,29	-72273,99
61	0,77778	ENVELOPE	Combination	Min	-101,99	-32342,57	-23,76	-3193,46	-0,14	-59551,09
61	1,16667	ENVELOPE	Combination	Min	-101,99	-31508,13	-23,76	-3193,46	-9,19	-47164,29
61	1,16667	ENVELOPE	Combination	Min	-13,56	-30304,52	-4,42	-2969,24	-9,19	-47007,72
61	1,55556	ENVELOPE	Combination	Min	-13,56	-29470,08	-4,42	-2969,24	-9,14	-35434,6

61	1,94444	ENVELOPE	Combination	Min	-13,56	-28635,64	-4,42	-2969,24	-9,46	-25561,44
61	2,33333	ENVELOPE	Combination	Min	-13,56	-27801,2	-4,42	-2969,24	-10,32	-16233,66
61	2,33333	ENVELOPE	Combination	Min	-103,35	-26539,84	-25,18	-2821,08	-10,21	-16117,1
61	2,72222	ENVELOPE	Combination	Min	-103,35	-25705,4	-25,18	-2821,08	-0,46	-7364,08
61	3,11111	ENVELOPE	Combination	Min	-103,35	-24870,96	-25,18	-2821,08	-9,42	1168,22
61	3,5	ENVELOPE	Combination	Min	-103,35	-24036,52	-25,18	-2821,08	-19,19	7249,26
61	3,5	ENVELOPE	Combination	Min	-102,74	-14935,25	-25,43	-9407,03	-19,52	7162,52
61	3,88889	ENVELOPE	Combination	Min	-102,74	-14437,02	-25,43	-9407,03	-9,63	1369,44
61	4,27778	ENVELOPE	Combination	Min	-102,74	-13938,8	-25,43	-9407,03	-0,44	-7200,99
61	4,66667	ENVELOPE	Combination	Min	-102,74	-13440,57	-25,43	-9407,03	-10,15	-15996,97
61	4,66667	ENVELOPE	Combination	Min	-13,01	-13246,15	-4,57	-10469,94	-10,67	-16114,94
61	5,05556	ENVELOPE	Combination	Min	-13,01	-12747,93	-4,57	-10469,94	-9,75	-25513,17
61	5,44444	ENVELOPE	Combination	Min	-13,01	-12249,7	-4,57	-10469,94	-8,87	-35476,95
61	5,83333	ENVELOPE	Combination	Min	-13,01	-11751,48	-4,57	-10469,94	-8,79	-47131,33
61	5,83333	ENVELOPE	Combination	Min	-103,2	-11941,51	-23,66	-11966,19	-9,2	-47289,84
61	6,22222	ENVELOPE	Combination	Min	-103,2	-11443,29	-23,66	-11966,19	-0,14	-59758,83
61	6,61111	ENVELOPE	Combination	Min	-103,2	-10945,06	-23,66	-11966,19	-9,21	-72561,8
61	7	ENVELOPE	Combination	Min	-103,2	-10446,84	-23,66	-11966,19	-18,41	-85694,02
62	0	ENVELOPE	Combination	Max	102,7	10363,93	23,35	11937,92	18,18	51925,08
62	0,38889	ENVELOPE	Combination	Max	102,7	10862,15	23,35	11937,92	9,1	47808,72
62	0,77778	ENVELOPE	Combination	Max	102,7	11360,38	23,35	11937,92	0,13	43504,42
62	1,16667	ENVELOPE	Combination	Max	102,7	11858,6	23,35	11937,92	9,08	39017,71
62	1,16667	ENVELOPE	Combination	Max	13,12	11673,27	4,51	10563,8	8,89	38975,79
62	1,55556	ENVELOPE	Combination	Max	13,12	12171,5	4,51	10563,8	8,86	34387,99
62	1,94444	ENVELOPE	Combination	Max	13,12	12669,72	4,51	10563,8	9,58	30976,12
62	2,33333	ENVELOPE	Combination	Max	13,12	13167,95	4,51	10563,8	10,47	27597,02
62	2,33333	ENVELOPE	Combination	Max	103	13376,51	25,01	9519,73	10,02	27554,38
62	2,72222	ENVELOPE	Combination	Max	103	13874,74	25,01	9519,73	0,44	23661,23
62	3,11111	ENVELOPE	Combination	Max	103	14372,96	25,01	9519,73	9,47	19471,12
62	3,5	ENVELOPE	Combination	Max	103	14871,19	25,01	9519,73	19,19	17409,27
62	3,5	ENVELOPE	Combination	Max	103,08	24103,43	24,9	2605,39	19,05	17398,49
62	3,88889	ENVELOPE	Combination	Max	103,08	24937,86	24,9	2605,39	9,38	19528,85
62	4,27778	ENVELOPE	Combination	Max	103,08	25772,3	24,9	2605,39	0,45	23698,91
62	4,66667	ENVELOPE	Combination	Max	103,08	26606,74	24,9	2605,39	10,04	27576,13
62	4,66667	ENVELOPE	Combination	Max	13,22	27881,02	4,48	2749,75	10,35	27618,5
62	5,05556	ENVELOPE	Combination	Max	13,22	28715,46	4,48	2749,75	9,46	30990,63
62	5,44444	ENVELOPE	Combination	Max	13,22	29549,9	4,48	2749,75	8,93	34402,15
62	5,83333	ENVELOPE	Combination	Max	13,22	30384,34	4,48	2749,75	8,94	38990,32
62	5,83333	ENVELOPE	Combination	Max	102,44	31592,33	23,35	2995,72	9,05	39032,2
62	6,22222	ENVELOPE	Combination	Max	102,44	32426,77	23,35	2995,72	0,14	43516,04
62	6,61111	ENVELOPE	Combination	Max	102,44	33261,2	23,35	2995,72	9,12	47815,6
62	7	ENVELOPE	Combination	Max	102,44	34095,64	23,35	2995,72	18,19	51926,19
62	0	ENVELOPE	Combination	Min	-102,7	-34119,57	-23,35	-3007,75	-18,18	-85515,4
62	0,38889	ENVELOPE	Combination	Min	-102,7	-33285,13	-23,35	-3007,75	-9,1	-72419,86

62	0,77778	ENVELOPE	Combination	Min	-102,7	-32450,69	-23,35	-3007,75	-0,13	-59654,64
62	1,16667	ENVELOPE	Combination	Min	-102,7	-31616,26	-23,35	-3007,75	-9,08	-47225,27
62	1,16667	ENVELOPE	Combination	Min	-13,12	-30407,27	-4,51	-2760,16	-8,89	-47067,71
62	1,55556	ENVELOPE	Combination	Min	-13,12	-29572,83	-4,51	-2760,16	-8,86	-35453,6
62	1,94444	ENVELOPE	Combination	Min	-13,12	-28738,39	-4,51	-2760,16	-9,58	-25533,67
62	2,33333	ENVELOPE	Combination	Min	-13,12	-27903,95	-4,51	-2760,16	-10,47	-16164,77
62	2,33333	ENVELOPE	Combination	Min	-103	-26621,84	-25,01	-2634,22	-10,02	-16047,33
62	2,72222	ENVELOPE	Combination	Min	-103	-25787,4	-25,01	-2634,22	-0,44	-7262,35
62	3,11111	ENVELOPE	Combination	Min	-103	-24952,96	-25,01	-2634,22	-9,47	1301,34
62	3,5	ENVELOPE	Combination	Min	-103	-24118,52	-25,01	-2634,22	-19,19	7218,5
62	3,5	ENVELOPE	Combination	Min	-103,08	-14861,46	-24,9	-9502,57	-19,05	7229,12
62	3,88889	ENVELOPE	Combination	Min	-103,08	-14363,24	-24,9	-9502,57	-9,38	1245,54
62	4,27778	ENVELOPE	Combination	Min	-103,08	-13865,01	-24,9	-9502,57	-0,45	-7296,01
62	4,66667	ENVELOPE	Combination	Min	-103,08	-13366,79	-24,9	-9502,57	-10,04	-16062,98
62	4,66667	ENVELOPE	Combination	Min	-13,22	-13149,71	-4,48	-10565,56	-10,35	-16180,13
62	5,05556	ENVELOPE	Combination	Min	-13,22	-12651,49	-4,48	-10565,56	-9,46	-25540,23
62	5,44444	ENVELOPE	Combination	Min	-13,22	-12153,26	-4,48	-10565,56	-8,93	-35457,99
62	5,83333	ENVELOPE	Combination	Min	-13,22	-11655,04	-4,48	-10565,56	-8,94	-47070,64
62	5,83333	ENVELOPE	Combination	Min	-102,44	-11838,72	-23,35	-11938,5	-9,05	-47228,12
62	6,22222	ENVELOPE	Combination	Min	-102,44	-11340,5	-23,35	-11938,5	-0,14	-59653,05
62	6,61111	ENVELOPE	Combination	Min	-102,44	-10842,27	-23,35	-11938,5	-9,12	-72411,96
62	7	ENVELOPE	Combination	Min	-102,44	-10344,05	-23,35	-11938,5	-18,19	-85500,15
63	0	ENVELOPE	Combination	Max	103,41	10418,16	23,78	12015,59	18,5	52027,24
63	0,38889	ENVELOPE	Combination	Max	103,41	10916,38	23,78	12015,59	9,25	47889,72
63	0,77778	ENVELOPE	Combination	Max	103,41	11414,61	23,78	12015,59	0,13	43564,18
63	1,16667	ENVELOPE	Combination	Max	103,41	11912,83	23,78	12015,59	9,24	39056,04
63	1,16667	ENVELOPE	Combination	Max	12,91	11722,85	4,6	10467,7	8,65	39013,43
63	1,55556	ENVELOPE	Combination	Max	12,91	12221,07	4,6	10467,7	8,92	34405,59
63	1,94444	ENVELOPE	Combination	Max	12,91	12719,3	4,6	10467,7	9,75	30988,29
63	2,33333	ENVELOPE	Combination	Max	12,91	13217,52	4,6	10467,7	10,64	27580,72
63	2,33333	ENVELOPE	Combination	Max	102,64	13406,99	25,49	9371,34	10,19	27537,37
63	2,72222	ENVELOPE	Combination	Max	102,64	13905,21	25,49	9371,34	0,42	23624,19
63	3,11111	ENVELOPE	Combination	Max	102,64	14403,44	25,49	9371,34	9,65	19414,99
63	3,5	ENVELOPE	Combination	Max	102,64	14901,66	25,49	9371,34	19,56	17382,71
63	3,5	ENVELOPE	Combination	Max	103,44	24024,83	25,22	2704,72	19,22	17352,07
63	3,88889	ENVELOPE	Combination	Max	103,44	24859,27	25,22	2704,72	9,42	19500,47
63	4,27778	ENVELOPE	Combination	Max	103,44	25693,71	25,22	2704,72	0,48	23611,41
63	4,66667	ENVELOPE	Combination	Max	103,44	26528,15	25,22	2704,72	10,22	27429,82
63	4,66667	ENVELOPE	Combination	Max	13,48	27783,5	4,39	2858,48	10,08	27470,96
63	5,05556	ENVELOPE	Combination	Max	13,48	28617,94	4,39	2858,48	9,35	30777,82
63	5,44444	ENVELOPE	Combination	Max	13,48	29452,38	4,39	2858,48	9,1	34160,28
63	5,83333	ENVELOPE	Combination	Max	13,48	30286,82	4,39	2858,48	9,1	38687,27
63	5,83333	ENVELOPE	Combination	Max	101,72	31495,26	23,71	3093,15	9,17	38727,66
63	6,22222	ENVELOPE	Combination	Max	101,72	32329,7	23,71	3093,15	0,14	43150,08

63	6,61111	ENVELOPE	Combination	Max	101,72	33164,14	23,71	3093,15	9,28	47388,16
63	7	ENVELOPE	Combination	Max	101,72	33998,57	23,71	3093,15	18,5	51437,24
63	0	ENVELOPE	Combination	Min	-103,41	-34102,9	-23,78	-3076,31	-18,5	-85416,45
63	0,38889	ENVELOPE	Combination	Min	-103,41	-33268,46	-23,78	-3076,31	-9,25	-72327,32
63	0,77778	ENVELOPE	Combination	Min	-103,41	-32434,02	-23,78	-3076,31	-0,13	-59568,44
63	1,16667	ENVELOPE	Combination	Min	-103,41	-31599,59	-23,78	-3076,31	-9,24	-47145,21
63	1,16667	ENVELOPE	Combination	Min	-12,91	-30387,99	-4,6	-2653,15	-8,65	-46987,29
63	1,55556	ENVELOPE	Combination	Min	-12,91	-29553,55	-4,6	-2653,15	-8,92	-35379,92
63	1,94444	ENVELOPE	Combination	Min	-12,91	-28719,11	-4,6	-2653,15	-9,75	-25481,34
63	2,33333	ENVELOPE	Combination	Min	-12,91	-27884,67	-4,6	-2653,15	-10,64	-16110,75
63	2,33333	ENVELOPE	Combination	Min	-102,64	-26585,33	-25,49	-2473,24	-10,19	-15992,95
63	2,72222	ENVELOPE	Combination	Min	-102,64	-25750,9	-25,49	-2473,24	-0,42	-7213,98
63	3,11111	ENVELOPE	Combination	Min	-102,64	-24916,46	-25,49	-2473,24	-9,65	1342,73
63	3,5	ENVELOPE	Combination	Min	-102,64	-24082,02	-25,49	-2473,24	-19,56	7204,28
63	3,5	ENVELOPE	Combination	Min	-103,44	-14720,38	-25,22	-9570,06	-19,22	7250,84
63	3,88889	ENVELOPE	Combination	Min	-103,44	-14222,16	-25,22	-9570,06	-9,42	1224,91
63	4,27778	ENVELOPE	Combination	Min	-103,44	-13723,93	-25,22	-9570,06	-0,48	-7281,81
63	4,66667	ENVELOPE	Combination	Min	-103,44	-13225,71	-25,22	-9570,06	-10,22	-16014,26
63	4,66667	ENVELOPE	Combination	Min	-13,48	-12991,76	-4,39	-10644,53	-10,08	-16130,52
63	5,05556	ENVELOPE	Combination	Min	-13,48	-12493,53	-4,39	-10644,53	-9,35	-25448,86
63	5,44444	ENVELOPE	Combination	Min	-13,48	-11995,31	-4,39	-10644,53	-9,1	-35361,04
63	5,83333	ENVELOPE	Combination	Min	-13,48	-11497,08	-4,39	-10644,53	-9,1	-46936,02
63	5,83333	ENVELOPE	Combination	Min	-101,72	-11680,55	-23,71	-12015,77	-9,17	-47092,45
63	6,22222	ENVELOPE	Combination	Min	-101,72	-11182,33	-23,71	-12015,77	-0,14	-59479,71
63	6,61111	ENVELOPE	Combination	Min	-101,72	-10684,1	-23,71	-12015,77	-9,28	-72200,89
63	7	ENVELOPE	Combination	Min	-101,72	-10185,88	-23,71	-12015,77	-18,5	-85251,34
64	0	ENVELOPE	Combination	Max	104,25	11498,63	24,24	12135,85	18,86	54364,93
64	0,38889	ENVELOPE	Combination	Max	104,25	11996,85	24,24	12135,85	9,43	49806,88
64	0,77778	ENVELOPE	Combination	Max	104,25	12495,08	24,24	12135,85	0,13	45060,67
64	1,16667	ENVELOPE	Combination	Max	104,25	12993,3	24,24	12135,85	9,43	40131,63
64	1,16667	ENVELOPE	Combination	Max	13,06	12795,68	4,7	10518,11	8,54	40083,24
64	1,55556	ENVELOPE	Combination	Max	13,06	13293,9	4,7	10518,11	9,09	35057,39
64	1,94444	ENVELOPE	Combination	Max	13,06	13792,13	4,7	10518,11	9,92	31555,31
64	2,33333	ENVELOPE	Combination	Max	13,06	14290,35	4,7	10518,11	10,8	27805,36
64	2,33333	ENVELOPE	Combination	Max	102,51	14465,25	25,96	9261,14	10,37	27757,58
64	2,72222	ENVELOPE	Combination	Max	102,51	14963,48	25,96	9261,14	0,41	23505,08
64	3,11111	ENVELOPE	Combination	Max	102,51	15461,7	25,96	9261,14	9,82	18960,6
64	3,5	ENVELOPE	Combination	Max	102,51	15959,93	25,96	9261,14	19,92	20597,11
64	3,5	ENVELOPE	Combination	Max	104,43	24991,05	25,31	2506,62	19,15	18815,69
64	3,88889	ENVELOPE	Combination	Max	104,43	25825,49	25,31	2506,62	9,31	23308,16
64	4,27778	ENVELOPE	Combination	Max	104,43	26659,93	25,31	2506,62	0,59	27705,76
64	4,66667	ENVELOPE	Combination	Max	104,43	27494,37	25,31	2506,62	10,39	31810,74
64	4,66667	ENVELOPE	Combination	Max	13,6	28792,14	4,37	2666,62	9,93	31855,73
64	5,05556	ENVELOPE	Combination	Max	13,6	29626,58	4,37	2666,62	9,2	35374,17

64	5,44444	ENVELOPE	Combination	Max	13,6	30461,02	4,37	2666,62	8,82	38633,54
64	5,83333	ENVELOPE	Combination	Max	13,6	31295,46	4,37	2666,62	8,56	43359,77
64	5,83333	ENVELOPE	Combination	Max	102,66	32544,91	22,96	2970,99	8,8	43407,42
64	6,22222	ENVELOPE	Combination	Max	102,66	33379,35	22,96	2970,99	0,23	48004,85
64	6,61111	ENVELOPE	Combination	Max	102,66	34213,78	22,96	2970,99	9,06	52420,07
64	7	ENVELOPE	Combination	Max	102,66	35048,22	22,96	2970,99	17,99	56647,66
64	0	ENVELOPE	Combination	Min	-104,25	-35894,07	-24,24	-3168,86	-18,86	-87789,73
64	0,38889	ENVELOPE	Combination	Min	-104,25	-35059,63	-24,24	-3168,86	-9,43	-74003,69
64	0,77778	ENVELOPE	Combination	Min	-104,25	-34225,19	-24,24	-3168,86	-0,13	-60547,75
64	1,16667	ENVELOPE	Combination	Min	-104,25	-33390,75	-24,24	-3168,86	-9,43	-47427,24
64	1,16667	ENVELOPE	Combination	Min	-13,06	-32140,6	-4,7	-2715,51	-8,54	-47259,67
64	1,55556	ENVELOPE	Combination	Min	-13,06	-31306,16	-4,7	-2715,51	-9,09	-34969,92
64	1,94444	ENVELOPE	Combination	Min	-13,06	-30471,72	-4,7	-2715,51	-9,92	-24722,2
64	2,33333	ENVELOPE	Combination	Min	-13,06	-29637,28	-4,7	-2715,51	-10,8	-14744,87
64	2,33333	ENVELOPE	Combination	Min	-102,51	-28256,16	-25,96	-2428,52	-10,37	-14618,43
64	2,72222	ENVELOPE	Combination	Min	-102,51	-27421,72	-25,96	-2428,52	-0,41	-5261,92
64	3,11111	ENVELOPE	Combination	Min	-102,51	-26587,29	-25,96	-2428,52	-9,82	3868,3
64	3,5	ENVELOPE	Combination	Min	-102,51	-25752,85	-25,96	-2428,52	-19,92	6299,28
64	3,5	ENVELOPE	Combination	Min	-104,43	-15480,42	-25,31	-10686,95	-19,15	7748,78
64	3,88889	ENVELOPE	Combination	Min	-104,43	-14982,19	-25,31	-10686,95	-9,31	-701,39
64	4,27778	ENVELOPE	Combination	Min	-104,43	-14483,97	-25,31	-10686,95	-0,59	-9574,96
64	4,66667	ENVELOPE	Combination	Min	-104,43	-13985,74	-25,31	-10686,95	-10,39	-18674,17
64	4,66667	ENVELOPE	Combination	Min	-13,6	-13624,17	-4,37	-11801,79	-9,93	-18794,61
64	5,05556	ENVELOPE	Combination	Min	-13,6	-13125,95	-4,37	-11801,79	-9,2	-28470,83
64	5,44444	ENVELOPE	Combination	Min	-13,6	-12627,72	-4,37	-11801,79	-8,82	-38406,25
64	5,83333	ENVELOPE	Combination	Min	-13,6	-12129,5	-4,37	-11801,79	-8,56	-50326,77
64	5,83333	ENVELOPE	Combination	Min	-102,66	-12147,59	-22,96	-13084,53	-8,8	-50485,05
64	6,22222	ENVELOPE	Combination	Min	-102,66	-11649,37	-22,96	-13084,53	-0,23	-63273,9
64	6,61111	ENVELOPE	Combination	Min	-102,66	-11151,14	-22,96	-13084,53	-9,06	-76398,8
64	7	ENVELOPE	Combination	Min	-102,66	-10652,92	-22,96	-13084,53	-17,99	-89854,32
65	0	ENVELOPE	Combination	Max	140,81	1643,44	24,21	9122,9	18,73	39958,74
65	0,38889	ENVELOPE	Combination	Max	140,81	2387,89	24,21	9122,9	9,32	39177,71
65	0,77778	ENVELOPE	Combination	Max	140,81	3132,34	24,21	9122,9	0,12	38108,03
65	1,16667	ENVELOPE	Combination	Max	140,81	3876,79	24,21	9122,9	9,51	36750,16
65	1,16667	ENVELOPE	Combination	Max	2,91	4127,42	2,51	7694,34	7,71	36725,11
65	1,55556	ENVELOPE	Combination	Max	2,91	4871,87	2,51	7694,34	8,69	35020,61
65	1,94444	ENVELOPE	Combination	Max	2,91	5616,32	2,51	7694,34	9,66	36349,14
65	2,33333	ENVELOPE	Combination	Max	2,91	6360,77	2,51	7694,34	10,64	37164,56
65	2,33333	ENVELOPE	Combination	Max	143,72	6957,17	27	6689,79	11,19	37166,19
65	2,72222	ENVELOPE	Combination	Max	143,72	7701,62	27	6689,79	0,68	37030,31
65	3,11111	ENVELOPE	Combination	Max	143,72	8446,07	27	6689,79	9,82	36391,87
65	3,5	ENVELOPE	Combination	Max	143,72	9190,52	27	6689,79	20,32	38630,11
65	3,5	ENVELOPE	Combination	Max	142	31752,66	27,15	6205,6	20,51	38765,45
65	3,88889	ENVELOPE	Combination	Max	142	33085,54	27,15	6205,6	9,95	32371,52

65	4,27778	ENVELOPE	Combination	Max	142	34418,42	27,15	6205,6	0,61	32708,99
65	4,66667	ENVELOPE	Combination	Max	142	35751,3	27,15	6205,6	11,17	32880,6
65	4,66667	ENVELOPE	Combination	Max	3,41	37953,41	1,64	7178,76	10,38	32877,01
65	5,05556	ENVELOPE	Combination	Max	3,41	39286,28	1,64	7178,76	9,74	32178,45
65	5,44444	ENVELOPE	Combination	Max	3,41	40619,16	1,64	7178,76	9,11	31223,73
65	5,83333	ENVELOPE	Combination	Max	3,41	41952,04	1,64	7178,76	8,47	33145,84
65	5,83333	ENVELOPE	Combination	Max	138,59	44587,83	24,92	8534,22	9,78	33166,21
65	6,22222	ENVELOPE	Combination	Max	138,59	45920,71	24,92	8534,22	0,12	34821,2
65	6,61111	ENVELOPE	Combination	Max	138,59	47253,59	24,92	8534,22	9,6	36187,66
65	7	ENVELOPE	Combination	Max	138,59	48586,47	24,92	8534,22	19,29	37265,2
65	0	ENVELOPE	Combination	Min	-140,81	-47622,7	-24,21	-9222,07	-18,73	-104159,3
65	0,38889	ENVELOPE	Combination	Min	-140,81	-46289,83	-24,21	-9222,07	-9,32	-85901,37
65	0,77778	ENVELOPE	Combination	Min	-140,81	-44956,95	-24,21	-9222,07	-0,12	-68162,64
65	1,16667	ENVELOPE	Combination	Min	-140,81	-43624,07	-24,21	-9222,07	-9,51	-50943,57
65	1,16667	ENVELOPE	Combination	Min	-2,91	-40957,74	-2,51	-7806,86	-7,71	-50535,07
65	1,55556	ENVELOPE	Combination	Min	-2,91	-39624,86	-2,51	-7806,86	-8,69	-34911,59
65	1,94444	ENVELOPE	Combination	Min	-2,91	-38291,99	-2,51	-7806,86	-9,66	-23129
65	2,33333	ENVELOPE	Combination	Min	-2,91	-36959,11	-2,51	-7806,86	-10,64	-11641,13
65	2,33333	ENVELOPE	Combination	Min	-143,72	-34749,2	-27	-6795,74	-11,19	-11360,3
65	2,72222	ENVELOPE	Combination	Min	-143,72	-33416,32	-27	-6795,74	-0,68	-820,33
65	3,11111	ENVELOPE	Combination	Min	-143,72	-32083,44	-27	-6795,74	-9,82	9414,35
65	3,5	ENVELOPE	Combination	Min	-143,72	-30750,56	-27	-6795,74	-20,32	19333,76
65	3,5	ENVELOPE	Combination	Min	-142	-9501,98	-27,15	-6117,1	-20,51	16585,3
65	3,88889	ENVELOPE	Combination	Min	-142	-8757,53	-27,15	-6117,1	-9,95	13664,83
65	4,27778	ENVELOPE	Combination	Min	-142	-8013,08	-27,15	-6117,1	-0,61	3150,44
65	4,66667	ENVELOPE	Combination	Min	-142	-7268,63	-27,15	-6117,1	-11,17	-7693,84
65	4,66667	ENVELOPE	Combination	Min	-3,41	-6815,06	-1,64	-7087,74	-10,38	-7983,89
65	5,05556	ENVELOPE	Combination	Min	-3,41	-6070,61	-1,64	-7087,74	-9,74	-19798,61
65	5,44444	ENVELOPE	Combination	Min	-3,41	-5326,16	-1,64	-7087,74	-9,11	-32165,02
65	5,83333	ENVELOPE	Combination	Min	-3,41	-4581,71	-1,64	-7087,74	-8,47	-48216,1
65	5,83333	ENVELOPE	Combination	Min	-138,59	-4635,97	-24,92	-8458,38	-9,78	-48640,43
65	6,22222	ENVELOPE	Combination	Min	-138,59	-3891,52	-24,92	-8458,38	-0,12	-66236,18
65	6,61111	ENVELOPE	Combination	Min	-138,59	-3147,07	-24,92	-8458,38	-9,6	-84351,26
65	7	ENVELOPE	Combination	Min	-138,59	-2402,62	-24,92	-8458,38	-19,29	-
66	0	ENVELOPE	Combination	Max	138,33	1583,78	24,69	8578,3	19,05	34880,39
66	0,38889	ENVELOPE	Combination	Max	138,33	2328,23	24,69	8578,3	9,45	34121,94
66	0,77778	ENVELOPE	Combination	Max	138,33	3072,68	24,69	8578,3	0,15	33074,7
66	1,16667	ENVELOPE	Combination	Max	138,33	3817,13	24,69	8578,3	9,75	31739,09
66	1,16667	ENVELOPE	Combination	Max	3,31	3764,6	1,53	7224,08	8,38	31727,01
66	1,55556	ENVELOPE	Combination	Max	3,31	4509,05	1,53	7224,08	8,97	30123,58
66	1,94444	ENVELOPE	Combination	Max	3,31	5253,5	1,53	7224,08	9,56	30762,47
66	2,33333	ENVELOPE	Combination	Max	3,31	5997,95	1,53	7224,08	10,16	31652,9
66	2,33333	ENVELOPE	Combination	Max	141,64	6437,62	26,47	6273,75	10,83	31661,08

66	2,72222	ENVELOPE	Combination	Max	141,64	7182,07	26,47	6273,75	0,54	31687,44
66	3,11111	ENVELOPE	Combination	Max	141,64	7926,52	26,47	6273,75	9,76	31214,32
66	3,5	ENVELOPE	Combination	Max	141,64	8670,97	26,47	6273,75	20,06	35746,91
66	3,5	ENVELOPE	Combination	Max	141,61	29626,22	26,21	6016,81	19,8	35712,83
66	3,88889	ENVELOPE	Combination	Max	141,61	30959,1	26,21	6016,81	9,6	31546,47
66	4,27778	ENVELOPE	Combination	Max	141,61	32291,98	26,21	6016,81	0,59	32013,21
66	4,66667	ENVELOPE	Combination	Max	141,61	33624,86	26,21	6016,81	10,78	31993,04
66	4,66667	ENVELOPE	Combination	Max	3,32	35732,68	1,63	6951,09	10,04	31985,21
66	5,05556	ENVELOPE	Combination	Max	3,32	37065,56	1,63	6951,09	9,41	31102,18
66	5,44444	ENVELOPE	Combination	Max	3,32	38398,43	1,63	6951,09	8,78	30389,86
66	5,83333	ENVELOPE	Combination	Max	3,32	39731,31	1,63	6951,09	8,15	31982,14
66	5,83333	ENVELOPE	Combination	Max	138,29	42303,51	24,02	8253,95	9,42	31994,32
66	6,22222	ENVELOPE	Combination	Max	138,29	43636,39	24,02	8253,95	0,12	33314,05
66	6,61111	ENVELOPE	Combination	Max	138,29	44969,27	24,02	8253,95	9,26	34345,19
66	7	ENVELOPE	Combination	Max	138,29	46302,14	24,02	8253,95	18,6	35087,39
66	0	ENVELOPE	Combination	Min	-138,33	-46548,78	-24,69	-8638,33	-19,05	-100731,8
66	0,38889	ENVELOPE	Combination	Min	-138,33	-45215,9	-24,69	-8638,33	-9,45	-82890,88
66	0,77778	ENVELOPE	Combination	Min	-138,33	-43883,02	-24,69	-8638,33	-0,15	-65569,03
66	1,16667	ENVELOPE	Combination	Min	-138,33	-42550,15	-24,69	-8638,33	-9,75	-48766,65
66	1,16667	ENVELOPE	Combination	Min	-3,31	-39954,68	-1,53	-7298,77	-8,38	-48362,96
66	1,55556	ENVELOPE	Combination	Min	-3,31	-38621,8	-1,53	-7298,77	-8,97	-33089,54
66	1,94444	ENVELOPE	Combination	Min	-3,31	-37288,92	-1,53	-7298,77	-9,56	-20866,28
66	2,33333	ENVELOPE	Combination	Min	-3,31	-35956,04	-1,53	-7298,77	-10,16	-9702,41
66	2,33333	ENVELOPE	Combination	Min	-141,64	-33831,28	-26,47	-6345,42	-10,83	-9429,44
66	2,72222	ENVELOPE	Combination	Min	-141,64	-32498,4	-26,47	-6345,42	-0,54	793,37
66	3,11111	ENVELOPE	Combination	Min	-141,64	-31165,53	-26,47	-6345,42	-9,76	10707,8
66	3,5	ENVELOPE	Combination	Min	-141,64	-29832,65	-26,47	-6345,42	-20,06	17053,79
66	3,5	ENVELOPE	Combination	Min	-141,61	-8649,03	-26,21	-5948,09	-19,8	17407,38
66	3,88889	ENVELOPE	Combination	Min	-141,61	-7904,58	-26,21	-5948,09	-9,6	10399,06
66	4,27778	ENVELOPE	Combination	Min	-141,61	-7160,13	-26,21	-5948,09	-0,59	562,75
66	4,66667	ENVELOPE	Combination	Min	-141,61	-6415,68	-26,21	-5948,09	-10,78	-9594,49
66	4,66667	ENVELOPE	Combination	Min	-3,32	-5966,4	-1,63	-6881,09	-10,04	-9865,76
66	5,05556	ENVELOPE	Combination	Min	-3,32	-5221,95	-1,63	-6881,09	-9,41	-20962,42
66	5,44444	ENVELOPE	Combination	Min	-3,32	-4477,5	-1,63	-6881,09	-8,78	-33037,65
66	5,83333	ENVELOPE	Combination	Min	-3,32	-3733,05	-1,63	-6881,09	-8,15	-48225,33
66	5,83333	ENVELOPE	Combination	Min	-138,29	-3773,7	-24,02	-8201,49	-9,42	-48626,95
66	6,22222	ENVELOPE	Combination	Min	-138,29	-3029,25	-24,02	-8201,49	-0,12	-65334,41
66	6,61111	ENVELOPE	Combination	Min	-138,29	-2284,8	-24,02	-8201,49	-9,26	-82561,14
66	7	ENVELOPE	Combination	Min	-138,29	-1540,35	-24,02	-8201,49	-18,6	-
67	0	ENVELOPE	Combination	Max	138,28	1630,38	23,77	8274,75	18,35	100306,78
67	0,38889	ENVELOPE	Combination	Max	138,28	2374,83	23,77	8274,75	9,1	34473,6
67	0,77778	ENVELOPE	Combination	Max	138,28	3119,28	23,77	8274,75	0,14	33408,22
67	1,16667	ENVELOPE	Combination	Max	138,28	3863,73	23,77	8274,75	9,39	32054,46

67	1,16667	ENVELOPE	Combination	Max	3,32	3820,29	1,49	6967,7	8,07	32041,4
67	1,55556	ENVELOPE	Combination	Max	3,32	4564,74	1,49	6967,7	8,64	30416,24
67	1,94444	ENVELOPE	Combination	Max	3,32	5309,19	1,49	6967,7	9,21	31091,57
67	2,33333	ENVELOPE	Combination	Max	3,32	6053,64	1,49	6967,7	9,78	31947,25
67	2,33333	ENVELOPE	Combination	Max	141,6	6499,66	25,5	6050,8	10,43	31954,35
67	2,72222	ENVELOPE	Combination	Max	141,6	7244,11	25,5	6050,8	0,54	31943,35
67	3,11111	ENVELOPE	Combination	Max	141,6	7988,56	25,5	6050,8	9,4	31432,26
67	3,5	ENVELOPE	Combination	Max	141,6	8733,01	25,5	6050,8	19,32	35763,25
67	3,5	ENVELOPE	Combination	Max	141,6	29800,23	25,26	5846,66	19,08	35765,93
67	3,88889	ENVELOPE	Combination	Max	141,6	31133,11	25,26	5846,66	9,26	31429,95
67	4,27778	ENVELOPE	Combination	Max	141,6	32465,99	25,26	5846,66	0,57	31909,26
67	4,66667	ENVELOPE	Combination	Max	141,6	33798,87	25,26	5846,66	10,39	31902,08
67	4,66667	ENVELOPE	Combination	Max	3,32	35915,4	1,57	6742,73	9,68	31894,58
67	5,05556	ENVELOPE	Combination	Max	3,32	37248,28	1,57	6742,73	9,07	31025,08
67	5,44444	ENVELOPE	Combination	Max	3,32	38581,16	1,57	6742,73	8,47	30364,24
67	5,83333	ENVELOPE	Combination	Max	3,32	39914,03	1,57	6742,73	7,86	31981,94
67	5,83333	ENVELOPE	Combination	Max	138,28	42494,19	23,19	7997,15	9,11	31994,77
67	6,22222	ENVELOPE	Combination	Max	138,28	43827,06	23,19	7997,15	0,12	33340,95
67	6,61111	ENVELOPE	Combination	Max	138,28	45159,94	23,19	7997,15	8,93	34398,51
67	7	ENVELOPE	Combination	Max	138,28	46492,82	23,19	7997,15	17,95	35167,12
67	0	ENVELOPE	Combination	Min	-138,28	-46457,15	-23,77	-8320,78	-18,35	-100616,26
67	0,38889	ENVELOPE	Combination	Min	-138,28	-45124,27	-23,77	-8320,78	-9,1	-82810,97
67	0,77778	ENVELOPE	Combination	Min	-138,28	-43791,4	-23,77	-8320,78	-0,14	-65524,73
67	1,16667	ENVELOPE	Combination	Min	-138,28	-42458,52	-23,77	-8320,78	-9,39	-48757,96
67	1,16667	ENVELOPE	Combination	Min	-3,32	-39879,59	-1,49	-7031,71	-8,07	-48354,85
67	1,55556	ENVELOPE	Combination	Min	-3,32	-38546,71	-1,49	-7031,71	-8,64	-33110,56
67	1,94444	ENVELOPE	Combination	Min	-3,32	-37213,83	-1,49	-7031,71	-9,21	-20974,61
67	2,33333	ENVELOPE	Combination	Min	-3,32	-35880,96	-1,49	-7031,71	-9,78	-9826,85
67	2,33333	ENVELOPE	Combination	Min	-141,6	-33765,1	-25,5	-6114,15	-10,43	-9554,19
67	2,72222	ENVELOPE	Combination	Min	-141,6	-32432,22	-25,5	-6114,15	-0,54	656,11
67	3,11111	ENVELOPE	Combination	Min	-141,6	-31099,34	-25,5	-6114,15	-9,4	10558,64
67	3,5	ENVELOPE	Combination	Min	-141,6	-29766,47	-25,5	-6114,15	-19,32	17229,03
67	3,5	ENVELOPE	Combination	Min	-141,6	-8711,21	-25,26	-5791,07	-19,08	17260,35
67	3,88889	ENVELOPE	Combination	Min	-141,6	-7966,76	-25,26	-5791,07	-9,26	10543,07
67	4,27778	ENVELOPE	Combination	Min	-141,6	-7222,31	-25,26	-5791,07	-0,57	650,7
67	4,66667	ENVELOPE	Combination	Min	-141,6	-6477,86	-25,26	-5791,07	-10,39	-9563,03
67	4,66667	ENVELOPE	Combination	Min	-3,32	-6031,48	-1,57	-6686,71	-9,68	-9835,87
67	5,05556	ENVELOPE	Combination	Min	-3,32	-5287,03	-1,57	-6686,71	-9,07	-20991,81
67	5,44444	ENVELOPE	Combination	Min	-3,32	-4542,58	-1,57	-6686,71	-8,47	-33164,27
67	5,83333	ENVELOPE	Combination	Min	-3,32	-3798,13	-1,57	-6686,71	-7,86	-48423,12
67	5,83333	ENVELOPE	Combination	Min	-138,28	-3841,49	-23,19	-7959,74	-9,11	-48826,59
67	6,22222	ENVELOPE	Combination	Min	-138,28	-3097,04	-23,19	-7959,74	-0,12	-65608,29
67	6,61111	ENVELOPE	Combination	Min	-138,28	-2352,59	-23,19	-7959,74	-8,93	-82909,24

67	7	ENVELOPE	Combination	Min	-138,28	-1608,14	-23,19	-7959,74	-17,95	-100729,1
68	0	ENVELOPE	Combination	Max	138,28	1605,06	23,07	7997,89	17,83	35178,61
68	0,38889	ENVELOPE	Combination	Max	138,28	2349,51	23,07	7997,89	8,86	34411,84
68	0,77778	ENVELOPE	Combination	Max	138,28	3093,96	23,07	7997,89	0,14	33356,26
68	1,16667	ENVELOPE	Combination	Max	138,28	3838,41	23,07	7997,89	9,09	32012,28
68	1,16667	ENVELOPE	Combination	Max	3,32	3795,41	1,52	6731,45	7,83	31999,51
68	1,55556	ENVELOPE	Combination	Max	3,32	4539,86	1,52	6731,45	8,41	30383,93
68	1,94444	ENVELOPE	Combination	Max	3,32	5284,31	1,52	6731,45	8,99	31059,72
68	2,33333	ENVELOPE	Combination	Max	3,32	6028,76	1,52	6731,45	9,57	31927,07
68	2,33333	ENVELOPE	Combination	Max	141,6	6475,66	24,96	5843,07	10,25	31934,48
68	2,72222	ENVELOPE	Combination	Max	141,6	7220,11	24,96	5843,07	0,55	31934,63
68	3,11111	ENVELOPE	Combination	Max	141,6	7964,56	24,96	5843,07	9,17	31434,43
68	3,5	ENVELOPE	Combination	Max	141,6	8709,01	24,96	5843,07	18,88	35763,59
68	3,5	ENVELOPE	Combination	Max	141,6	29800,35	25,04	5911,74	18,95	35764,91
68	3,88889	ENVELOPE	Combination	Max	141,6	31133,23	25,04	5911,74	9,21	31425,32
68	4,27778	ENVELOPE	Combination	Max	141,6	32466,11	25,04	5911,74	0,55	31916,63
68	4,66667	ENVELOPE	Combination	Max	141,6	33798,98	25,04	5911,74	10,26	31921,4
68	4,66667	ENVELOPE	Combination	Max	3,32	35916,45	1,51	6807,3	9,6	31914,24
68	5,05556	ENVELOPE	Combination	Max	3,32	37249,33	1,51	6807,3	9,03	31056,8
68	5,44444	ENVELOPE	Combination	Max	3,32	38582,21	1,51	6807,3	8,46	30396,55
68	5,83333	ENVELOPE	Combination	Max	3,32	39915,09	1,51	6807,3	7,88	32023,8
68	5,83333	ENVELOPE	Combination	Max	138,28	42496,42	23,23	8062,6	9,16	32036,93
68	6,22222	ENVELOPE	Combination	Max	138,28	43829,3	23,23	8062,6	0,12	33392,78
68	6,61111	ENVELOPE	Combination	Max	138,28	45162,18	23,23	8062,6	8,91	34459,99
68	7	ENVELOPE	Combination	Max	138,28	46495,05	23,23	8062,6	17,95	35238,24
68	0	ENVELOPE	Combination	Min	-138,28	-46453,7	-23,07	-8037,04	-17,83	-100623,5
68	0,38889	ENVELOPE	Combination	Min	-138,28	-45120,82	-23,07	-8037,04	-8,86	-82819,47
68	0,77778	ENVELOPE	Combination	Min	-138,28	-43787,94	-23,07	-8037,04	-0,14	-65534,54
68	1,16667	ENVELOPE	Combination	Min	-138,28	-42455,06	-23,07	-8037,04	-9,09	-48769,04
68	1,16667	ENVELOPE	Combination	Min	-3,32	-39877,42	-1,52	-6789,54	-7,83	-48365,95
68	1,55556	ENVELOPE	Combination	Min	-3,32	-38544,55	-1,52	-6789,54	-8,41	-33122,41
68	1,94444	ENVELOPE	Combination	Min	-3,32	-37211,67	-1,52	-6789,54	-8,99	-20978,07
68	2,33333	ENVELOPE	Combination	Min	-3,32	-35878,79	-1,52	-6789,54	-9,57	-9833,15
68	2,33333	ENVELOPE	Combination	Min	-141,6	-33763,98	-24,96	-5901,12	-10,25	-9560,56
68	2,72222	ENVELOPE	Combination	Min	-141,6	-32431,1	-24,96	-5901,12	-0,55	647,48
68	3,11111	ENVELOPE	Combination	Min	-141,6	-31098,23	-24,96	-5901,12	-9,17	10548,04
68	3,5	ENVELOPE	Combination	Min	-141,6	-29765,35	-24,96	-5901,12	-18,88	17244,62
68	3,5	ENVELOPE	Combination	Min	-141,6	-8734,71	-25,04	-5861,86	-18,95	17246,98
68	3,88889	ENVELOPE	Combination	Min	-141,6	-7990,26	-25,04	-5861,86	-9,21	10555,39
68	4,27778	ENVELOPE	Combination	Min	-141,6	-7245,81	-25,04	-5861,86	-0,55	660,11
68	4,66667	ENVELOPE	Combination	Min	-141,6	-6501,36	-25,04	-5861,86	-10,26	-9556,48
68	4,66667	ENVELOPE	Combination	Min	-3,32	-6055,8	-1,51	-6758,07	-9,6	-9829,4
68	5,05556	ENVELOPE	Combination	Min	-3,32	-5311,35	-1,51	-6758,07	-9,03	-20988,37
68	5,44444	ENVELOPE	Combination	Min	-3,32	-4566,9	-1,51	-6758,07	-8,46	-33152,36

68	5,83333	ENVELOPE	Combination	Min	-3,32	-3822,45	-1,51	-6758,07	-7,88	-48411,72
68	5,83333	ENVELOPE	Combination	Min	-138,28	-3866,18	-23,23	-8033,42	-9,16	-48815,21
68	6,22222	ENVELOPE	Combination	Min	-138,28	-3121,73	-23,23	-8033,42	-0,12	-65597,85
68	6,61111	ENVELOPE	Combination	Min	-138,28	-2377,28	-23,23	-8033,42	-8,91	-82899,71
68	7	ENVELOPE	Combination	Min	-138,28	-1632,83	-23,23	-8033,42	-17,95	-100720,5
69	0	ENVELOPE	Combination	Max	138,29	1536,61	23,35	7998,89	18,07	35098,33
69	0,38889	ENVELOPE	Combination	Max	138,29	2281,06	23,35	7998,89	8,99	34358,16
69	0,77778	ENVELOPE	Combination	Max	138,29	3025,51	23,35	7998,89	0,13	33329,18
69	1,16667	ENVELOPE	Combination	Max	138,29	3769,96	23,35	7998,89	9,17	32011,76
69	1,16667	ENVELOPE	Combination	Max	3,32	3729,73	1,55	6717,4	7,92	31999,65
69	1,55556	ENVELOPE	Combination	Max	3,32	4474,18	1,55	6717,4	8,52	30409,54
69	1,94444	ENVELOPE	Combination	Max	3,32	5218,63	1,55	6717,4	9,12	31136,7
69	2,33333	ENVELOPE	Combination	Max	3,32	5963,08	1,55	6717,4	9,72	32017,23
69	2,33333	ENVELOPE	Combination	Max	141,61	6412,95	25,37	5813,97	10,42	32024,95
69	2,72222	ENVELOPE	Combination	Max	141,61	7157,4	25,37	5813,97	0,56	32037,43
69	3,11111	ENVELOPE	Combination	Max	141,61	7901,85	25,37	5813,97	9,31	31549,06
69	3,5	ENVELOPE	Combination	Max	141,61	8646,3	25,37	5813,97	19,17	35710,06
69	3,5	ENVELOPE	Combination	Max	141,64	29865,51	25,5	6017,11	19,3	35748,16
69	3,88889	ENVELOPE	Combination	Max	141,64	31198,38	25,5	6017,11	9,39	31205,54
69	4,27778	ENVELOPE	Combination	Max	141,64	32531,26	25,5	6017,11	0,53	31659,77
69	4,66667	ENVELOPE	Combination	Max	141,64	33864,14	25,5	6017,11	10,44	31627,96
69	4,66667	ENVELOPE	Combination	Max	3,31	35990,41	1,5	6928,85	9,78	31619,72
69	5,05556	ENVELOPE	Combination	Max	3,31	37323,29	1,5	6928,85	9,2	30727,96
69	5,44444	ENVELOPE	Combination	Max	3,31	38656,17	1,5	6928,85	8,61	30104,18
69	5,83333	ENVELOPE	Combination	Max	3,31	39989,05	1,5	6928,85	8,03	31709,68
69	5,83333	ENVELOPE	Combination	Max	138,33	42586,84	23,68	8207,07	9,33	31721,82
69	6,22222	ENVELOPE	Combination	Max	138,33	43919,71	23,68	8207,07	0,13	33059,4
69	6,61111	ENVELOPE	Combination	Max	138,33	45252,59	23,68	8207,07	9,08	34108,32
69	7	ENVELOPE	Combination	Max	138,33	46585,47	23,68	8207,07	18,29	34868,26
69	0	ENVELOPE	Combination	Min	-138,29	-46261,99	-23,35	-8037,97	-18,07	-100200
69	0,38889	ENVELOPE	Combination	Min	-138,29	-44929,11	-23,35	-8037,97	-8,99	-82470,56
69	0,77778	ENVELOPE	Combination	Min	-138,29	-43596,23	-23,35	-8037,97	-0,13	-65260,15
69	1,16667	ENVELOPE	Combination	Min	-138,29	-42263,35	-23,35	-8037,97	-9,17	-48569,16
69	1,16667	ENVELOPE	Combination	Min	-3,32	-39693,76	-1,55	-6776,74	-7,92	-48167,93
69	1,55556	ENVELOPE	Combination	Min	-3,32	-38360,89	-1,55	-6776,74	-8,52	-32995,73
69	1,94444	ENVELOPE	Combination	Min	-3,32	-37028,01	-1,55	-6776,74	-9,12	-20948,65
69	2,33333	ENVELOPE	Combination	Min	-3,32	-35695,13	-1,55	-6776,74	-9,72	-9862,79
69	2,33333	ENVELOPE	Combination	Min	-141,61	-33589,14	-25,37	-5874,1	-10,42	-9591,76
69	2,72222	ENVELOPE	Combination	Min	-141,61	-32256,26	-25,37	-5874,1	-0,56	560,35
69	3,11111	ENVELOPE	Combination	Min	-141,61	-30923,38	-25,37	-5874,1	-9,31	10405,46
69	3,5	ENVELOPE	Combination	Min	-141,61	-29590,51	-25,37	-5874,1	-19,17	17393,59
69	3,5	ENVELOPE	Combination	Min	-141,64	-8672,19	-25,5	-5969,99	-19,3	17073,59
69	3,88889	ENVELOPE	Combination	Min	-141,64	-7927,74	-25,5	-5969,99	-9,39	10706,04
69	4,27778	ENVELOPE	Combination	Min	-141,64	-7183,29	-25,5	-5969,99	-0,53	798,19

