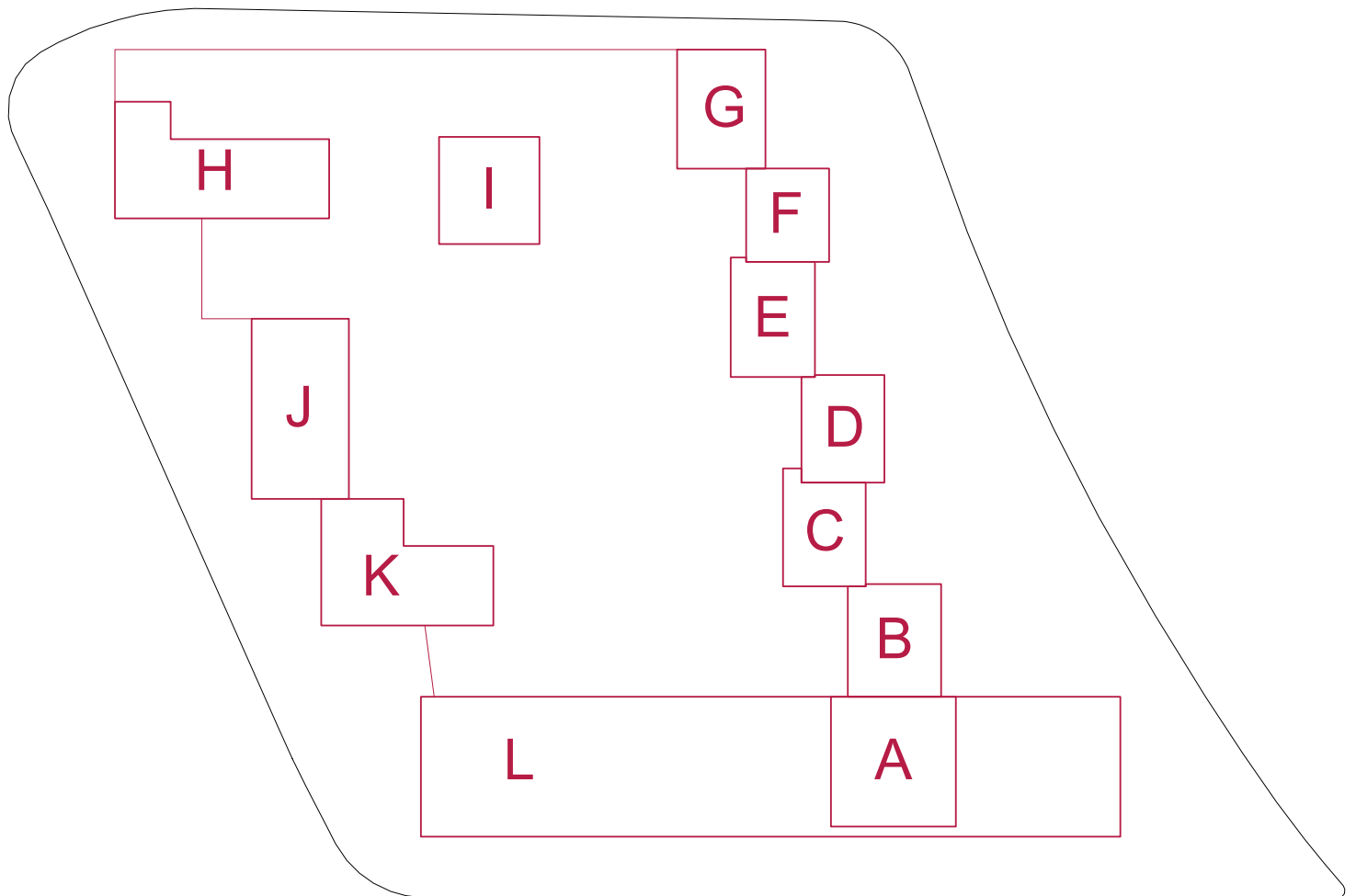


Calculation

of floor addition per structure

Highlighting the possible amount of added floors with the scenarios of replicating the same floor plans, building it with timber and with a light weight construction



	Type	Material	Volume	Area	Dead Load	Dead Weight	Capacity	Live Load	Live Weight	Total Load	
House A	Floors	Walls	Reinforced Concrete	1'566 m3	540 m2	25 kN/m3	39'150 kN	13'500 kN/m2	-	-	-
			Brick	1'044 m3	360 m2	18 kN/m3	18'792 kN	3'500 kN/m2	-	-	-
		Floor	Reinforced Concrete	1'728 m3	5'760 m2	25 kN/m3	43'200 kN	-	2 kN/m2	46'080 kN	148'236 kN
	18	Load (incl. Security Factor)		200'118 kN		Saved CO ₂ (maximum Amount)		901'428 kg			
		Lowest Floor Capacity		475'000 kN		New Apartments (maximally)		200			
		Possible Additional Load		274'882 kN							
				Generic Construction		Timber Construction		Light Weight Construction			
		Additional Floors		1.85		2.89		4.17			
	Type	Material	Volume	Area	Dead Load	Dead Weight	Capacity	Live Load	Live Weight	Total Load	
House B	Floors	Walls	Reinforced Concrete	1'253 m3	432 m2	25 kN