69	4,66667	ENVELOPE	Combination	Min	-141,64	-6438,84	-25,5	-5969,99	-10,44	-9431,48
69	4,66667	ENVELOPE	Combination	Min	-3,31	-5999,55	-1,5	-6881,72	-9,78	-9704,71
69	5,05556	ENVELOPE	Combination	Min	-3,31	-5255,1	-1,5	-6881,72	-9,2	-20880
69	5,44444	ENVELOPE	Combination	Min	-3,31	-4510,65	-1,5	-6881,72	-8,61	-33131,1
69	5,83333	ENVELOPE	Combination	Min	-3,31	-3766,2	-1,5	-6881,72	-8,03	-48419,34
69	5,83333	ENVELOPE	Combination	Min	-138,33	-3818,95	-23,68	-8179,07	-9,33	-48823,4
69	6,22222	ENVELOPE	Combination	Min	-138,33	-3074,5	-23,68	-8179,07	-0,13	-65641,3
69	6,61111	ENVELOPE	Combination	Min	-138,33	-2330,05	-23,68	-8179,07	-9,08	-82978,4
69	7	ENVELOPE	Combination	Min	-138,33	-1585,6	-23,68	-8179,07	-18,29	-100834,4
70	0	ENVELOPE	Combination	Max	138,59	2398,38	23,79	8102,07	18,4	37276,3
70	0,38889	ENVELOPE	Combination	Max	138,59	3142,83	23,79	8102,07	9,15	36200,9
70	0,77778	ENVELOPE	Combination	Max	138,59	3887,28	23,79	8102,07	0,13	34836,68
70	1,16667	ENVELOPE	Combination	Max	138,59	4631,73	23,79	8102,07	9,35	33184,06
70	1,16667	ENVELOPE	Combination	Max	3,41	4577,95	1,54	6794,95	8,08	33163,76
70	1,55556	ENVELOPE	Combination	Max	3,41	5322,4	1,54	6794,95	8,68	31243,8
70	1,94444	ENVELOPE	Combination	Max	3,41	6066,85	1,54	6794,95	9,28	32213,16
70	2,33333	ENVELOPE	Combination	Max	3,41	6811,3	1,54	6794,95	9,87	32908,08
70	2,33333	ENVELOPE	Combination	Max	142	7265,54	25,81	5870,96	10,61	32911,52
70	2,72222	ENVELOPE	Combination	Max	142	8009,99	25,81	5870,96	0,57	32728,68
70	3,11111	ENVELOPE	Combination	Max	142	8754,44	25,81	5870,96	9,47	32374,78
70	3,5	ENVELOPE	Combination	Max	142	9498,89	25,81	5870,96	19,51	38758,51
70	3,5	ENVELOPE	Combination	Max	143,72	30783,64	25,56	6335,23	19,22	38627,13
70	3,88889	ENVELOPE	Combination	Max	143,72	32116,51	25,56	6335,23	9,28	36371,35
70	4,27778	ENVELOPE	Combination	Max	143,72	33449,39	25,56	6335,23	0,66	36994,69
70	4,66667	ENVELOPE	Combination	Max	143,72	34782,27	25,56	6335,23	10,6	37125,89
70	4,66667	ENVELOPE	Combination	Max	2,91	36993,54	2,39	7285,14	10,07	37124,2
70	5,05556	ENVELOPE	Combination	Max	2,91	38326,41	2,39	7285,14	9,13	36307,33
70	5,44444	ENVELOPE	Combination	Max	2,91	39659,29	2,39	7285,14	8,2	34977,57
70	5,83333	ENVELOPE	Combination	Max	2,91	40992,17	2,39	7285,14	7,27	36702,26
70	5,83333	ENVELOPE	Combination	Max	140,81	43660,49	22,83	8610,82	8,96	36727,37
70	6,22222	ENVELOPE	Combination	Max	140,81	44993,37	22,83	8610,82	0,11	38087,16
70	6,61111	ENVELOPE	Combination	Max	140,81	46326,25	22,83	8610,82	8,8	39158,43
70	7	ENVELOPE	Combination	Max	140,81	47659,12	22,83	8610,82	17,68	39940,81
70	0	ENVELOPE	Combination	Min	-138,59	-48541,98	-23,79	-8150	-18,4	-102871,4
70	0,38889	ENVELOPE	Combination	Min	-138,59	-47209,1	-23,79	-8150	-9,15	-84255,18
70	0,77778	ENVELOPE	Combination	Min	-138,59	-45876,22	-23,79	-8150	-0,13	-66158,01
70	1,16667	ENVELOPE	Combination	Min	-138,59	-44543,34	-23,79	-8150	-9,35	-48580,27
70	1,16667	ENVELOPE	Combination	Min	-3,41	-41910,35	-1,54	-6863,15	-8,08	-48156,37
70	1,55556	ENVELOPE	Combination	Min	-3,41	-40577,47	-1,54	-6863,15	-8,68	-32122,19
70	1,94444	ENVELOPE	Combination	Min	-3,41	-39244,59	-1,54	-6863,15	-9,28	-19785,17
70	2,33333	ENVELOPE	Combination	Min	-3,41	-37911,71	-1,54	-6863,15	-9,87	-7981,56
70	2,33333	ENVELOPE	Combination	Min	-142	-35711,63	-25,81	-5940,41	-10,61	-7691,73
70	2,72222	ENVELOPE	Combination	Min	-142	-34378,75	-25,81	-5940,41	-0,57	3149,55
70	3,11111	ENVELOPE	Combination	Min	-142	-33045,88	-25,81	-5940,41	-9,47	13678,63

70	3,5	ENVELOPE	Combination	Min	-142	-31713	-25,81	-5940,41	-19,51	16578,92
70	3,5	ENVELOPE	Combination	Min	-143,72	-9190,73	-25,56	-6265,43	-19,22	19319,97
70	3,88889	ENVELOPE	Combination	Min	-143,72	-8446,28	-25,56	-6265,43	-9,28	9417,93
70	4,27778	ENVELOPE	Combination	Min	-143,72	-7701,83	-25,56	-6265,43	-0,66	-814,42
70	4,66667	ENVELOPE	Combination	Min	-143,72	-6957,38	-25,56	-6265,43	-10,6	-11362,49
70	4,66667	ENVELOPE	Combination	Min	-2,91	-6361,37	-2,39	-7213,47	-10,07	-11643,6
70	5,05556	ENVELOPE	Combination	Min	-2,91	-5616,92	-2,39	-7213,47	-9,13	-23143,17
70	5,44444	ENVELOPE	Combination	Min	-2,91	-4872,47	-2,39	-7213,47	-8,2	-34937,7
70	5,83333	ENVELOPE	Combination	Min	-2,91	-4128,02	-2,39	-7213,47	-7,27	-50594,52
70	5,83333	ENVELOPE	Combination	Min	-140,81	-3877,67	-22,83	-8559,44	-8,96	-51003,41
70	6,22222	ENVELOPE	Combination	Min	-140,81	-3133,22	-22,83	-8559,44	-0,11	-68238,22
70	6,61111	ENVELOPE	Combination	Min	-140,81	-2388,77	-22,83	-8559,44	-8,8	-85992,37
70	7	ENVELOPE	Combination	Min	-140,81	-1644,32	-22,83	-8559,44	-17,68	-104265,5

OUTPUT KOLOM

TABLE: Element Forces - Frames										
Frame	Station	OutputCase	CaseType	StepType	P	V2	V3	T	M2	M3
Text	m	Text	Text	Text	Kgf	Kgf	Kgf	Kgf-m	Kgf-m	Kgf-m
68	0	ENVELOPE	Combination	Max	138,28	1605,06	23,07	7997,89	17,83	35178,61
68	0,38889	ENVELOPE	Combination	Max	138,28	2349,51	23,07	7997,89	8,86	34411,84
68	0,77778	ENVELOPE	Combination	Max	138,28	3093,96	23,07	7997,89	0,14	33356,26
68	1,16667	ENVELOPE	Combination	Max	138,28	3838,41	23,07	7997,89	9,09	32012,28
68	1,16667	ENVELOPE	Combination	Max	3,32	3795,41	1,52	6731,45	7,83	31999,51
68	1,55556	ENVELOPE	Combination	Max	3,32	4539,86	1,52	6731,45	8,41	30383,93
68	1,94444	ENVELOPE	Combination	Max	3,32	5284,31	1,52	6731,45	8,99	31059,72
68	2,33333	ENVELOPE	Combination	Max	3,32	6028,76	1,52	6731,45	9,57	31927,07
68	2,33333	ENVELOPE	Combination	Max	141,6	6475,66	24,96	5843,07	10,25	31934,48
68	2,72222	ENVELOPE	Combination	Max	141,6	7220,11	24,96	5843,07	0,55	31934,63
68	3,11111	ENVELOPE	Combination	Max	141,6	7964,56	24,96	5843,07	9,17	31434,43
68	3,5	ENVELOPE	Combination	Max	141,6	8709,01	24,96	5843,07	18,88	35763,59
68	3,5	ENVELOPE	Combination	Max	141,6	29800,35	25,04	5911,74	18,95	35764,91
68	3,88889	ENVELOPE	Combination	Max	141,6	31133,23	25,04	5911,74	9,21	31425,32
68	4,27778	ENVELOPE	Combination	Max	141,6	32466,11	25,04	5911,74	0,55	31916,63
68	4,66667	ENVELOPE	Combination	Max	141,6	33798,98	25,04	5911,74	10,26	31921,4
68	4,66667	ENVELOPE	Combination	Max	3,32	35916,45	1,51	6807,3	9,6	31914,24
68	5,05556	ENVELOPE	Combination	Max	3,32	37249,33	1,51	6807,3	9,03	31056,8
68	5,44444	ENVELOPE	Combination	Max	3,32	38582,21	1,51	6807,3	8,46	30396,55
68	5,83333	ENVELOPE	Combination	Max	3,32	39915,09	1,51	6807,3	7,88	32023,8
68	5,83333	ENVELOPE	Combination	Max	138,28	42496,42	23,23	8062,6	9,16	32036,93
68	6,22222	ENVELOPE	Combination	Max	138,28	43829,3	23,23	8062,6	0,12	33392,78
68	6,61111	ENVELOPE	Combination	Max	138,28	45162,18	23,23	8062,6	8,91	34459,99
68	7	ENVELOPE	Combination	Max	138,28	46495,05	23,23	8062,6	17,95	35238,24
68	0	ENVELOPE	Combination	Min	-138,28	-46453,7	-23,07	-8037,04	-17,83	-100623,46
68	0,38889	ENVELOPE	Combination	Min	-138,28	-45120,82	-23,07	-8037,04	-8,86	-82819,47
68	0,77778	ENVELOPE	Combination	Min	-138,28	-43787,94	-23,07	-8037,04	-0,14	-65534,54
68	1,16667	ENVELOPE	Combination	Min	-138,28	-42455,06	-23,07	-8037,04	-9,09	-48769,04
68	1,16667	ENVELOPE	Combination	Min	-3,32	-39877,42	-1,52	-6789,54	-7,83	-48365,95
68	1,55556	ENVELOPE	Combination	Min	-3,32	-38544,55	-1,52	-6789,54	-8,41	-33122,41
68	1,94444	ENVELOPE	Combination	Min	-3,32	-37211,67	-1,52	-6789,54	-8,99	-20978,07
68	2,33333	ENVELOPE	Combination	Min	-3,32	-35878,79	-1,52	-6789,54	-9,57	-9833,15
68	2,33333	ENVELOPE	Combination	Min	-141,6	-33763,98	-24,96	-5901,12	-10,25	-9560,56
68	2,72222	ENVELOPE	Combination	Min	-141,6	-32431,1	-24,96	-5901,12	-0,55	647,48
68	3,11111	ENVELOPE	Combination	Min	-141,6	-31098,23	-24,96	-5901,12	-9,17	10548,04
68	3,5	ENVELOPE	Combination	Min	-141,6	-29765,35	-24,96	-5901,12	-18,88	17244,62
68	3,5	ENVELOPE	Combination	Min	-141,6	-8734,71	-25,04	-5861,86	-18,95	17246,98
68	3,88889	ENVELOPE	Combination	Min	-141,6	-7990,26	-25,04	-5861,86	-9,21	10555,39

68	4,27778	ENVELOPE	Combination	Min	-141,6	-7245,81	-25,04	-5861,86	-0,55	660,11
68	4,66667	ENVELOPE	Combination	Min	-141,6	-6501,36	-25,04	-5861,86	-10,26	-9556,48
68	4,66667	ENVELOPE	Combination	Min	-3,32	-6055,8	-1,51	-6758,07	-9,6	-9829,4
68	5,05556	ENVELOPE	Combination	Min	-3,32	-5311,35	-1,51	-6758,07	-9,03	-20988,37
68	5,44444	ENVELOPE	Combination	Min	-3,32	-4566,9	-1,51	-6758,07	-8,46	-33152,36
68	5,83333	ENVELOPE	Combination	Min	-3,32	-3822,45	-1,51	-6758,07	-7,88	-48411,72
68	5,83333	ENVELOPE	Combination	Min	-138,28	-3866,18	-23,23	-8033,42	-9,16	-48815,21
68	6,22222	ENVELOPE	Combination	Min	-138,28	-3121,73	-23,23	-8033,42	-0,12	-65597,85
68	6,61111	ENVELOPE	Combination	Min	-138,28	-2377,28	-23,23	-8033,42	-8,91	-82899,71
68	7	ENVELOPE	Combination	Min	-138,28	-1632,83	-23,23	-8033,42	-17,95	-100720,45
69	0	ENVELOPE	Combination	Max	138,29	1536,61	23,35	7998,89	18,07	35098,33
69	0,38889	ENVELOPE	Combination	Max	138,29	2281,06	23,35	7998,89	8,99	34358,16
69	0,77778	ENVELOPE	Combination	Max	138,29	3025,51	23,35	7998,89	0,13	33329,18
69	1,16667	ENVELOPE	Combination	Max	138,29	3769,96	23,35	7998,89	9,17	32011,76
69	1,16667	ENVELOPE	Combination	Max	3,32	3729,73	1,55	6717,4	7,92	31999,65
69	1,55556	ENVELOPE	Combination	Max	3,32	4474,18	1,55	6717,4	8,52	30409,54
69	1,94444	ENVELOPE	Combination	Max	3,32	5218,63	1,55	6717,4	9,12	31136,7
69	2,33333	ENVELOPE	Combination	Max	3,32	5963,08	1,55	6717,4	9,72	32017,23
69	2,33333	ENVELOPE	Combination	Max	141,61	6412,95	25,37	5813,97	10,42	32024,95
69	2,72222	ENVELOPE	Combination	Max	141,61	7157,4	25,37	5813,97	0,56	32037,43
69	3,11111	ENVELOPE	Combination	Max	141,61	7901,85	25,37	5813,97	9,31	31549,06
69	3,5	ENVELOPE	Combination	Max	141,61	8646,3	25,37	5813,97	19,17	35710,06
69	3,5	ENVELOPE	Combination	Max	141,64	29865,51	25,5	6017,11	19,3	35748,16
69	3,88889	ENVELOPE	Combination	Max	141,64	31198,38	25,5	6017,11	9,39	31205,54
69	4,27778	ENVELOPE	Combination	Max	141,64	32531,26	25,5	6017,11	0,53	31659,77
69	4,66667	ENVELOPE	Combination	Max	141,64	33864,14	25,5	6017,11	10,44	31627,96
69	4,66667	ENVELOPE	Combination	Max	3,31	35990,41	1,5	6928,85	9,78	31619,72
69	5,05556	ENVELOPE	Combination	Max	3,31	37323,29	1,5	6928,85	9,2	30727,96
69	5,44444	ENVELOPE	Combination	Max	3,31	38656,17	1,5	6928,85	8,61	30104,18
69	5,83333	ENVELOPE	Combination	Max	3,31	39989,05	1,5	6928,85	8,03	31709,68
69	5,83333	ENVELOPE	Combination	Max	138,33	42586,84	23,68	8207,07	9,33	31721,82
69	6,22222	ENVELOPE	Combination	Max	138,33	43919,71	23,68	8207,07	0,13	33059,4
69	6,61111	ENVELOPE	Combination	Max	138,33	45252,59	23,68	8207,07	9,08	34108,32
69	7	ENVELOPE	Combination	Max	138,33	46585,47	23,68	8207,07	18,29	34868,26
69	0	ENVELOPE	Combination	Min	-138,29	-46261,99	-23,35	-8037,97	-18,07	-100200,01
69	0,38889	ENVELOPE	Combination	Min	-138,29	-44929,11	-23,35	-8037,97	-8,99	-82470,56
69	0,77778	ENVELOPE	Combination	Min	-138,29	-43596,23	-23,35	-8037,97	-0,13	-65260,15
69	1,16667	ENVELOPE	Combination	Min	-138,29	-42263,35	-23,35	-8037,97	-9,17	-48569,16
69	1,16667	ENVELOPE	Combination	Min	-3,32	-39693,76	-1,55	-6776,74	-7,92	-48167,93
69	1,55556	ENVELOPE	Combination	Min	-3,32	-38360,89	-1,55	-6776,74	-8,52	-32995,73
69	1,94444	ENVELOPE	Combination	Min	-3,32	-37028,01	-1,55	-6776,74	-9,12	-20948,65
69	2,33333	ENVELOPE	Combination	Min	-3,32	-35695,13	-1,55	-6776,74	-9,72	-9862,79
69	2,33333	ENVELOPE	Combination	Min	-141,61	-33589,14	-25,37	-5874,1	-10,42	-9591,76
69	2,72222	ENVELOPE	Combination	Min	-141,61	-32256,26	-25,37	-5874,1	-0,56	560,35

69	3,11111	ENVELOPE	Combination	Min	-141,61	-30923,38	-25,37	-5874,1	-9,31	10405,46
69	3,5	ENVELOPE	Combination	Min	-141,61	-29590,51	-25,37	-5874,1	-19,17	17393,59
69	3,5	ENVELOPE	Combination	Min	-141,64	-8672,19	-25,5	-5969,99	-19,3	17073,59
69	3,88889	ENVELOPE	Combination	Min	-141,64	-7927,74	-25,5	-5969,99	-9,39	10706,04
69	4,27778	ENVELOPE	Combination	Min	-141,64	-7183,29	-25,5	-5969,99	-0,53	798,19
69	4,66667	ENVELOPE	Combination	Min	-141,64	-6438,84	-25,5	-5969,99	-10,44	-9431,48
69	4,66667	ENVELOPE	Combination	Min	-3,31	-5999,55	-1,5	-6881,72	-9,78	-9704,71
69	5,05556	ENVELOPE	Combination	Min	-3,31	-5255,1	-1,5	-6881,72	-9,2	-20880
69	5,44444	ENVELOPE	Combination	Min	-3,31	-4510,65	-1,5	-6881,72	-8,61	-33131,1
69	5,83333	ENVELOPE	Combination	Min	-3,31	-3766,2	-1,5	-6881,72	-8,03	-48419,34
69	5,83333	ENVELOPE	Combination	Min	-138,33	-3818,95	-23,68	-8179,07	-9,33	-48823,4
69	6,22222	ENVELOPE	Combination	Min	-138,33	-3074,5	-23,68	-8179,07	-0,13	-65641,3
69	6,61111	ENVELOPE	Combination	Min	-138,33	-2330,05	-23,68	-8179,07	-9,08	-82978,4
69	7	ENVELOPE	Combination	Min	-138,33	-1585,6	-23,68	-8179,07	-18,29	-100834,36
70	0	ENVELOPE	Combination	Max	138,59	2398,38	23,79	8102,07	18,4	37276,3
70	0,38889	ENVELOPE	Combination	Max	138,59	3142,83	23,79	8102,07	9,15	36200,9
70	0,77778	ENVELOPE	Combination	Max	138,59	3887,28	23,79	8102,07	0,13	34836,68
70	1,16667	ENVELOPE	Combination	Max	138,59	4631,73	23,79	8102,07	9,35	33184,06
70	1,16667	ENVELOPE	Combination	Max	3,41	4577,95	1,54	6794,95	8,08	33163,76
70	1,55556	ENVELOPE	Combination	Max	3,41	5322,4	1,54	6794,95	8,68	31243,8
70	1,94444	ENVELOPE	Combination	Max	3,41	6066,85	1,54	6794,95	9,28	32213,16
70	2,33333	ENVELOPE	Combination	Max	3,41	6811,3	1,54	6794,95	9,87	32908,08
70	2,33333	ENVELOPE	Combination	Max	142	7265,54	25,81	5870,96	10,61	32911,52
70	2,72222	ENVELOPE	Combination	Max	142	8009,99	25,81	5870,96	0,57	32728,68
70	3,11111	ENVELOPE	Combination	Max	142	8754,44	25,81	5870,96	9,47	32374,78
70	3,5	ENVELOPE	Combination	Max	142	9498,89	25,81	5870,96	19,51	38758,51
70	3,5	ENVELOPE	Combination	Max	143,72	30783,64	25,56	6335,23	19,22	38627,13
70	3,88889	ENVELOPE	Combination	Max	143,72	32116,51	25,56	6335,23	9,28	36371,35
70	4,27778	ENVELOPE	Combination	Max	143,72	33449,39	25,56	6335,23	0,66	36994,69
70	4,66667	ENVELOPE	Combination	Max	143,72	34782,27	25,56	6335,23	10,6	37125,89
70	4,66667	ENVELOPE	Combination	Max	2,91	36993,54	2,39	7285,14	10,07	37124,2
70	5,05556	ENVELOPE	Combination	Max	2,91	38326,41	2,39	7285,14	9,13	36307,33
70	5,44444	ENVELOPE	Combination	Max	2,91	39659,29	2,39	7285,14	8,2	34977,57
70	5,83333	ENVELOPE	Combination	Max	2,91	40992,17	2,39	7285,14	7,27	36702,26
70	5,83333	ENVELOPE	Combination	Max	140,81	43660,49	22,83	8610,82	8,96	36727,37
70	6,22222	ENVELOPE	Combination	Max	140,81	44993,37	22,83	8610,82	0,11	38087,16
70	6,61111	ENVELOPE	Combination	Max	140,81	46326,25	22,83	8610,82	8,8	39158,43
70	7	ENVELOPE	Combination	Max	140,81	47659,12	22,83	8610,82	17,68	39940,81
70	0	ENVELOPE	Combination	Min	-138,59	-48541,98	-23,79	-8150	-18,4	-102871,39
70	0,38889	ENVELOPE	Combination	Min	-138,59	-47209,1	-23,79	-8150	-9,15	-84255,18
70	0,77778	ENVELOPE	Combination	Min	-138,59	-45876,22	-23,79	-8150	-0,13	-66158,01
70	1,16667	ENVELOPE	Combination	Min	-138,59	-44543,34	-23,79	-8150	-9,35	-48580,27
70	1,16667	ENVELOPE	Combination	Min	-3,41	-41910,35	-1,54	-6863,15	-8,08	-48156,37
70	1,55556	ENVELOPE	Combination	Min	-3,41	-40577,47	-1,54	-6863,15	-8,68	-32122,19

70	1,94444	ENVELOPE	Combination	Min	-3,41	-39244,59	-1,54	-6863,15	-9,28	-19785,17
70	2,33333	ENVELOPE	Combination	Min	-3,41	-37911,71	-1,54	-6863,15	-9,87	-7981,56
70	2,33333	ENVELOPE	Combination	Min	-142	-35711,63	-25,81	-5940,41	-10,61	-7691,73
70	2,72222	ENVELOPE	Combination	Min	-142	-34378,75	-25,81	-5940,41	-0,57	3149,55
70	3,11111	ENVELOPE	Combination	Min	-142	-33045,88	-25,81	-5940,41	-9,47	13678,63
70	3,5	ENVELOPE	Combination	Min	-142	-31713	-25,81	-5940,41	-19,51	16578,92
70	3,5	ENVELOPE	Combination	Min	-143,72	-9190,73	-25,56	-6265,43	-19,22	19319,97
70	3,88889	ENVELOPE	Combination	Min	-143,72	-8446,28	-25,56	-6265,43	-9,28	9417,93
70	4,27778	ENVELOPE	Combination	Min	-143,72	-7701,83	-25,56	-6265,43	-0,66	-814,42
70	4,66667	ENVELOPE	Combination	Min	-143,72	-6957,38	-25,56	-6265,43	-10,6	-11362,49
70	4,66667	ENVELOPE	Combination	Min	-2,91	-6361,37	-2,39	-7213,47	-10,07	-11643,6
70	5,05556	ENVELOPE	Combination	Min	-2,91	-5616,92	-2,39	-7213,47	-9,13	-23143,17
70	5,44444	ENVELOPE	Combination	Min	-2,91	-4872,47	-2,39	-7213,47	-8,2	-34937,7
70	5,83333	ENVELOPE	Combination	Min	-2,91	-4128,02	-2,39	-7213,47	-7,27	-50594,52
70	5,83333	ENVELOPE	Combination	Min	-140,81	-3877,67	-22,83	-8559,44	-8,96	-51003,41
70	6,22222	ENVELOPE	Combination	Min	-140,81	-3133,22	-22,83	-8559,44	-0,11	-68238,22
70	6,61111	ENVELOPE	Combination	Min	-140,81	-2388,77	-22,83	-8559,44	-8,8	-85992,37
70	7	ENVELOPE	Combination	Min	-140,81	-1644,32	-22,83	-8559,44	-17,68	-104265,47
1029	0	ENVELOPE	Combination	Max	-77071,22	27178,93	31829,03	1146,08	114078	97174,82
1029	2	ENVELOPE	Combination	Max	-74954,42	27178,93	31829,03	1146,08	51720,04	43922,72
1029	4	ENVELOPE	Combination	Max	-72837,62	27178,93	31829,03	1146,08	32026,34	28486,41
1029	0	ENVELOPE	Combination	Min	-533547	-33372,98	-38614,69	-1136,41	-122714,66	-105168,46
1029	2	ENVELOPE	Combination	Min	-530724,6	-33372,98	-38614,69	-1136,41	-46785,39	-39528,27
1029	4	ENVELOPE	Combination	Min	-527902,2	-33372,98	-38614,69	-1136,41	-13520,39	-11703,88
1039	0	ENVELOPE	Combination	Max	-250550,36	24997,64	44037,19	1146,08	129657,36	92191,61
1039	2	ENVELOPE	Combination	Max	-248433,56	24997,64	44037,19	1146,08	41629,61	44408,34
1039	4	ENVELOPE	Combination	Max	-246316,76	24997,64	44037,19	1146,08	46321,59	40808,86
1039	0	ENVELOPE	Combination	Min	-762674,81	-37117,04	-43950,17	-1136,41	-129534,57	-107785,35
1039	2	ENVELOPE	Combination	Min	-759852,41	-37117,04	-43950,17	-1136,41	-41680,86	-35763,28
1039	4	ENVELOPE	Combination	Min	-757030,01	-37117,04	-43950,17	-1136,41	-46546,88	-7925
1049	0	ENVELOPE	Combination	Max	-262189,72	23985,01	43597,8	1146,08	129095,01	88730,82
1049	2	ENVELOPE	Combination	Max	-260072,92	23985,01	43597,8	1146,08	41936,12	42929,4
1049	4	ENVELOPE	Combination	Max	-257956,12	23985,01	43597,8	1146,08	45435,27	39758,13
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1049	4	ENVELOPE	Combination	Min	-764355,35	-35955,04	-43625,08	-1136,41	-45349,06	-7329,39
1059	0	ENVELOPE	Combination	Max	-266257,77	23062,33	43637,32	1146,08	129148,45	85661,64
1059	2	ENVELOPE	Combination	Max	-264140,97	23062,33	43637,32	1146,08	41902,53	41697,4
1059	4	ENVELOPE	Combination	Max	-262024,17	23062,33	43637,32	1146,08	45454,16	39163,13
1059	0	ENVELOPE	Combination	Min	-765507,62	-35061,21	-43633,06	-1136,41	-129131,13	-101197,84

1059	2	ENVELOPE	Combination	Min	- 762685,22	-35061,21	-43633,06	-1136,41	-41893,74	-33235,82
1059	4	ENVELOPE	Combination	Min	- 759862,82	-35061,21	-43633,06	-1136,41	-45453,91	-6703,79
1069	0	ENVELOPE	Combination	Max	- 265769,54	23187,31	43630,49	1146,08	129139,78	86074,5
1069	2	ENVELOPE	Combination	Max	- 263652,74	23187,31	43630,49	1146,08	41910,89	41849,43
1069	4	ENVELOPE	Combination	Max	- 261535,94	23187,31	43630,49	1146,08	45349,4	39228,14
1069	0	ENVELOPE	Combination	Min	- 766508,69	-35195,66	-43594,7	-1136,41	-129082,29	-101670,79
1069	2	ENVELOPE	Combination	Min	- 76386,29	-35195,66	-43594,7	-1136,41	-41924,98	-33429,02
1069	4	ENVELOPE	Combination	Min	- 760863,89	-35195,66	-43594,7	-1136,41	-45435,06	-6791,02
1079	0	ENVELOPE	Combination	Max	- 256676,96	23624,51	43952,93	1146,08	129546,89	87617,33
1079	2	ENVELOPE	Combination	Max	- 254560,16	23624,51	43952,93	1146,08	41692,17	42542,73
1079	4	ENVELOPE	Combination	Max	- 252443,36	23624,51	43952,93	1146,08	46545,46	39901,11
1079	0	ENVELOPE	Combination	Min	- 756720,33	-35820,35	-44031,22	-1136,41	-129634,79	-103500,61
1079	2	ENVELOPE	Combination	Min	- 753897,93	-35820,35	-44031,22	-1136,41	-41623,49	-34034,33
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1089	0	ENVELOPE	Combination	Max	-73226,8	25307,89	38649,21	1146,08	122773,45	90802,51
1089	2	ENVELOPE	Combination	Max	-71110	25307,89	38649,21	1146,08	46771,28	41235,83
1089	4	ENVELOPE	Combination	Max	-68993,2	25307,89	38649,21	1146,08	13594,84	27381,58
1089	0	ENVELOPE	Combination	Min	-537630,8	-31613,01	-31856,71	-1136,41	-114104,31	-99225,9
1089	2	ENVELOPE	Combination	Min	-534808,4	-31613,01	-31856,71	-1136,41	-51687,13	-37048,98
1089	4	ENVELOPE	Combination	Min	-531986	-31613,01	-31856,71	-1136,41	-32095,69	-10584,51

BIODATA PENULIS



Alfiyah Diah Salsabila,

Penulis dilahirkan di Bojonegoro, 12 Agustus 2001, merupakan anak pertama dari dua bersaudara. Telah menempuh pendidikan formal dengan catatan pendidikan terakhir yaitu tepatnya pada SMAN 11 Surabaya. Setelah lulus, melanjutkan pendidikan sarjana (S1) di Universitas Wijaya Kusuma Surabaya pada tahun 2019 pada program studi Teknik Sipil dengan NPM 19110026. Gelar Sarjana Teknik diperoleh penulis pada tahun 2023 dengan judul Tugas Akhir *"Perencanaan Struktur Beton Bertulang Gedung Hotel "DAME"*

10 Lantai Tahan Gempa dengan Sistem Rangka Pemikul Momen Khusus (SRPMK) di Kota Padang".

E-mail : alfiyahdiah0912@gmail.com

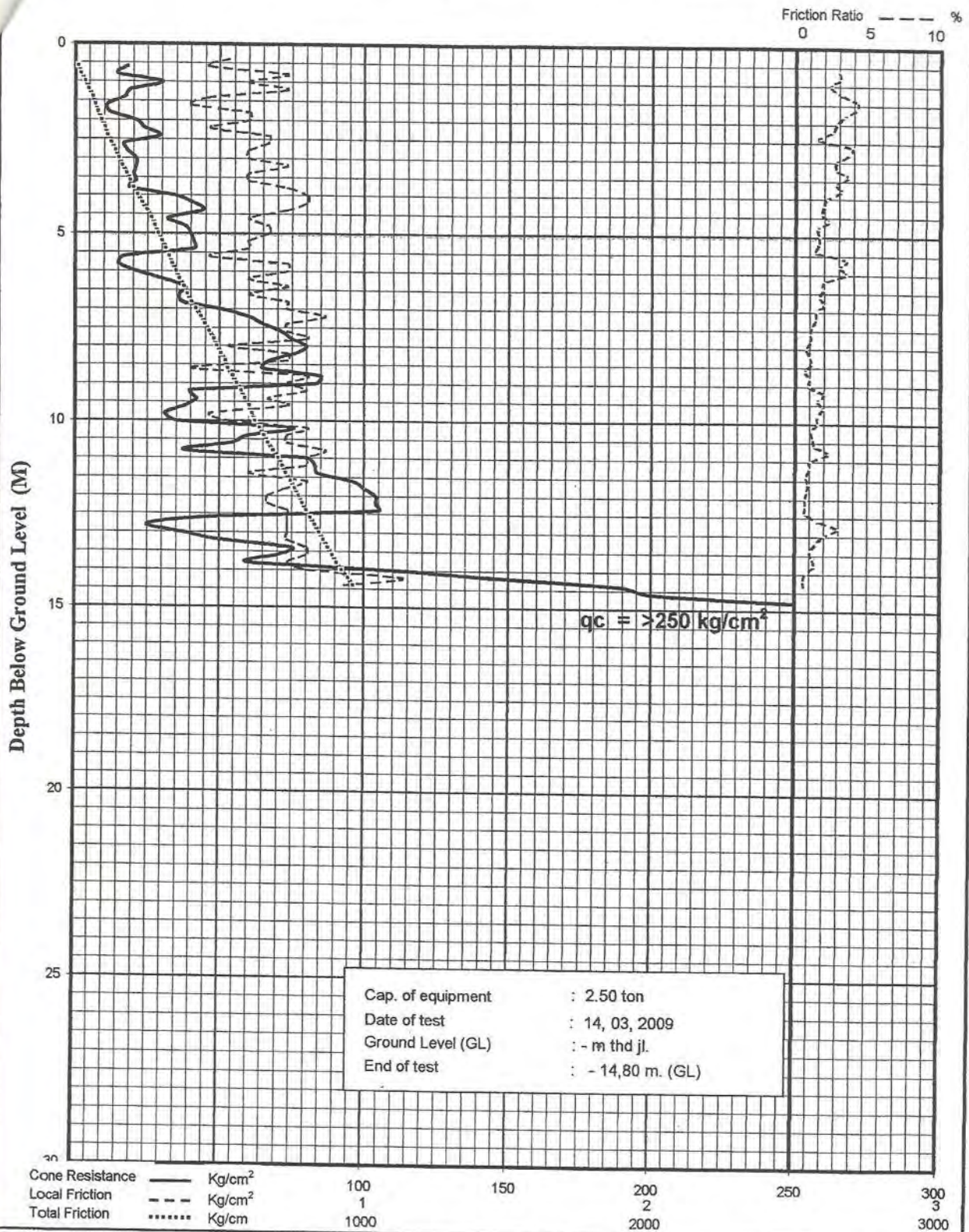
BORING LOG

PROJECT NAME		: RETROFIT GEDUNG KANTOR GUBERNUR				BOR No. : DB. 1	
LOCATION		: JL. JENDRAL SUDIRMAN PADANG				DRILLER : Alamsyah	
GROUND LEVEL (GL) :		- 0,30 m thd jl.kawasan.				DATE : 18 - 18 Maret '08	
GROUND WTR LEVEL :		- 2,60 m. GL.					

SCALE	DEPTH, M.	ELEVATION, M.	THICKNESS, M.	LOG SYMBOL	GENERAL SOIL DESCRIPTION	FIELD SAMPLING AND TESTING Depth Below Existing Ground Level in M.	STANDARD PENETRATION TEST										
							N - 1	N - 2	N - 3	N - VALUE							
	0,60		0,60		Urugan . Lempung kelanauan, konsistensi sedang, coklat kemerahan.												
1	1,00		1,50		Lempung kelanauan/kepasiran, konsistensi sedang, abu-abu kekuningan dan hitam.	1 1,00 - 1,50											
2	2,10		2,10		Lanau lepasiran, konsistensi sangat teguh, abu-abu dan hitam bintik putih.	1 1,50 - 1,95	2	3	4	7							
3	3,00		3,00		Pasir kasar campur gravels, sedikit Lanau, padat, hitam bintik putih.	2 3,00 - 3,45	5	11	17	28							
4	4,20		4,20		Lanau kelepungan, konsistensi sangat teguh, abu-abu kekuningan campur kuning.	3 4,50 - 4,95	8	16	24	40							
5	5,50		5,50		Lanau kelepungan, konsistensi sangat teguh, abu-abu kecocokan campur kuning.	4 6,00 - 6,45	5	8	13	21							
6	7,00		7,00		Lanau kelepungan/kepasiran, konsistensi sedang, coklat kekuningan campur abu-abu .	2 7,00 - 7,50	2	3	4	7							
7	8,50		8,50		Lanau kelepungan, konsistensi sangat teguh, abu-abu kekuningan bintik hitam coklat.	5 7,50 - 7,95	2	3	4	7							
8	9,00		9,00		Lanau kelepungan, konsistensi sangat teguh, coklat gelap campur organic.	6 9,00 - 9,45	5	9	14	23							
9	10,30		10,30		Lanau kelepungan, konsistensi sedang, coklat kekuningan campur abu-abu .	7 10,50 - 10,95	3	4	7	11							
10	12,00		12,00		Lanau kelepungan, konsistensi sedang, coklat kekuningan campur abu-abu .	8 12,00 - 12,45	3	5	7	12							
11	13,40		13,40		Pasir bergradasi kasar kelanauan, padat, hitam bintik abu-abu dan kuning.	9 13,50 - 13,95	8	14	23	37							
12	14,60		14,60		Pasir bergradasi halus, sangat padat, mulai membatu, hitam.	10 15,00 - 15,31	11	28	5/1	>50							
13	17,80		17,80		Lanau kelepungan, konsistensi keras, abu-abu kekuningan campur hitam.	11 16,50 - 16,66	32	5/1	-	>50							
14	19,50		19,50		Lanau kelepungan, konsistensi sangat teguh, abu-abu gelap campur coklat dan kuning.	12 18,00 - 18,45	8	15	23	38							
15	22,00		22,00		Lanau kelepungan, konsistensi sangat teguh, coklat gelap campur organic.	13 19,50 - 19,95	4	7	9	16							
16	23,60		23,60		Lanau kelepungan, konsistensi sangat teguh, abu-abu kekuningan dan hitam.	14 21,00 - 21,45	5	7	11	18							
17	25,20		25,20		Lanau kelepungan, konsistensi sangat teguh, coklat gelap campur organic.	15 22,50 - 22,95	3	5	10	15							
18	26,40		26,40		Lanau kelepungan, konsistensi sangat teguh, abu-abu gelap campur coklat dan kuning.	16 24,00 - 24,45	6	11	15	26							
19	28,40		28,40		Lanau kelepungan, konsistensi sangat teguh, abu-abu gelap campur coklat dan kuning.	17 25,50 - 25,95	5	10	13	23							
20	30,45		30,45		Lanau kelepungan, konsistensi sangat teguh, coklat kekuningan dan hitam.	18 27,00 - 27,45	6	11	15	26							
21					Lanau kelepungan, konsistensi sangat teguh, coklat kekuningan dan hitam.	19 28,50 - 28,95	4	10	14	24							
22					Akhir Boring : 30,45 m.GL.	20 30,00 - 30,45	5	12	15	27							

 Thin Wall Tube Sample (TW)  Standard Penetration Test (SPT).  Core Sample	PT. INDECO PRIMA Investigation, Design Consultants	No. : 5448032009 Fig. :
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DUTCH CONE PENETRATION TEST



PT. INDECO PRIMA
Investigation, Design Consultants

**RETROFIT GEDUNG KANTOR GUBERNUR
JL. JENDRAL. SUDIRMAN PADANG**

Test : **S. 4**

No.: 54486032009

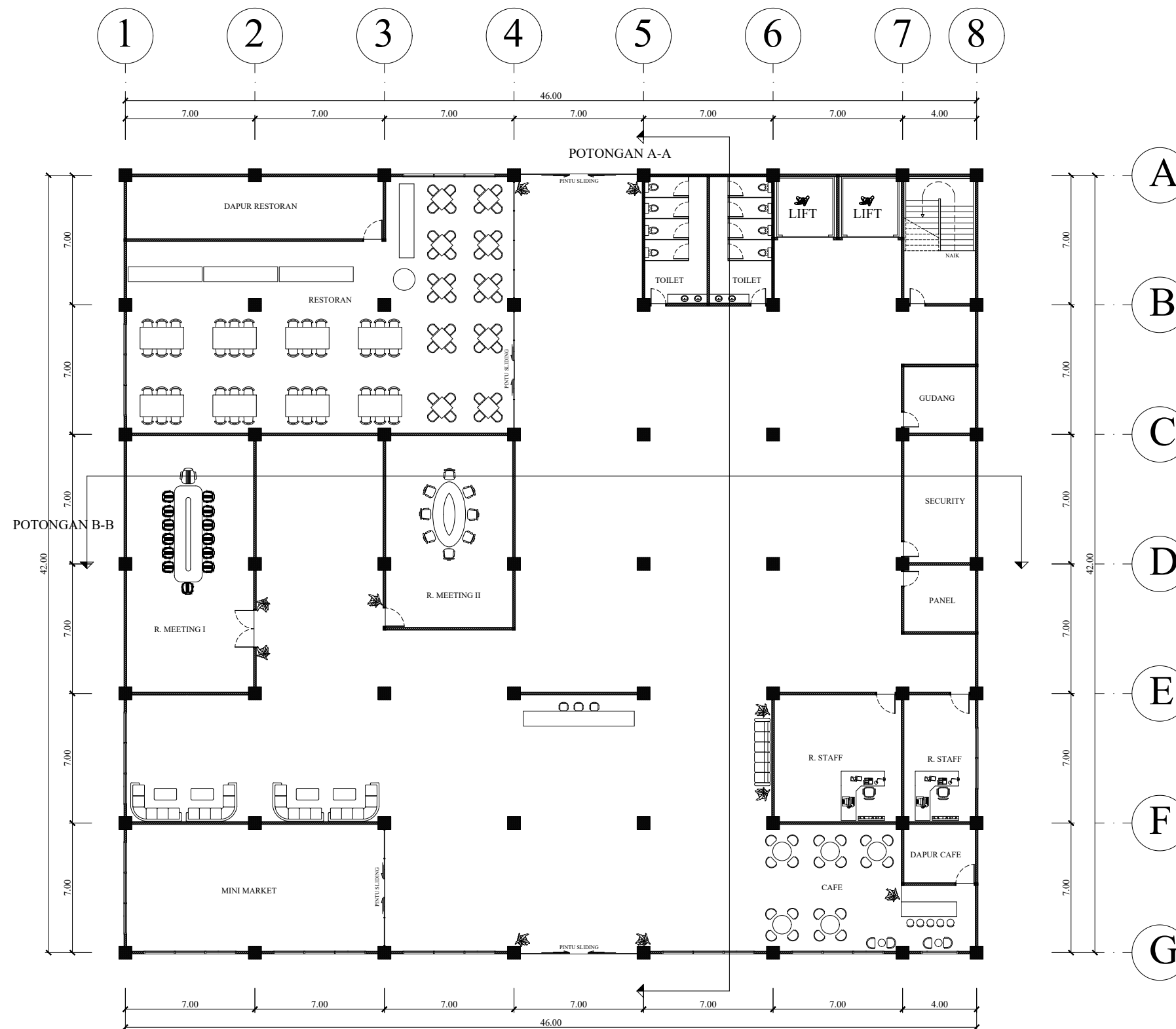
REVISI TUGAS PROPOSAL TA / TUGAS AKHIR

NAMA : Alfiyah D. S.

NPM : 19.11.02.26

JUDUL TOPIK KHUSUS/TUGAS AKHIR :

NO.	U R A I A N	PARAF
1.	Cek lagi cara penulisan daftar pustaka. Cross cek lagi, setiap sitasi dan daftar pustaka harus saling melengkapi	
2.	Perbaiki dasar teori perhitungan daya dukung pondasi tiang dari data sandir. → sesuaikan dengan rumus yang di pakai pada perhitungan ✓	
3.	Tambahkan alasan pemilihan tipe tiang, dimensi tiang, dan panjang penanaman. kenapa memilih tiang pancang? kenapa memilih bentuk tiang $\square$?	
Acc ^{24/7} 		



 DENAH LANTAI 1

TUGAS AKHIR



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SURABAYA

DOSEN PEMBIMBING

Dr. Ir. Soerjandani PM, MT.

NAMA MAHASISWA

Alfiyah Diah Salsabila

NPM

19110026

JUDUL GAMBAR

DENAH LANTAI 1

SKALA GAMBAR

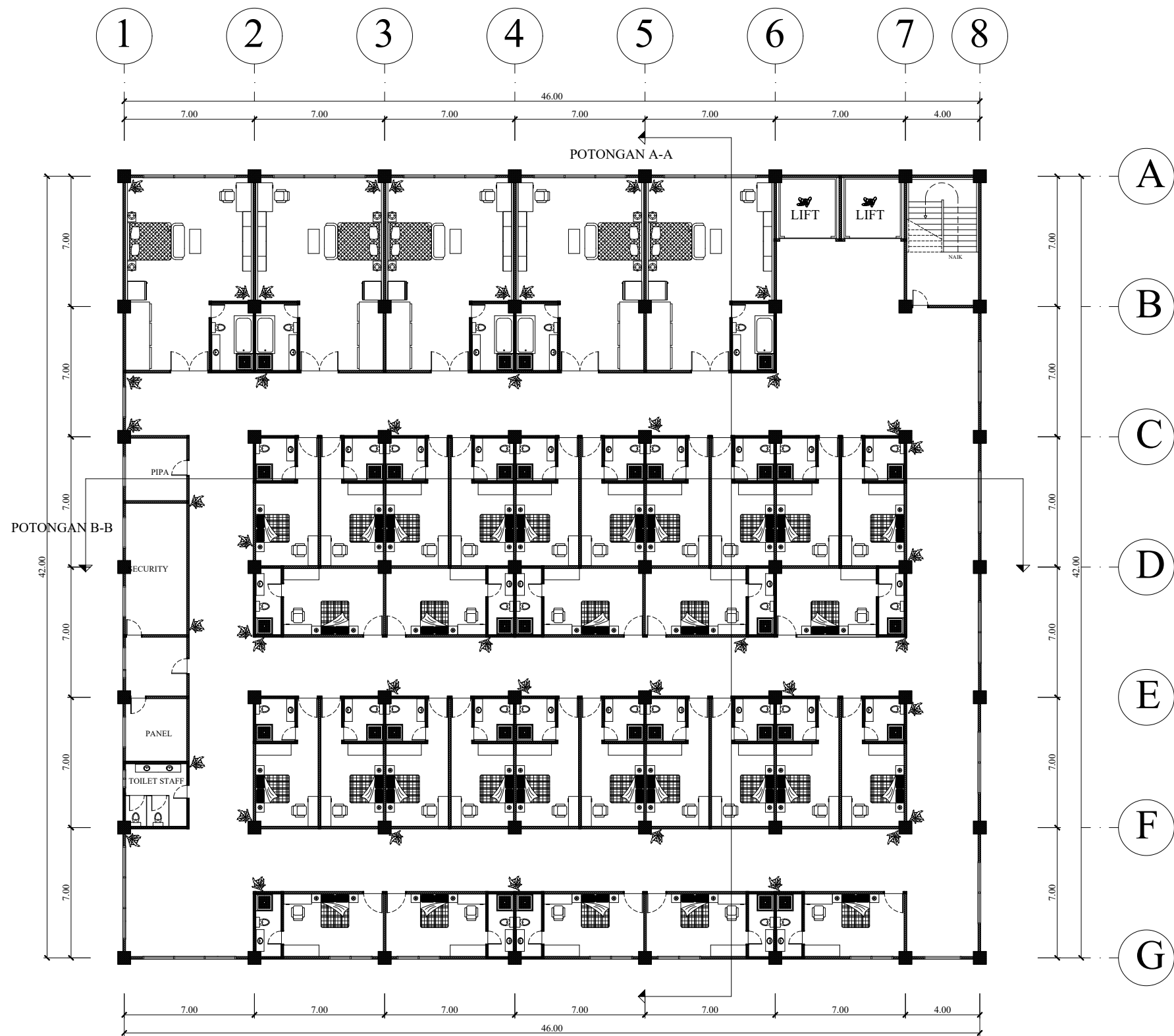
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KODE GAMBAR

JUMLAH

01

26



DENAH LANTAI 2 - 10

TUGAS AKHIR



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JUDUL GAMBAR

DENAH LANTAI 2 - 10

SKALA GAMBAR

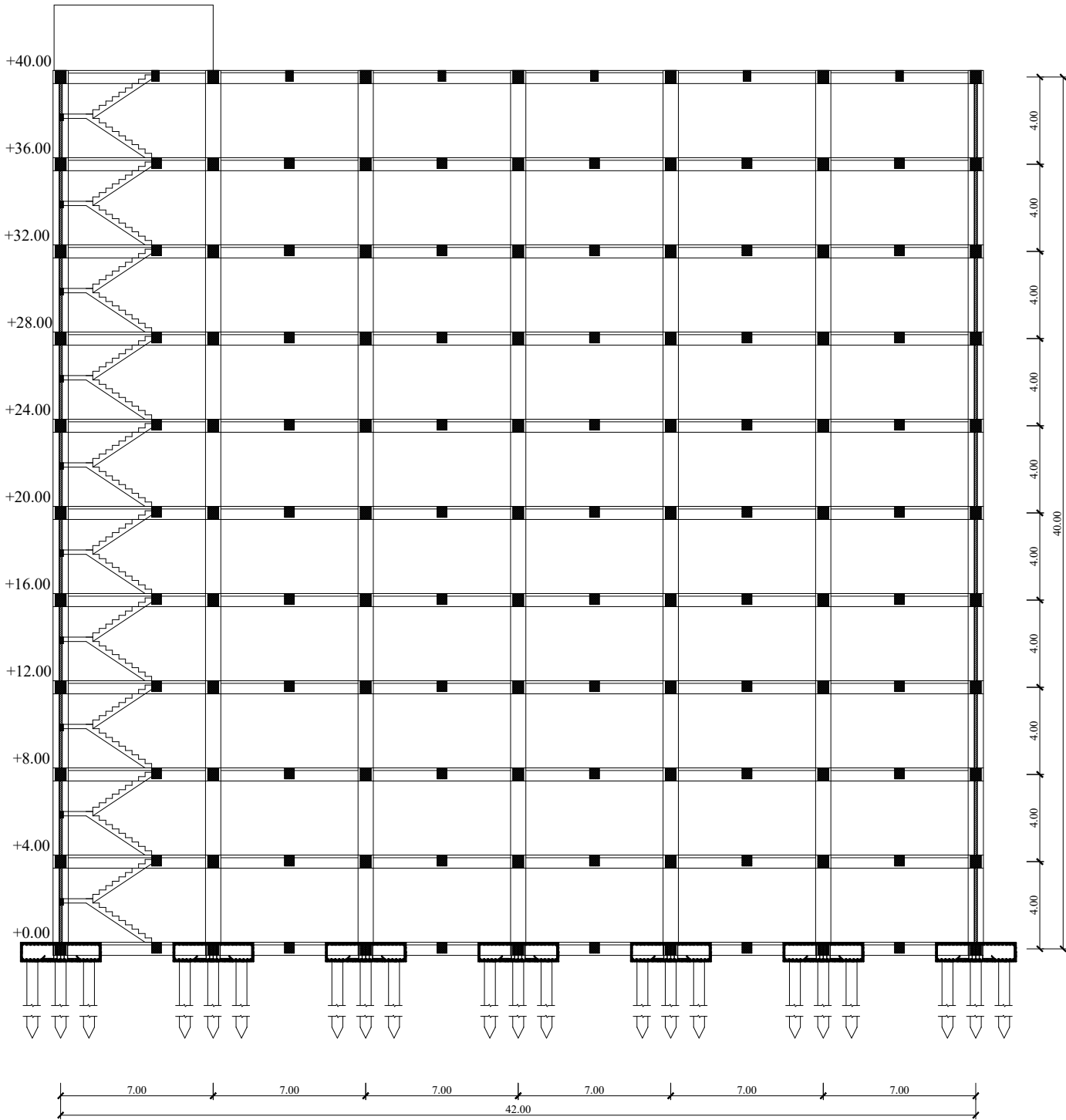
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KODE GAMBAR

JUMLAH

02

26



 POTONGAN A - A

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POTONGAN A-A

SKALA GAMBAR

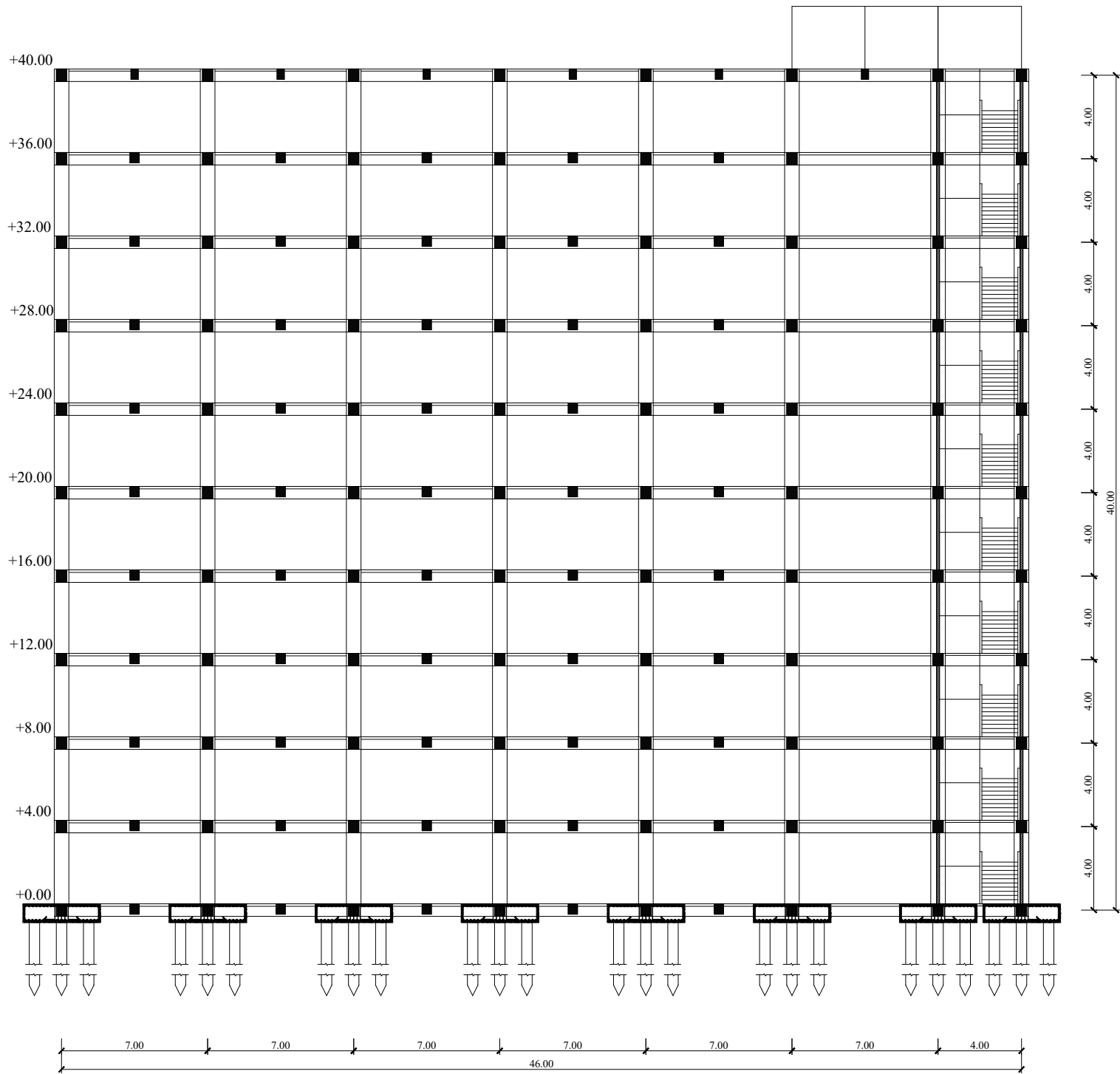
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KODE GAMBAR

JUMLAH

03

26



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POTONGAN B-B

SKALA GAMBAR

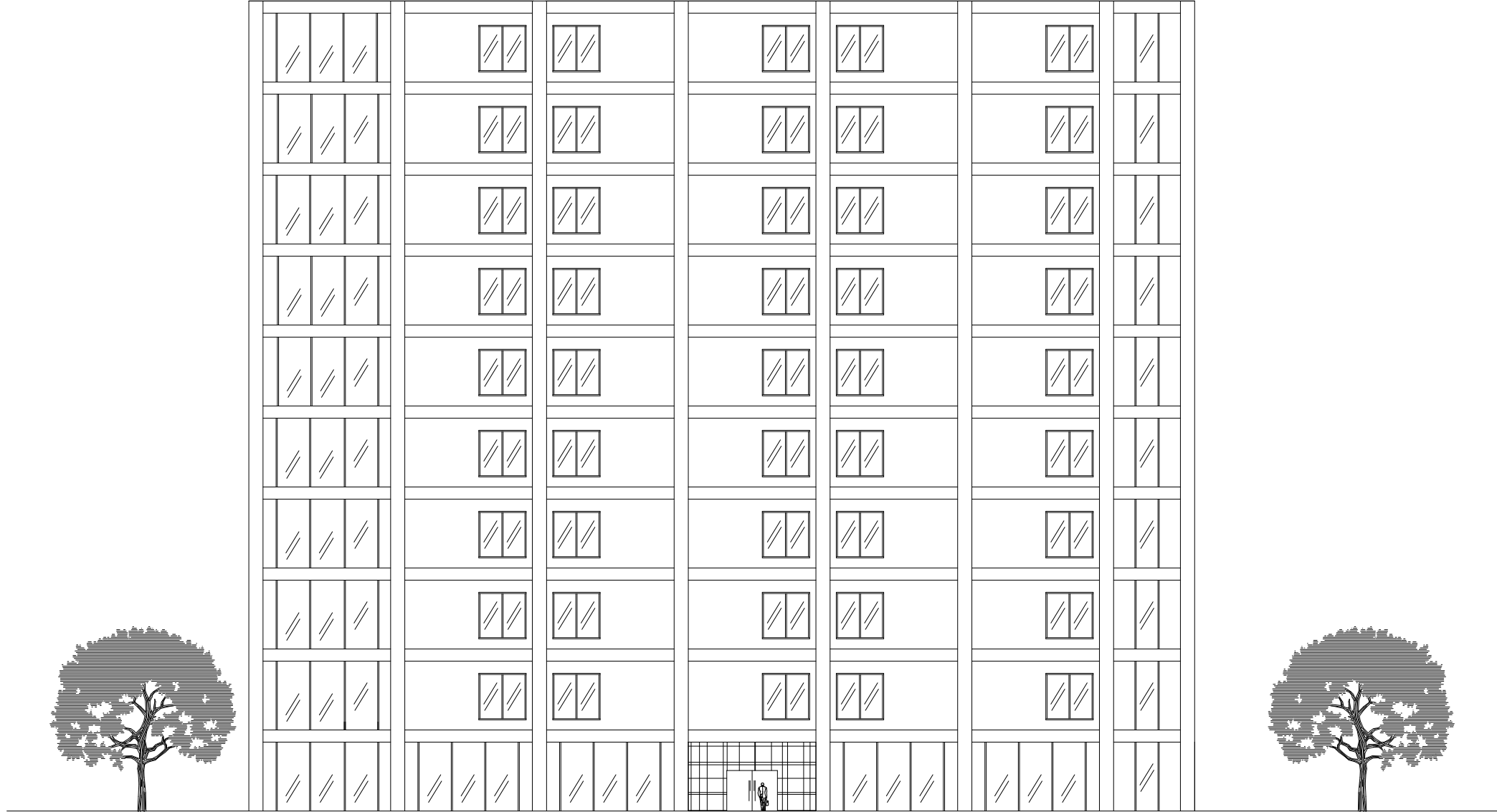
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KODE GAMBAR

JUMLAH

04

26



 TAMPAK DEPAN

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JUDUL GAMBAR

TAMPAK DEPAN

SKALA GAMBAR

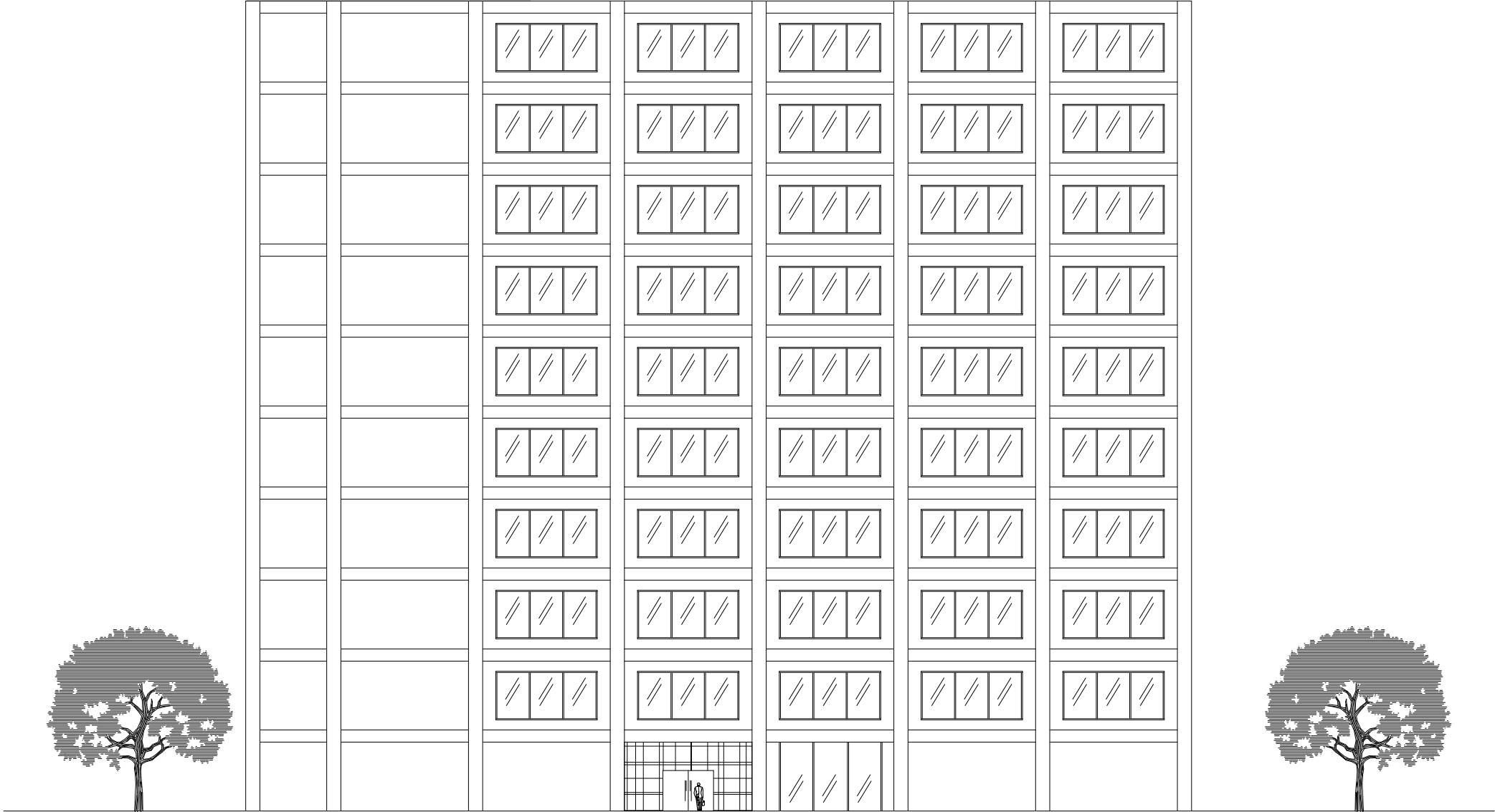
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KODE GAMBAR

JUMLAH

05

26



 TAMPAK BELAKANG

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JUDUL GAMBAR

TAMPAK BELAKANG

SKALA GAMBAR

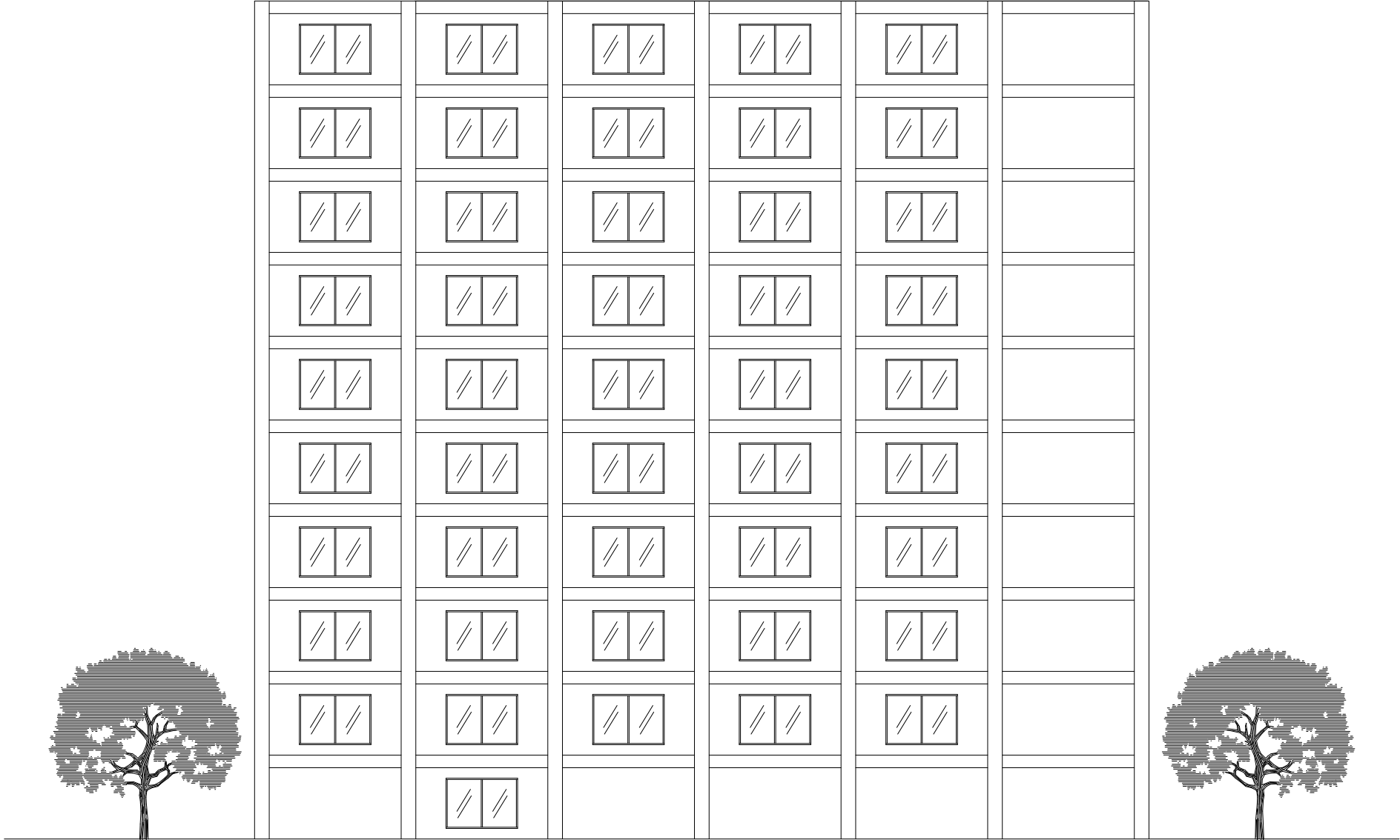
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KODE GAMBAR

JUMLAH

06

26



 TAMPAK KANAN

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JUDUL GAMBAR

TAMPAK KANAN

SKALA GAMBAR

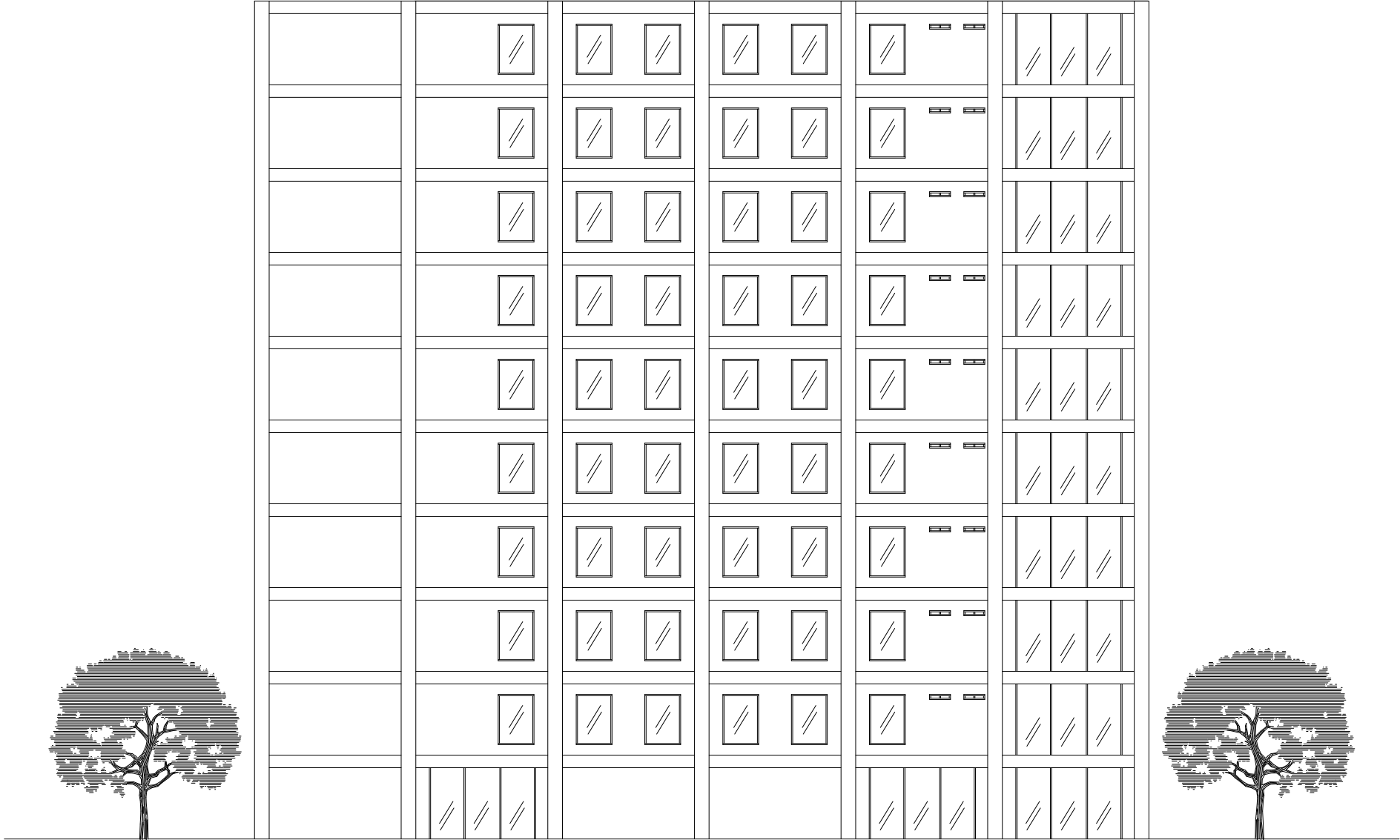
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KODE GAMBAR

JUMLAH

07

26



 TAMPAK KIRI

TUGAS AKHIR



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NAMA MAHASISWA

Alfiyah Diah Salsabila

NPM

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JUDUL GAMBAR

TAMPAK KIRI

SKALA GAMBAR

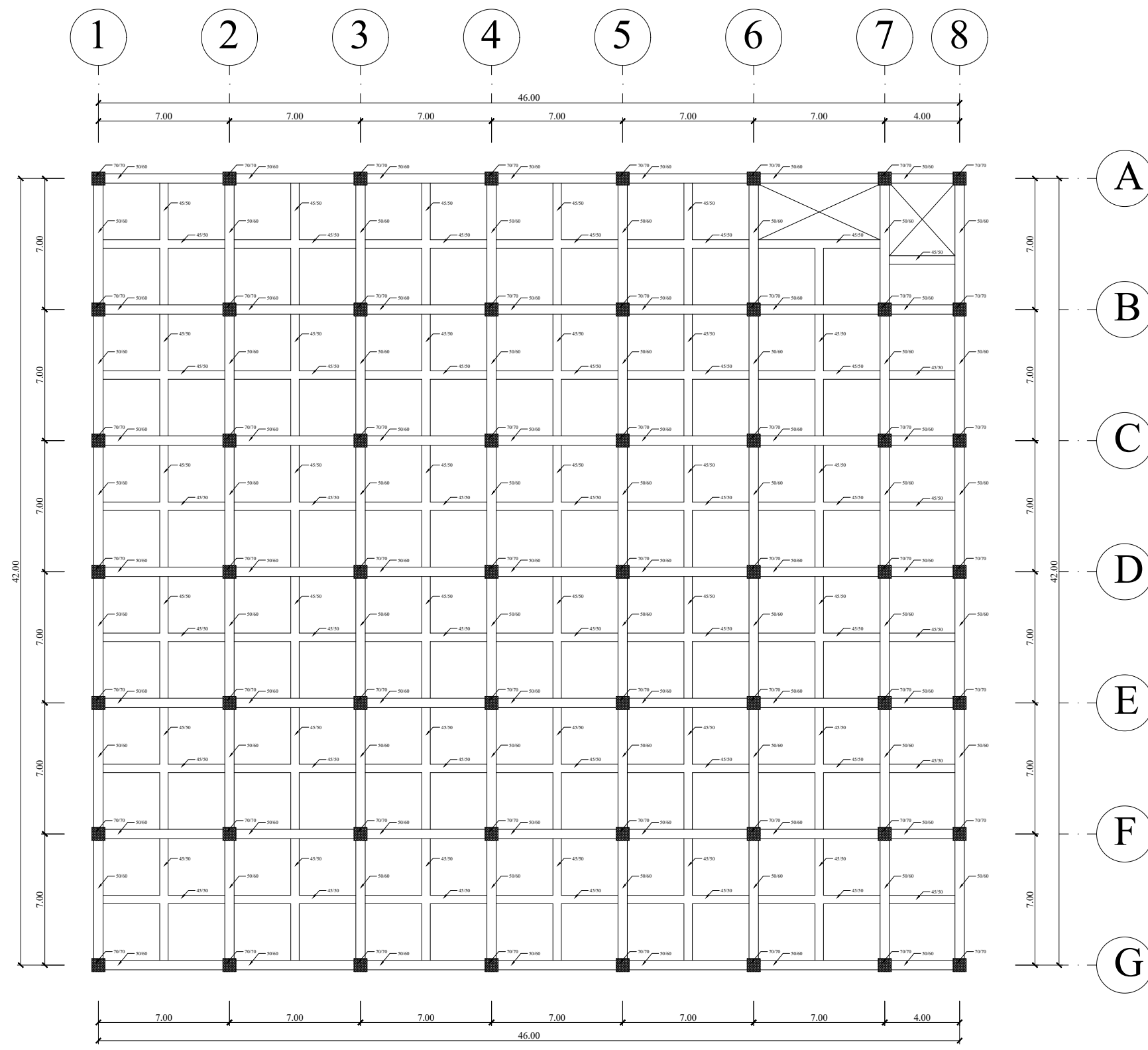
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KODE GAMBAR

JUMLAH

08

26



DENAH KOLOM DAN BALOK

TUGAS AKHIR



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DENAH KOLOM DAN BALOK

SKALA GAMBAR

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KODE GAMBAR

09

JUMLAH

26

DOSEN PEMBIMBING

NAMA MAHASISWA

NPM

JUDUL GAMBAR

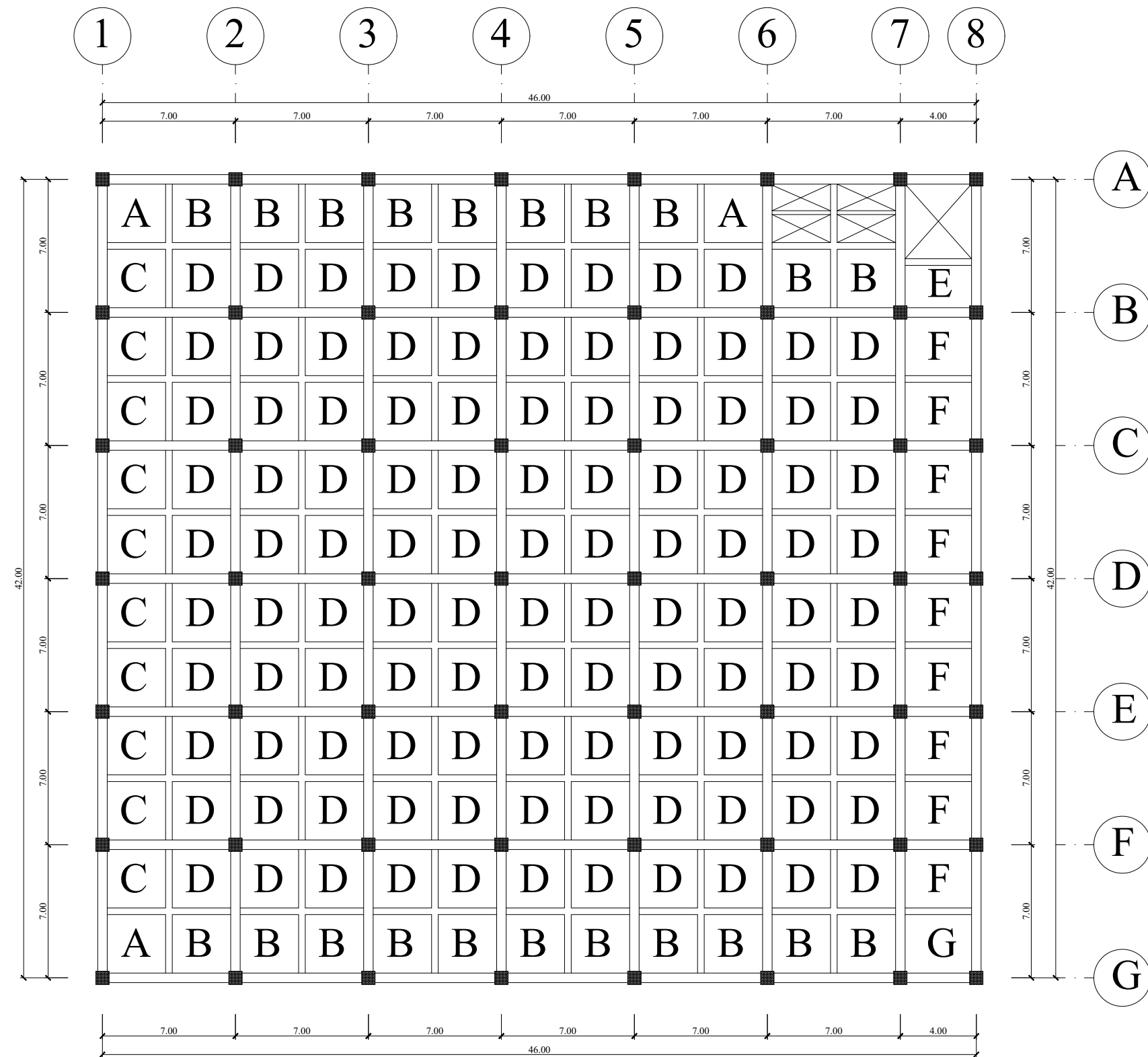
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KODE GAMBAR

Jumlah

26



DENAH PELAT ATAP



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Alfiyah Diah Salsabila

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JUDUL GAMBAR

DENAH PELAT ATAP

SKALA GAMBAR

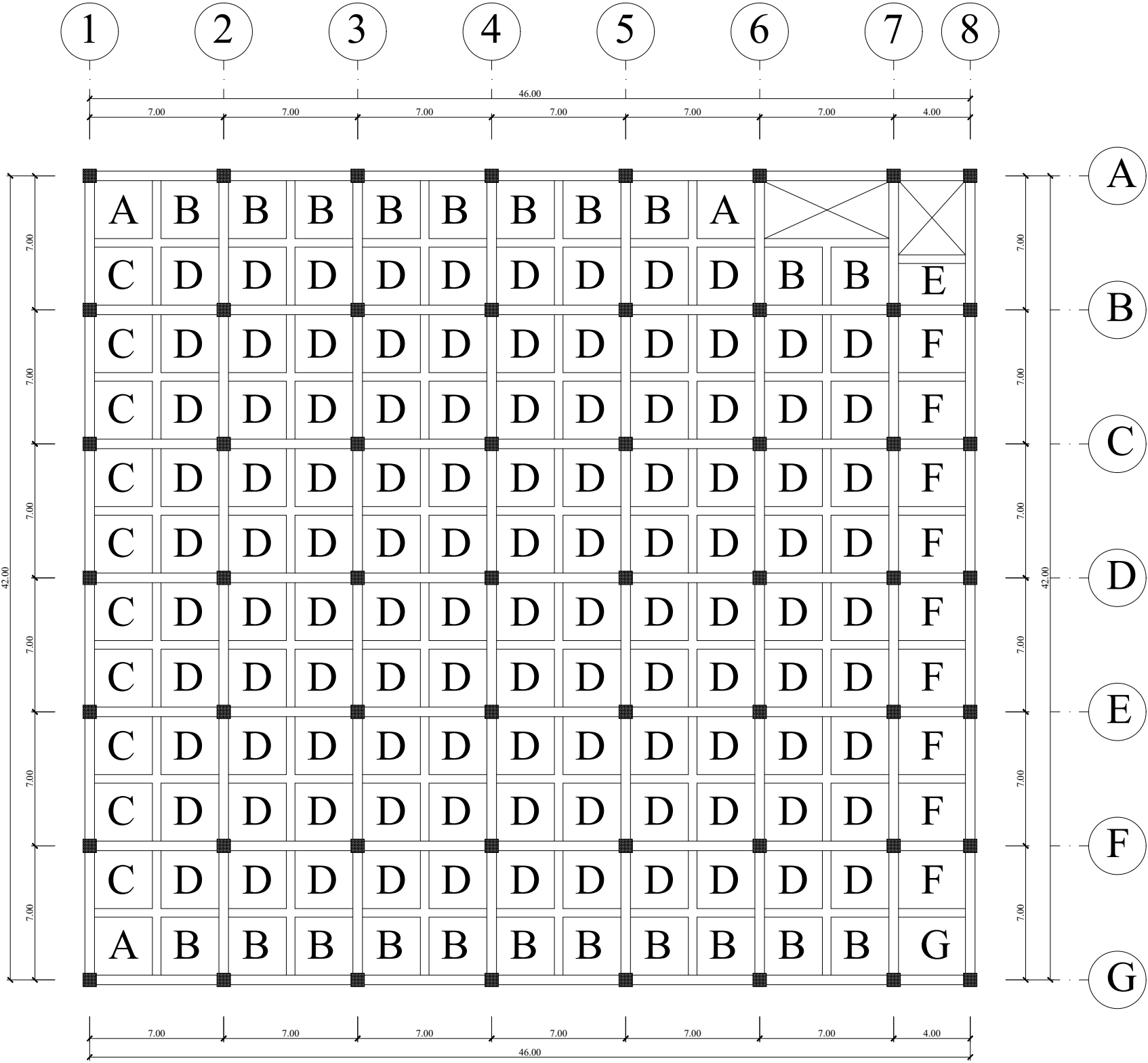
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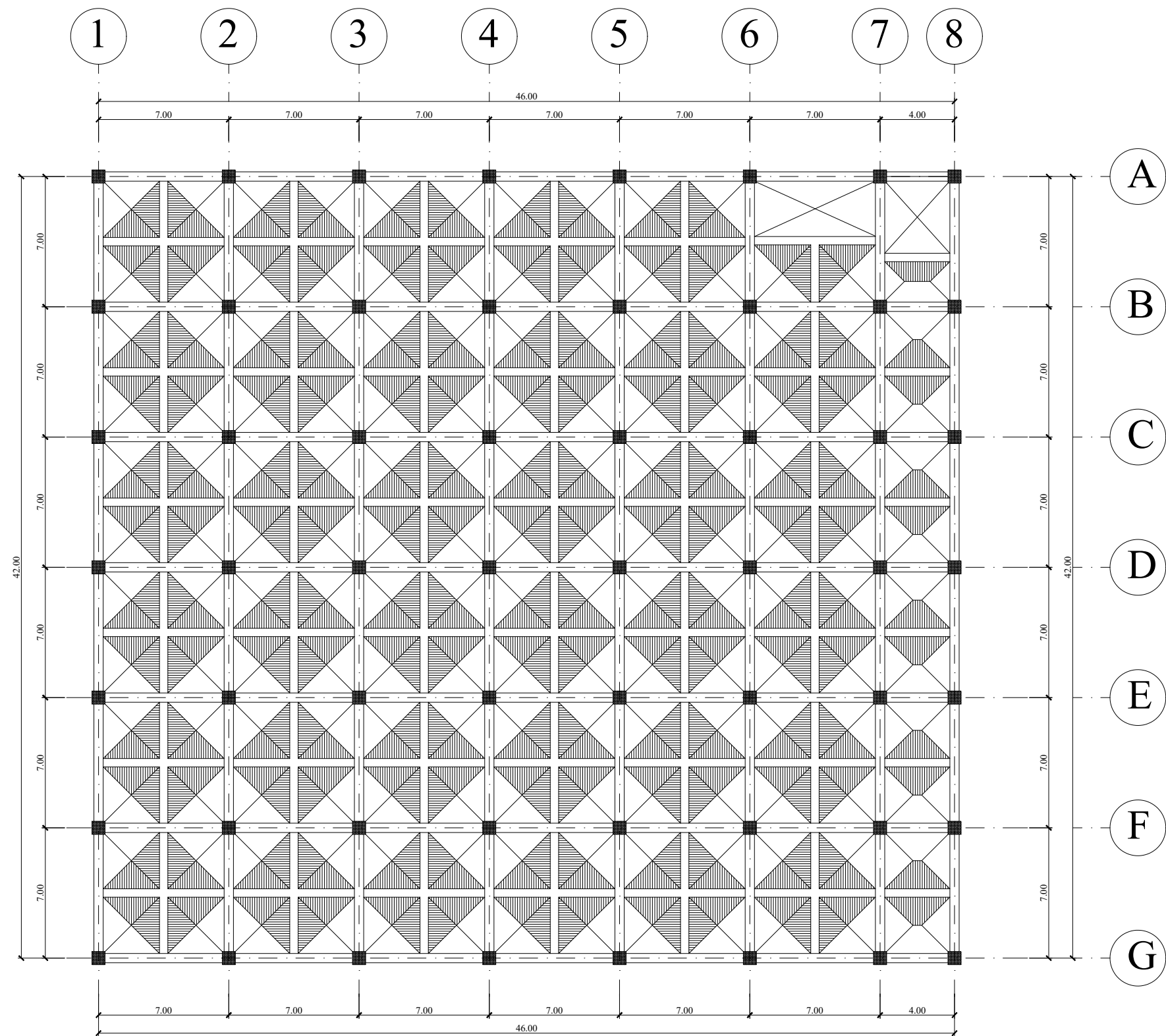
JUMLAH

11

26



DENAH PELAT LANTAI



TRIBUTARY AREA PELAT LANTAI

TUGAS AKHIR



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SKALA GAMBAR

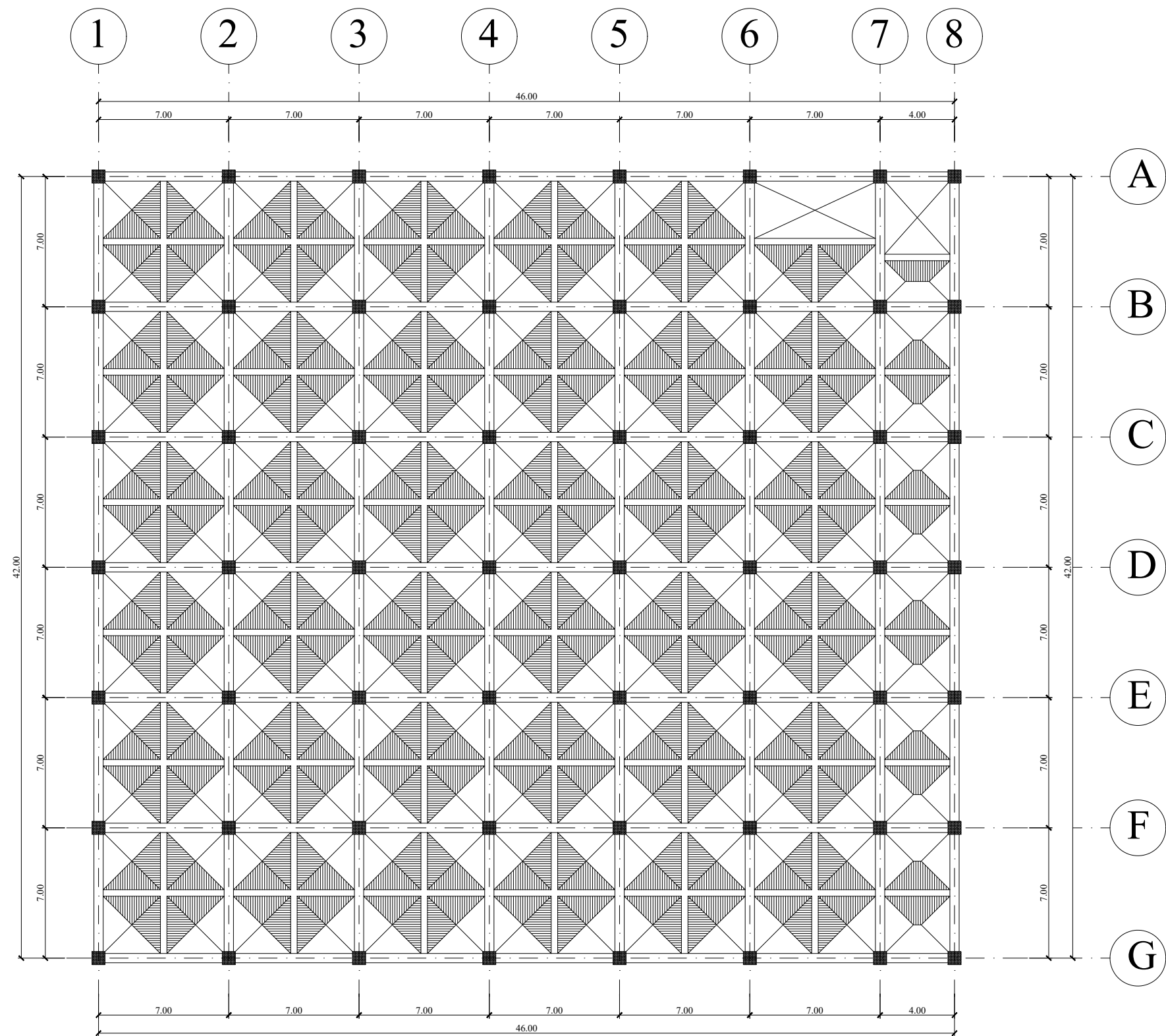
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KODE GAMBAR

12

JUMLAH

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TRIBUTARY AREA PELAT ATAP

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TRIBUTARY AREA PELAT ATAP

SKALA GAMBAR

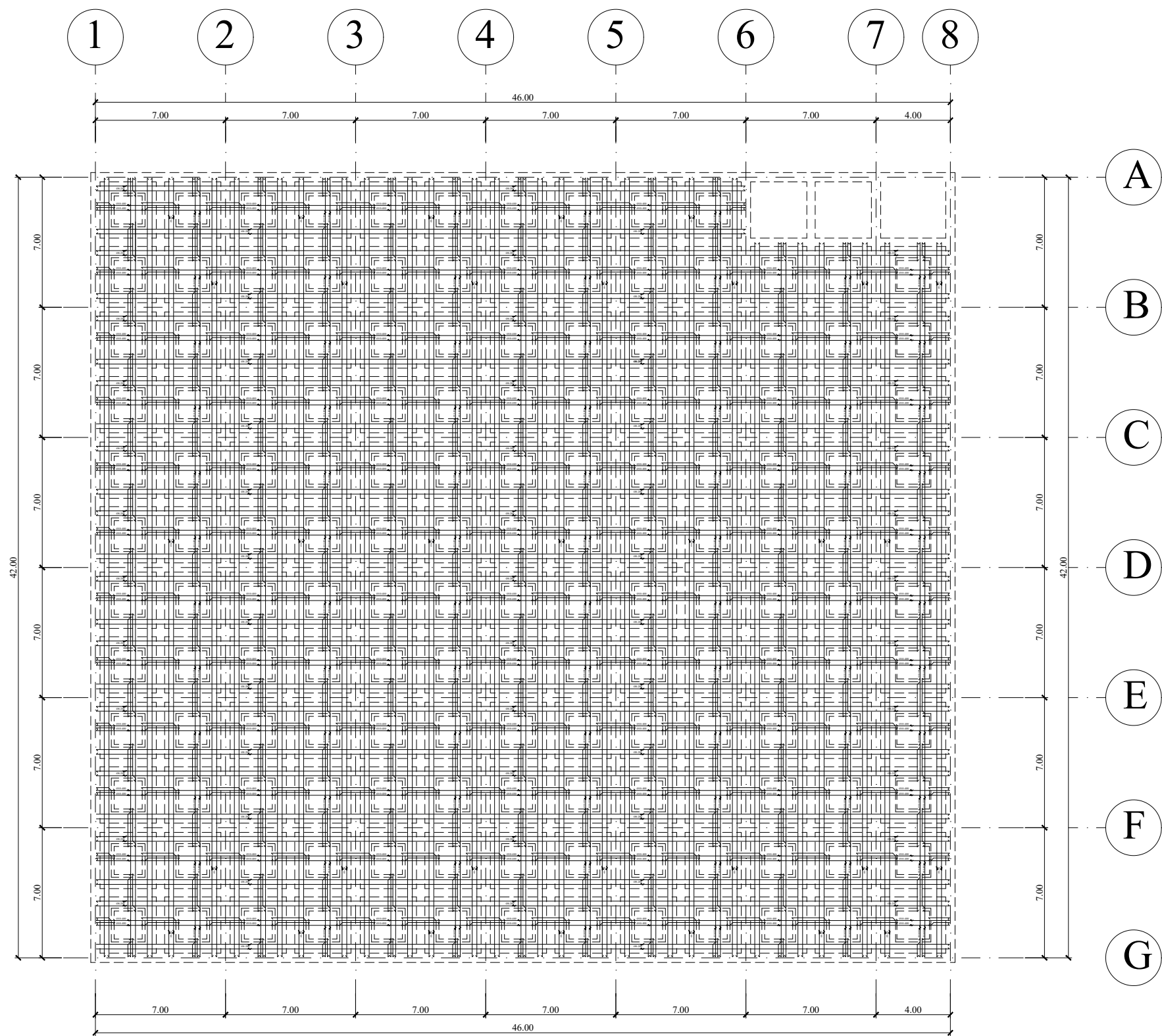
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KODE GAMBAR

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JUMLAH

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PENULANGAN PELAT
LANTAI 2 - 10

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PENULANGAN PELAT
LANTAI 2 - 10

SKALA GAMBAR

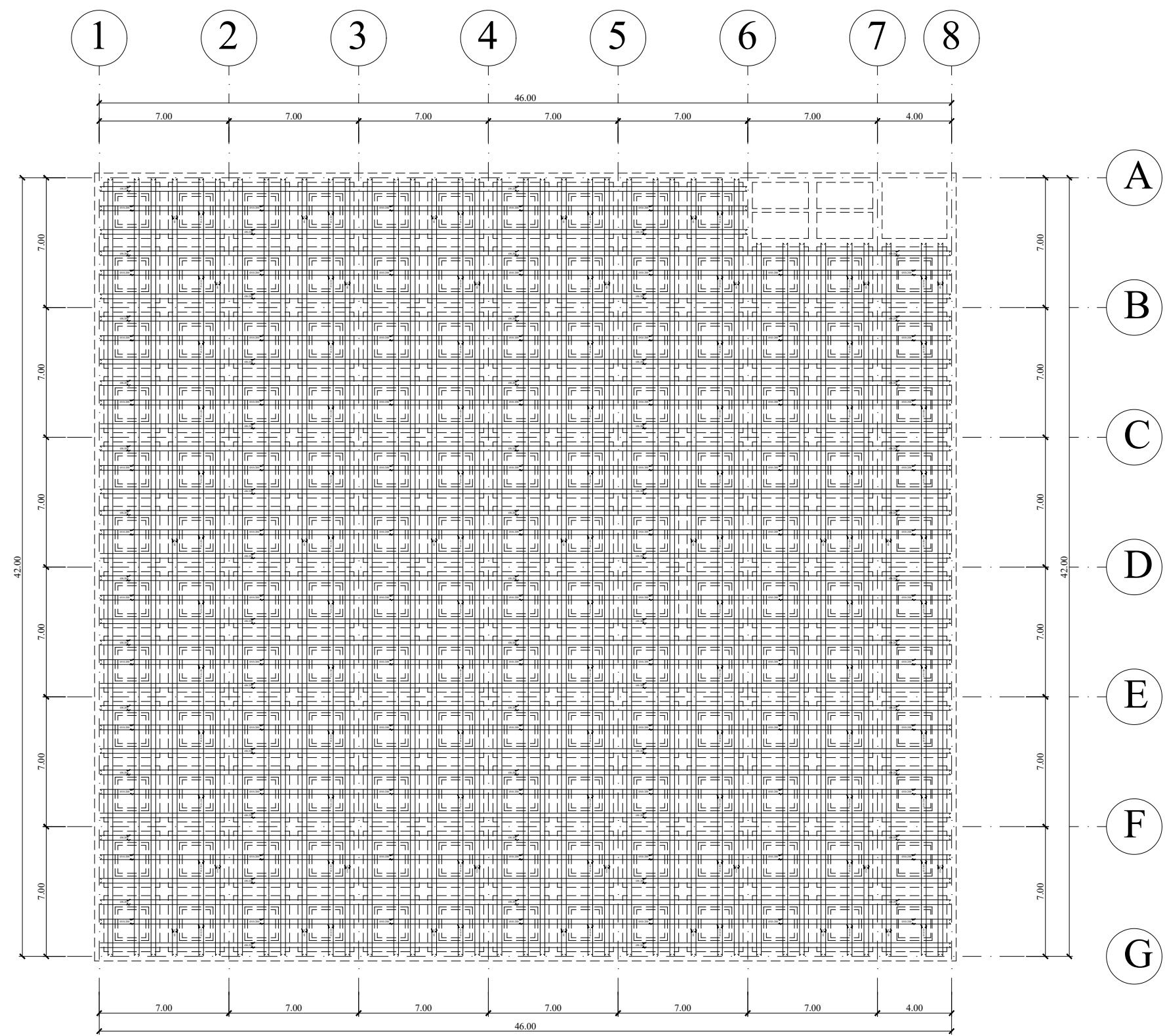
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KODE GAMBAR

14

JUMLAH

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PENULANGAN PELAT
ATAP

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PENULANGAN PELAT ATAP

SKALA GAMBAR

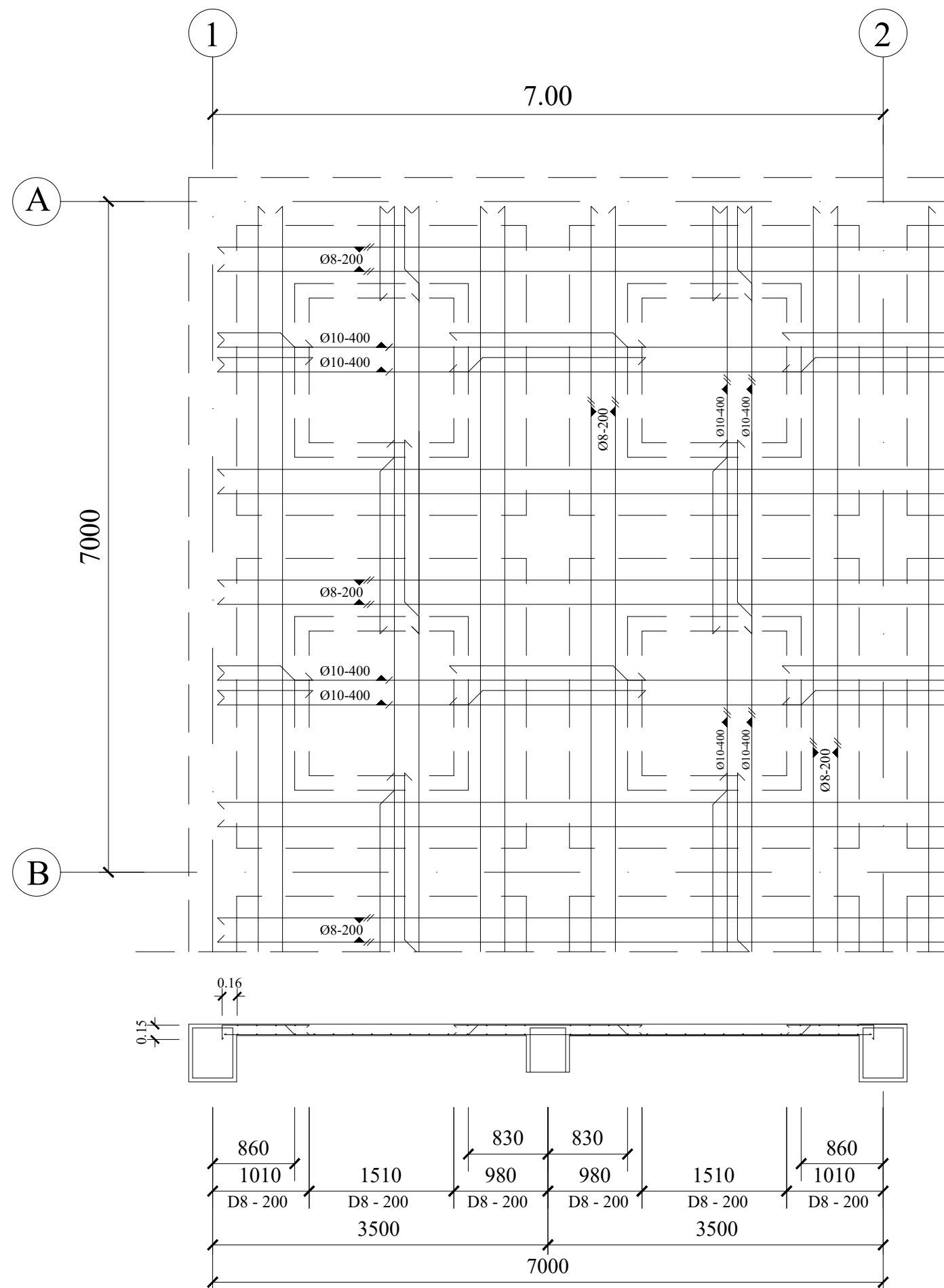
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KODE GAMBAR

15

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DETAIL PENULANGAN PELAT LANTAI

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DETAIL PENULANGAN PELAT
LANTAI

SKALA GAMBAR

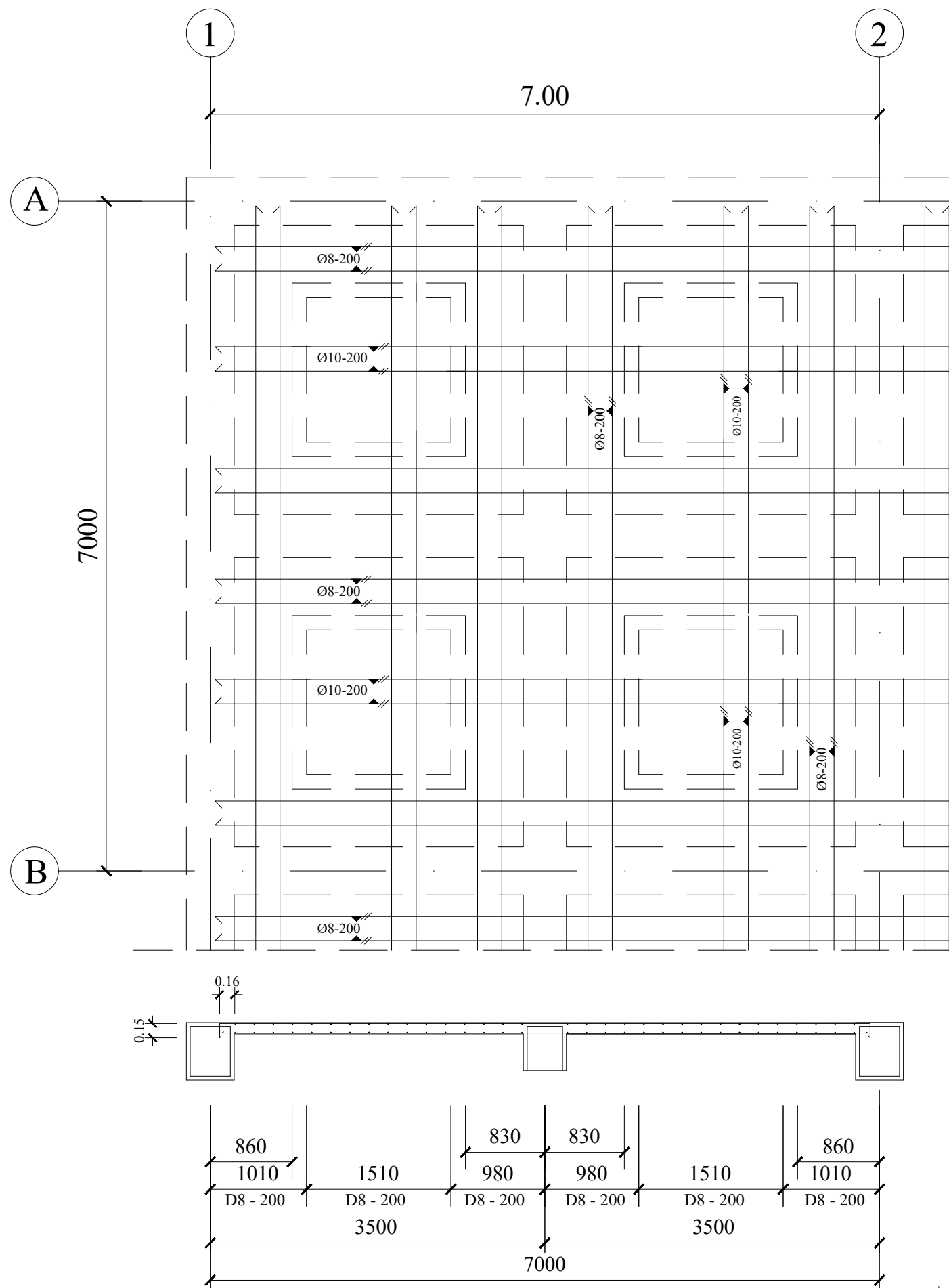
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KODE GAMBAR

JUMLAH

16

26



DETAIL PENULANGAN PELAT ATAP

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DETAIL PENULANGAN PELAT
ATAP

SKALA GAMBAR

1:120

KODE GAMBAR

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JUDUL GAMBAR

1. PENULANGAN BALOK ANAK LANTAI
2. PENULANGAN BALOK ANAK ATAP
3. PENULANGAN BALOK PENGGANTUNG LIFT

SKALA GAMBAR

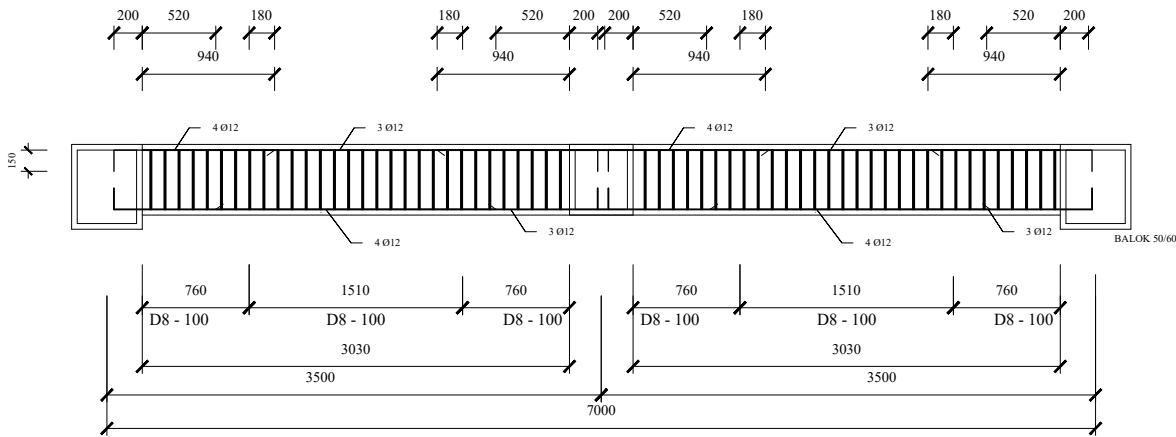
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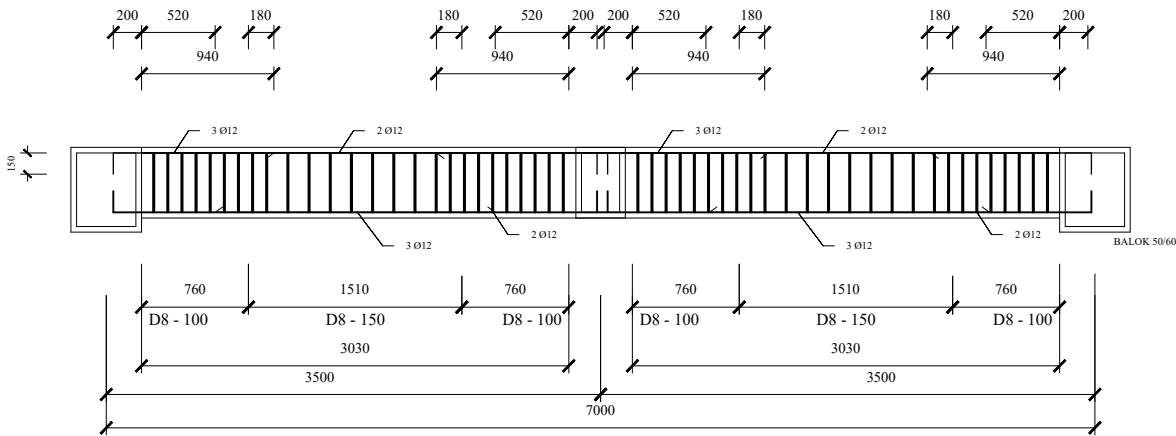
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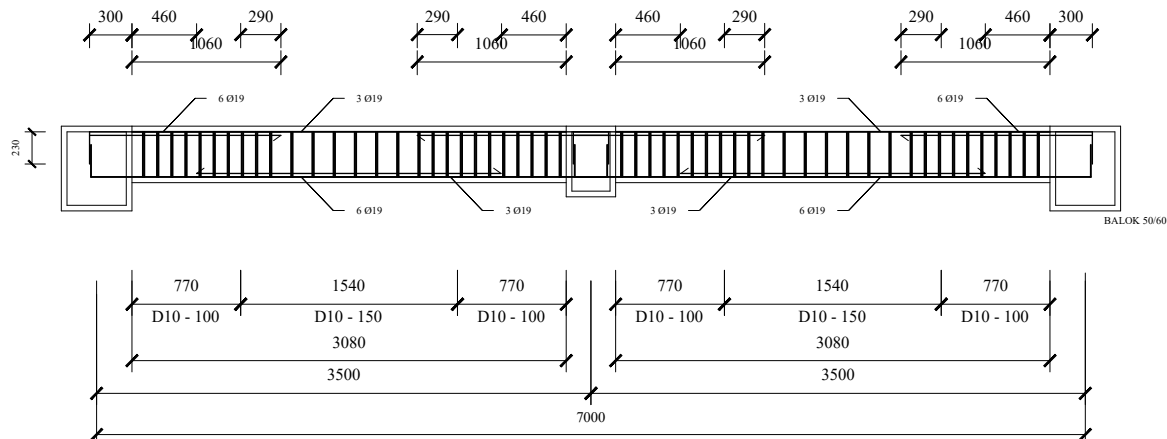
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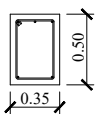
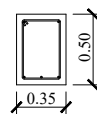
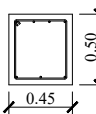
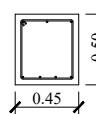
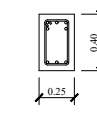
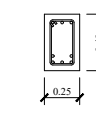
 PENULANGAN BALOK ANAK LANTAI



 PENULANGAN BALOK ANAK ATAP



 PENULANGAN BALOK PENGGANTUNG LIFT

TYPE	BALOK ANAK ATAP		BALOK ANAK LANTAI		BALOK PENGGANTUNG LIFT	
	TUMPUAN	LAPANGAN	TUMPUAN	LAPANGAN	TUMPUAN	LAPANGAN
POTONGAN						
	350 x 500	350 x 500	450 x 500	450 x 500	250 x 400	250 x 400
	TUL. ATAS 3D12	2D12	4D12	3D12	5D19	3D19
	TUL. BAWAH 2D12	3D12	3D12	4D12	3D19	5D19
SENGKANG	D8 - 100	D8 - 150	D8 - 100	D8 - 100	D10 - 100	D10 - 150



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JUDUL GAMBAR

1. DETAIL PENULANGAN TANGGA
2. POTONGAN A-A TANGGA

SKALA GAMBAR

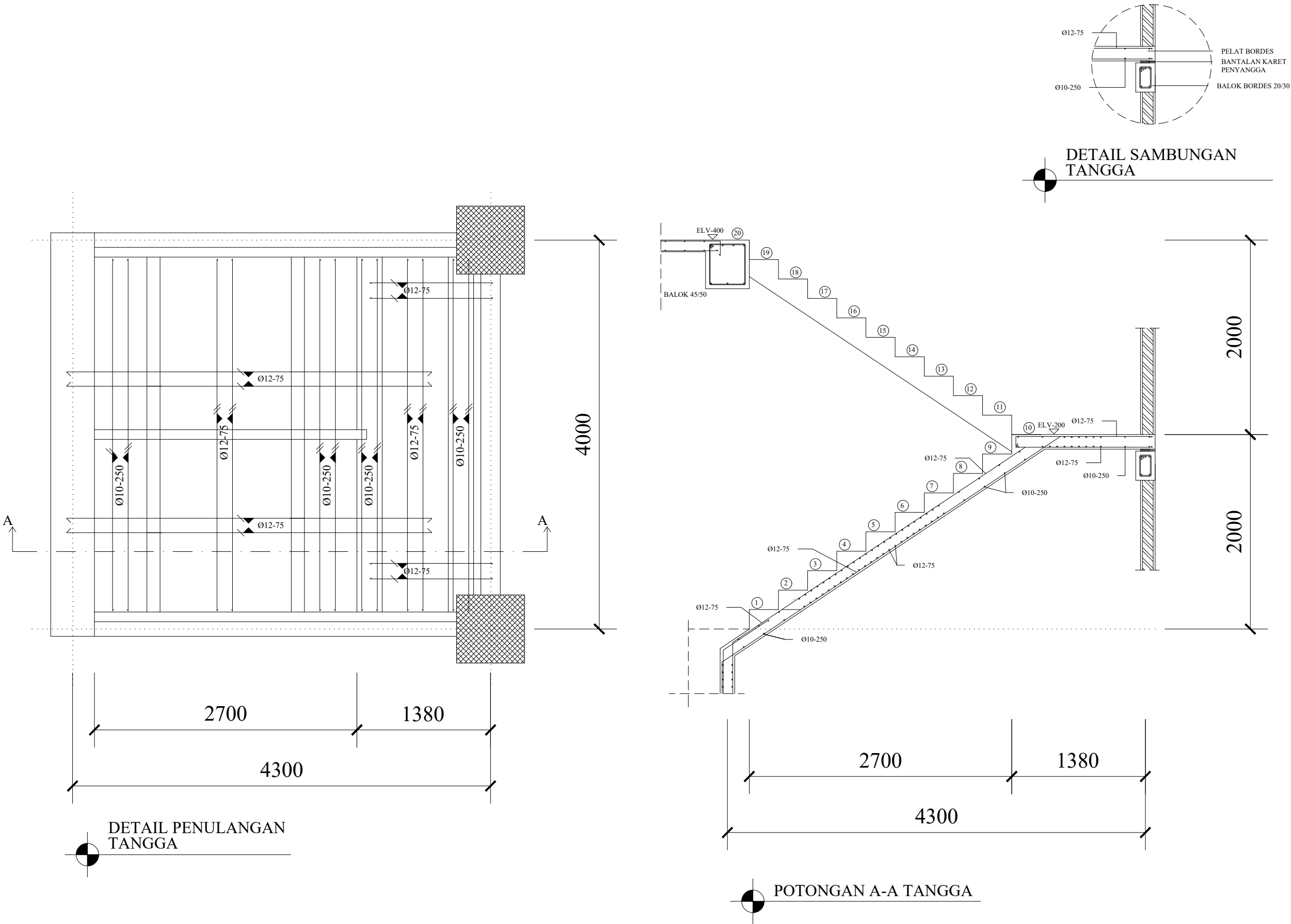
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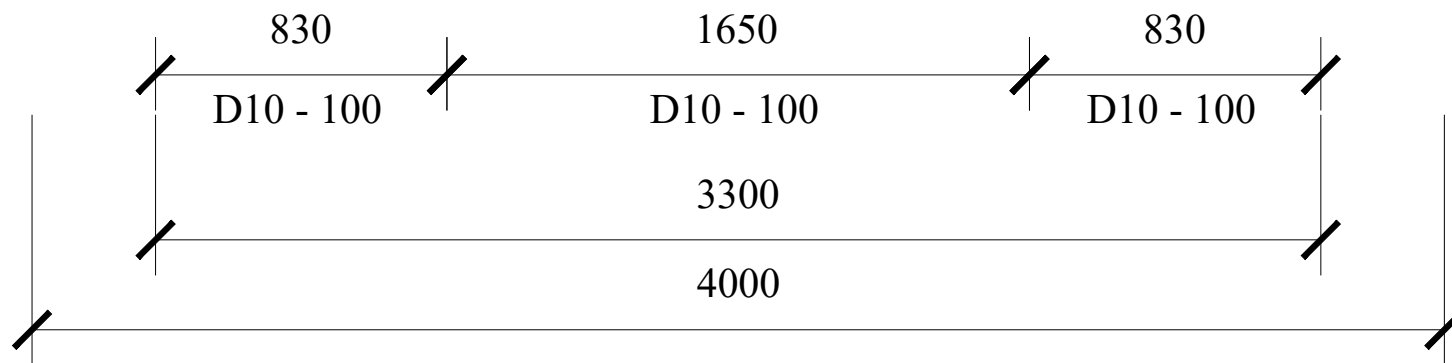
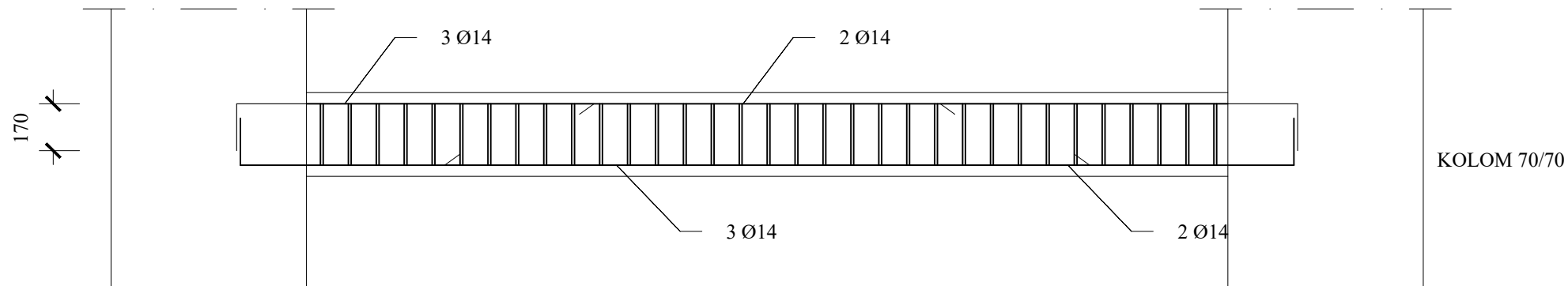
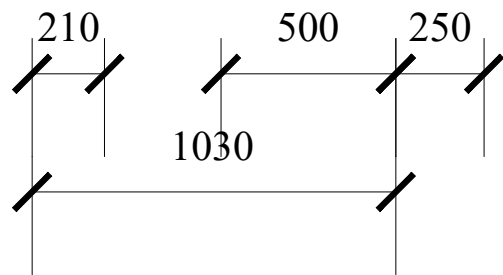
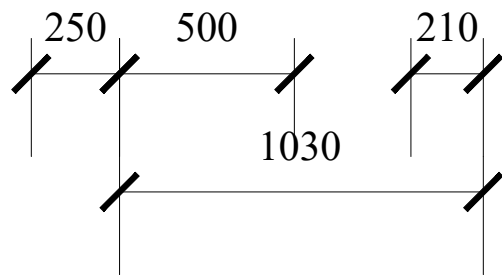
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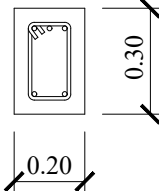
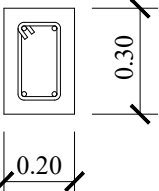
JUMLAH

19

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TYPE	BALOK BORDES	
	TUMPUAN	LAPANGAN
POTONGAN		
DIMENSI	200 x 300	200 x 300
TUL. ATAS	3D14	2D14
TUL. BAWAH	2D14	2D14
SENGKANG	D10 - 100	D10 - 100

TUGAS AKHIR



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JUDUL GAMBAR

PENULANGAN BALOK BORDES

SKALA GAMBAR

1:100

KODE GAMBAR

JUMLAH

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PENULANGAN BALOK INDUK

SKALA GAMBAR

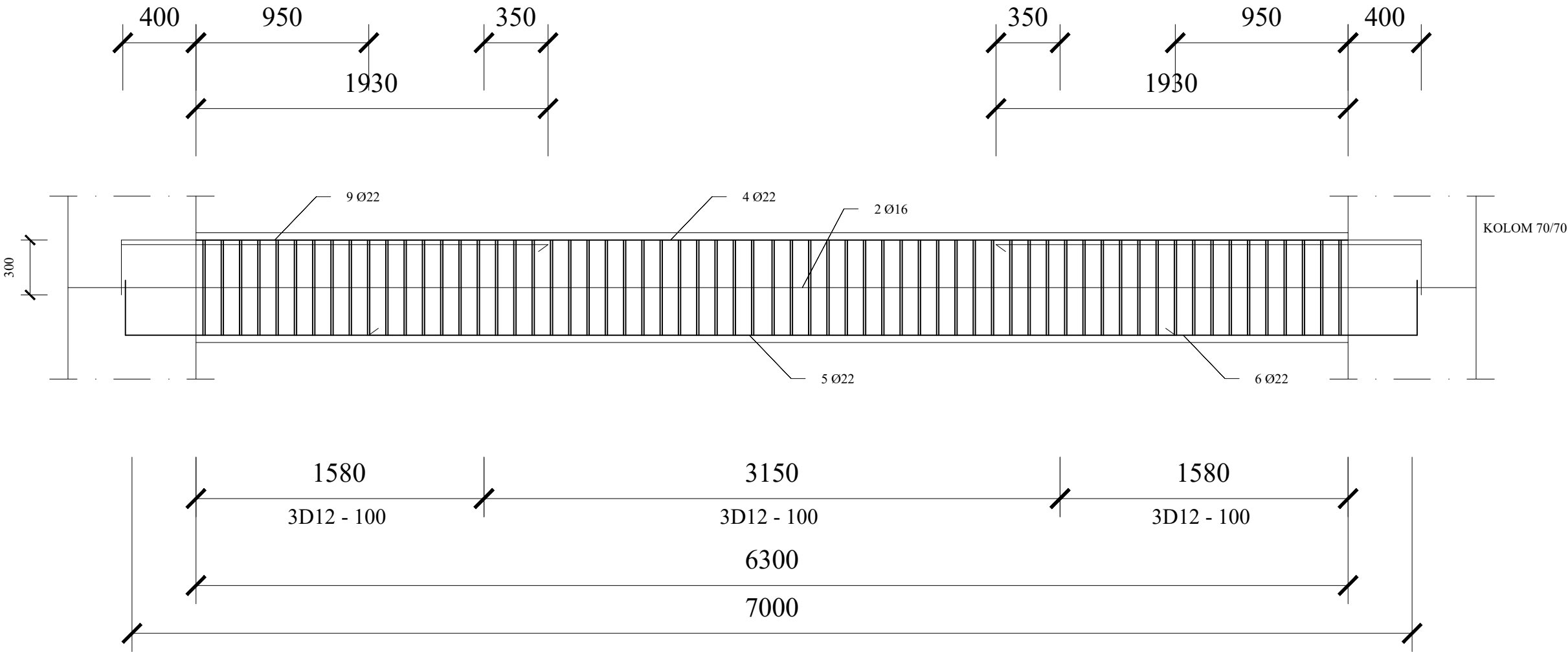
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JUMLAH

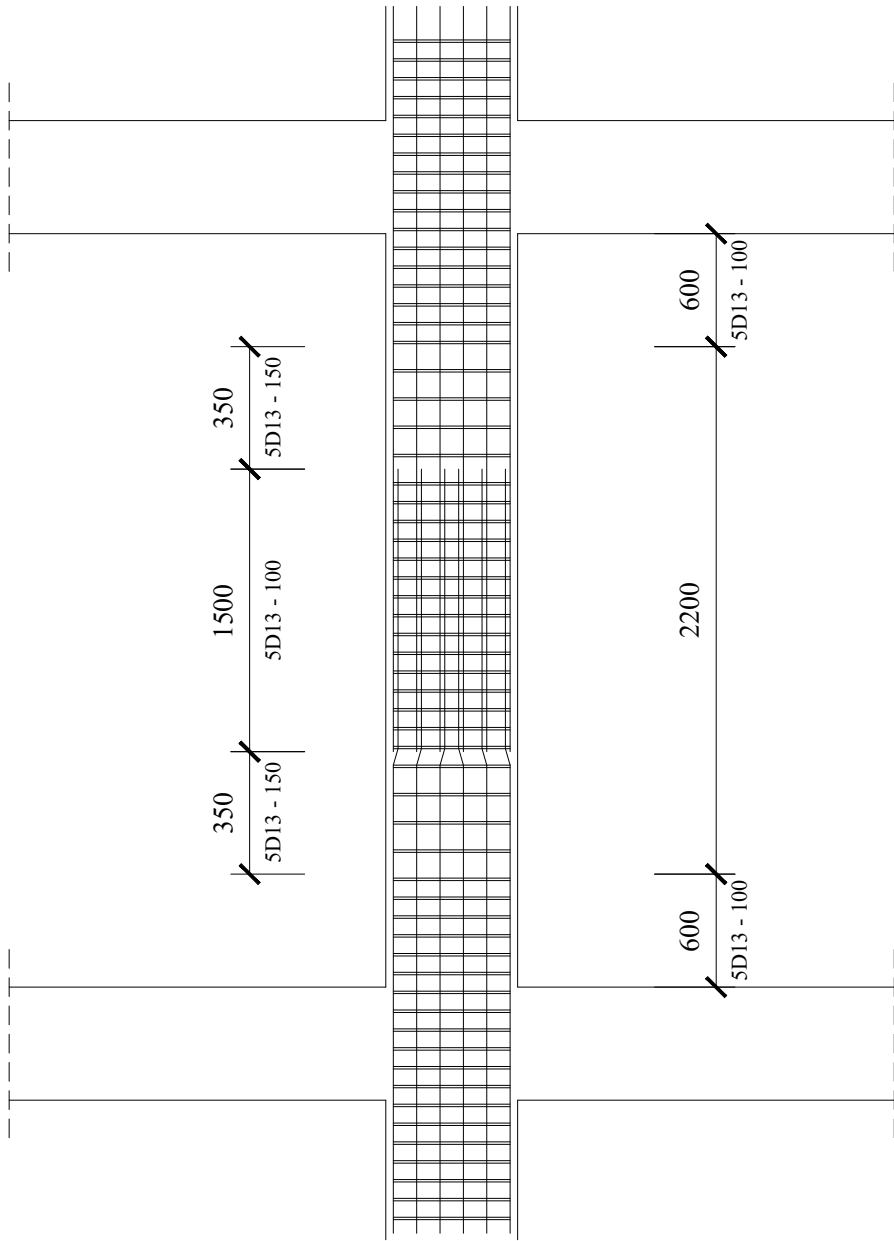
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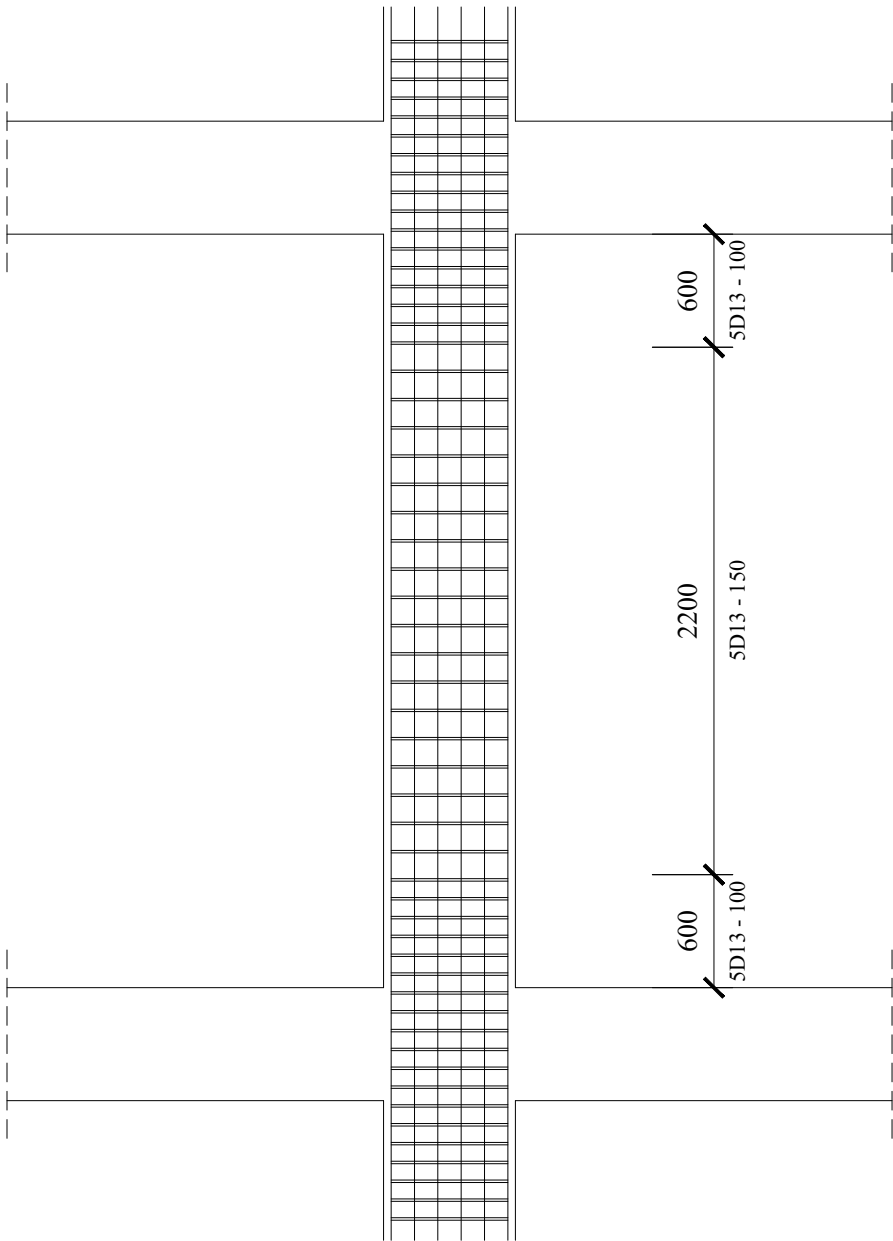
PENULANGAN BALOK INDUK

TYPE	BALOK INDUK	
	TUMPUAN	LAPANGAN
POTONGAN		
DIMENSI	500 x 600	500 x 600
TUL. ATAS	9D22	4D22
TUL. TENGAH	2D16	2D16
TUL. BAWAH	6D22	5D22
SENGKANG	3D12 - 100	3D12 - 100



SAMBUNGAN LEWATAN
KOLOM

TYPE	KOLOM K1
POTONGAN	
DIMENSI	700 x 700
TUL. UTAMA	20 D29
SENGKANG	5D13 - 100 - 150



PENULANGAN KOLOM K1

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JUDUL GAMBAR

1. SAMBUNGAN LEWATAN KOLOM
2. PENULANGAN KOLOM K1

SKALA GAMBAR

1:115

KODE GAMBAR

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1. HBK TERKEKANG 4 BALOK
2. HBK TERKEKANG 3 ATAU 2
BALOK

SKALA GAMBAR

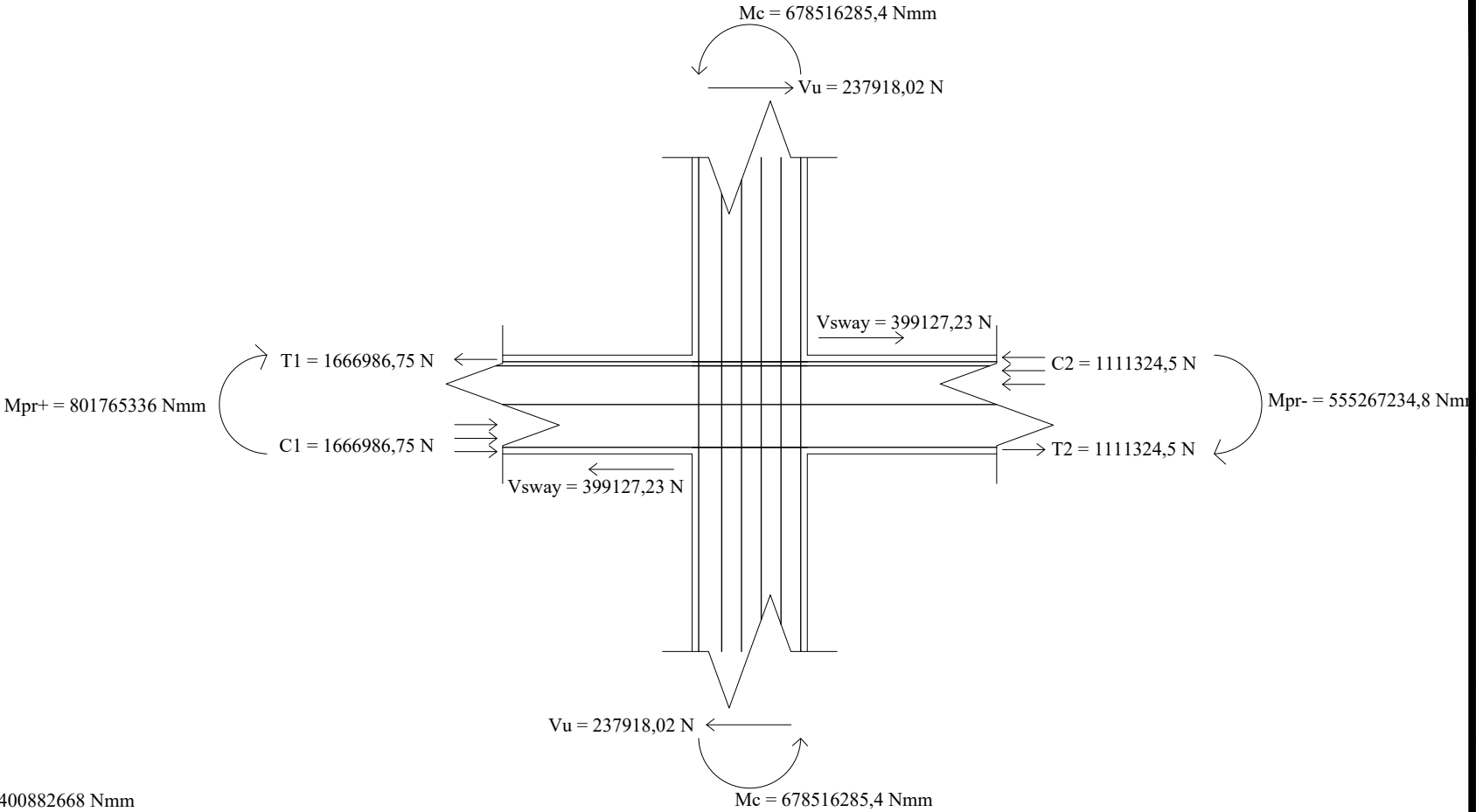
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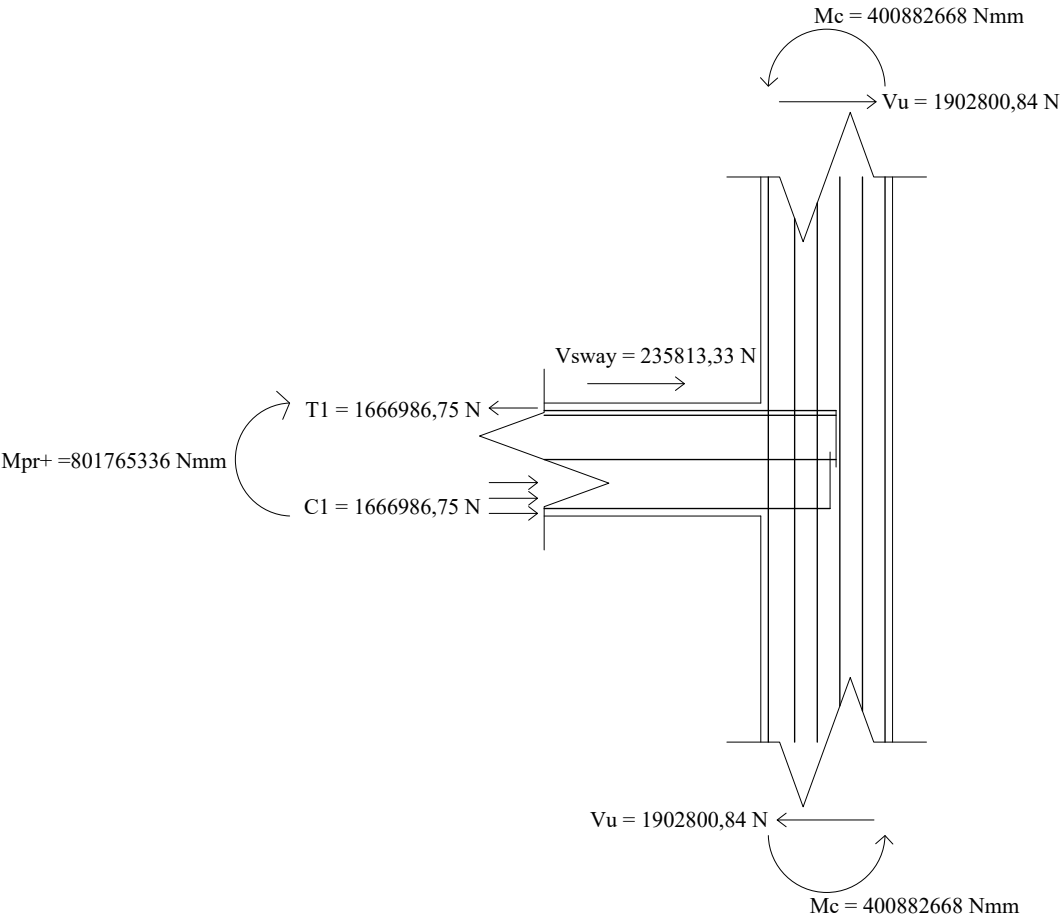
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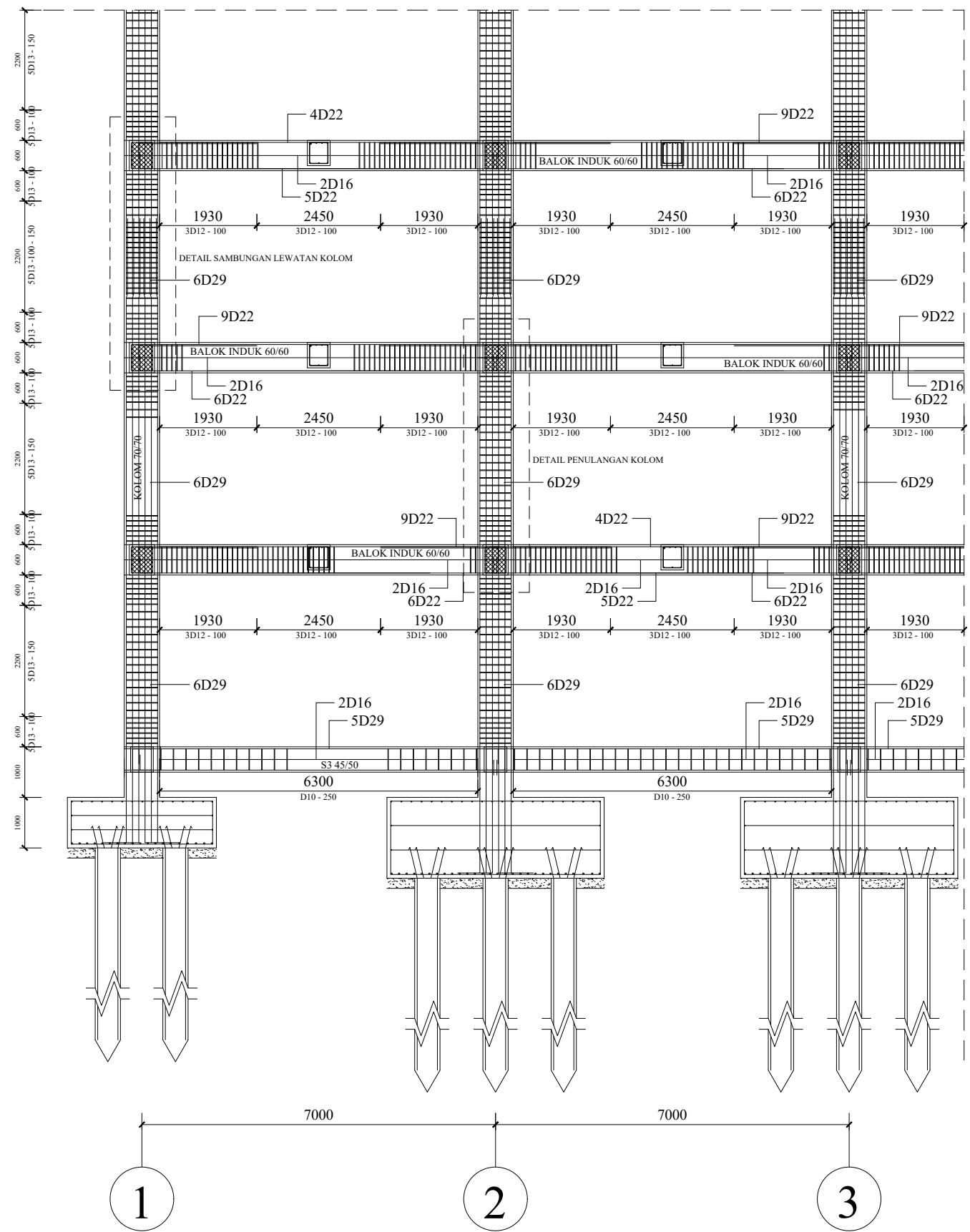


HBK TERKEKANG 4
BALOK



HBK TERKEKANG 3 ATAU
2 BALOK





DETAIL PORTAL AS A

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JUDUL GAMBAR

DETAIL PORTAL AS A

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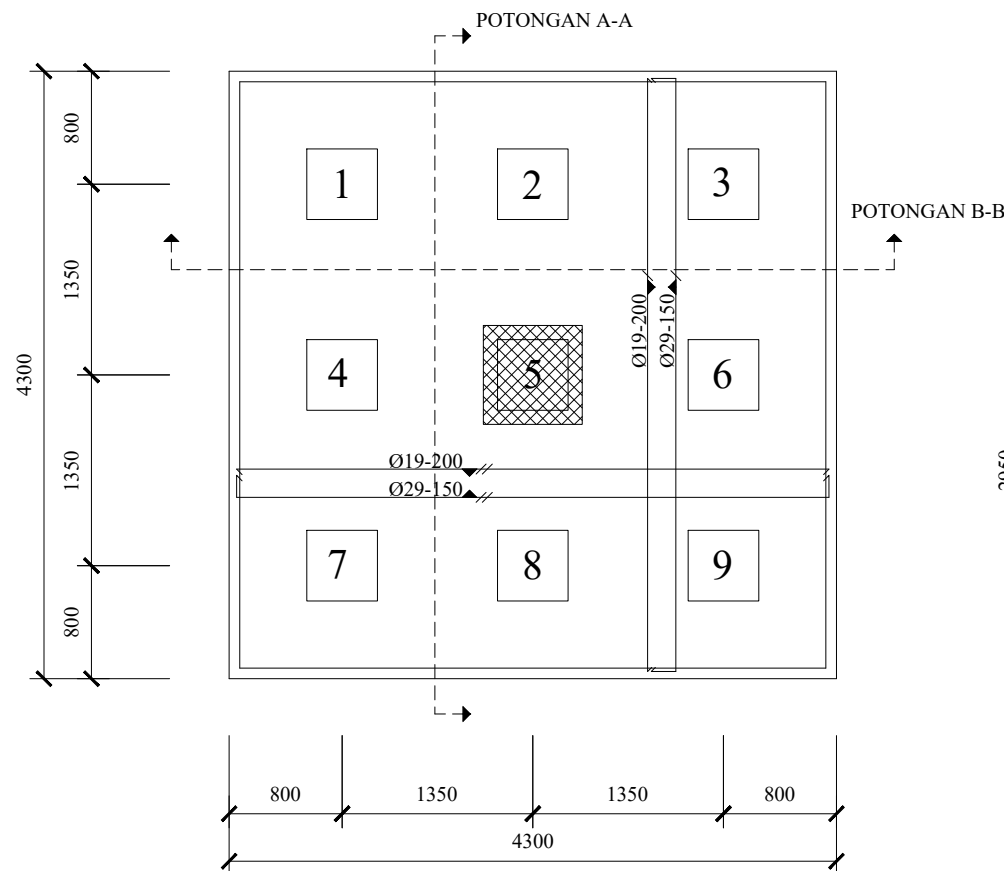
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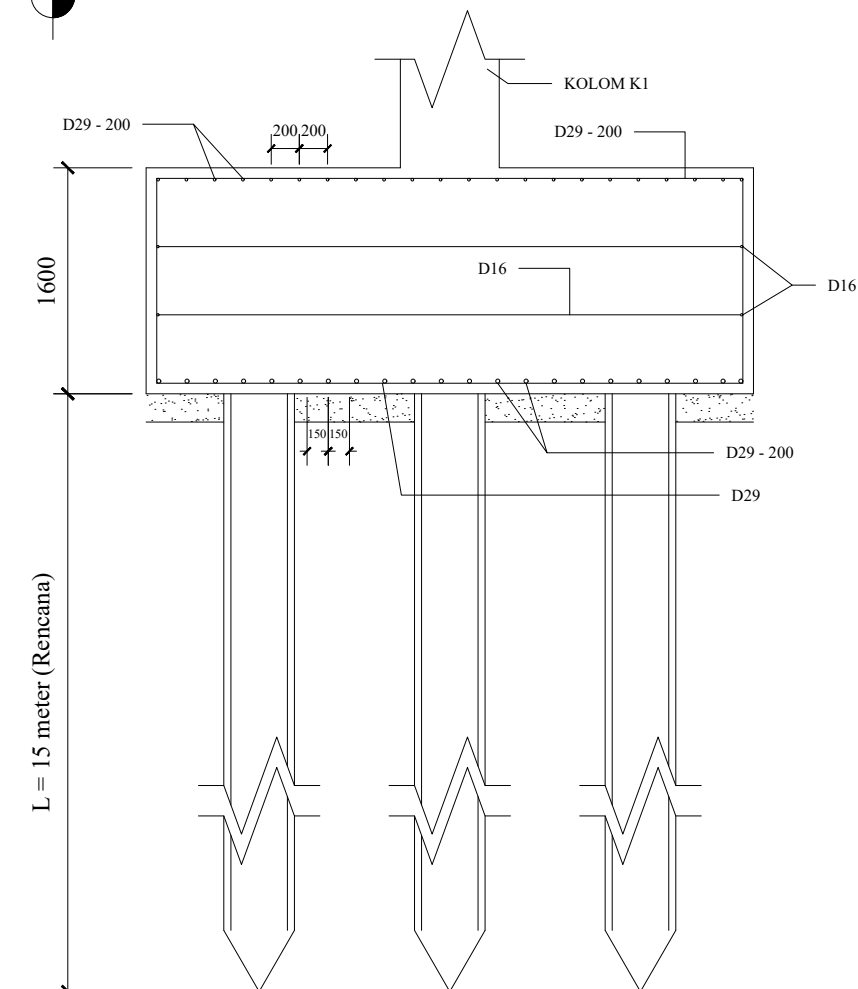
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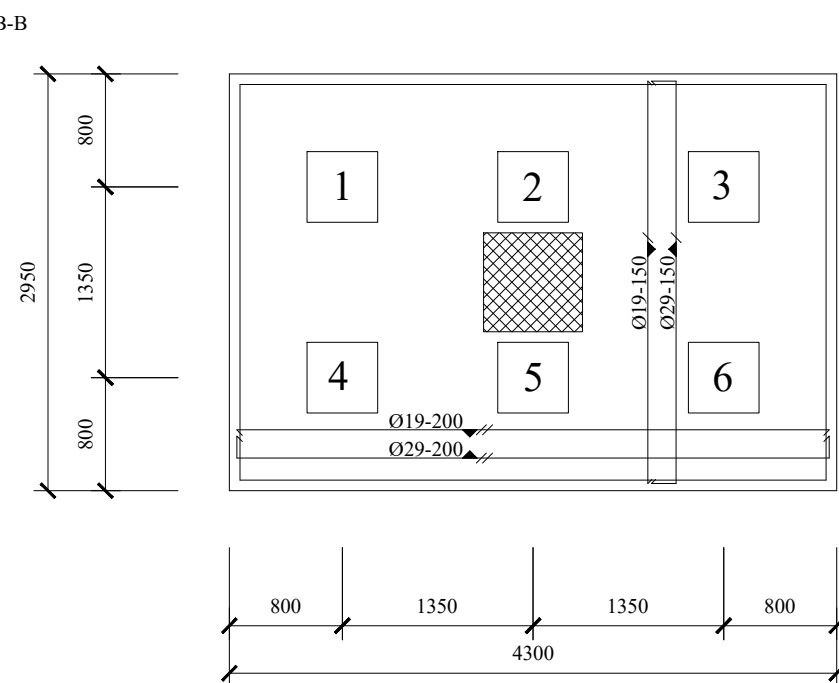
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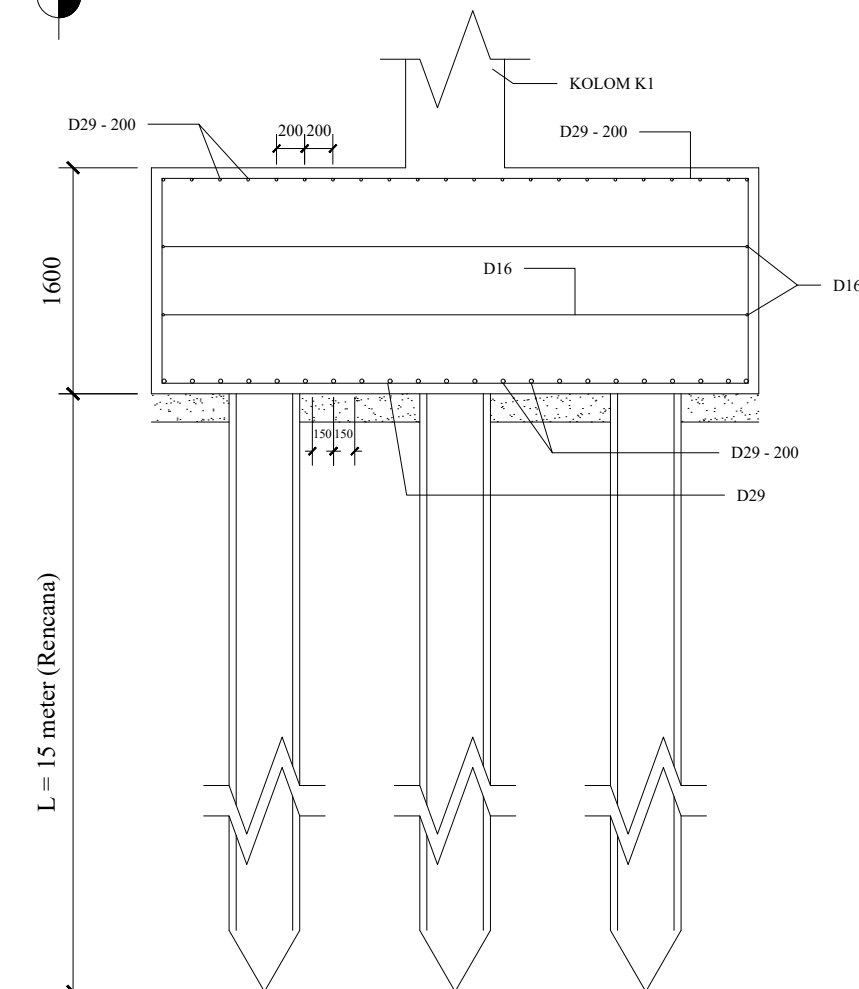
PILE CAP PC - 2



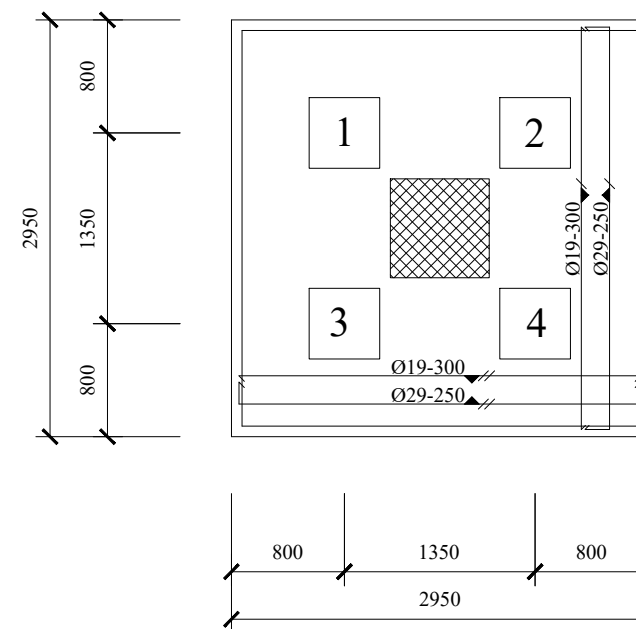
POTONGAN PILE CAP A-A



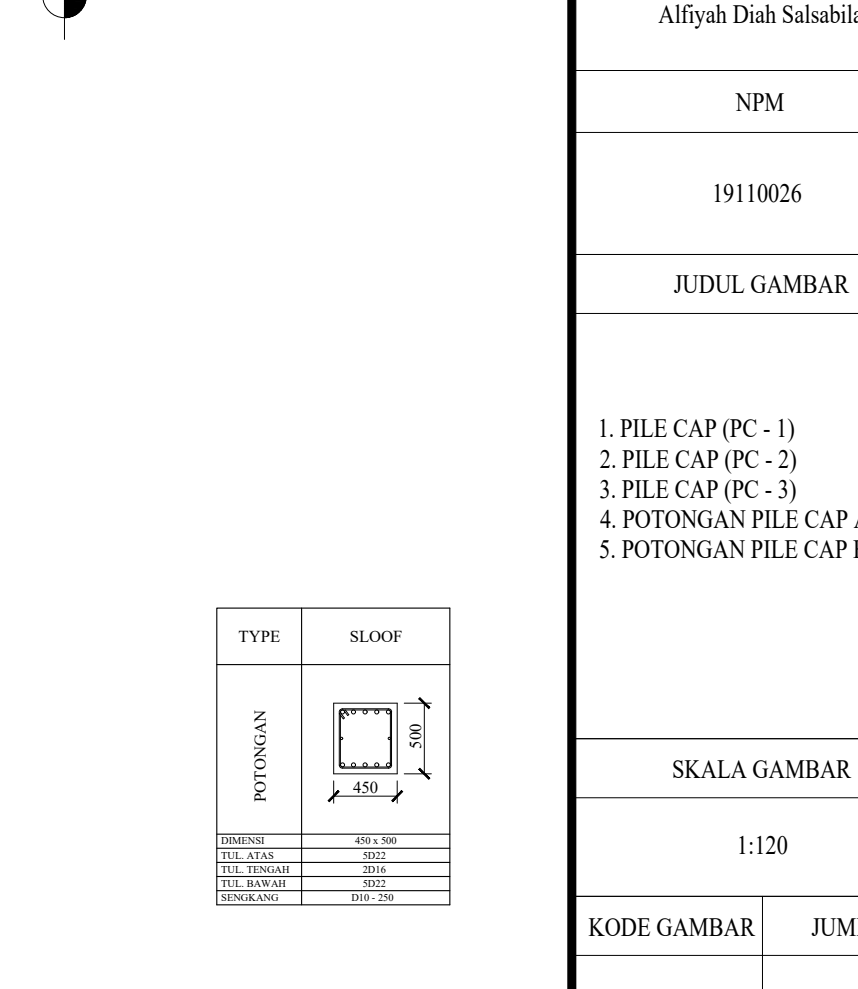
PILE CAP PC - 1



POTONGAN PILE CAP B-B



PILE CAP PC - 3



TYPE	SLOOF
POTONGAN	
DIMENSI	450 x 500
TUL. ATAS	5D22
TUL. TENGAH	2D16
TUL. BAWAH	5D22
SENGKANG	D10 - 250

TUGAS AKHIR



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1. PILE CAP (PC - 1)
2. PILE CAP (PC - 2)
3. PILE CAP (PC - 3)
4. POTONGAN PILE CAP A-A
5. POTONGAN PILE CAP B-B

SKALA GAMBAR

1:120

KODE GAMBAR

JUMLAH

25

26

REVISI TUGAS PROPOSAL TA / TUGAS AKHIR

NAMA : Alfiah Diah S
N P M : 19010026
JUDUL TOPIK KHUSUS/TUGAS AKHIR : Perene Struktur Beton Bertulang Gedung Hotel 'Dance'
10 Lt dgn menggunakan SRPMK.

NO.	U R A I A N	PARAF
1.	Koreksi Reduksional sesuai 'mat king' 'Jasas Pengusi'	
2.	Cek. gbr tumpuan bordes	
3.	Cek Data SPT	
4.	Referensi diperbaiki sesuai dgn rujukan pustaka	
5.	Alasan menggunakan kedalaman tumpuan pancang 45 ²	
6.	Alasan menggunakan dimensi tumpuan pancang - buat kompresan.	
7.	Alasan menggunakan bentuk tumpuan pancang	
8.	Sambungan HBK	



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DENAH RENCANA PONDASI
& SLOOF

SKALA GAMBAR

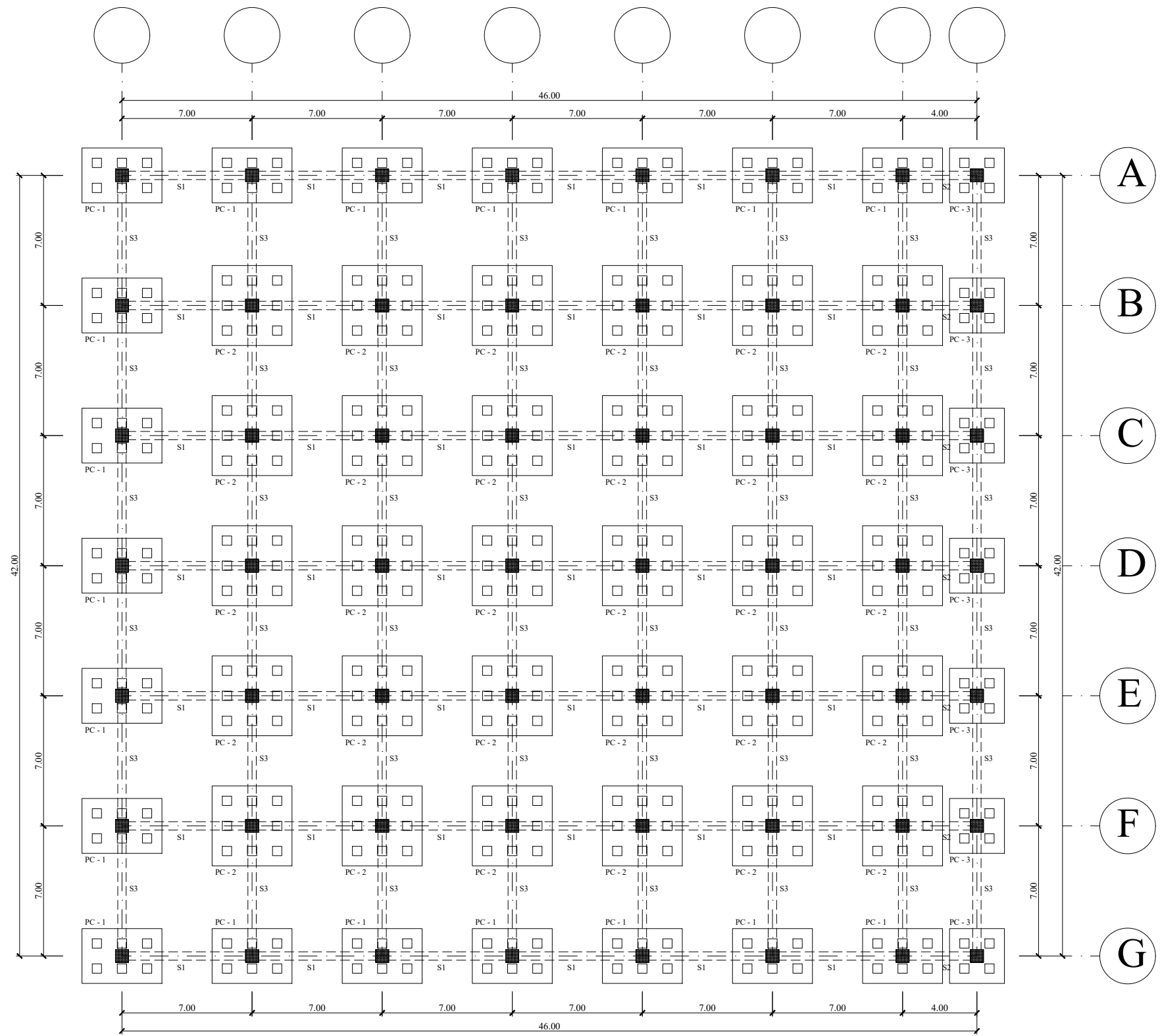
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KODE GAMBAR

JUMLAH

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DENAH RENCANA
PONDASI & SLOOF



PLANNING GUIDE

KOREA FACTORY PRODUCTION



HYUNDAI
ELEVATOR CO., LTD.

Contents

PRODUCT LINE-UP 04

PASSENGER ELEVATOR

LUXEN 1.0~2.5m/sec	06
NEW YZER MRL (Machine Room Less) 1.0~2.5m/sec	08
THE EL / I-XEL ULTRA-HIGH-SPEED / HIGH-SPEED 3.0~10.0m/sec	10

OBSERVATION ELEVATOR

LUXEN 1 SIDE / 2 SIDES TYPE _____	12
3 SIDES / ROUND TYPE _____	14
NUDE TYPE _____	16
NEW YZER MRL (Machine Room Less) 1 SIDE / 2 SIDES TYPE _____	18
MRL (Machine Room Less) NUDE TYPE _____	20

FREIGHT ELEVATOR

GENERAL TYPE | 2S, 2U, 3U _____ 22

AUTOMOBILE ELEVATOR

GENERAL TYPE | 2U, 3U _____ 24

ENTRANCE LAYOUT

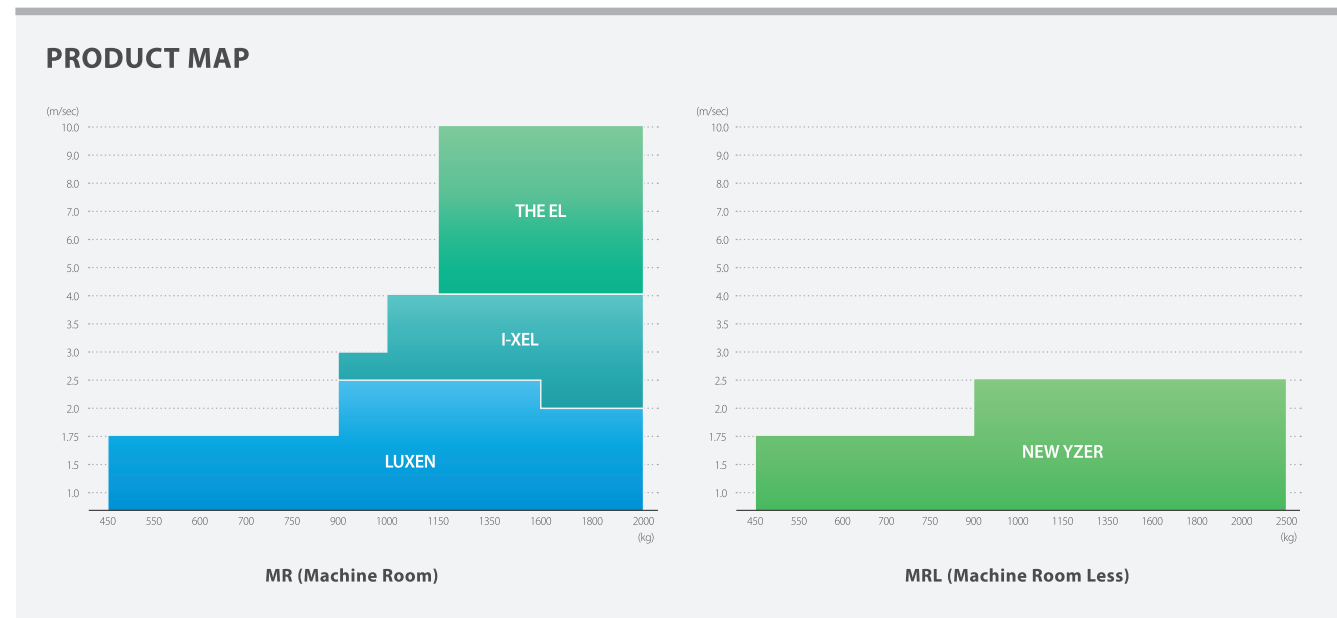
GENERAL TYPE JP050, JP100, JP200 _____	25
ONLY FOR TOP FLOOR OF THE MRL ELEVATORS CP110, CP210, CP in hoistway _____	26
2-PANEL CENTER-OPENING DOORS 1S-CO _____	27
2-PANEL SIDE-OPENING DOORS 2S-SO _____	28
4-PANEL CENTER-OPENING DOORS 2S-CO _____	29
2-PANEL / 3-PANEL UP-SLIDING DOORS 2U / 3U _____	30

ELECTRIC POWER REQUIREMENTS

ELEVATOR MR (Machine Room) ELEVATOR (1.0~2.5 m/sec)	31
MR (Machine Room) ELEVATOR (3.0~10.0 m/sec)	32
MRL (Machine Room Less) ELEVATOR (1.0~2.5 m/sec)	33
FREIGHT / AUTOMOBILE ELEVATOR (0.4~1.0 m/sec)	34

WORK TO BE DONE BY OTHER CONSTRUCTIONS

REQUIREMENTS FOR FIREFIGHTERS LIFTS (EN81-72)



ELEVATORS

Product	Speed	Floor	Control
LUXEN	1.0~2.5m/sec	30 floors or less	Machine Room
NEW YZER	1.0~2.5m/sec		Machine Room Less
I-XEL	3.0~4.0m/sec	50 floors or less	Machine Room
THE EL	5.0~10.0m/sec	50 floors or more	

SIGNATURE PROJECTS



- 1 BUSAN INTERNATIONAL FINANCE CENTER (KOREA)**
Thirty-two elevators were installed, including two 10 m/sec units (Korea's fastest), three 9 m/sec units, and eight 8 m/sec units, as well as fourteen escalators.

2 GALLERY WEST (INDONESIA)
Twenty-three 4 m/sec elevators were installed, as well as twelve escalators.

3 PARK HYATT BUSAN (KOREA)
Eleven elevators were installed, including two 6 m/sec units and three 4 m/sec units.
- 4 METROPOL ISTANBUL (TURKEY)**
One hundred twenty-seven elevators were installed, including six 6 m/sec units, one 5.8 m/sec unit, and twenty-eight 4 m/sec units, as well as twenty-four escalators.

5 KEANGNAM HANOI LANDMARK TOWER (VIETNAM)
Twenty-nine elevators were installed, including two 4 m/sec units, as well as twenty-seven escalators.

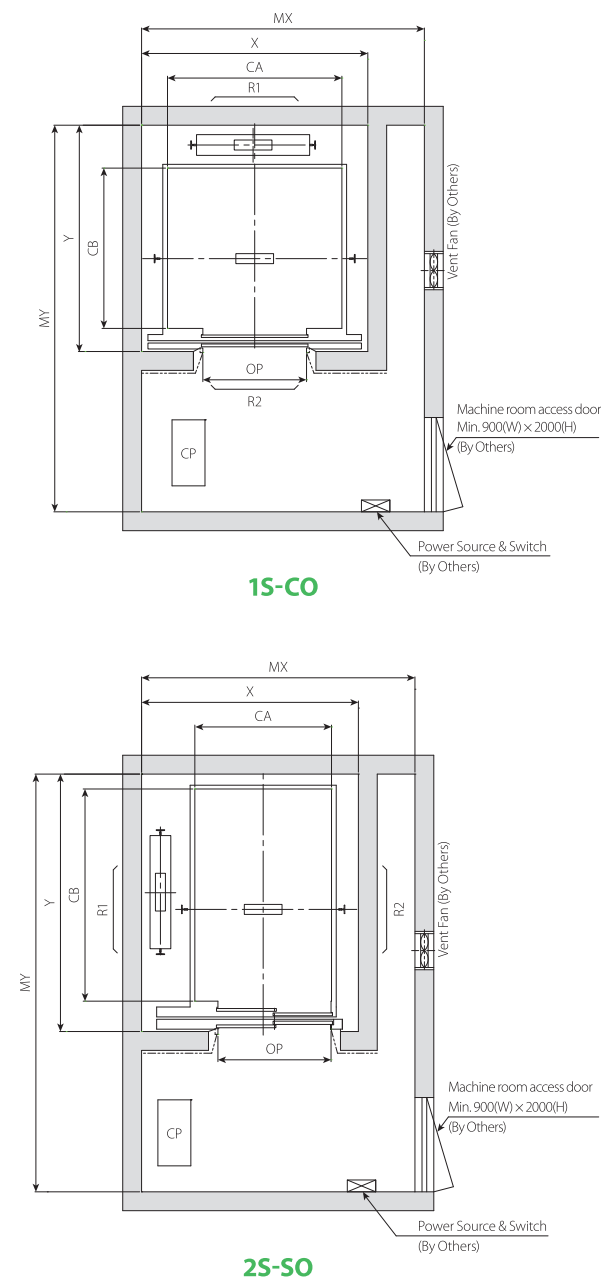
6 KL GATEWAY (MALAYSIA)
Twenty-seven elevators were installed, including eight 3.5 m/sec units, as well as forty-nine escalators and an auto parking system.
- 7 F&F TOWER (PANAMA)**
Twenty elevators were installed, including five 3 m/sec units, two 2.5 m/sec units, and six 2 m/sec units.

8 F&F TOWER (PANAMA)
Five 4 m/sec elevators were installed.

9 LG U+ YONGSAN OFFICE BUILDING (KOREA)
Ten elevators were installed, including 3.5 m/sec double deck units (Korea's first) and four 4 m/sec units, as well as two escalators.

10 VARYAP MERIDIAN (TURKEY)
Fifty-three elevators were installed, including seven 4 m/sec units and five 3.5 m/sec units.

PLAN OF HOISTWAY

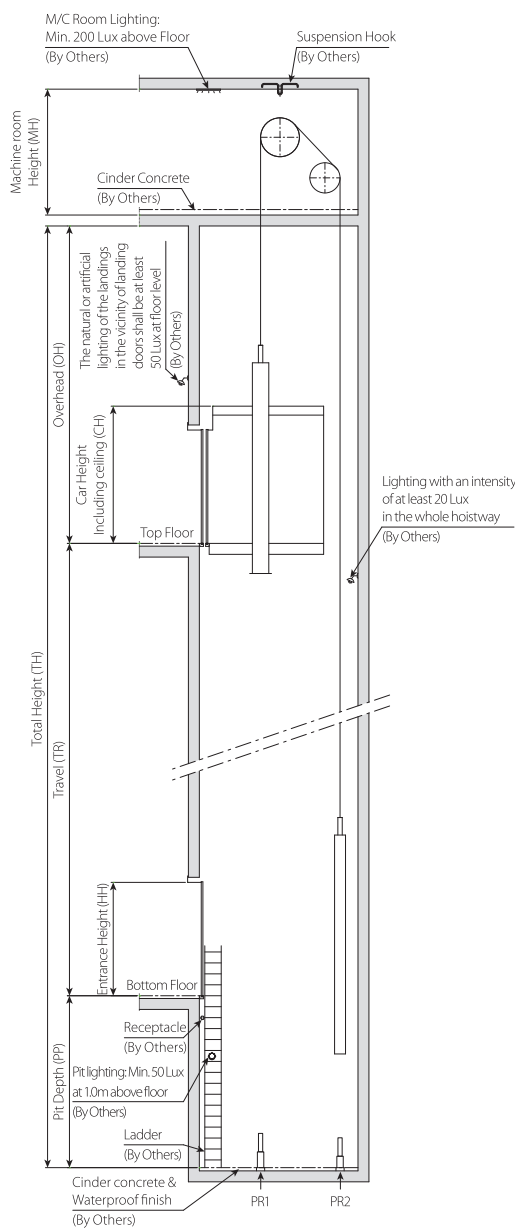


OVERHEAD & PIT DEPTH

(Unit : mm)					
Capacity (kg)	Speed (m/sec)	Overhead (OH) ^{Note.2}		Pit Depth (PP)	M/C Room Height (MH)
450 ~ 1150	1.0	CH+1850	CH+2050	1250	2300
	1.5	CH+2000	CH+2200	1350	2400
	1.75	CH+2050	CH+2250	1400	2400
	2.0	CH+2200	CH+2400	1900 ^{Note.3}	2600
	2.5	CH+2600	CH+2800	2200 ^{Note.3}	2600
1350 ~ 2000	1.0	CH+1850	CH+2050	1350	2400
	1.5	CH+2000	CH+2200	1400	2400
	1.75	CH+2050	CH+2250	1450	2400
	2.0	CH+2200	CH+2400	2000 ^{Note.3}	2600
	2.5	CH+2600	CH+2800	2200 ^{Note.3}	2600

* CH: (External) Car Height

SECTION OF HOISTWAY



- ◀ **Notes:**
- Above dimensions are applied base on EN81-1 & EN81-20.
 - Regarding the Overhead (OH):
 - If applied air conditioner, the Overhead (OH) should be increased by 400mm
 - In case of fire-fighter lift or applied emergency exit door on car top, the Overhead (OH) should be increased as below.
- EN81-1 : OH+400mm / - EN81-20 : OH+200mm
 - If Travel exceeds 125meters, Pit depth should be more than 2400mm.
 - M/C room height shall be increased 200mm in case of the traction machine with double isolation pad.
 - Machine room temperature should be maintained below 40°C with ventilating fan and/or air conditioner(if necessary) and humidity below 90%.
 - If the height of non-stop floor is over 11m(In case of fire-fighter lift is 7m), please consult us as to the needs for emergency exit.

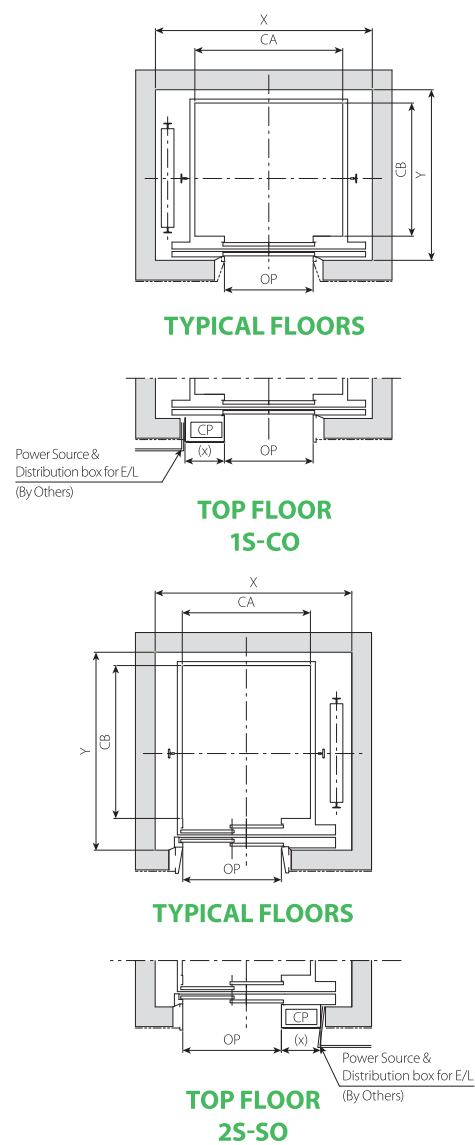
STANDARD DIMENSIONS & REACTIONS

Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	C.WT Drop	Car Insize (mm)	Hoistway Insize (mm)	Machine Room Size (mm)	M/C Room Reaction (kg)		Pit Reaction (kg)	
Persons	kg			OP		CA × CB	X × Y	MX × MY	R1	R2	PR1	PR2
6	450	1.0	1S-CO	700	Rear	1100 × 1100	1600 × 1700	1950 × 3500	3600	2000	5500	4500
7	550			800	Rear	1300 × 1100	1750 × 1700	2100 × 3500	4050	2250	6000	4900
8	600 (630)			800	Rear	1400 × 1100	1800 × 1700	2150 × 3500	4100	2450	6300	5100
9	700			900	Rear	1100 × 1400	1950 × 2000	2300 × 3800				
10	750			800	Rear	1400 × 1250	1800 × 1850	2150 × 3650	4200	2700	6800	5400
12	900			800	Rear	1400 × 1300	1800 × 1900	2150 × 3700	4550	2800	7100	5600
13	1000			800	Rear	1400 × 1350	1800 × 2000	2150 × 3800	4550	2800	7400	5800
15	1150			900	Rear	1600 × 1350	2050 × 2000	2400 × 3800	5100	3750	8100	6300
18	1350			900	Rear	1600 × 1400	2050 × 2050	2400 × 3850				
21	1600			1100	Rear	2100 × 1100	2550 × 1750	2900 × 3550	5450	4300	8600	6600
24	1800	2.0	1S-CO	1000	Rear	1800 × 1400	2300 × 2050	2650 × 3850	6600	5100	11000	8700
26	2000			900	Side	1200 × 2200	2200 × 2600	2500 × 3750				
				1000	Rear	1800 × 1600	2300 × 2300	2650 × 4100	7800	6000	12200	9500
				1100	Rear	2000 × 1450	2500 × 2150	2850 × 3950				
				1100	Rear	2000 × 1700	2500 × 2400	2850 × 4200	8500	6800	13600	10400
				1100	Rear	2150 × 1550	2650 × 2250	3000 × 4050				
				1100	Rear	2000 × 1800	2550 × 2500	2900 × 4300				
				1100	Rear	2150 × 1700	2700 × 2400	3050 × 4200	8800	7200	14200	10900
				1200	Rear	2100 × 1900	2650 × 2600	3000 × 4400	9500	7700	15100	12000
				1200	Rear	2150 × 1850	2700 × 2550	3050 × 4350				
12	900	2.5	1S-CO	900	Rear	1600 × 1350	2100 × 2050	2450 × 3850	12030	6630	12400	10600
13	1000			900	Rear	1600 × 1400	2100 × 2100	2450 × 3900	12810	6950	13300	11300
15	1150			1000	Rear	1800 × 1400	2300 × 2100	2650 × 3900				
18	1350			900	Side	1200 × 2200	2250 × 2600	2550 × 3750	13080	7100	14500	12200
21	1600			1000	Rear	1800 × 1600	2300 × 2300	2650 × 4100	14360	7650	16500	13800
24	1800			1100	Rear	2000 × 1450	2500 × 2150	2850 × 3950				
				1100	Rear	2000 × 1700	2500 × 2400	2850 × 4200	15100	8100	18100	14900
				1100	Rear	2150 × 1550	2650 × 2250	3000 × 4050				
				1100	Rear	2000 × 1800	2550 × 2550	2900 × 4350				
26	2000			1100	Rear	2150 × 1700	2700 × 2450	3050 × 4250	15500	8500	18450	15300
		2.5	2S-SO	1200	Rear	2100 × 1900	2650 × 2650	3000 × 4450	16000	9100	19000	16000
				1200	Rear	2150 × 1850	2700 × 2600	3050 × 4400				

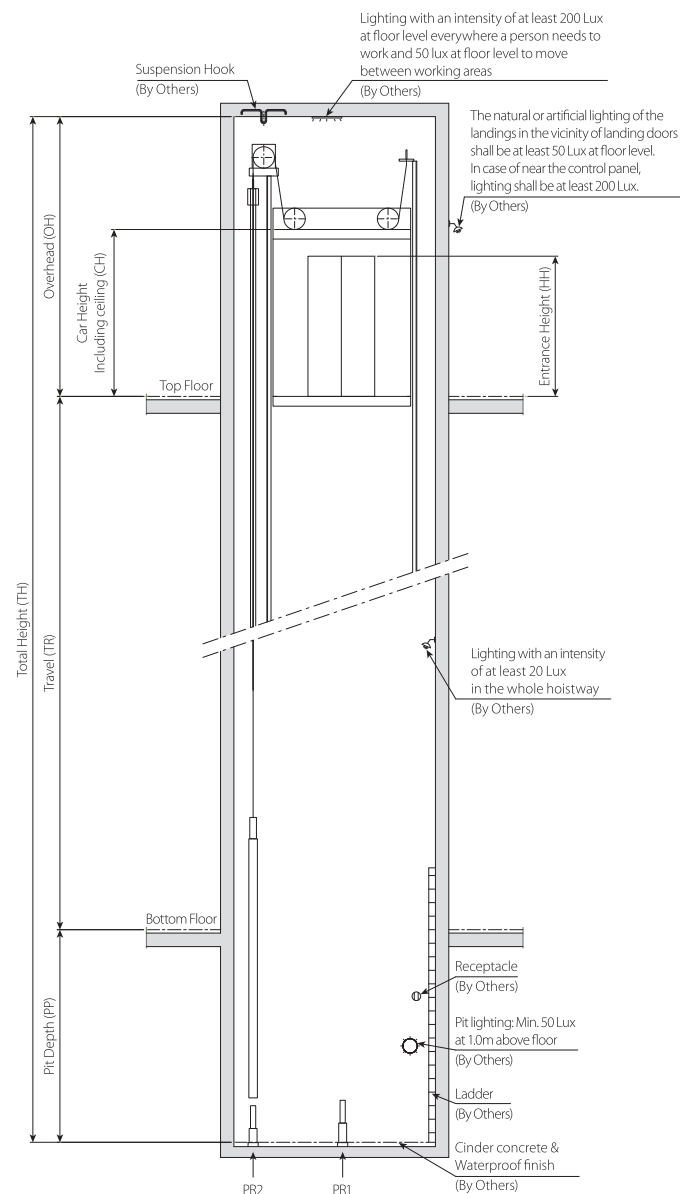
Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	C.WT Drop	Car Insize (mm)	Hoistway Insize (mm)	Machine Room Size (mm)	M/C Room Reaction (kg)		Pit Reaction (kg)			
Persons	kg			OP		CA × CB	X × Y	MX × MY	R1	R2	PR1	PR2		
6	450	1.0	2S-SO	800	Rear	1100 × 1100	1550 × 1800	1900 × 3600	3600	2000	5500	4500		
7	550			800	Side	1100 × 1300	1850 × 1800	2150 × 2950	4050	2250	6000	4900		
8	600 (630)			800	Side	1100 × 1400	1850 × 1850	2150 × 3000	4100	2450	6300	5100		
9	700			800	Side	1200 × 1400	1950 × 1850	2250 × 3000	4200	2700	6800	5400		
10	750			800	Side	1300 × 1400	2050 × 1850	2400 × 3000	4550	2800	7100	5600		
	800			800	Side	1300 × 1400	2100 × 2000	2400 × 3150	4550	2800	7400	5800		
12	900			1.5	2S-SO	900	Side	1300 × 1600	2100 × 2050	2400 × 3200	5100	3750	8100	6300
	900					Side	1100 × 2100	1900 × 2550	2200 × 3700	5450	4300	8600	6600	
13	1000			1.75	2S-SO	1100	Rear	2100 × 1100	2550 × 1850					2900 × 3650
15	1150					1000	Side	1200 × 2100	2050 × 2550	2350 × 3700	6600	5100	11000	8700
18	1350	2.0	2S-SO	1100	Side	1300 × 2300	2200 × 2750	2500 × 3900	7800	6000	12200	9500		
21	1600			1200	Side	1400 × 2400	2300 × 2850	2600 × 4000	8500	6800	13600	10400		
24	1800			1200	Side	1500 × 2400	2500 × 2850	2800 × 4000	8800	7200	14200	10900		
26	2000			1300	Side	1600 × 2500	2650 × 2950	2950 × 4100	9500	7700	15100	12000		
12	900			900	Side	1300 × 1600	2250 × 2100	2550 × 3250	12030	6630	12400	10600		
13	1000			2.0	2S-SO	900	Side	1100 × 2100	2050 × 2550	2350 × 3700	12810	6950	13300	11300
						1100	Rear	2100 × 1100	2600 × 1900	2950 × 3700				
15	1150			2.5	2S-SO	1000	Side	1200 × 2100	2150 × 2550	2450 × 3700	13080	7100	14500	12200
18	1350					1100	Side	1300 × 2300	2250 × 2750	2550 × 3900	14360	7650	16500	13800
21	1600					1200	Side	1400 × 2400	2350 × 2850	2650 × 4000	15100	8100	18100	14900
24	1800	1200	Side			1500 × 2400	2550 × 2850	2850 × 4000	15500	8500	18450	15300		
26	2000	1300	Side			1600 × 2500	2650 × 2950	2950 × 4100	16000	9100	19000	16000		

- ▲ **Notes:**
- The table of dimensions as per Hyundai standard or EN81, For other country codes and spec requirements, please contact us.
 - If apply the safety gear on Counterweight side, please contact us.
 - If apply through (180 degree) type, please consult with us.
 - If capacity below 600kg and CWT Rear drop and car depth exceed 1150mm, please consult with us.
 - If only single car is located in the hoistway and rated speed is 2.5m/sec, the hoistway size is different from above table. Please contact us.
 - If travel is above 125m or requested a compensation rope system, Hoistway depth must be increased at least 50mm.
 - Rail Bracket (Separated Beam(Wall)) pitch: Applied with 2,000mm for 2.0m/sec & 2.5m/sec.
 - In case of duplex, please secure the distance between car and car more than 500mm. if not secured, please install a middle partition in hoistway.
 - The Hoistway dimensions width & depth are based on clear dimension +20mm horizontal tolerances over the total hoistway height.

PLAN OF HOISTWAY



SECTION OF HOISTWAY



OVERHEAD & PIT DEPTH

(Unit : mm)

Capacity (kg)	Speed (m/sec)	Overhead (OH) ^{Note.2}		Pit Depth (PP) ^{Note.4}
		EN81-1 ^{Note.4}	EN81-20	
450 ~ 1150	1.0	CH+1300	CH+1650	1100 ^{Note.3}
	1.5	CH+1400	CH+1750	1300
	1.75	CH+1500	CH+1850	1350
	2.0	CH+1800	CH+2000	2050
	2.5	CH+2100	CH+2300	2200
1350 ~ 1600	1.0	CH+1400	CH+1700	1200 ^{Note.3}
	1.5	CH+1600	CH+1900	1350
	1.75	CH+1800	CH+2000	1350
	2.0	CH+2000	CH+2300	2050
	2.5	CH+2250	CH+2500	2200
1800 ~ 2500	1.0	CH+2000	CH+2400	1350
	1.5	CH+2200	CH+2600	1700
	1.75	CH+2200	CH+2600	1700
	2.0	CH+2400	CH+2800	2050
	2.5	CH+2600	CH+3000	2200

* CH: (External) Car Height

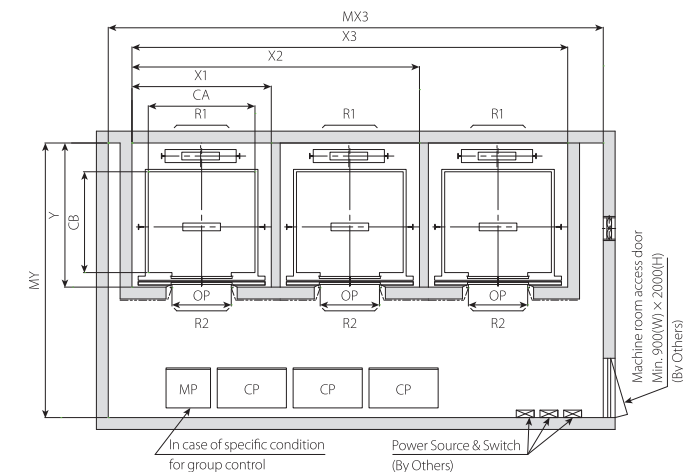
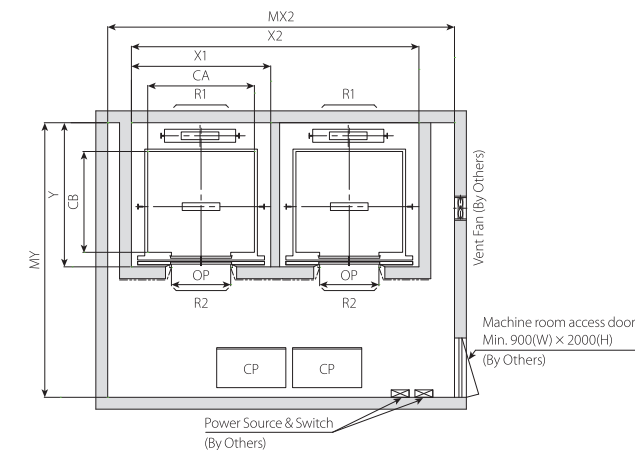
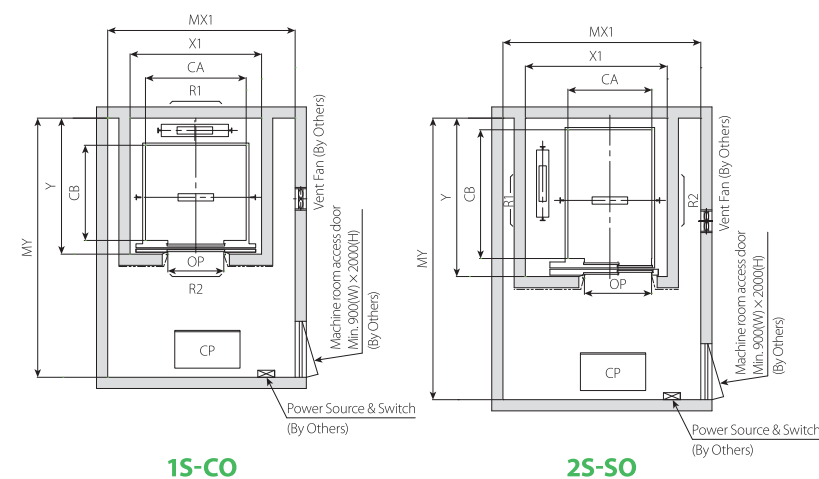
- ▲ Notes:
- Above dimensions are applied base on EN81-1 & EN81-20.
 - Regarding the Overhead (OH):
 - If applied air conditioner, the Overhead (OH) should be increased by 400 mm.
 - In case of fire-fighter lift or applied emergency exit door on car top, the Overhead (OH) should be increased as below.
 - EN81-1 : OH+400mm
 - EN81-20 : OH+200mm
 - The travel is above 25m, Pit depth should be increased by 200mm to apply the compensation device.
 - If apply the roller guide shoe for car side with EN81-1, OH & PP should be increased by 200mm per each.
 - If the height of non-stop floor is over 11m(In case of firefighter lift is 7m), please consult us as to the needs for emergency exit.

STANDARD DIMENSIONS & REACTIONS

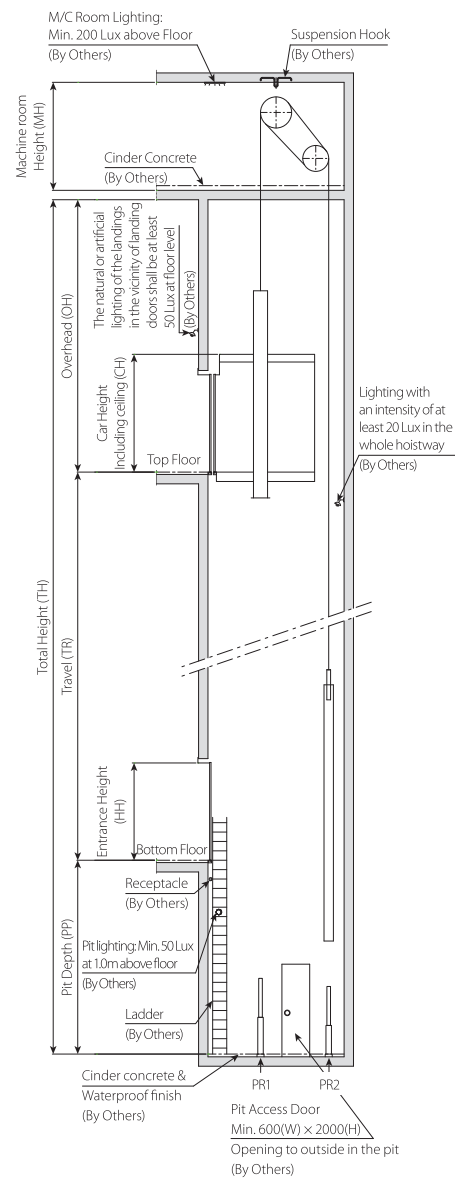
Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	Car Insize (mm)	Hoistway Insize (mm)		Control Panel Box size in Hall ^{Note.3}	Pit Reaction (kg)	
						CP on Hall	CP in Hoistway		PR1	PR2
Persons	kg			OP	CA × CB	X × Y	X × Y	CP		
6	450		1S-CO	700	1100 × 1100	1700 × 1500	1700 × 1650			
			2S-SO	800	1100 × 1100	1700 × 1550	1700 × 1700			
7	550		1S-CO	800	1100 × 1300	1800 × 1650	1800 × 1850	430	6500	5400
			2S-SO	800	1100 × 1250	1700 × 1650	1700 × 1850			
8	600 (630)		1S-CO	800	1100 × 1400	1800 × 1750	1800 × 1950		6800	5600
			2S-SO	800	1100 × 1400	1700 × 1800	1700 × 2000			
9	700		1S-CO	800	1200 × 1400	1850 × 1750	1850 × 1950	1.0m/sec : 430	7300	5900
			2S-SO	800	1200 × 1400	1800 × 1800	1800 × 2000	1.5&1.75m/sec : 505		
10	750 (800)		1S-CO	800	1300 × 1400	1900 × 1750	1900 × 1950	1.0m/sec : 430	7600	6100
			2S-SO	900	1300 × 1400	1900 × 1800	1900 × 2000	1.5&1.75m/sec : 505		
12	900		1S-CO	900	1500 × 1400	2100 × 1750	2100 × 1950	1.0m/sec : 430	8400	6600
			2S-SO	900	1300 × 1600	1900 × 2000	1900 × 2200	1.5&1.75m/sec : 505		
		1.0		900	1600 × 1400	2200 × 1750	2200 × 1950			
13	1000	1.5	1S-CO	900	1100 × 2100	2000 × 2450	2000 × 2450	1.0m/sec : 430	8900	6900
			2S-SO	900	1100 × 2100	1700 × 2500	1700 × 2500	1.5&1.75m/sec : 505		
		1.75		1200	2100 × 1100	2700 × 1500	2700 × 1700			
15	1150		1S-CO	1000	1800 × 1400	2400 × 1800	2400 × 2000	505	11800	9500
			2S-SO	1000	1200 × 2100	1800 × 2500	1800 × 2500			
18	1350		1S-CO	1000	1800 × 1600	2500 × 2000	2500 × 2250	1.0m/sec : 505		
			2S-SO	1100	1300 × 2300	2000 × 2750	2000 × 2750	1.5&1.75m/sec : 605	13400	10700
21	1600		1S-CO	1100	2000 × 1700	2700 × 2100	2700 × 2300	1.0m/sec : 505	14200	11000
			2S-SO	1200	1400 × 2400	2150 × 2850	2150 × 2850	1.5&1.75m/sec : 605		
24	1800		1S-CO	1100	2000 × 1800	2800 × 2200	2800 × 2400	1.0m/sec : 505	14600	11300
			2S-SO	1200	1500 × 2400	2300 × 2850	2300 × 2850	1.5&1.75m/sec : 605		
26	2000		1S-CO	1200	2100 × 1900	2900 × 2300	2900 × 2500	1.0m/sec : 505	20500	16900
			2S-SO	1300	1600 × 2500	2400 × 2950	2400 × 2950	1.5&1.75m/sec : 605		
33	2500		1S-CO	1200	2200 × 2200	3000 × 2900	3000 × 2900	1.0m/sec : 605	22800	18800
			2S-SO	1400	1800 × 2700	2600 ^{Note.4} × 3150 ^{Note.4}	2600 × 3150	1.5&1.75m/sec : in H/W		
12	900		1S-CO	900	1500 × 1400	2200 × 1800	2200 × 1950	505	8400	6600
			2S-SO	900	1300 × 1600	2000 × 2050	2000 × 2200			
13	1000		1S-CO	900	1600 × 1400	2300 × 1800	2300 × 2050	2.0m/sec : 505	8900	6900
			2S-SO	900	1100 × 2100	1800 × 2550	1800 × 2650	2.5m/sec : 605		
15	1150		1S-CO	1000	1800 × 1400	2500 × 1800	2500 × 2050	2.0m/sec : 505	11800	9500
			2S-SO	1200 × 2100	1900 × 2550	1900 × 2650	1900 × 2650	2.5m/sec : 605		
18	1350		1S-CO	1000	1800 × 1600	2600 × 2000	2600 × 2300	605	13400	10700
			2S-SO	1100	1300 × 2300	2100 × 2800	2100 × 2950			
21	1600	2.5	1S-CO	1100	2000 × 1700	2800 × 2100	2800 × 2400	605	14200	11000
			2S-SO	1200	1400 × 2400	2200 × 2900	2200 × 3000			
24	1800		1S-CO	1100	2000 × 1800		2800 × 2500	in Hoistway	20500	16900
			2S-SO	1200	1500 × 2400		2300 × 3000			
26	2000		1S-CO	1200	2100 × 1900		2900 × 2600	in Hoistway	22800	18800
			2S-SO	1300	1600 × 2500		2400 × 3050			
33	2500		1S-CO	1200	2200 × 2200		3000 × 2900	in Hoistway	26500	21500
			2S-SO	1400	1800 × 2700		2600 × 3200			

- ▲ Notes:
- The table of dimensions as per Hyundai standard or EN81, For other country codes and spec requirements, please contact us.
 - If apply the safety gear on Counterweight side, Hoistway Width(X) needed to add 100mm.
 - The control panel box size(CP) may varied depending on the type of control type as PWM (Power Regeneration function), please refer to layout drawing for exact size. In case of control panel box size 605mm in Hall side, Min. wall+finished thickness 405mm is needed.
 - If control panel is located in the hoistway, remote control box should be installed at hall side of top floor and box hole should be needed. Please refer to layout drawing for exact box hole size & location.
 - If apply through(180 degree) type, please consult with us.
 - The Hoistway dimensions width & depth are based on clear dimension +20mm horizontal tolerances over the total hoistway height.

PLAN OF HOISTWAY



SECTION OF HOISTWAY



STANDARD DIMENSIONS & REACTIONS

Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	C.WT Drop	Car Insize (mm)	Hoistway Insize (mm)	Machine Room Size (mm)	M/C Room Reaction (kg)		Pit Reaction (kg)	
Persons	kg								OP	CA × CB	X × Y	MX1 × MY
12	900	3.0	1S-CO	900	Rear	1600 × 1350	2300 × 2100	2800 × 4350	12030	6650	13100	11300
13	1000		2S-SO	900	Side	1300 × 1600	2300 × 2100	2800 × 4350				
			1S-CO	900	Rear	1600 × 1400	2300 × 2150	2800 × 4400	12810	6950	14600	12600
15	1150		2S-SO	900	Side	1100 × 2100	2100 × 2600	2600 × 4850				
			1S-CO	1000	Rear	1800 × 1400	2500 × 2150	3000 × 4400	13080	7150	17200	14900
18	1350		2S-SO	1000	Side	1200 × 2100	2200 × 2600	2700 × 4850				
			1S-CO	1000	Rear	1800 × 1600	2500 × 2350	3000 × 4600	14360	7650	18800	16100
21	1600		2S-SO	1100	Side	1300 × 2300	2300 × 2800	2800 × 5050				
			1S-CO	1100	Rear	2000 × 1700	2700 × 2450	3200 × 4700	15100	8100	21000	17100
24	1800		2S-SO	1200	Side	1400 × 2400	2400 × 2900	2900 × 5150				
			1S-CO	1100	Rear	2000 × 1800	2700 × 2550	3200 × 4800	15700	8400	24000	18700
26	2000	2S-SO	1200	Side	1500 × 2400	2550 × 2900	3050 × 5150					
		1S-CO	1200	Rear	2100 × 1900	2800 × 2650	3300 × 4900	16200	8700	21000	17100	
13	1000	3.5	2S-SO	1300	Side	1600 × 2500	2650 × 3000	3150 × 5250				
			1S-CO	900	Rear	1600 × 1400	2300 × 2200	2800 × 4450	12810	7800	14600	12600
15	1150		2S-SO	900	Side	1300 × 1800	2350 × 2300	2850 × 4550				
			1S-CO	1000	Rear	1800 × 1400	2500 × 2200	3000 × 4450	14100	8000	17200	14900
18	1350		2S-SO	1000	Side	1300 × 2000	2350 × 2500	2850 × 4750				
			1S-CO	1000	Rear	1800 × 1600	2500 × 2400	3000 × 4650	15100	8050	18800	16100
21	1600		2S-SO	1100	Side	1300 × 2300	2350 × 2800	2850 × 5050				
			1S-CO	1100	Rear	2000 × 1700	2700 × 2500	3200 × 4750	15700	8100	21000	17100
24	1800		2S-SO	1200	Side	1400 × 2400	2450 × 2900	2950 × 5150				
			1S-CO	1100	Rear	2000 × 1800	2700 × 2600	3200 × 4850	16000	8500	24000	18700
26	2000		2S-SO	1200	Side	1500 × 2400	2600 × 2900	3100 × 5150				
		1S-CO	1200	Rear	2100 × 1900	2800 × 2700	3300 × 4950	16400	8800	21000	17100	
			2S-SO	1300	Side	1600 × 2500	2700 × 3000	3200 × 5250				

Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	Car Insize (mm)	Hoistway Insize (mm)					Machine Room Size (mm)				M/C Room Reaction (kg)		Pit Reaction (kg)			
Persons	kg			OP	CA × CB	X1	X2	X3	×	MY	MX1	MX2	MX3	×	Y	R1	R2	PR1	PR2	
15	1150	5.0	1S-CO	1000	1800 × 1400	2600	5300	8000	×	2350	3300	6000	8700	×	5850	17500	13000	-	-	
18	1350			1000	1800 × 1600	2600	5300	8000	×	2550	3300	6000	8700	×	6050	17800	13200	-	-	
				1100	2000 × 1450	2800	5700	8600	×	2400	3500	6400	9300	×	5900					
21	1600			1100	2000 × 1700	2800	5700	8600	×	2650	3500	6400	9300	×	6150	18100	13500	-	-	
				1100	2150 × 1550	2950	6000	9050	×	2500	3650	6700	9750	×	6000					
24	1800			6.0	1100	2000 × 1800	2800	5700	8600	×	2750	3500	6400	9300	×	6250	18300	13800	-	-
					1100	2150 × 1700	2950	6000	9050	×	2650	3650	6700	9750	×	6150				
26	2000			1100	2100 × 1900	2900	5900	8900	×	2850	3600	6600	9600	×	6350	-	-	-	-	
				1100	2150 × 1850	2950	6000	9050	×	2800	3650	6700	9750	×	6300					
15	1150	7.0 8.0	1S-CO	1000	1800 × 1400	2700	5500	8300	×	2500	3400	6200	9000	×	6000	-	-	-	-	
18	1350			1100	2000 × 1450	2900	5900	8900	×	2550	3600	6600	9600	×	6050	-	-	-	-	
21	1600	1100		2000 × 1700	2900	5900	8900	×	2800	3600	6600	9600	×	6300	-	-	-	-		
24	1800	~		1100	2000 × 1800	2900	5900	8900	×	2900	3600	6600	9600	×	6400	-	-	-	-	
26	2000			1100	2100 × 1900	3000	6100	9200	×	3000	3700	6800	9900	×	6500	-	-	-	-	

- ▲ Notes:
1. The table of dimensions as per Hyundai standard or EN81, For other country codes and spec requirements, please contact us.
 2. If apply the safety gear on Counterweight side, please contact us.
 3. If apply through (180 degree) type, please consult with us.
 4. In case of duplex, please secure the distance between car and car more than 500mm. if not secured, please install a middle partition in hoistway.
 5. Rail Bracket (Separated Beam(Wall)) pitch: 2,000mm for speed 3.0m/sec elevators with a capacity below 1,600kg.
 6. If only single car is located in the hoistway, please contact us for wind pressure countermeasures of building and elevator.
 7. If the speed is over 7.0m/s, the reaction force will be calculated according to the travel. Please contact us.
 8. The Hoistway dimensions width & depth are based on clear dimension +30mm horizontal tolerances over the total hoistway height.

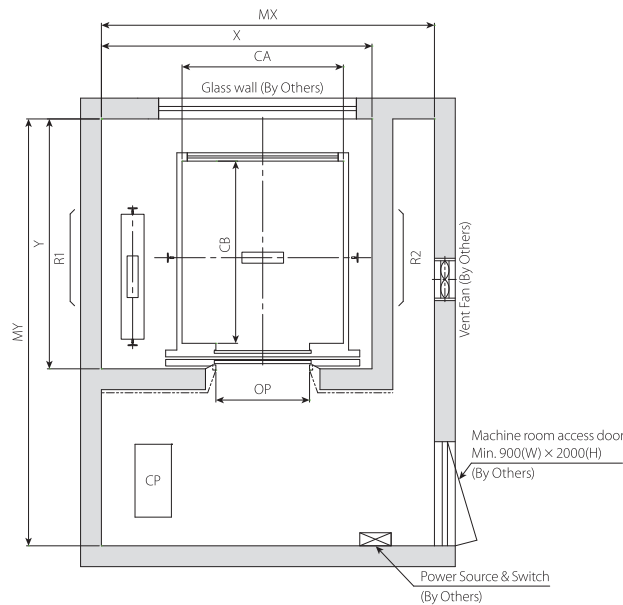
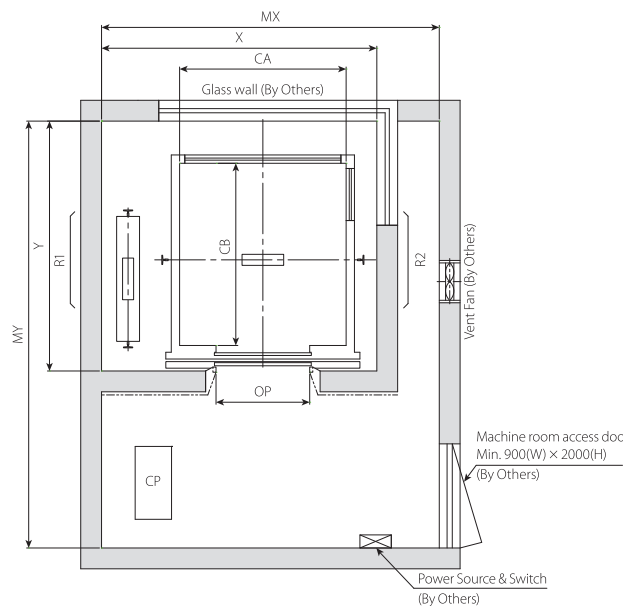
OVERHEAD & PIT DEPTH

(Unit : mm)				
Capacity (kg)	Speed (m/sec)	Overhead (OH) EN81-1 & 20	Pit Depth (PP)	M/C Room Height (MH)
900 ~ 2000	3.0	CH+3300	2700 ^{Note.2}	3000
	3.5	CH+3700	3200 ^{Note.2}	3000
	4.0	CH+4400	3850 ^{Note.2}	3000
	5.0	CH+5300	4200	3300
	6.0	CH+5600	4300	3300
	7.0	CH+5800	6000	3300
	8.0	CH+6800	6400	3600
	9.0	CH+7050	8800	3600
	10.0	CH+7300	9000	3600

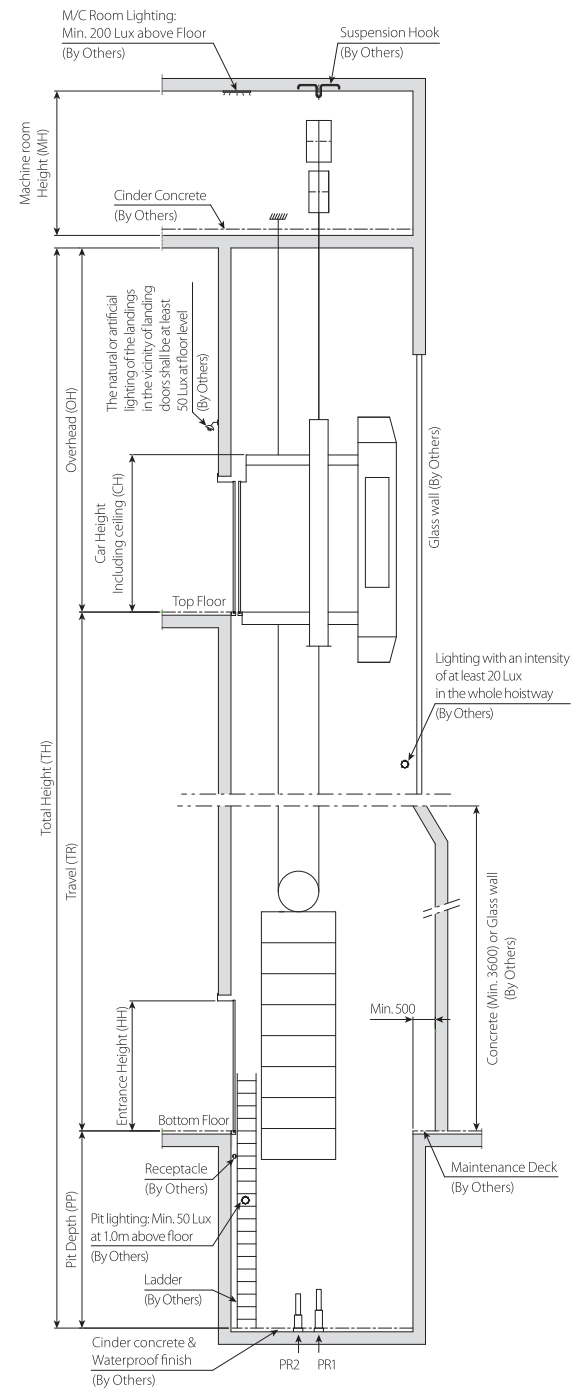
* CH: (External) Car Height

- ◀ Notes:
1. Above dimensions are applied base on EN81-1 & EN81-20.
 2. The speed 3.0~4.0m/sec can be applied at pit depth 2500mm according to the layout condition. Please contact us separately.
 3. Machine room temperature should be maintained below 40°C with ventilating fan and/or air conditioner(if necessary) and humidity below 90%.
 4. If the height of non-stop floor is over 11m (In case of fire-fighter lift : 7m), please consult us as to the needs for emergency exit.

PLAN OF HOISTWAY


1 SIDE TYPE

2 SIDES TYPE

SECTION OF HOISTWAY



STANDARD DIMENSIONS & REACTIONS

Type	Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	Car Insize (mm)	Hoistway Insize (mm)	Machine Room Size (mm)	M/C Room Reaction (kg)		Pit Reaction (kg)	
	Persons	kg			OP	CA × CB	X × Y	MX × MY	R1	R2	PR1	PR2
1 SIDE (REAR)	6	450	1.0	1S-CO	800	1100 × 1100	2100 × 1600	2500 × 3100	5000	2700	6650	5750
	7	550			800	1100 × 1300	2100 × 1800	2500 × 3300	5350	3000	7300	6200
	8	600(630)			800	1100 × 1400	2100 × 1900	2500 × 3400	5550	3100	7600	6400
	9	700			800	1250 × 1350	2150 × 1850	2550 × 3350	5900	3300	8200	6800
	10	750(800)	1.5		800	1300 × 1400	2200 × 1900	2600 × 3400	6100	3400	8500	7000
	12	900			900	1600 × 1350	2500 × 1850	3150 × 3350	6800	3750	9550	7750
	13	1000			900	1600 × 1400	2500 × 1900	3150 × 3400	7100	3900	10100	8150
	15	1150			1000	1800 × 1400	2850 × 1900	3500 × 3400	8900	5300	12800	10500
	18	1350	1.75		1000	1800 × 1600	2850 × 2100	3500 × 3600	9000	6650	14100	11400
	21	1600			1100	2000 × 1700	3050 × 2200	3700 × 3700	9850	7050	15500	12300
	24	1800			1100	2000 × 1800	3050 × 2300	3700 × 3800	9950	7300	16300	12900
	2 SIDES (REAR & 1 SIDE)	7	550		1.0	1S-CO	800	1100 × 1300	2100 × 1800	2500 × 3300	5400	3050
8		600(630)	800	1100 × 1400			2100 × 1900	2500 × 3400	5600	3120	7800	6600
9		700	800	1250 × 1350			2250 × 1850	2650 × 3350	5950	3350	8400	7000
10		750(800)	800	1300 × 1400			2300 × 1900	2700 × 3400	6100	3450	8700	7200
12		900	1.5	900	1600 × 1350		2600 × 1850	3250 × 3350	6850	3750	9750	7950
13		1000		900	1600 × 1400		2600 × 1900	3250 × 3400	7150	3930	10350	8350
15		1150		1000	1800 × 1400		2800 × 1900	3450 × 3400	9000	5400	13000	10700
18		1350		1000	1800 × 1600		2900 × 2100	3550 × 3600	9100	6700	14250	11600
21		1600	1.75	1100	2000 × 1700		3100 × 2200	3750 × 3700	9950	7100	15700	12500
24		1800		1100	2000 × 1800		3100 × 2300	3750 × 3800	10050	7300	16300	13000

- ▲ **Notes:**
1. The table of dimensions as per Hyundai standard or EN81, For other country codes and spec requirements, please contact us.
 2. If apply the safety gear on Counterweight side, please contact us.
 3. In case of duplex, please secure the distance between car and car more than 500mm. if not secured, please install a middle partition in hoistway.
 4. The Hoistway dimensions width & depth are based on clear dimension +20mm horizontal tolerances over the total hoistway height.

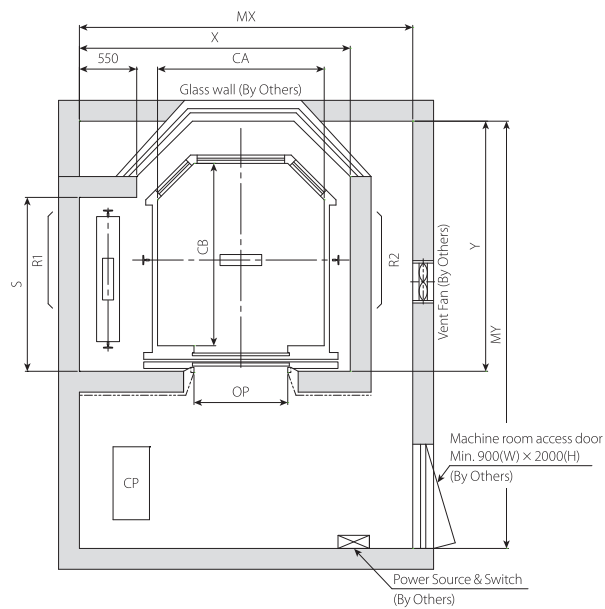
OVERHEAD & PIT DEPTH

(Unit : mm)					
Capacity (kg)	Speed (m/sec)	Overhead (OH) ^{Note.2}		Pit Depth (PP)	M/C Room Height (MH)
		EN81-1	EN81-20		
450 ~ 1800	1.0	CH+1850	CH+2150	1750	2300
	1.5	CH+2000	CH+2300	1850	2500
	1.75	CH+2050	CH+2350	1900	2500

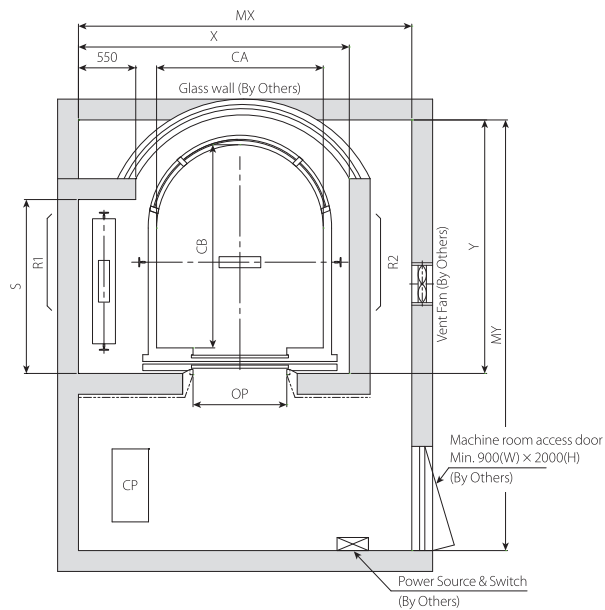
* CH: (External) Car Height

- ▲ **Notes:**
1. Above dimensions are applied base on EN81-1 & EN81-20.
 2. Regarding the Overhead (OH):
 - 1). If applied air conditioner, the Overhead (OH) should be increased by 400 mm.
 - 2). In case of applied emergency exit door on car top, the Overhead (OH) should be increased as below.
 - EN81-1 : OH+400mm
 - EN81-20 : OH+200mm
 3. If necessary to reduce the overhead & Pit, shall be proposed with semi-observation type. It means that without exterior panel and lighting.
 4. M/C room height shall be increased 200mm in case of the traction machine with double isolation pad.
 5. Machine room temperature should be maintained below 40°C with ventilating fan and/or air conditioner(if necessary) and humidity below 90%.
 6. If the height of non-stop floor is over 11m, please consult us as to the needs for emergency exit.

PLAN OF HOISTWAY

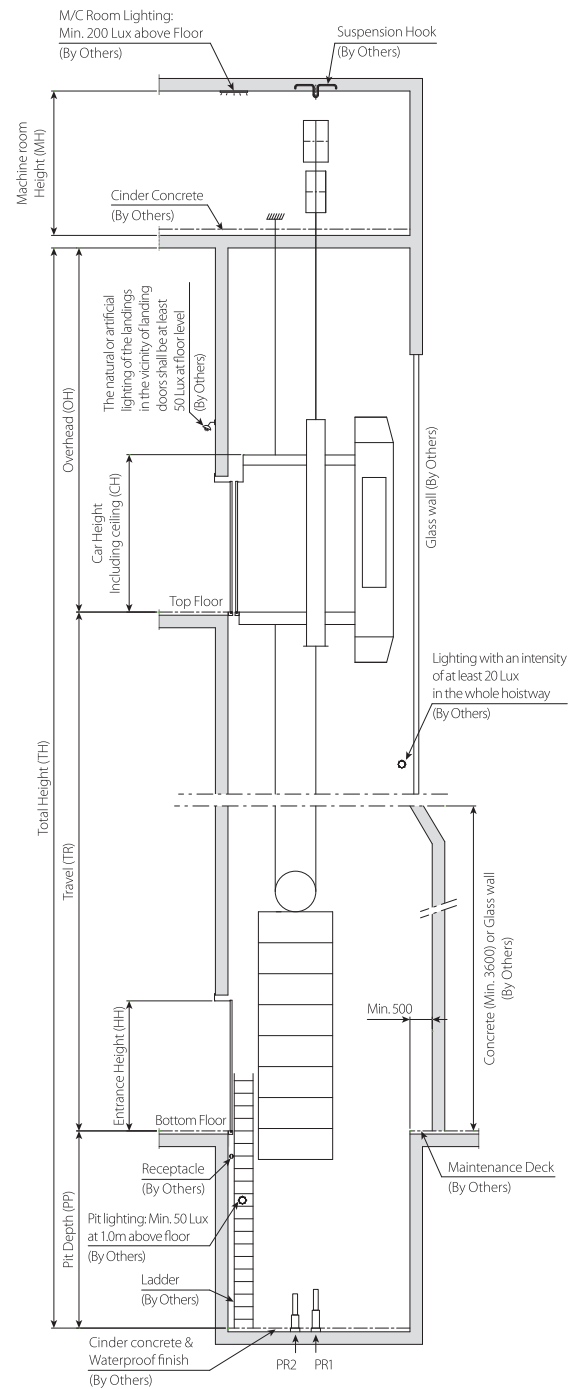


3 SIDES TYPE



ROUND TYPE

SECTION OF HOISTWAY



STANDARD DIMENSIONS & REACTIONS

Type	Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	Car Insize (mm)	Hoistway Insize (mm)	Machine Room Size (mm)	M/C Room Reaction (kg)		Pit Reaction (kg)		
	Persons	kg			OP	CA × CB	X × Y	S	MX × MY	R1	R2	PR1	PR2
3 SIDES	10	750(800)	1.0	1S-CO	800	1400 × 1400	2450 × 2000	1400	2900 × 3500	6150	3450	8700	7150
	12	900			900	1600 × 1450	2650 × 2050	1550	3300 × 3550	6900	3750	9700	7900
	13	1000			900	1600 × 1570	2650 × 2200	1550	3300 × 3700	7200	3950	10300	8300
	15	1150	1.75		1000	1800 × 1580	2850 × 2200	1700	3500 × 3700	9100	5450	13150	10900
	18	1350			1000	1800 × 1800	2850 × 2400	1800	3500 × 3900	9150	6750	14550	11850
	21	1600			1100	1800 × 2000	2850 × 2600	1800	3500 × 4100	10000	7150	16100	12900
	24	1800	1100		1800 × 2150	2850 × 2750	1800	3500 × 4250	10250	7300	16800	13300	
ROUND	10	750(800)	1.0	1S-CO	800	1400 × 1480	2450 × 2000	1400	2900 × 3500	6180	3450	8700	7150
	12	900			900	1600 × 1500	2650 × 2100	1550	3300 × 3600	6930	3750	9700	7900
	13	1000			900	1600 × 1650	2650 × 2250	1550	3300 × 3750	7220	3950	10300	8300
	15	1150	1.75		1000	1800 × 1650	2850 × 2250	1700	3500 × 3750	9100	5450	13150	10900
	18	1350			1000	1800 × 1900	2850 × 2500	1800	3500 × 4000	9150	6750	14550	11850
	21	1600			1100	1800 × 2130	2850 × 2700	1800	3500 × 4200	10050	7200	16100	12900
	24	1800	1100		1800 × 2230	2850 × 2800	1800	3500 × 4300	10250	7350	16800	13400	

- ▲ Notes: 1. The table of dimensions as per Hyundai standard or EN81, For other country codes and spec requirements, please contact us.
2. If apply the safety gear on Counterweight side, please contact us.
3. In case of duplex, please secure the distance between car and car more than 500mm. if not secured, please install a middle partition in hoistway.
4. The Hoistway dimensions width & depth are based on clear dimension +20mm horizontal tolerances over the total hoistway height.

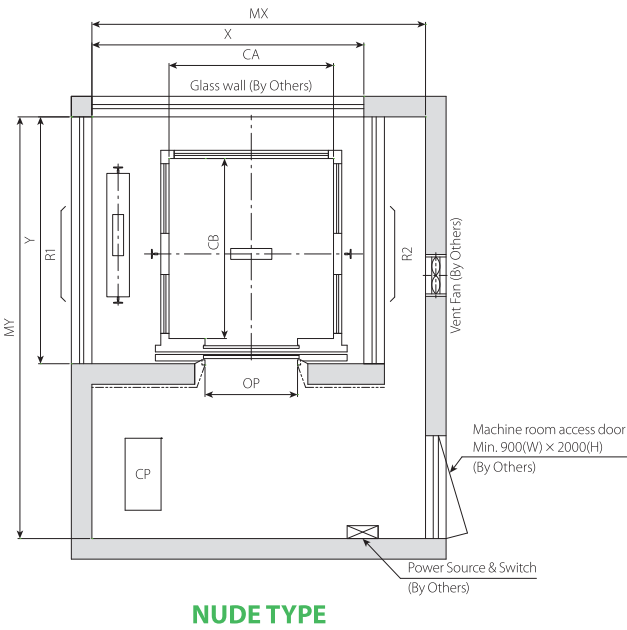
OVERHEAD & PIT DEPTH

Capacity (kg)	Speed (m/sec)	Overhead (OH) ^{Note.2}		Pit Depth (PP)	M/C Room Height (MH)
		EN81-1	EN81-20		
750 ~ 1800	1.0	CH+1850	CH+2150	2000	2300
	1.5	CH+2000	CH+2300	2100	2500
	1.75	CH+2050	CH+2350	2200	2500

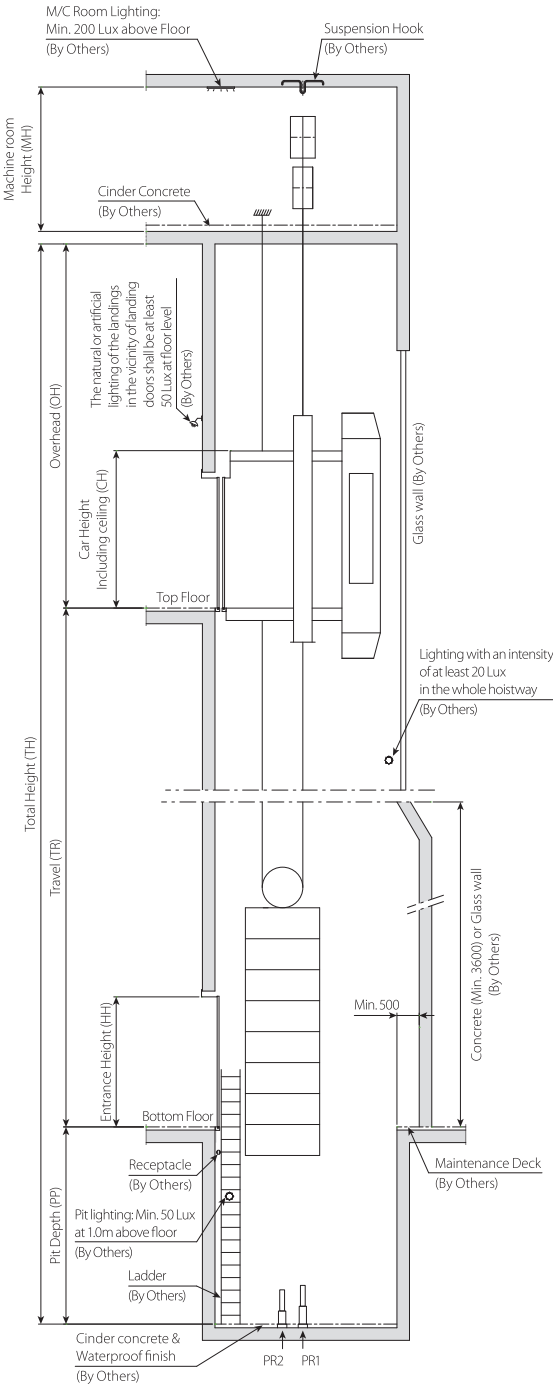
* CH: (External) Car Height

- ▲ Notes: 1. Above dimensions are applied base on EN81-1 & EN81-20.
2. Regarding the Overhead (OH):
1). If applied air conditioner, the Overhead (OH) should be increased by 400mm.
2). In case of applied emergency exit door on car top, the Overhead (OH) should be increased as below.
- EN81-1 : OH+400mm
- EN81-20 : OH+200mm
3. M/C room height shall be increased 200mm in case of the traction machine with double isolation pad.
4. Machine room temperature should be maintained below 40°C with ventilating fan and/or air conditioner(if necessary) and humidity below 90%.
5. If the height of non-stop floor is over 11m, please consult us as to the needs for emergency exit.

PLAN OF HOISTWAY



SECTION OF HOISTWAY



STANDARD DIMENSIONS & REACTIONS

Type	Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	Car Insize (mm)	Hoistway Insize (mm)	Machine Room Size (mm)	M/C Room Reaction (kg)		Pit Reaction (kg)	
	Persons	kg			OP	CA × CB	X × Y	MX × MY	R1	R2	PR1	PR2
NUDE	7	550	1.0	1S-CO	800	1100 × 1300	2100 × 1800	2700 × 3300	5450	3050	7800	6700
	8	600(630)			800	1100 × 1400	2100 × 1900	2700 × 3400	5650	3150	8200	7000
	9	700			800	1250 × 1350	2250 × 1850	2850 × 3350	6000	3400	8750	7350
	10	750(800)	800		1300 × 1400	2300 × 1900	2900 × 3400	6200	3500	9300	7800	
	12	900	1.5		900	1600 × 1350	2600 × 1850	3200 × 3350	6950	3800	10350	8550
	13	1000			900	1600 × 1400	2600 × 1900	3200 × 3400	7200	4000	11050	9050
	15	1150			1.75	1000	1800 × 1400	2800 × 1900	3400 × 3400	9100	5450	13650
	18	1350	1000			1800 × 1600	2900 × 2100	3500 × 3600	9150	6750	15300	12600
	21	1600	1100			2000 × 1700	3100 × 2200	3700 × 3700	10000	7200	16800	13600
	24	1800	1100			2000 × 1800	3100 × 2300	3700 × 3800	10500	7300	17200	14800

- ▲ Notes:
1. The table of dimensions as per Hyundai standard or EN81, For other country codes and spec requirements, please contact us.
 2. If apply the safety gear on Counterweight side, please contact us.
 3. If apply through(180 degree) type, please consult with us.
 4. In case of duplex, please secure the distance between car and car more than 500mm. if not secured, please install a middle partition in hoistway.
 5. The Hoistway dimensions width & depth are based on clear dimension +20mm horizontal tolerances over the total hoistway height.

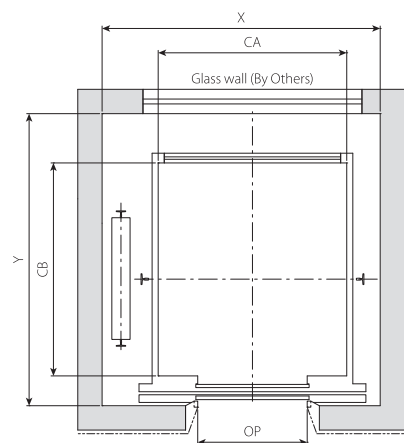
OVERHEAD & PIT DEPTH

Capacity (kg)	Speed (m/sec)	Overhead (OH) ^{Note.2}		Pit Depth (PP)	M/C Room Height (MH)
		EN81-1	EN81-20		
550 ~ 1800	1.0	CH+1850	CH+2150	1450	2300
	1.5	CH+2000	CH+2300	1600	2500
	1.75	CH+2050	CH+2350	1900	2500

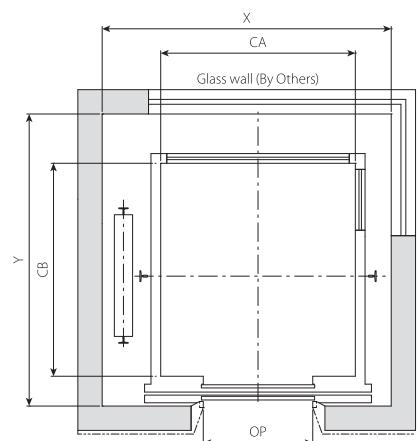
* CH: (External) Car Height

- ▲ Notes:
1. Above dimensions are applied base on EN81-1 & EN81-20.
 2. Regarding the Overhead (OH):
 - 1) If applied air conditioner, the Overhead (OH) should be increased by 400mm.
 - 2) In case of applied emergency exit door on car top, the Overhead (OH) should be increased as below.
 - EN81-1 : OH+400mm
 - EN81-20 : OH+200mm
 3. M/C room height shall be increased 200mm in case of the traction machine with double isolation pad.
 4. Machine room temperature should be maintained below 40°C with ventilating fan and/or air conditioner(if necessary) and humidity below 90%.
 5. If the height of non-stop floor is over 11m, please consult us as to the needs for emergency exit.

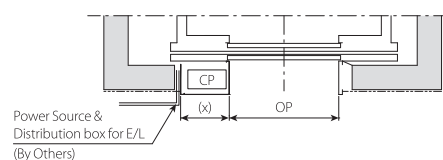
PLAN OF HOISTWAY



1 SIDE TYPE

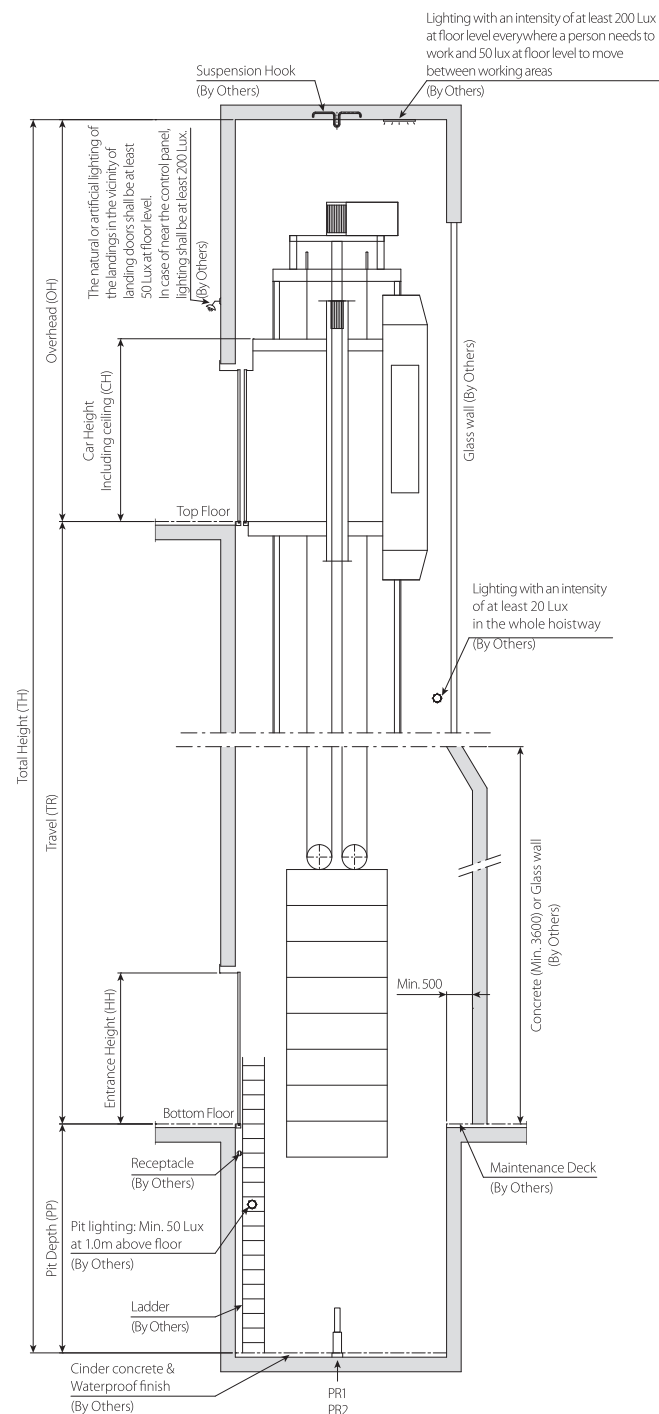


2 SIDES TYPE



TOP FLOOR

SECTION OF HOISTWAY



STANDARD DIMENSIONS & REACTIONS

Type	Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	Car Insize (mm)	Hoistway Insize (mm)		Control Panel Box size in Hall ^{Note.3}	Pit Reaction (kg)		
	Persons	kg					CP on Hall	CP in Hoistway		CP	PR1	PR2
1 SIDE (REAR)	7	550	1.0 ^{Note.4}	15-CO	800	1100 × 1300	1800 × 1800	1800 × 1800	430	7500	6400	
	8	600(630)	800		1100 × 1400	1800 × 1900	1800 × 1900	430	7800	6600		
	9	700	800		1200 × 1400	1850 × 1900	1900 × 1900		8400	7000		
	10	750(800)	800		1300 × 1400	1950 × 1900	2000 × 1900	1.0m/sec : 430	8700	7200		
	12	900	900		1500 × 1400	2150 × 1900	2200 × 1900	1.5&1.75m/sec : 505	9750	7950		
	13	1000	900		1600 × 1400	2200 × 1900	2300 × 1900		10300	8350		
	15	1150	1000		1800 × 1400	2550 × 1900	2600 × 1900	505	13000	10700		
	18	1350	1000		1800 × 1600	2550 × 2100	2700 × 2100	1.0m/sec : 505	14300	11600		
	21	1600	1100		2000 × 1700	2750 × 2200	2900 × 2200	1.5&1.75m/sec : 605	15700	12500		

Type	Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	Car Insize (mm)	Hoistway Insize (mm)		Control Panel Box size in Hall ^{Note.3}	Pit Reaction (kg)	
	Persons	kg					CP on Hall	CP in Hoistway		CP	PR1
2 SIDES (REAR & 1 SIDE)	7	550	1.0 ^{Note.5}	15-CO	800	1100 × 1300	1900 × 1800	1900 × 1850	430	7700	6600
	8	600(630)			800	1100 × 1400	1900 × 1900	1900 × 1900	430	8000	6800
	9	700			800	1200 × 1400	1950 × 1900	2000 × 1900		8600	7200
	10	750(800)	1.0		800	1300 × 1400	2050 × 1900	2100 × 1900	1.0m/sec : 430	8900	7400
	12	900	1.5		900	1500 × 1400	2250 × 1900	2300 × 1900	1.5&1.75m/sec : 505	9950	8150
	13	1000			900	1600 × 1400	2350 × 1900	2400 × 1900		10550	8550
	15	1150	1.75		1000	1800 × 1400	2600 × 1900	2650 × 1900	505	13200	10900
	18	1350			1000	1800 × 1600	2600 × 2100	2800 × 2100	1.0m/sec : 505	14450	11800
	21	1600			1100	2000 × 1700	2800 × 2200	3000 × 2200	1.5&1.75m/sec : 605	15900	12700

- ▲ Notes: 1. The table of dimensions as per Hyundai standard or EN81, For other country codes and spec requirements, please contact us.
2. If apply the safety gear on Counterweight side, Hoistway Width(X) needed to add 100mm.
3. The control panel box size(CP) may varied depending on the type of control type as PWM (Power Regeneration function), please refer to layout drawing for exact size. In case of control panel box size 605mm in Hall side, Min. wall+finished thickness 405mm is needed.
4. It has limited to applicable a view type. The SQ-119Z type only can be used which doesn't be applied exterior panel included lighting.
5. If capacity 550kg and speed 1.5 or 1.75m/sec, please consult with us.
6. If control panel is located in the hoistway, remote control box should be installed at hall side of top floor and box hole should be needed. Please refer to layout drawing for exact box hole size & location.
7. The Hoistway dimensions width & depth are based on clear dimension +20mm horizontal tolerances over the total hoistway height

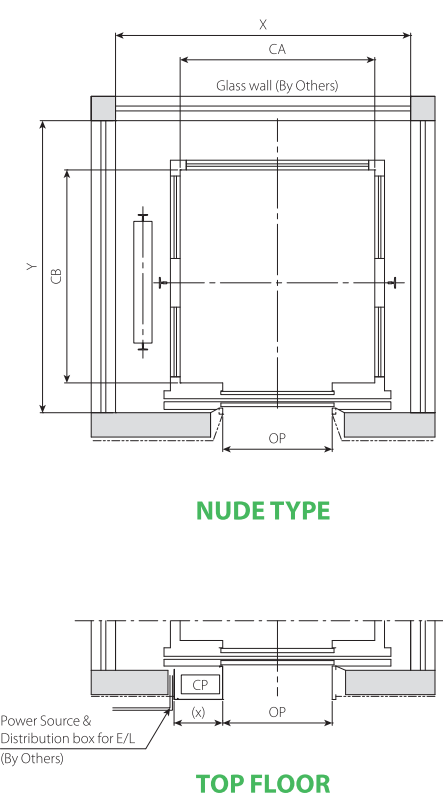
OVERHEAD & PIT DEPTH

Capacity (kg)	Speed (m/sec)	Overhead (OH) ^{Note.2}		Pit Depth (PP)
		EN81-1	EN81-20	
550 ~ 1000	1.0	CH+1700	CH+2100	1750
	1.5	CH+1900	CH+2250	1800
	1.75	CH+2000	CH+2300	2000
1150	1.0	CH+1700	CH+2100	1800
	1.5	CH+1900	CH+2250	1900
	1.75	CH+2000	CH+2300	2000
1350 ~ 1600	1.0	CH+2100	CH+2400	1800
	1.5	CH+2300	CH+2800	1900
	1.75	CH+2400	CH+2800	2000

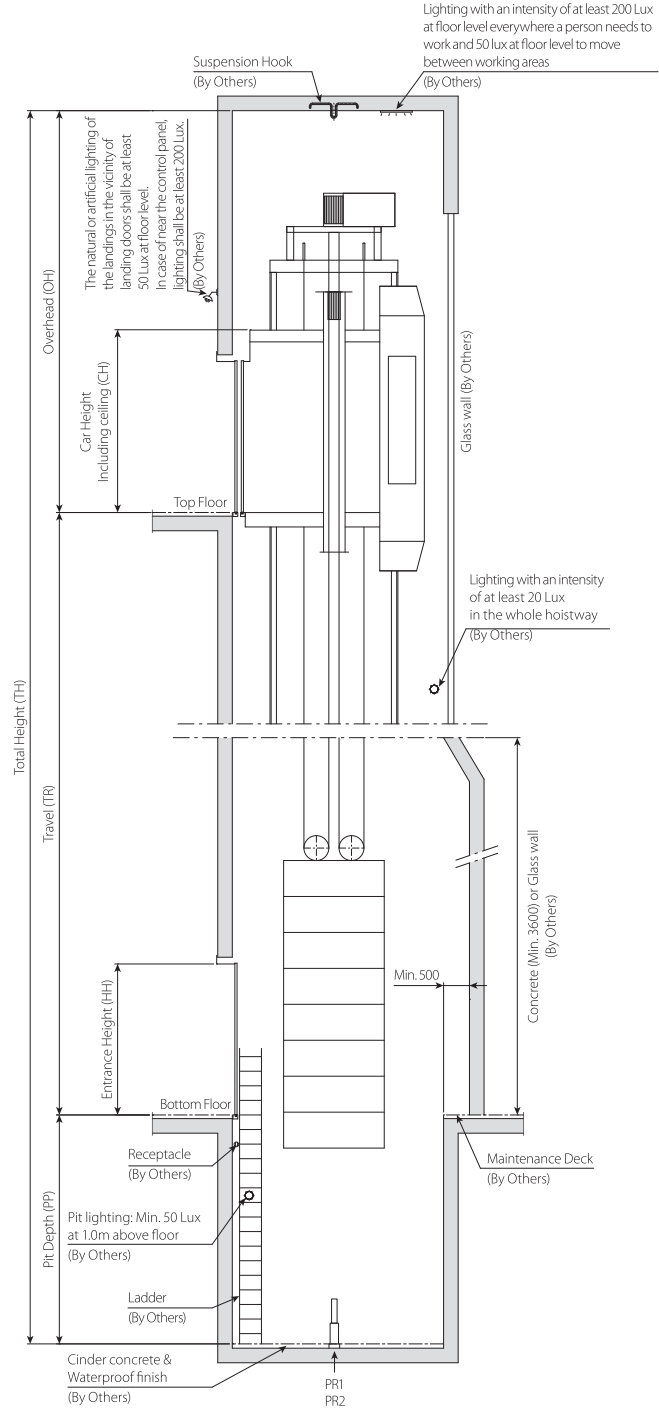
* CH: (External) Car Height

- ◀ Notes: 1. Above dimensions are applied base on EN81-1 & EN81-20.
2. Regarding the Overhead (OH):
1). If applied air conditioner, the Overhead (OH) should be increased by 400mm.
2). In case of applied emergency exit door on car top, the Overhead (OH) should be increased as below.
- EN81-1 : OH+400mm
- EN81-20 : OH+200mm
3. If necessary to reduce the overhead & Pit, shall be proposed with semi-observation type. It means that without exterior panel and lighting.
4. If the height of non-stop floor is over 11m, please consult us as to the needs for emergency exit.

PLAN OF HOISTWAY



SECTION OF HOISTWAY



STANDARD DIMENSIONS & REACTIONS

Type	Capacity		Speed (m/sec)	Opening Type	Door Width (mm)	Car Insize (mm)	Hoistway Insize (mm)		Control Panel Box size in Hall ^{Note.3}	Pit Reaction (kg)	
	Persons	kg					CP on Hall	CP in Hoistway		PR1	PR2
NUDE	7	550	1.0 ^{Note.4}	1S-CO	800	1100 × 1300	1900 × 1800	1900 × 1850	430	8150	7050
	8	600(630)	1.0		800	1100 × 1400	1900 × 1900	1900 × 1900	430	8500	7300
	9	700			800	1200 × 1400	1950 × 1900	2000 × 1900	1.0m/sec : 430 1.5&1.75m/sec : 505	9050	7650
	10	750(800)	1.5		800	1300 × 1400	2050 × 1900	2100 × 1900		9450	7950
	12	900			900	1500 × 1400	2250 × 1900	2300 × 1900	10500	8700	
	13	1000	1.75		900	1600 × 1400	2350 × 1900	2400 × 1900	11150	9150	
	15	1150			1000	1800 × 1400	2600 × 1900	2650 × 1900	505	13750	11450
	18	1350	1.0 ^{Note.5}		1000	1800 × 1600	2600 × 2100	2800 × 2100	1.0m/sec : 505	15650	12950
	21	1600			1100	2000 × 1700	2800 × 2200	3000 × 2200	1.5&1.75m/sec : 605	16850	13650

- ▲ Notes: 1. The table of dimensions as per Hyundai standard or EN81, For other country codes and spec requirements, please contact us.
2. If apply the safety gear on Counterweight side, Hoistway Width(X) needed to add 100mm.
3. The control panel box size(CP) may varied depending on the type of control type as PWM (Power Regeneration function), please refer to layout drawing for exact size. In case of control panel box size 605mm in Hall side, Min. wall+finished thickness 405mm is needed.
4. If capacity 550kg and speed 1.5 or 1.75m/sec, please consult with us.
5. If capacity 1600kg and speed 1.5 or 1.75m/sec, please consult with us.
6. If control panel is located in the hoistway, remote control box should be installed at hall side of top floor and box hole should be needed. Please refer to layout drawing for exact box hole size & location.
7. If apply through(180 degree) type, please consult with us.
8. The Hoistway dimensions width & depth are based on clear dimension ±20mm horizontal tolerances over the total hoistway height.

OVERHEAD & PIT DEPTH

Capacity (kg)	Speed (m/sec)	Overhead (OH) ^{Note.2}		Pit Depth (PP)
		EN81-1	EN81-20	
550 ~ 1000	1.0	CH+1700	CH+2000	1500
	1.5	CH+1900	CH+2100	1800
	1.75	CH+2000	CH+2200	2000
1150	1.0	CH+1700	CH+2000	1600
	1.5	CH+1900	CH+2100	1800
	1.75	CH+2000	CH+2200	2000
1350	1.0	CH+2100	CH+2650	1600
	1.5	CH+2300	CH+2800	1800
	1.75	CH+2400	CH+2800	2100
1600	1.0	CH+2100	CH+2650	1600

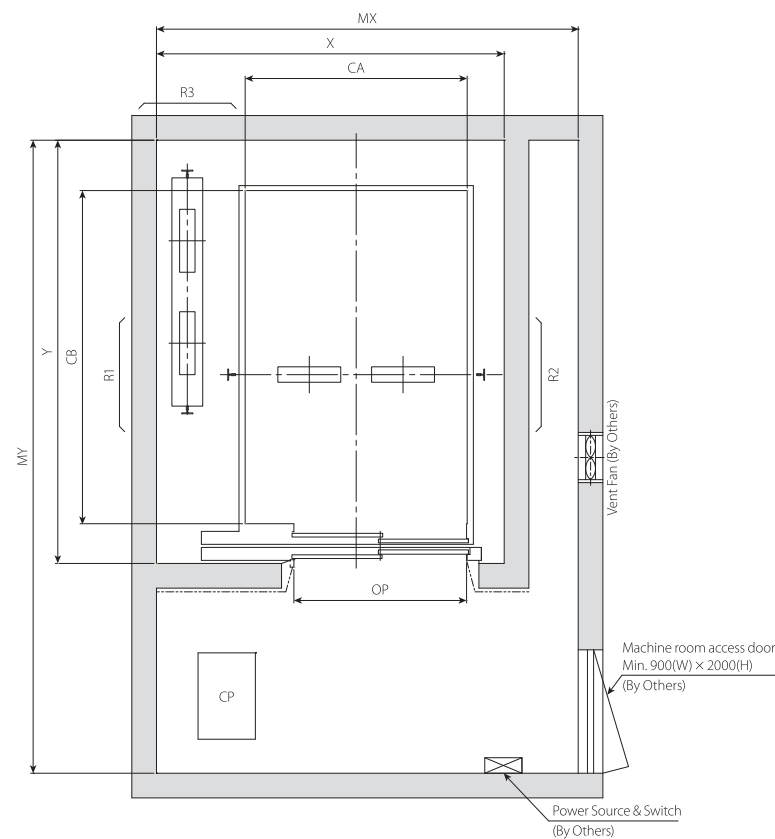
* CH: (External) Car Height

- ◀ Notes: 1. Above dimensions are applied base on EN81-1 & EN81-20.
2. Regarding the Overhead (OH):
1). If applied air conditioner, the Overhead (OH) should be increased by 400mm.
2). In case of applied emergency exit door on car top, the Overhead (OH) should be increased as below.
- EN81-1 : OH+400mm
- EN81-20 : OH+200mm
3. If the height of non-stop floor is over 11m, please consult us as to the needs for emergency exit.

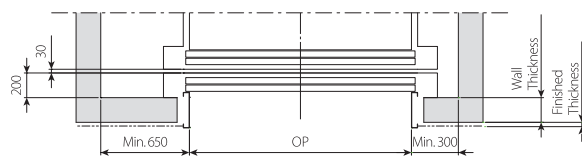
FREIGHT ELEVATOR

GENERAL TYPE
2S, 2U, 3U

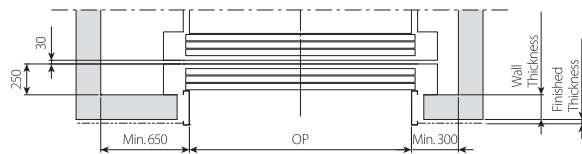
PLAN OF HOISTWAY



2S-50

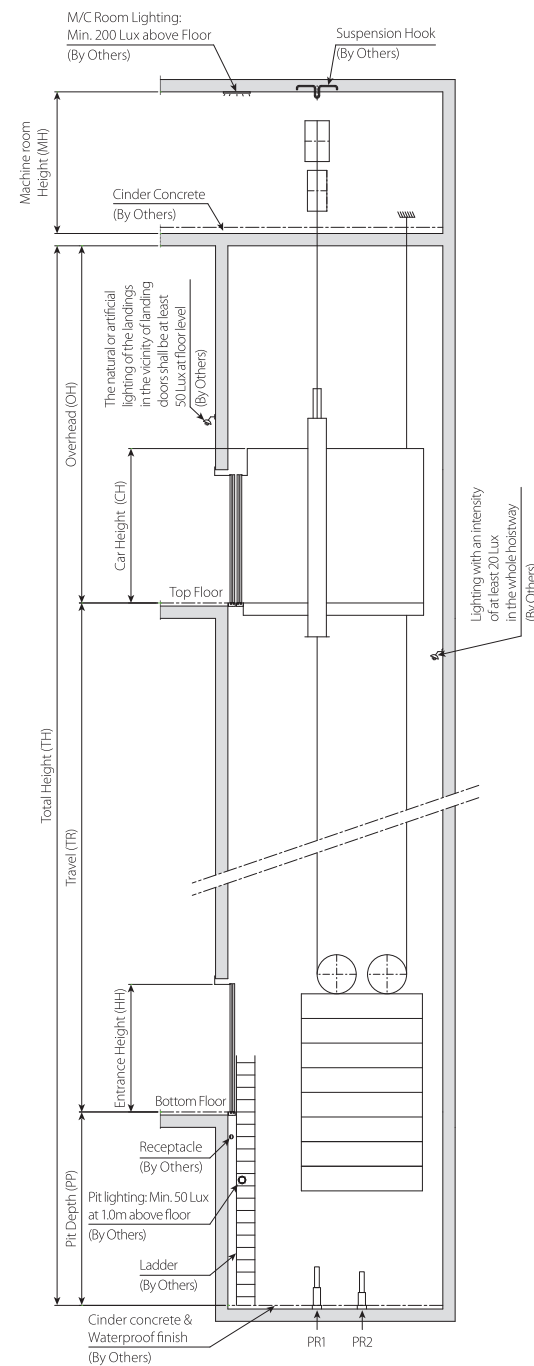


2-UP



3-UP

SECTION OF HOISTWAY



STANDARD DIMENSIONS & REACTIONS

(Unit : mm)

Model	Speed (m/sec)	Entrance			Car Insize (mm) CA × CB	Hoistway		M/C Room MX × MY	M/C Room Reaction (kg)		Buffer Reaction (kg)	
		Door Opening Type	Width × Height (OP × EH)	Entrance Type		X × Y	Overhead (OH)		R1	R2	PR1	PR2
F0750-2S	0.5	2S	1100 × 2100	Standard	1700 × 1650	2500 × 2150	4800	2800 × 3200	6200	4100	5000	4300
	0.75			Double Entrance		2500 × 2320						
	1.0			Double Entrance		2500 × 2600						
F1000-2S	0.5	2S	1400 × 2100	Standard	1850 × 1850	2750 × 2400	4800	3200 × 3500	8500	5700	7100	6100
	0.75			Double Entrance		2750 × 2600						
	1.0			Double Entrance		2750 × 2600						
F1500-2S	0.5	2S	1700 × 2100	Standard	2100 × 2500	3000 × 3050	4800	3600 × 4000	10800	7100	9000	7500
	0.75			Double Entrance		3000 × 3250						
	1.0			Double Entrance		3000 × 3250						
F2000-2S	0.5	2S	1700 × 2100	Standard	2300 × 2700	3300 × 3250	4800	3800 × 4200	13300	8800	11400	9400
	0.75			Double Entrance		3300 × 3450						
	1.0			Double Entrance		3300 × 3450						
F2000-2U	0.5	2U	2300 × 2100	Standard	2300 × 2700	3300 × 3250	4600	3800 × 4200	13300	8800	11400	9400
	0.75			Double Entrance		3300 × 3490						
	1.0			Double Entrance		3300 × 3490						
F2500-2S	0.5	2S	1800 × 2100	Standard	2500 × 3000	3500 × 3600	4800	4000 × 4400	15100	10000	13200	10700
	0.75			Double Entrance		3500 × 3750						
	1.0			Double Entrance		3500 × 3750						
F2500-2U	0.5	2U	2500 × 2100	Standard	2500 × 3000	3500 × 3600	4600	4000 × 4400	15100	10000	13200	10700
	0.75			Double Entrance		3500 × 3800						
	1.0			Double Entrance		3500 × 3800						
F3000-2U	0.5	2U	2700 × 2300	Standard	2700 × 3300	3700 × 3900	4800	4200 × 4800	15200	10100	13500	10500
	0.75			Double Entrance		3700 × 4100						
	1.0			Double Entrance		3700 × 4100						
F3500-2U	0.5	2U	2800 × 2500	Standard	2800 × 3800	4050 × 4400	5000	4300 × 5200	21700	14500	19000	15500
	0.75			Double Entrance		4050 × 4600						
	1.0			Double Entrance		4050 × 4600						
F4000-3U	0.4	3U	3000 × 2800	Standard	3000 × 4500	4250 × 5250	5300	4500 × 5900	32500	21700	28700	23700
	0.5			Double Entrance		4250 × 5520						
	1.0			Double Entrance		4250 × 5520						
F5000-3U	0.4	3U	3200 × 3000	Standard	3200 × 5000	4450 × 5750	5500	4700 × 6400	36000	23000	31700	26700
	0.5			Double Entrance		4450 × 6020						
	1.0			Double Entrance		4450 × 6020						

- ▲ Notes: 1. Please consult Hyundai when the loading capacity is over 5000kg or the car is non-standard size.
2. The loading capacity should be over 250kg/m² minimally.
3. The actual reaction may slightly differ from above dimensions in line with machine beam position.

PIT DEPTH & M/C ROOM HEIGHT

(Unit : mm)

Speed (m/sec)	Pit Depth (PP)	CAPA (kg)	M/C Room Height (MH)
0.5	1600	≤5000	2600
0.75	1600	≤2500	
	1650	≤3000	2600
1.0	1750	≤5000	

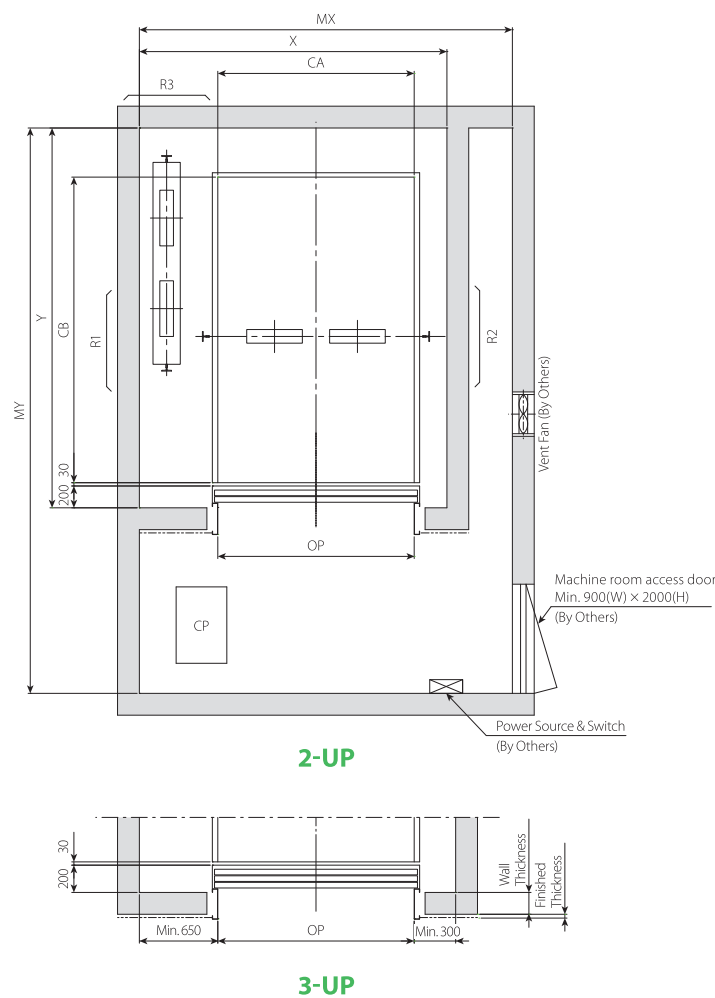
AUTOMOBILE ELEVATOR | GENERAL TYPE

2U, 3U

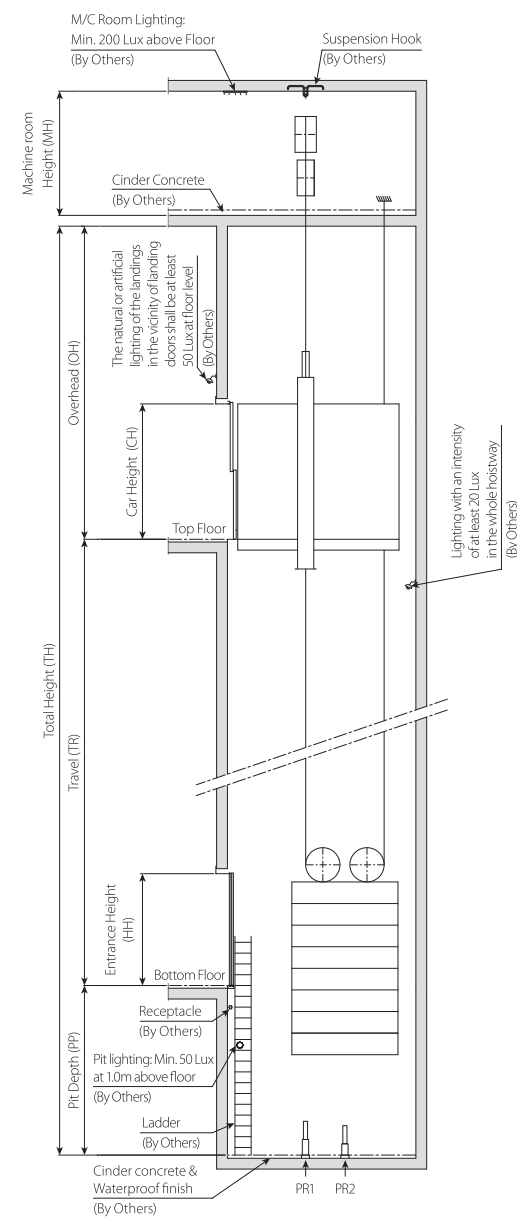
ENTRANCE LAYOUT | GENERAL TYPE

JP050, JP100, JP200

PLAN OF HOISTWAY



SECTION OF HOISTWAY



OVERHEAD & PIT DEPTH

(Unit : mm)

Speed (m/sec)	Overhead (OH)	Pit Depth (PP)	M/C Room Height (MH)
0.5 / 0.75	4400	1500	2400

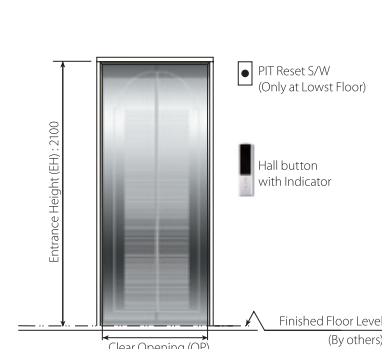
▲ **Note:** The above are minimum size.

STANDARD DIMENSIONS & REACTIONS

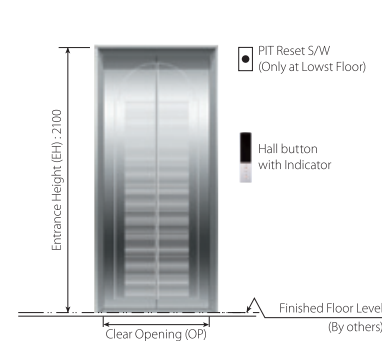
(Unit : mm)								
Type	Model	Speed (m/sec)	Clear Opening	Car Insize (mm)	Hoistway	M/C Room	Hitch Beam Reaction (kg)	
			OP	CA × CB	X × Y	MX × MY	R1	R2
Standard Type	A2000-2U	0.5	2350	2350 × 5300	3300 × 6000	3300 × 6000	17500	12000
	A2500-2U		2500	2500 × 6300	3450 × 7000	3450 × 7000	22500	12500
	A2000-3U		2350	2350 × 5300	3300 × 6050	3300 × 6050	17500	12000
	A2500-3U		2500	2500 × 6300	3450 × 7050	3450 × 7050	22500	12500
Double Entrance Type	A2000-2U	0.75	2350	2350 × 5300	3300 × 6100	3300 × 6100	17500	12000
	A2500-2U		2500	2500 × 6300	3450 × 7100	3450 × 7100	22500	12500
	A2000-3U		2350	2350 × 5300	3450 × 6350	3300 × 6350	17500	12000
	A2500-3U		2500	2500 × 6300	3450 × 7350	3450 × 7350	22500	12500

▲ **Note:** The car external size can be varied in line with entrance type.

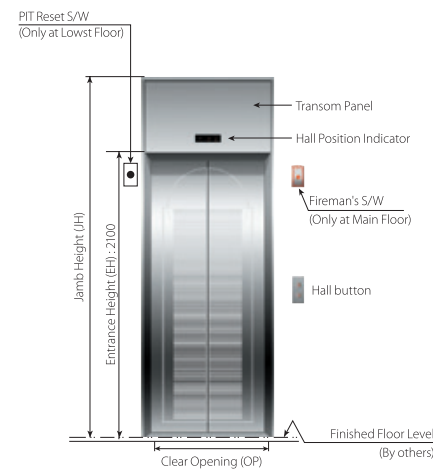
ENTRANCE DESIGN



JP050 TYPE (STANDARD)

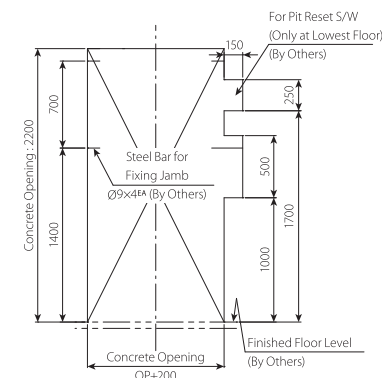


JP100 TYPE (OPTIONAL)

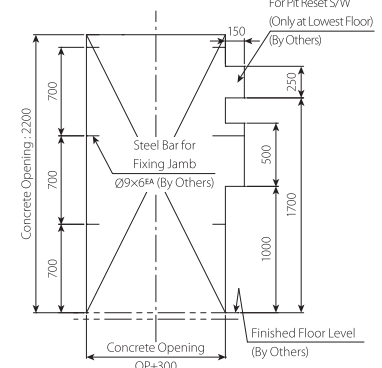


JP200 TYPE (OPTIONAL)

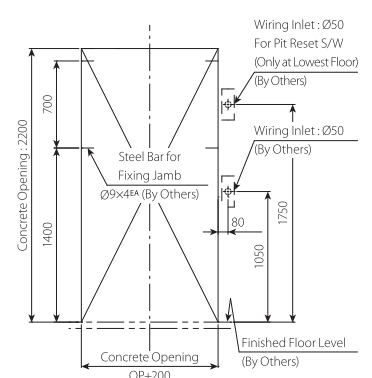
STRUCTURAL OPENING OF ENTRANCE



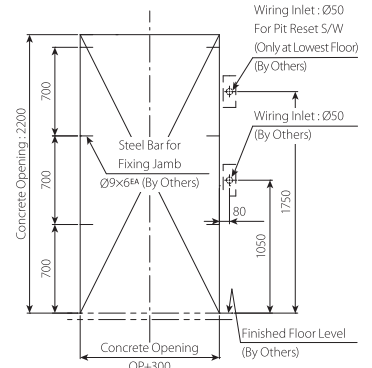
BOX TYPE



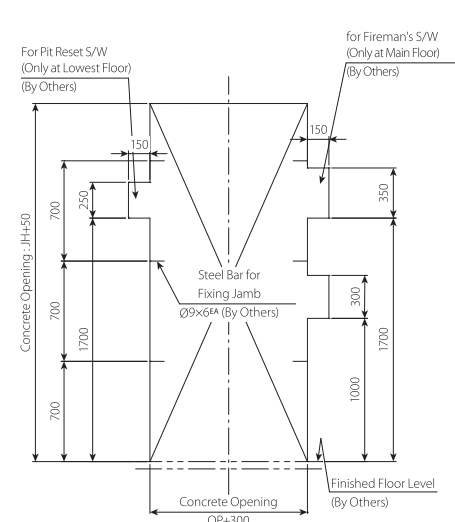
BOX TYPE



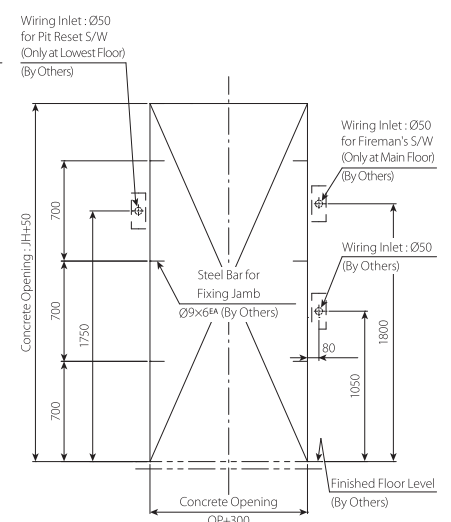
BOXLESS TYPE



BOXLESS TYPE



BOX TYPE



BOXLESS TYPE

▲ **Note:** Pit Reset S/W is only applied EN81-20.

ENTRANCE LAYOUT

ONLY FOR TOP FLOOR OF THE MACHINE-ROOM-LESS ELEVATORS
CP110, CP210, CP in hoistway

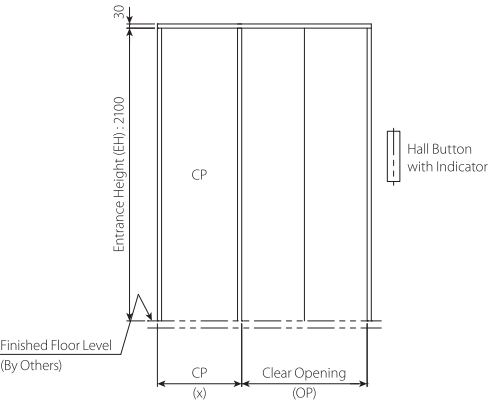
ENTRANCE LAYOUT

2-PANEL CENTER-OPENING DOORS
1S-CO

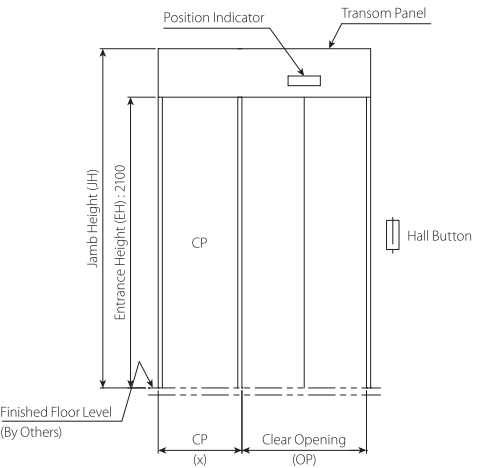
ENTRANCE DESIGN

STRUCTURAL OPENING OF ENTRANCE

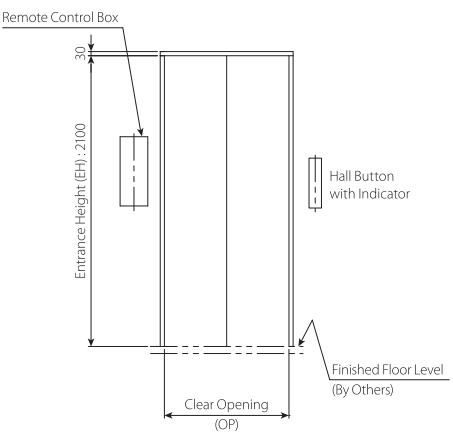
PLAN OF ENTRANCE



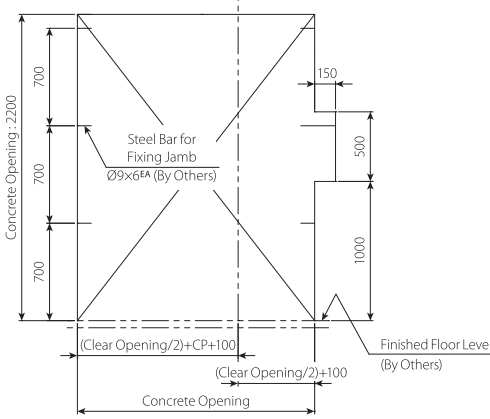
CP110 TYPE (STANDARD)



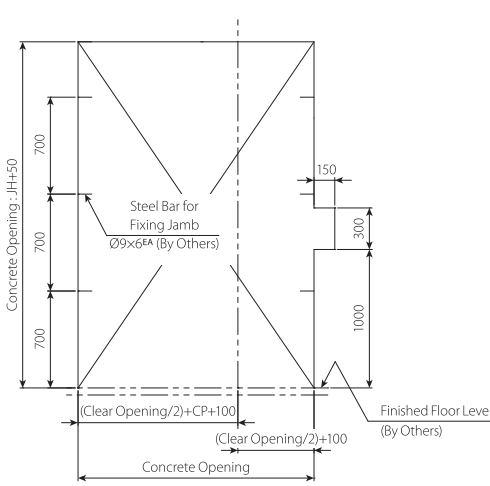
CP210 TYPE (OPTIONAL)



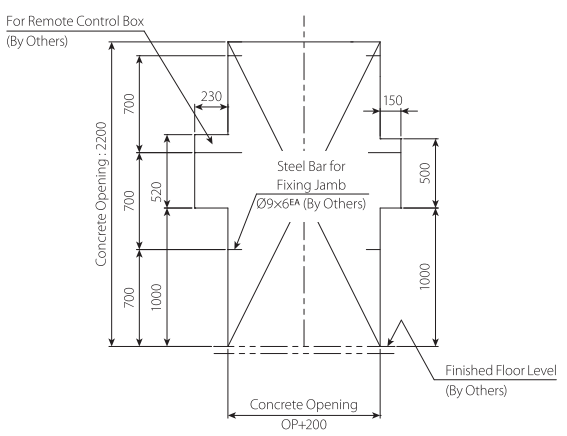
JP050 TYPE WITH INSTALLED CP IN HOISTWAY



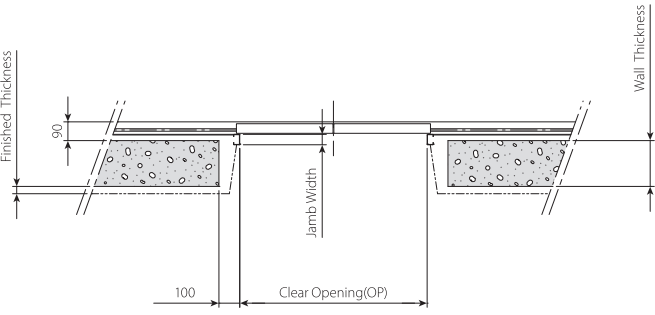
CP110 TYPE (STANDARD)



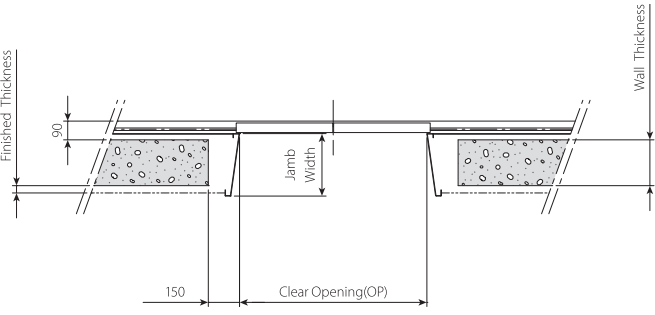
CP210 TYPE (OPTIONAL)



JP050 TYPE WITH INSTALLED CP IN HOISTWAY

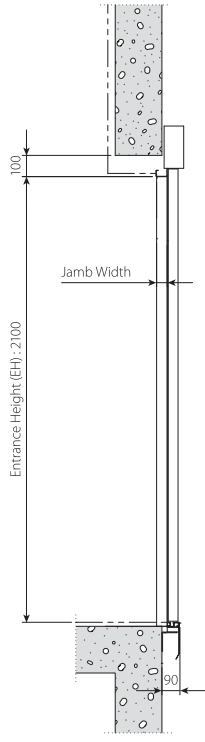


JP050 TYPE

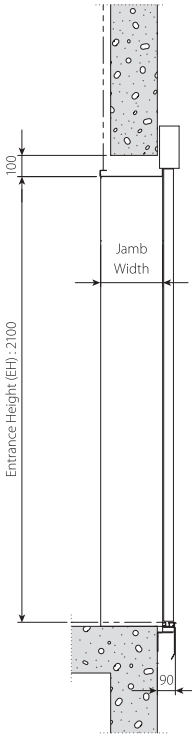


JP100, 200 TYPE

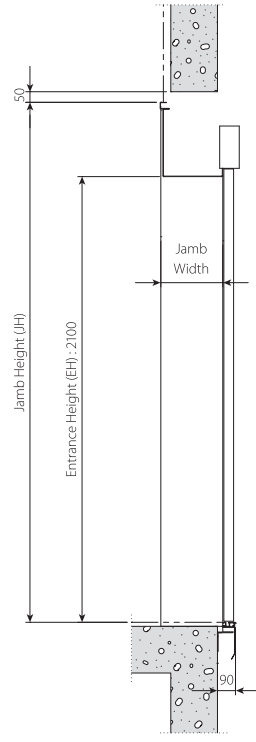
SECTION OF ENTRANCE



JP050 TYPE



JP100 TYPE



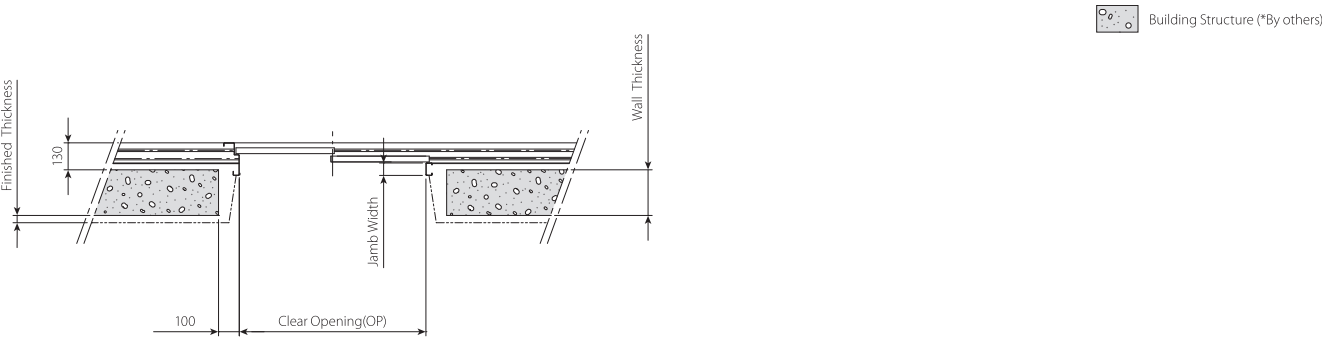
JP200 TYPE

▲ Notes: 1. The Control Panel size shall be followed the standard dimension table of Machine-Room-Less Elevators.
2. In case of E050 type with installed CP in hoistway, remote control size is based on EN81-20. If EN81-1 is applied, please consult with us.

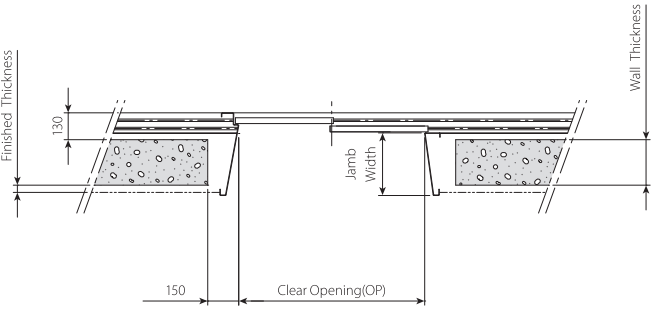
ENTRANCE LAYOUT

2-PANEL SIDE-OPENING DOORS
2S-SO

PLAN OF ENTRANCE

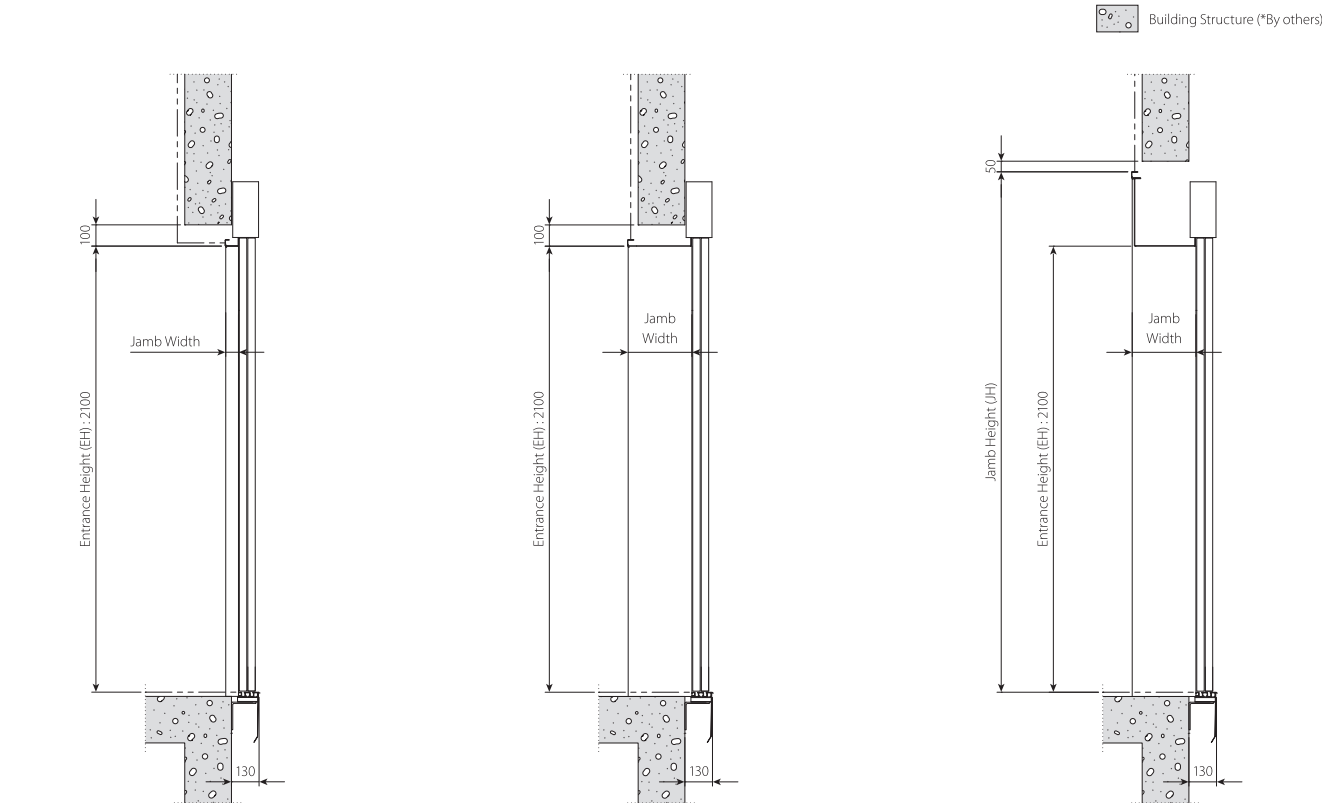


JP050 TYPE



JP100, 200 TYPE

SECTION OF ENTRANCE



JP050 TYPE

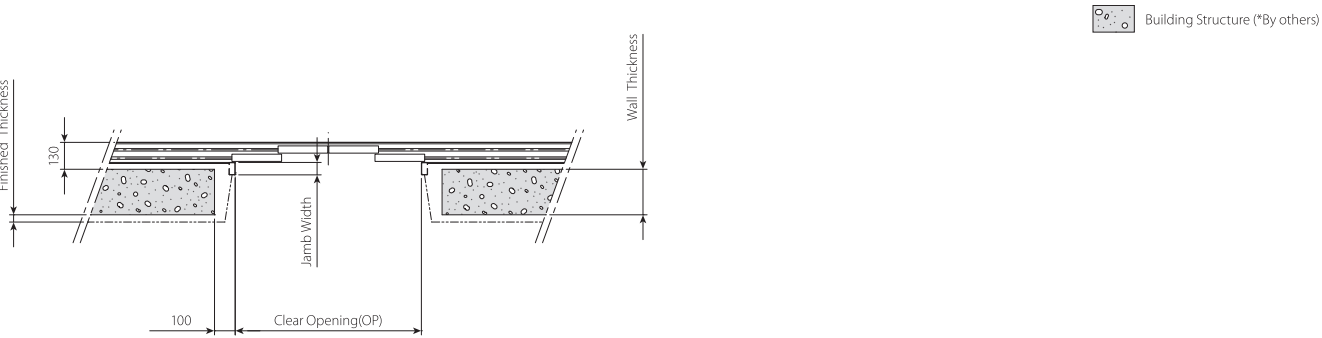
JP100 TYPE

JP200 TYPE

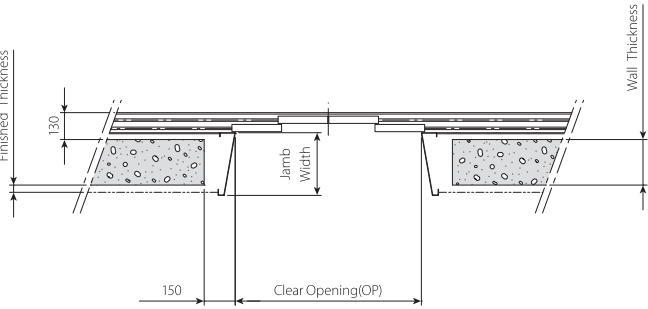
ENTRANCE LAYOUT

4-PANEL CENTER-OPENING DOORS
2S-CO

PLAN OF ENTRANCE

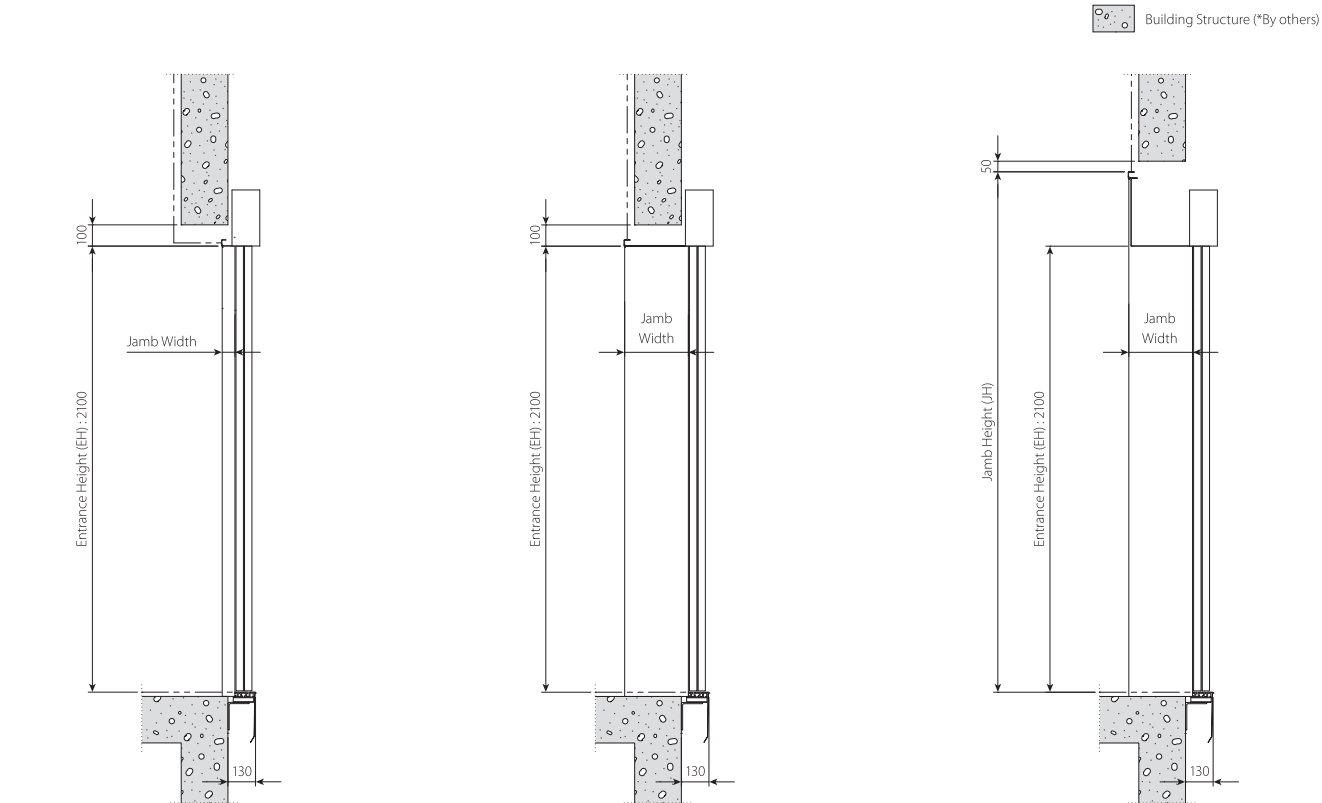


JP050 TYPE



JP100, 200 TYPE

SECTION OF ENTRANCE



JP050 TYPE

JP100 TYPE

JP200 TYPE

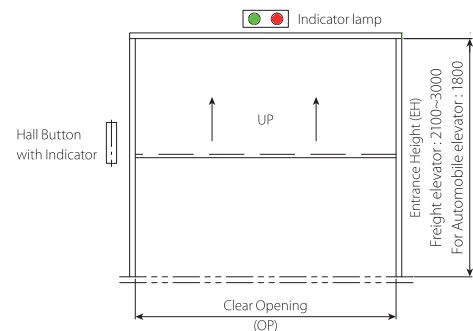
ENTRANCE LAYOUT

2-PANEL / 3-PANEL UP-SLIDING DOORS
2U / 3U

ELECTRIC POWER REQUIREMENTS

ELEVATOR
(By Others)

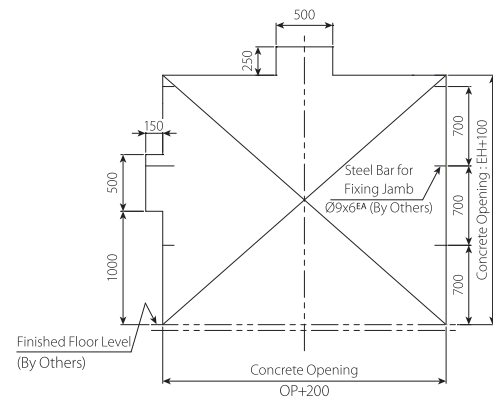
ENTRANCE DESIGN (2U)



PLAN OF ENTRANCE (2U)

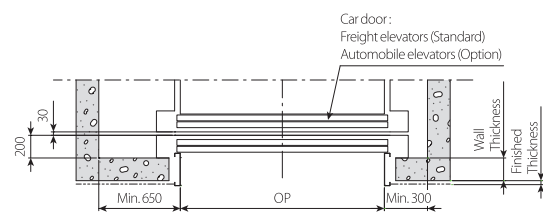
Building Structure (*By others)

STRUCTURAL OPENING OF ENTRANCE (2U)



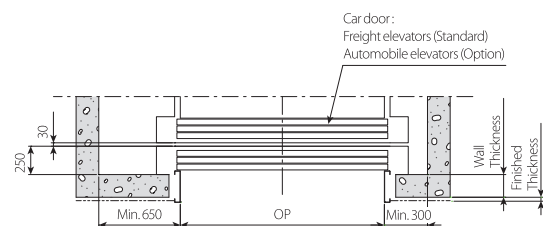
SECTION OF ENTRANCE

Building Structure (*By others)



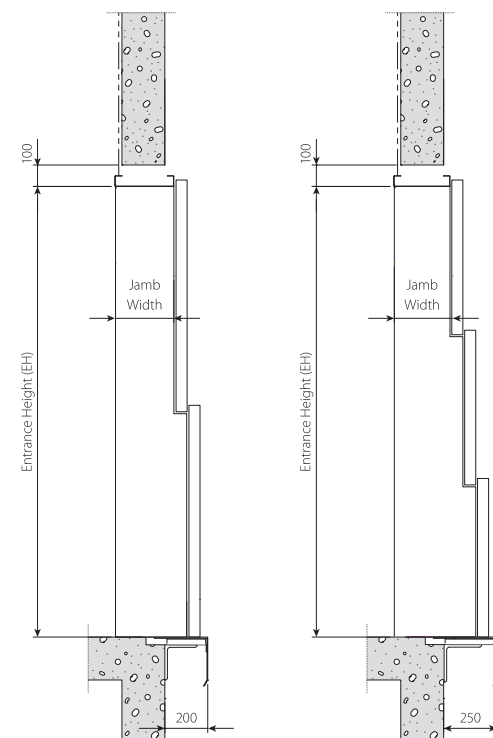
2-UP

Minimum floor height : Opening×3/2+700mm
Minimum entrance height : 2100mm for freight elevator
Minimum entrance height : 1800mm for automobile elevator



3-UP

Minimum floor height : Opening×4/3+750mm
Minimum entrance height : 2100mm for freight elevator
Minimum entrance height : 1800mm for automobile elevator



2-UP

3-UP

- ▲ Notes:
- The standard location of Hall button with indicator for automobile elevators is on left well. But, it is on the right wall for freight elevators. Please check the location and inform us in advance.
 - In case of automobile elevators, car door is optional. If car door is needed, please inform us in advance.

MR (Machine Room) ELEVATOR (1.0~2.5 m/sec)

[380V]

Load (kg)	Speed (m/sec)	Motor Capacity (kW)	MCCB Capacity of Building (A)		Power Supply Capacity (kVA)		Power Cable Size (mm ²)		Earth Wire Size (mm ²)	
			1 Car	2 Cars	1 Car	2 Cars	1 Car	2 Cars	1 Car	2 Cars
450	1.0	2.8	20	20	6	11	4	4	4	4
	1.5	4.2	20	30	7	14	4	6	4	6
	1.8	4.9	20	30	9	18	4	6	4	6
550	1.0	3.4	20	20	7	13	4	4	4	4
	1.5	5.1	20	30	9	18	4	6	4	6
	1.8	5.9	20	40	11	21	4	10	4	10
600	1.0	3.7	20	20	7	13	4	4	4	4
	1.5	5.6	20	30	10	19	4	6	4	6
	1.8	6.5	20	40	12	23	4	10	4	10
700	1.0	4.3	20	30	7	14	4	6	4	6
	1.5	6.5	20	40	12	23	4	10	4	10
	1.8	7.5	20	40	13	26	4	10	4	10
750	1.0	4.6	20	30	8	16	4	6	4	6
	1.5	6.9	20	40	12	24	4	10	4	10
	1.8	8.1	30	50	14	28	6	16	6	16
	2.0	9.2	30	50	16	31	6	16	6	16
900	1.0	5.6	20	30	10	19	4	6	4	6
	1.5	8.3	30	50	14	28	6	16	6	16
	1.8	9.7	30	60	17	34	6	16	6	16
	2.0	11.1	30	60	20	39	6	16	6	16
1000	2.5	13.8	50	100	25	50	16	35	16	16
	1.0	6.2	20	40	11	21	4	10	4	10
	1.5	9.2	30	50	16	31	6	16	6	16
	1.8	10.8	30	60	19	37	6	16	6	16
	2.0	12.3	40	75	21	42	10	25	10	16
1150	2.5	16.4	50	100	30	59	16	35	16	16
	1.0	7.1	20	40	12	24	4	10	4	10
	1.5	10.6	30	60	19	37	6	16	6	16
	1.8	12.4	40	75	21	42	10	25	10	16
	2.0	14.1	40	75	25	49	10	25	10	16
1350	2.5	18.8	60	125	35	69	16	50	16	25
	1.0	8.9	30	50	16	31	6	16	6	16
	1.5	13.3	40	75	24	47	10	25	10	16
	1.8	15.5	50	100	27	54	16	35	16	16
	2.0	17.7	50	100	31	61	16	35	16	16
1600	2.5	22.1	75	150	41	81	25	70	16	35
	1.0	10.5	30	60	19	37	6	16	6	16
	1.5	15.7	50	100	28	55	16	35	16	16
	1.8	18.3	50	100	32	63	16	35	16	16
	2.0	21	60	125	38	75	16	50	16	25
1800	2.5	26.2	75	150	42	83	25	70	16	35
	1.0	11	30	75	20	42	6	25	6	16
	1.5	16.6	50	100	30	60	16	35	16	16
	1.8	19.3	60	125	35	70	16	50	16	25
	2.0	22.1	60	125	40	80	16	50	16	25
2000	2.5	27.6	75	150	44	88	25	70	16	35
	1.0	13.1	40	75	24	47	10	25	10	16
	1.5	19.7	60	125	35	69	16	50	16	25
	1.8	22.9	75	125	40	79	25	50	16	25
	2.0	26.2	75	125	41	81	25	50	16	25
	2.5	31	100	175	49	97	35	95	16	50

- ▲ Notes:
- The above table is for lengths of electric wire to 50 meters from the machine room to the building transformer.
 - If the cable lengths above 50meters, the following formula should be applied:

$$\text{Power Feeder size (mm}^2\text{)} = \frac{\text{Power feeder length(m)}}{50} \times \text{size in the above (mm}^2\text{)}$$

- The above power feeder thickness are based on copper wires use and metallic tubing.
- It is recommended a larger diameter earth wire be used.
- Please consult us if you need electric power requirements for 220V or 440V Class.
- For installing several elevators, apply the following formula

$$\text{Transformer Capacity[kVA]} = \text{Number of elevator} \times \text{Diversity factor}$$

Number of Elevator	1	2	3	4	5
Deversity Factor	1.00	0.91	0.85	0.8	0.76

MR (Machine Room) ELEVATOR (3.0~10.0 m/sec)

[380V]

Load (kg)	Speed (m/sec)	Motor Capacity (kW)	MCCB Capacity of Building (A)		Power Supply Capacity (kVA)		Power Cable Size (mm ²)		Earth Wire Size (mm ²)	
			1 Car	2 Cars	1 Car	2 Cars	1 Car	2 Cars	1 Car	2 Cars
900	3.0	16.6	50	100	30	59	16	35	16	16
	3.0	18.4	60	125	32	64	16	50	16	25
1000	3.5	21.5	75	125	38	76	25	50	16	25
	4.0	24.6	100	150	44	87	35	70	16	35
1150	3.0	21.2	75	125	38	76	25	50	16	25
	3.5	24.7	75	150	44	87	25	70	16	35
	4.0	28.2	100	175	50	99	35	95	16	50
	5.0	36	125	225	58	106	50	95	25	50
	6.0	43	125	250	69	126	50	120	25	70
	7.0	50	150	300	80	146	70	150	35	95
1350	8.0	57	175	350	91	166	95	150	50	95
	3.0	24.9	75	150	44	87	25	70	16	35
	3.5	29	100	175	51	102	35	95	16	50
	4.0	34	125	200	58	115	50	95	25	50
	5.0	42	125	250	68	124	50	120	25	70
	6.0	50	150	300	81	147	70	150	35	95
	7.0	58	175	350	93	169	95	150	50	95
	8.0	67	200	400	106	193	95	150	50	95
	9.0	75	225	500	118	215	95	240	50	120
	10.0	83	250	500	131	238	120	240	70	120
1600	3.0	29.5	100	175	52	104	35	95	16	50
	3.5	35	125	200	60	120	50	95	25	50
	4.0	40	125	225	69	138	50	95	25	50
	5.0	50	150	300	79	144	70	150	35	95
	6.0	59	175	350	94	171	95	150	50	95
	7.0	69	200	400	110	200	95	150	50	95
	8.0	79	225	500	125	228	95	240	50	120
	9.0	89	250	500	140	255	120	240	70	120
	10.0	99	300	600	155	282	150	300	95	150
	3.0	34	100	200	58	115	35	95	16	50
1800	3.5	39	125	225	68	135	50	95	25	50
	4.0	45	125	250	77	153	50	120	25	70
	5.0	56	175	350	89	162	95	150	50	95
	6.0	67	200	400	106	193	95	150	50	95
	7.0	78	225	500	123	224	95	240	50	120
	8.0	89	250	500	140	255	120	240	70	120
	9.0	100	300	600	157	286	150	300	95	150
	10.0	111	350	700	174	317	185	400	120	240
	3.0	37	100	200	58	106	35	95	16	50
	3.5	43	125	225	68	124	50	95	25	50
2000	4.0	50	125	250	77	141	50	120	25	70
	5.0	62	175	350	98	178	95	150	50	95
	6.0	74	225	500	117	213	95	240	50	120
	7.0	86	250	500	136	248	120	240	70	120
	8.0	99	300	600	155	282	150	300	95	150
	9.0	111	350	700	174	317	150	400	95	240
	10.0	123	350	700	193	351	150	400	95	240

- ▲ Notes: 1. The above table is for lengths of electric wire to 50 meters from the machine room to the building transformer.
2. If the cable lengths above 50meters, the following formula should be applied:

Power Feeder size (mm²) = $\frac{\text{Power feeder length(m)}}{50}$ × size in the above (mm²)

3. The above power feeder thickness are based on copper wires use and metallic tubing.
4. It is recommended a larger diameter earth wire be used.
5. Please consult us if you need electric power requirements for 220V or 440V Class.
6. For installing several elevators, apply the following formula

Transformer Capacity[kVA] = Number of elevator × Diversity factor

Number of Elevator	1	2	3	4	5
Deversity Factor	1.00	0.91	0.85	0.8	0.76

MRL (Machine Room Less) ELEVATOR (1.0~2.5 m/sec)

[380V]

Load (kg)	Speed (m/sec)	Motor Capacity (kW)	MCCB Capacity of Building (A)		Power Supply Capacity (kVA)		Power Cable Size (mm ²)		Earth Wire Size (mm ²)	
			1 Car	2 Cars	1 Car	2 Cars	1 Car	2 Cars	1 Car	2 Cars
450	1.0	3	20	20	6	11	4	4	4	4
	1.5	4.5	20	30	8	16	4	6	4	6
	1.75	5.2	20	30	10	19	4	6	4	6
550	1.0	3.6	20	20	7	13	4	4	4	4
	1.5	5.4	20	30	10	19	4	6	4	6
	1.75	6.3	20	40	12	23	4	10	4	10
600	1.0	3.9	20	30	8	15	4	6	4	6
	1.5	5.9	20	40	11	21	4	10	4	10
	1.75	6.9	20	40	13	25	4	10	4	10
700	1.0	4.6	20	30	9	17	4	6	4	6
	1.5	6.9	20	40	13	25	4	10	4	10
	1.75	8.1	30	50	15	29	6	16	6	16
750	1.0	4.9	20	30	9	18	4	6	4	6
	1.5	7.4	20	40	13	26	4	10	4	10
	1.75	8.6	30	50	15	30	6	16	6	16
900	1.0	5.9	20	40	11	21	4	10	4	10
	1.5	8.9	30	50	16	31	6	16	6	16
	1.75	10.3	30	60	19	37	6	16	6	16
	2	11.8	40	75	21	42	10	25	10	16
	2.5	14.8	50	100	28	55	16	35	16	16
1000	1.0	6.6	20	40	12	23	4	10	4	10
	1.5	9.8	30	60	18	36	6	16	6	16
	1.75	11.5	40	75	21	41	10	25	10	16
	2	12.9	40	75	24	47	10	25	10	16
	2.5	16.4	50	100	30	59	16	35	16	16
1150	1.0	7.5	20	40	14	27	4	10	4	10
	1.5	11.3	40	75	21	41	10	25	10	16
	1.75	13.2	40	75	24	47	10	25	10	16
	2	15	50	100	27	54	16	35	16	16
	2.5	18.8	60	125	35	69	16	50	16	25
1350	1.0	8.9	30	50	16	31	6	16	6	16
	1.5	13.3	40	75	24	47	10	25	10	16
	1.75	15.5	50	100	27	54	16	35	16	16
	2	17.7	50	100	31	62	16	35	16	16
	2.5	22.1	75	150	41	81	25	70	16	35
1600	1.0	10.5	30	60	19	37	6	16	6	16
	1.5	15.7	50	100	28	56	16	35	16	16
	1.75	18.3	50	100	32	64	16	35	16	16
	2	21	60	125	38	75	16	50	16	25
	2.5	26.2	75	150	42	83	25	70	16	35
1800	1.0	11.8	40	75	21	42	10	25	10	16
	1.5	17.7	50	100	31	62	16	35	16	16
	1.75	20.6	60	125	37	74	16	50	16	25
	2	23.6	75	150	42	84	25	70	16	35
	2.5	29.5	75	150	48	95	25	70	16	35
2000	1.0	13.1	40	75	24	47	10	25	10	16
	1.5	19.7	60	125	35	70	16	50	16	25
	1.75	22.9	75	125	40	80	25	50	16	25
	2	26.2	75	125	41	81	25	50	16	25
	2.5	33	100	175	52	103	35	95	16	50
2500	1.0	16.4	50	100	29	57	16	35	16	16
	1.5	24.6	60	125	40	79	16	50	16	25
	1.75	28.6	75	150	45	90	25	70	16	35
	2	33	100	175	51	101	35	95	16	50
	2.5	41	100	200	66	131	35	95	16	50

- ▲ Notes: 1. The above table is for lengths of electric wire to 50 meters from the machine room to the building transformer.
2. If the cable lengths above 50meters, the following formula should be applied:

Power Feeder size (mm²) = $\frac{\text{Power feeder length(m)}}{50}$ × size in the above (mm²)

3. The above power feeder thickness are based on copper wires use and metallic tubing.
4. It is recommended a larger diameter earth wire be used.
5. Please consult us if you need electric power requirements for 220V or 440V Class.
6. For installing several elevators, apply the following formula

Transformer Capacity[kVA] = Number of elevator × Diversity factor

Number of Elevator	1	2	3	4	5
Deversity Factor	1.00	0.91	0.85	0.8	0.76

FREIGHT / AUTOMOBILE ELEVATOR (0.4~1.0 m/sec)

[380V]

Capacity (kg)	Speed (m/sec)	Motor Capacity (kW)	N.F.B Rated Current (A)	Transformer Capacity (kVA)	Power Feeder (mm²)	Earth Wire Size (mm²)
			1 Car	1 Car	1 Car	1 Car
1500	0.5	7.5	30	8	6	4
	0.75	11	30	12	6	4
	1.0	15	40	15	10	6
2000	0.5	11	30	10	6	4
	0.75	15	40	15	10	6
	1.0	22	60	21	16	10
2500	0.5	15	40	13	10	6
	0.75	18.5	50	19	16	6
3000	0.5	15	40	15	10	6
	0.75	22	60	23	16	10
3500	0.5	18.5	50	18	16	6
	0.75	30	75	27	25	10
4000	0.4	22	60	17	16	10
	0.5	22	60	21	16	10
5000	0.4	30	75	21	25	10
	0.5	30	75	26	25	10

- ▲ Notes:
1. The above power feeder sizes are based on its maximum length 50m.
In case the feeder length from the transformer to the elevator machine room exceeds 50m, apply the following formular.

2. The feeder sizes are based on using copper conductors and metallic conduit.

Power Feeder size (mm²) = $\frac{\text{Power feeder length(m)}}{50} \times \text{size in the above (mm²)}$

3. For power requirements of 2 cars or more, consult Hyundai.

4. The heat emission and ventilation of machine room on above dimensions may vary slightly with the machine room size and peripheral environment.

5. Consult Hyundai if you need electric power requirements for 220V.
- Following construction and electric works are not included in our supply scope for elevators, escalators, and moving walks. These should be carried out by the building construction companies. (Note : For elevators without machine room, please contact us.)
- ELEVATOR
- CONSTRUCTION WORK
- Hoistway**
 - Forming holes on the wall surrounding the entrance on each floor. (entrance, hall button, hall lantern, etc.), and finishing the walls and floors after installation of the elevator. (including mortar filling)
 - Installation of steel frame to fix the left/right jambs on the entrance.
 - Installation of ladder for pit inspection where there the pit depth not exceeding 2.5m.
 - Installation of Pit access door where the pit depth exceeds 2.5m.
- Access door size : Min. 600mm(W) × Min. 2000mm(H)
 - Waterproofing work inside the pit and finishing work after installation of the buffer.
 - Installation of hoistway partitions or separating beams (If necessary)
 - Removing various tie pins and molds.
 - Others. (items indicated on the layout plan)
 - Construction of concrete structures (thickness of 150mm or above) or steel structures to fix the rail brackets.
 - Supplying storage for construction tools and materials free of charge.
 - Destruction and finishing of concrete structures that are not constructed as indicated on the layout plan.
 - Installation of lifting beam or hook that is designed to lift the machine to the top of hoistway.

Machine Room
 - Forming holes for machines and ropes on the floor, finishing on cinder concrete, and installation of those indicated on the layout plan.
 - Installation of lifting beam or hook on the top of machine room.
 - Installation of reinforcement beam on the machine room floor. (If necessary)
 - Supplying water used for construction free of charge.
 - Supplying storage for construction tools and materials free of charge.
- ELECTRIC WORK
- Hoistway**
 - The natural or artificial lighting of the landings in the vicinity of landing doors shall be at least 50 lux at floor level.
 - Lighting with an intensity of at least 50 lux at 1.0m above the pit floor everywhere a person can stand and 1.0m above the car roof within its vertical projection.
 - Lighting with an intensity of at least 20 lux in the whole hoistway.
 - Piping and wiring work from monitoring panel to hoistway when monitoring panel is installed. (Wire specifications: UTP 0.5mm × 4P per each elevator)
 - Piping and wiring work when CCTV is installed.
 - Others. (items indicated on the layout plan)
 - Wiring work on power system within the hoistway for supplying power and lighting. (Refer to the layout plan for electrical power requirements.)
 - Installation of distribution box for elevator (including N.F.B) on electrical room. (Install near the hoistway. Refer to the layout plan for electrical power requirements.)
 - Construction for power supply to maintain the voltage regulation of distribution source within ± 5% to and lighting within ± 2%.
 - Piping and wiring work on lighting outlet for pit inspection.
 - Supplying power needed during installation and commissioning free of charge.
 - Piping and wiring work on emergency communication device between elevator control panel and central control room. (Wire specifications: UTP 0.5 mm × 3P per each elevator)
 - Communication device that connects the inside and outside of the elevator should be installed redundantly on the area where the managing personnel is stationed (security office, electric room, and central control room). In case of the facility where the managing personnel is stationed in only one place, only one communication device may be installed.

- Also, a communication device that automatically requests for help to maintenance company or self-inspector should be installed in order to deal with the situation where the internal communication is not established.
 - In order to implement the above functions, the provided communication devices shall be replaced with devices that match the local communication lines and them provided by local.

Machine Room (MR)
 - Piping and wiring work outside the hoistway for the installation of emergency call equipment (intercom) in a place other than the machine room.
 - Construction of lighting and lighting outlets for inspection in machine room.
 - Supplying power needed during installation and commissioning free of charge.
 - Installation of lighting for power system and cage, and construction of machine room incoming panel and its wiring for emergency power.
 - Lighting with an intensity of at least 200 lux at floor level everywhere a person needs to work and 50 lux at floor level to move between working areas.

Machine Room Less (MRL)
 - Power supply(Including piping and wiring work) to the control panel and per-manently installed lighting with an intensity of at least 200 Lux from the bottom of the control panel.
- MATTERS TO NOTE
- Exit for machine room should be made of fire-proof material and should be installed in a structure that does not lead to other places.
 - Do not install ducts or pipes for other purposes (electricity, water, gas, hydrant) on the hoistway and walls inside the machine room.
 - Lower part of pit should not be used as residence, pathway, or for other purposes.
 - Power and voltage regulation should be within +5 % to -5 %.
 - Temperature in machine room should be 40°C and humidity should be 90 % or below. Be sure to install the entilation window, ventilator, or other air-conditioning facilities to prevent generation of dust or poisonous gas inside the machine room.

※ When you wish to build the hoistway in steel frame, please contact us. (Steel frame construction for hoistway is excluded from our supply scope.)

※ Construction errors : Inner hoistway size that is indicated on the blueprint of this catalog is the minimum size that is designed to fit the size of the elevator interior. So, the construction error limit for hoistway width and overall height is ±30 mm.

※ Calculation equation for heat generation in machine room (based on one elevator)
 $Q : (\text{kcal/H}) = W \times V \times F \times N$ V : Rated speed (m/min)
W : Loading capacity (kg) F : Coefficient based on control type (1/42 : VVVF)
N : Number of elevators

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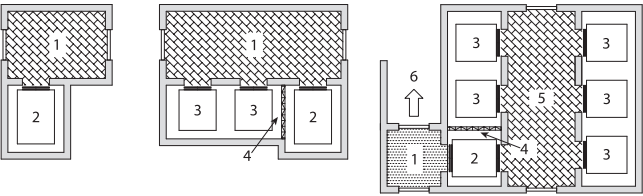
THE OTHERS 35

REQUIREMENTS FOR FIREFIGHTERS LIFTS (EN81-72)

BUILDER REQUIREMENTS

- It is the responsibility of national/local regulations to determine the required levels of fire resistance, and other building requirements. The related walls and doors, fire shutters, machine rooms, etc. shall apply to the level of fire resistance.
- A suitable fire resistant structure of the building, safe areas, fire detection and extinguisher systems are provided.
- The firefighters lift is located in a well with a safe area in front of every landing door. In front of every landing door a safe area, a fire shutter or a fire door shall be provided.
- If there are other lifts in the same well, then the entire common well shall fulfil the fire resistance requirements of firefighters lift wells. Where there is no intermediate fire wall to separate the firefighters Lift from other lifts in a common lift well, then all lifts and their electrical equipment have the same fire protection as the firefighters Lift.
- Any compartment containing the lift machine and its associated equipment shall be provided with at least the same degree of fire protection as is given to the lift well.
- The locations of the lift main switch, emergency and testing panel or machine room should be included in a label at the fire service access level.
- The firefighters lift well and machinery spaces shall not contain sprinklers.
- Providing arrangements to minimize water ingress
 - Measures to address the ingress of water into the lift well (Strongly recommended)
 - Provision of drainage channels in front of every lift landing entrance and drainpipes
 - Raising or ramping of the floor in front of every lift landing entrance
 - Measures to address the accumulation of water in the lift pit (If 8.1) is not provided)
 - Drains which prevent the water level in the lift pit from reaching defined level
 - The use of permanently installed drainage pumps, outside the lift well with a secondary power supply
- Electrical equipment outside of the well shall be protected from malfunction caused by water.
- The lift electrical power supply cable(s) from building to distribution box shall be fire protected.
- Reliability of power supplies and circuitry is essential to the operation of the firefighters lift.
- Independence between primary and secondary supplies shall be provided. Also, there shall be separated from other power supplies.
- A secondary power supply with automatic switching gear should be provided, and located in a fire-protected area and it should have sufficient capacity to operate the firefighters lift for a suitable above 2 hours. Also, lighting of lift well & machine room should be provided by secondary power supply. When the power supply is re-established the lift shall become available for service within 1 min.
- When the distance between consecutive landing door sills exceeds 7 m, intermediate emergency doors shall be provided.
- The firefighter lift should be serve all floors as defined by building design.

1. Safe area	3. Normal lift	5. Safe area
2. Firefighters lift	4. Intermediate fire wall	6. To escape route



Case 1
Basic layout of a single firefighters lift and safe area

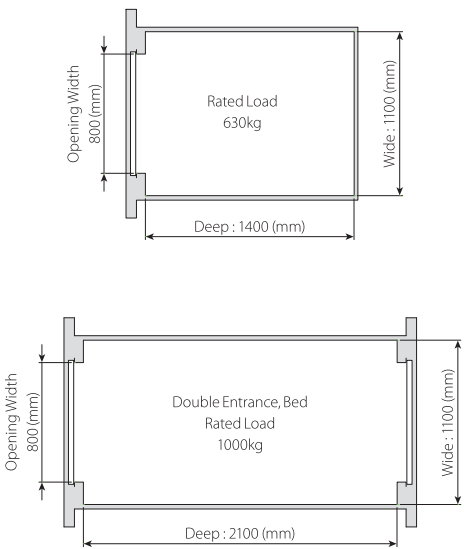
Case 2
Basic layout of a firefighters lift in a multiple well and safe area

Case 3
Basic layout of a dual entry car in a multiple well and safe areas

- Safe area(refuge area, fire protected lobby)
 - Area, provided with a safe route to the lift and safe exit
- Fire service access level
 - Entry level in the building intended to be used by firefighters to gain access to the firefighters lift.
- Water level in the pit: It will not rise above the level of the fully compressed car buffer.

ELEVATOR MANUFACTURER REQUIREMENTS

- The minimum size of the firefighters lift: 1100mm(W) × 1400mm(D) with a rated load of 630kg & 800mm of entrance width.
- Where the intended use of the firefighters lift is to include evacuation, to accommodate such items as a stretcher or bed, then the minimum size is as below. 1100mm(W) × 2100mm(D) with a rated load of 1000kg & 800mm of entrance width.
- The firefighters lift shall be able to reach the highest landing to be served in firefighters operations from the fire service access level within 60 s, from after the closing of the lift doors. (If higher travel than 200 m, this time to reach the highest landing may be increased by 1 s for each 3 m additional travel height.)
- An emergency trap door shall be fitted to the car roof
Minimum clear opening size : 0.5m × 0.7m (In case of 630kg : 0.4m × 0.5m)
- Additional ladders(inside & outside of car) are provided to facilitate escape from the lift car.
- Firefighters lift switch with pictogram shall be located at the fire service access level. The switch shall be located within 2 m horizontally from the firefighters lift, at a height between 1.4 m and 2 m above floor level.
- Fire service access level shall have a position indicator.

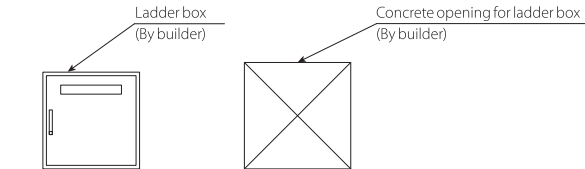


PROVISION OF LADDER MATERIAL AND INSTALLATION (BY BUILDER)

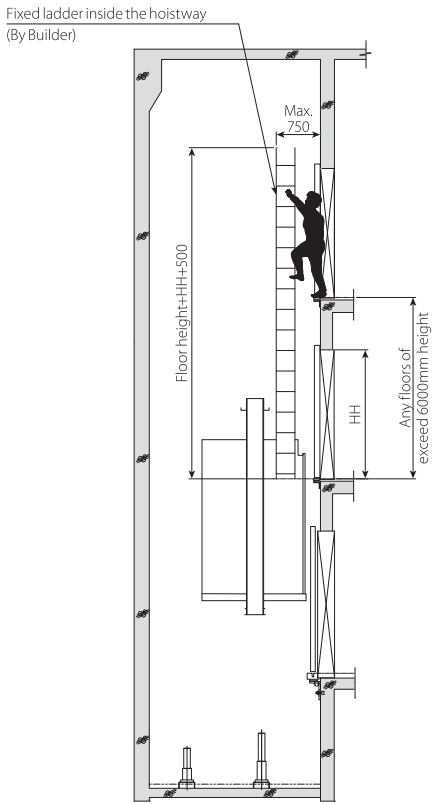
- Under A) or B) with ladder box and Considering C)
- Considering D)

[Rescue from outside the car]

- Portable Ladders ;
- Safety rope systems, where safe fixing points for the rescue means are provided in the vicinity of each landing ;
NOTE : However, all such means come under the responsibility of the Local Authorities and not the lift manufacturer.
[Example of installation for ladder box (By builder)]
(1) Arranged the ladder box on main entry level (ex, Around mailbox or Fire extinguisher box)
(2) Firefighters should be able to recognize the location of the ladder box easily at the lift landing entrance.
(3) Providing one ladder box per one elevator
(4) A) or B) must be in each ladder box



- Fixed ladder inside the hoistway
(In case of any floors of exceed 6000mm height)
(Length(mm) : Refer to the picture 1)



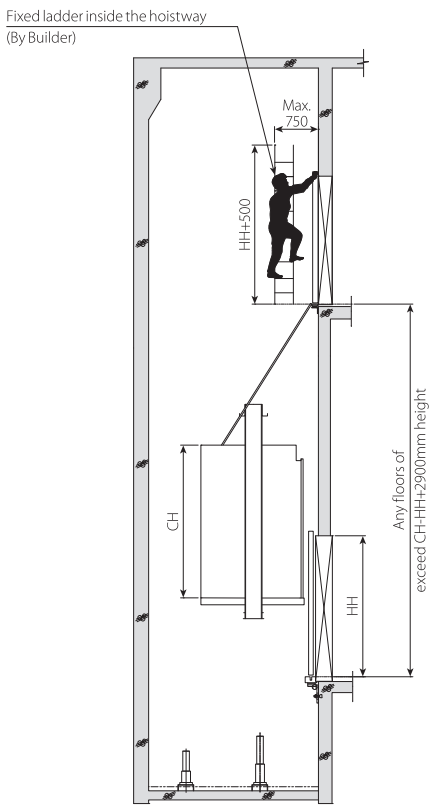
Picture 1. Rescue from outside the car

[Self-rescue from inside the car]

- To enable the firefighter to release the landing door lock device of the next floor,
- Fixed ladder inside the hoistway
(In case of any floors of exceed CH+HH+2900mm height)
(Length(mm) : Refer to the picture 2)

If the floor height is not exceed CH+HH+2900mm, it is available to use the ladder attached outside of car.

- CH : Car height including ceiling
- HH : Door height
- Fixed ladder : There shall be at least one hand hold within easy reach at the top end of the ladder and located within 0.75 m from the sill of the landing entrance above.



Picture 2. Self-rescue from inside the car

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Website**YouTube**

PC PILES

DESCRIPTION

Type of Piles	Prestressed Concrete Pretension Spun Piles Prestressed Concrete Post Tension Spun Piles (Cylinder Piles) Prestressed Concrete Square Piles Prestressed Concrete Triangular Piles Prestressed Concrete Spun Square Piles
System of Joints	Welded at steel joint plate
Type of Shoe	Concrete Pencil Shoe (Standard) for PC Spun Piles, Spun Square Pile & Square Piles Mamira Shoe (Special Order) for PC Spun Pile
Method of Driving	Dynamic Pile Driving : Diesel Hammer and Hydraulic Hammer Static Pile Driving : Hydraulic Static Pile Driver (Jacking Pile) Inner Boring System

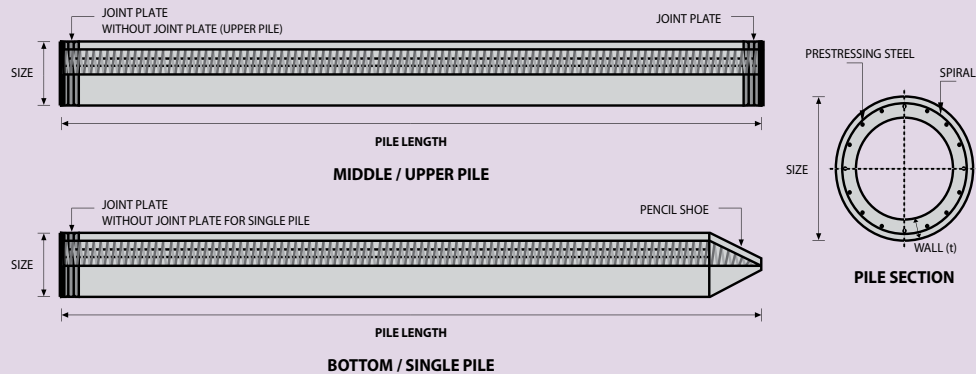
DESIGN & MANUFACTURING REFERENCE

Design	ACI 543R	Design, Manufactured and Installation of Concrete Piles Chapter-4 Structural design requirement for piles with no seismic loading (In case pile is consider to seismic loading, piles detail should re-design refer to ACI 543R Chapter-5)
Manufacturing	SNI 2847 - 2013 WB - PCP - PS - 05 WB - PCP - PS - 16	Indonesian Standard Code for Concrete Production Manufacturing Procedure Production Manufacturing Procedure

MATERIAL SPECIFICATION

ITEM	REFERENCE	DESCRIPTION	SPECIFICATION
Aggregate	ASTM C 33 / C 33M-11a	Standard Specification for Concrete Aggregates	
Cement	SNI 2049 - 2015	Portland Cement	Standard Product Type I Special Order : Type II or V
Admixture	ASTM C 494 / C 494M - 99a	Standard Specification for Chemical Admixture for Concrete	Type F : High Range Water Reducing Admixture
Concrete	SNI 2834 - 2000 SNI 2493 - 2011	Concrete Mix Design Making and Curing Concrete Sample	
PC Strand	ASTM A 416 / A 416M - 99	Standard Specification for Steel Strand, Uncoated Seven-Wire for Prestressed Concrete	Grade 270 (Low Relaxation Type)
PC Wire	JIS G 3536 - 2014	Uncoated Stress-Relieved Steel Wires and Strands for Prestressed Concrete	SWPD1 (Deformed Wire Type)
PC Bar	JIS G 3137 - 2008	Small Size-Deformed Steel Bars for Prestressed Concrete	Grade D - Class 1 - SBPD 1275/1420
Rebar	SNI 2052 - 2014	Reinforcement Steel for Concrete	Steel Class : BjTS 40 (Deformed) Steel Class : BjTP 24 (Round)
Spiral Wire	JIS G 3532 - 2011	Low Carbon Steel Wires	SWM-P (Round Type) Cold-reduced steel wire for the reinforcement of concrete and the manufacture of welded fabric.
Joint Plate	JIS G 3101 - 2004	Rolled Steels for General Structure	SS400 (Tensile Strength 400 N/mm2) Applicable steel product for steel plates and sheets, steel strip in coil, sections, flats and bars.
Welding	ANSI / AWS D1.1 - 900	Structural Welding Code Steel	AWS A5.1/E6013 NIKKO STEEL RB 26 / RD 260, LION 26, or equivalent.

PILE SHAPE & SPECIFICATION | PRESTRESSED CONCRETE PRETENSION SPUN PILES



PRESTRESSED CONCRETE PRETENSION SPUN PILES SPECIFICATION

Concrete Compressive Strength $f_c' = 52 \text{ MPa}$ (Cube 600 kg/cm^2)

Size (mm)	Thickness Wall (t)	Cross Section (cm^2)	Section Inertia (cm^4)	Unit Weight (kg/m)	Class	Bending Moment		Allowable Compression (ton)	Decompression Tension (ton)	Length of Pile ** (m)
						Crack *	Break			
300	60	452.39	34,607.78	113	A2	2.50	3.75	72.60	23.11	6 - 12
					A3	3.00	4.50	70.75	29.86	6 - 13
					B	3.50	6.30	67.50	41.96	6 - 14
					C	4.00	8.00	65.40	49.66	6 - 15
350	65	581.98	62,162.74	145	A1	3.50	5.25	93.10	30.74	6 - 13
					A3	4.20	6.30	89.50	37.50	6 - 14
					B	5.00	9.00	86.40	49.93	6 - 15
					C	6.00	12.00	85.00	60.87	6 - 16
400	75	765.76	106,488.95	191	A2	5.50	8.25	121.10	38.62	6 - 14
					A3	6.50	9.75	117.60	45.51	6 - 15
					B	7.50	13.50	114.40	70.27	6 - 16
					C	9.00	18.00	111.50	80.94	6 - 17
450	80	929.91	166,570.38	232	A1	7.50	11.25	149.50	39.28	6 - 14
					A2	8.50	12.75	145.80	53.39	6 - 15
					A3	10.00	15.00	143.80	66.57	6 - 16
					B	11.00	19.80	139.10	78.84	6 - 17
					C	12.50	25.00	134.90	100.45	6 - 18
500	90	1,159.25	255,324.30	290	A1	10.50	15.75	185.30	54.56	6 - 15
					A2	12.50	18.75	181.70	68.49	6 - 16
					A3	14.00	21.00	178.20	88.00	6 - 17
					B	15.00	27.00	174.90	94.13	6 - 18
					C	17.00	34.00	169.00	122.04	6 - 19
600	100	1,570.80	510,508.81	393	A1	17.00	25.50	252.70	70.52	6 - 16
					A2	19.00	28.50	249.00	77.68	6 - 17
					A3	22.00	33.00	243.20	104.94	6 - 18
					B	25.00	45.00	238.30	131.10	6 - 19
					C	29.00	58.00	229.50	163.67	6 - 20
800	120	2,563.54	1,527,869.60	641	A1	40.00	60.00	415.00	119.34	6 - 20
					A2	46.00	69.00	406.10	151.02	6 - 21
					A3	51.00	76.50	399.17	171.18	6 - 22
					B	55.00	99.00	388.61	215.80	6 - 23
					C	65.00	130.00	368.17	290.82	6 - 24
1000 ***	140	3,782.48	3,589,571.20	946	A1	75.00	112.50	613.52	169.81	6 - 22
					A2	82.00	123.00	601.27	215.16	6 - 23
					A3	93.00	139.50	589.66	258.19	6 - 24
					B	105.00	189.00	575.33	311.26	6 - 24
					C	120.00	240.00	555.23	385.70	6 - 24
1200 ***	150	4,948.01	6,958,136.85	1,237	A1	120.00	180.00	802.80	221.30	6 - 24
					A2	130.00	195.00	794.50	252.10	6 - 24
					A3	145.00	217.50	778.60	311.00	6 - 24
					B	170.00	306.00	751.90	409.60	6 - 24
					C	200.00	400.00	721.50	522.20	6 - 24

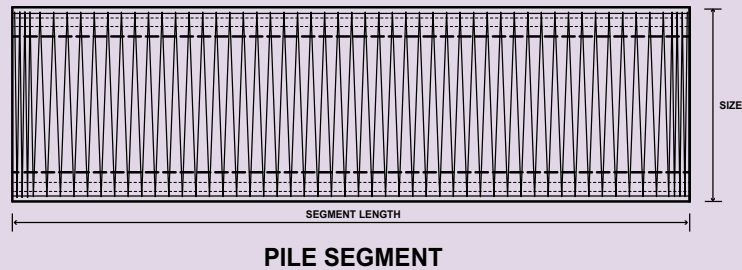
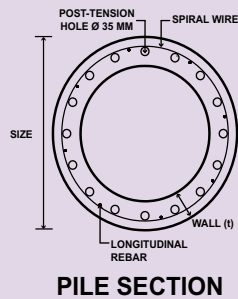
Unit Conversion : 1 ton = 9.8060 kN

Note : *) Crack Moment Based on JIS A 5335-1987 (Prestressed Spun Concrete Piles)

**) Length of pile may exceed usual standard whenever lifted in certain position

**) Type of Shoe for Bottom Pile is Mamira Shoe

PILE SHAPE & SPECIFICATION | PRESTRESSED CONCRETE POST TENSION SPUN PILES (CYLINDER PILES)



PRESTRESSED CONCRETE POST TENSION SPUN PILES (CYLINDER PILES) SPECIFICATION

Concrete Compressive Strength $f_c' = 52 \text{ MPa}$ (Cube 600 kg/cm^2)

Size (mm)	Thickness Wall (t) (mm)	Cross Section (cm^2)	Section Inertia (cm^4)	Unit Weight (ton/m)	Class	Bending Moment		Allowable Compression (ton)	Cylinder Pile Length (m) Single / Double*
						Crack (ton.m)	Ultimate (ton.m)		
800	120	2,563	1,527,869	0,64	A	40	65	410	24 / 36
					B	55	80	390	24 / 36
					C	65	120	370	30 / 42
					D	75	130	355	30 / 42
1000	140	3,782	3,589,571	0,96	A	75	110	600	24 / 36
					B	105	175	560	30 / 42
					C	120	220	550	30 / 48
					D	135	245	530	36 / 48
1200	150	4,948	6,958,136	1,24	A	120	140	800	30 / 48
					B	170	270	745	36 / 48
					C	200	310	710	36 / 54
					D	210	320	700	42 / 54
1500	170	7,103	15,962,533	1,78	A	220	265	1140	30 / 48
					B	300	440	1080	36 / 54
					C	340	520	1040	42 / 60
1800	200	10,053	32,672,563	2,51	A	370	425	1630	36 / 48
					B	470	650	1580	36 / 54
					C	520	770	1520	42 / 60
2000	200	11,309	46,369,907	2,83	A	480	535	1830	35 / 55
					B	590	790	1770	40 / 60
					C	670	965	1720	45 / 65

*) Number of Pile Lifting Position on Handling Process for Pile Driving.

Case 1 = Single Lifting Point Position : Minimum $1/8 \text{ L}$ from end of Pile.

Case 2 = Double Lifting Point Position : First Point Minimum 2m from end of Pile.
(using Pulley) Second Point Minimum $1/3 \text{ L}$ from end of Pile.

PRODUCTION, PILE ASSEMBLING AND DISTRIBUTION PROCESS



Stockyard Facility

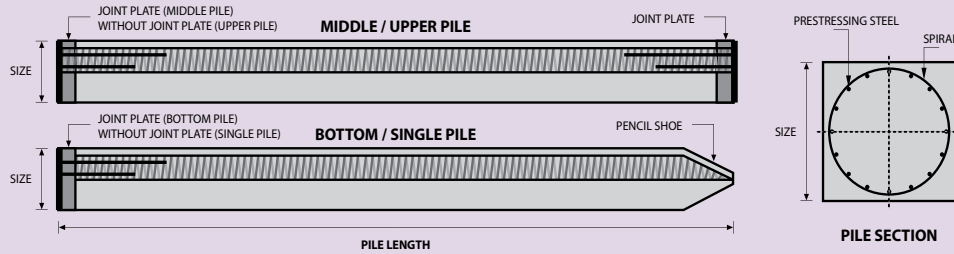


Post-tensioning



Cylinder Pile Distribution

PILE SHAPE & SPECIFICATION | PRESTRESSED CONCRETE SQUARE PILES



PRESTRESSED CONCRETE SQUARE PILES SPECIFICATION

Concrete Compressive Strength $f_c' = 42 \text{ MPa}$ (Cube 500 kg/cm^2)

Unit Conversion : 1 ton = 9.8060 kN

Size (mm)	Cross Section (cm ²)	Section Inertia (cm ⁴)	Unit Weight (kg/m)	Class	Bending Moment		Allowable Compression (ton)	Decompression Tension (ton)	Length of Pile * (m)	Splice Class	
					Crack (ton.m)	Ultimate (ton.m)				Compatible to Body M_{crack}	Optional
200 x 200	400	13,333	100	A	1.55	2.65	49.08	27.47	6 - 9	I	II
250 x 250	625	32,552	156	A	2.29	3.46	81.40	28.10	6 - 10	III	IV
				B	2.52	4.33	79.62	34.80	6 - 11	II	-
				C	2.78	5.19	77.92	41.30	6 - 11	I	II
300 x 300	900	67,500	225	A	3.64	5.19	118.59	35.40	6 - 11	IV	V
				B	3.98	6.23	116.76	42.20	6 - 11	III	IV/V
				C	4.48	7.47	114.66	50.20	6 - 12	II	-
				D	4.92	9.34	111.60	61.90	6 - 12	I	III/IV/V
350 x 350	1,225	125,052	306	A	5.33	6.57	163.98	38.60	6 - 11	III	IV
				B	6.07	8.72	160.68	50.90	6 - 12	II	-
				C	6.63	10.90	157.45	63.10	6 - 12	I	IV
				D	7.30	13.08	154.32	75.00	6 - 13	I	III/IV
400 x 400	1,600	213,333	400	A	7.89	9.96	213.96	51.40	6 - 12	IV	V
				B	8.71	12.45	210.60	63.80	6 - 12	III	IV/V
				C	9.51	14.95	207.32	76.00	6 - 13	II	III/IV/V
				D	11.82	22.42	198.01	111.60	6 - 14	I	II/III/IV/V
450 x 450	2,025	341,719	506	A	11.17	14.01	270.98	64.30	6 - 12	III	IV
				B	12.10	16.81	267.61	76.80	6 - 13	III	IV
				C	13.01	19.62	264.30	89.10	6 - 13	II	III/IV
				D	14.78	25.22	257.88	113.30	6 - 14	I	II/III/IV
500 x 500	2,500	520,833	625	A	15.16	18.68	335.12	77.30	6 - 13	III	IV
				B	16.19	21.79	331.72	89.90	6 - 13	II	III/IV
				C	17.21	24.91	328.38	102.20	6 - 14	I	II/III/IV
				D	18.22	28.02	325.09	114.50	6 - 14	I	II/III/IV

Note : *) Length of pile may exceed usual standard whenever lifted in certain position

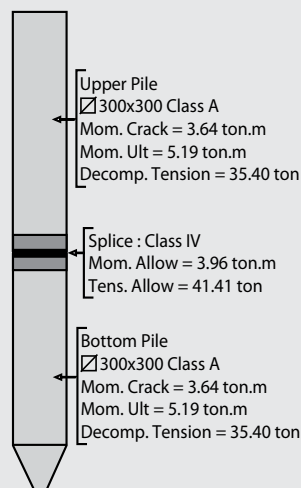
TYPICAL SPLICE SPECIFICATION

Size (mm)	Class	Bending Moment		Tension	
		Allowable (ton.m)	Ultimate (ton.m)	Allowable (ton)	Ultimate (ton)
200 x 200	I	1.56	2.11	41.82	47.05
	II	0.76	1.02	16.34	18.38
250 x 250	I	3.17	4.28	55.22	62.12
	II	2.99	4.03	41.41	46.59
	III	2.34	3.17	41.41	46.59
	IV	1.29	1.74	24.50	27.57
300 x 300	I	5.96	8.05	83.64	94.10
	II	4.53	6.12	62.73	70.57
	III	4.28	5.78	55.22	62.12
	IV	3.96	5.35	41.41	46.59
	V	2.34	3.16	24.50	27.57
350 x 350	I	7.67	10.35	83.64	94.10
	II	6.81	9.19	83.64	94.10
	III	5.71	7.71	55.22	62.12
	IV	3.30	4.45	27.61	31.06
400 x 400	I	12.20	16.47	117.95	132.69
	II	11.28	15.23	88.46	99.52
	III	9.41	12.71	83.64	94.10
	IV	8.58	11.58	62.73	70.57
	V	3.97	5.36	27.61	31.06
450 x 450	I	15.80	21.33	147.43	165.86
	II	14.07	19.00	117.95	132.69
	III	13.02	17.57	88.46	99.52
	IV	6.55	8.84	41.82	47.05
500 x 500	I	19.72	26.63	118.60	133.43
	II	16.51	22.29	117.95	132.69
	III	15.14	20.43	88.46	99.52
	IV	7.56	10.21	41.82	47.05

EXAMPLES OF SPLICE SELECTION

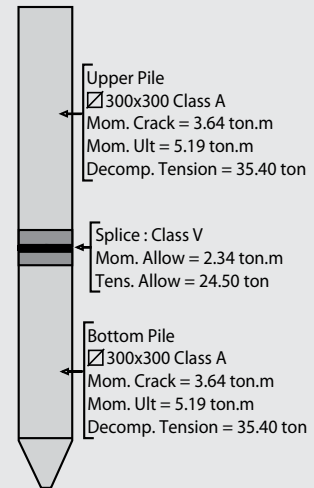
Case 1 : Compatible to Body Moment Crack

Splice of PC Piles having equivalent performance to the crack bending moment of the main body.

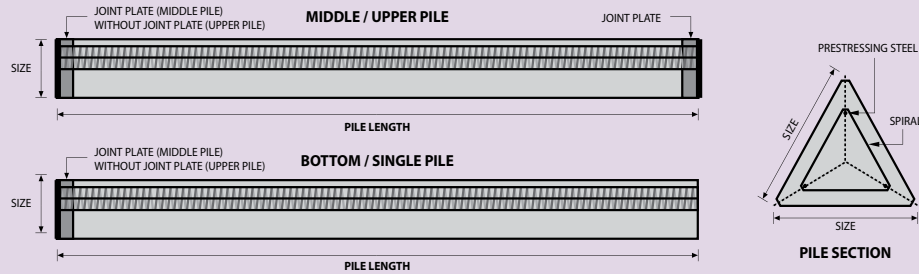


Case 2 : Optional Splice

Application of optional splices should be approved by structure designer.



PILE SHAPE & SPECIFICATION | PRESTRESSED CONCRETE TRIANGULAR PILES



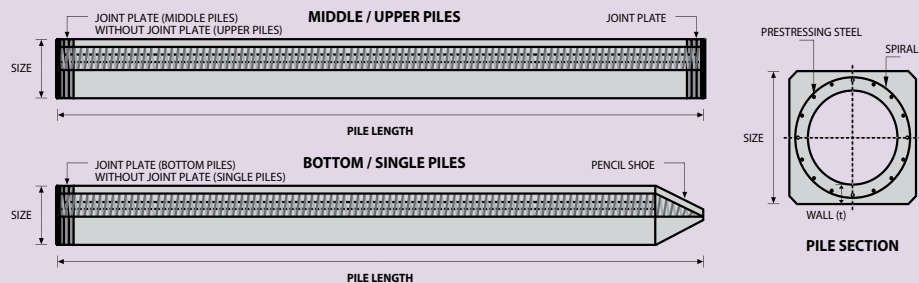
PRESTRESSED CONCRETE TRIANGULAR PILES SPECIFICATION

Concrete Compressive Strength $f_c' = 42 \text{ MPa}$ (Cube 500 kg/cm^2)

Size (mm)	Cross Section (cm ²)	Section Inertia (cm ⁴)	Unit Weight (kg/m)	Class	Bending Moment		Allowable Compression (ton)	Length of Pile * (m)
					Crack (ton.m)	Ultimate (ton.m)		
280	318.7	9,080.50	79.7	A	0.66	0.92	42.26	6 - 8
				B	0.90	1.77	39.50	6 - 9
320	422.6	16,188.90	105.7	A	0.89	1.11	57.02	6 - 8
				B	1.20	2.15	54.10	6 - 9

Unit Conversion : 1 ton = 9.8060 kN

PILE SHAPE & SPECIFICATION | PRESTRESSED CONCRETE SPUN SQUARE PILES



PRESTRESSED CONCRETE SPUN SQUARE PILES SPECIFICATION

Concrete Compressive Strength $f_c' = 52 \text{ MPa}$ (Cube 600 kg/cm^2)

Size (mm)	Thickness Wall (t)	Cross Section (cm ²)	Section Inertia (cm ⁴)	Unit Weight (kg/m)	Class	Bending Moment		Allowable Compression (ton)	Decompression Tension (ton)	Length of Pile * (m)
						Crack (ton.m)	Ultimate (ton.m)			
400 X 400	75	1109.13	194,159	277	A2	6.50	10.00	182.63	38.00	6 - 13
					A3	8.00	12.00	180.62	45.30	6 - 14
					B	10.00	18.00	173.15	73.10	6 - 15
					C	11.00	22.00	169.49	91.70	6 - 16
450 X 450	80	1364.48	307,000	341	A1	8.50	12.50	227.01	38.20	6 - 13
					A2	11.00	17.00	222.95	52.90	6 - 15
					A3	13.00	20.90	219.05	67.10	6 - 16
					B	13.50	24.00	215.32	80.90	6 - 16
					C	15.50	31.00	208.10	114.00	6 - 16

Note : *) Length of pile may exceed usual standard whenever lifted in certain position

Unit Conversion : 1 ton = 9.8060 kN

PRODUCT APPLICATION



Piles foundation for Power Plant or Industrial Factory



Piles for Marine Structure



Piles Foundation for Building



Piles Foundation for Bridges

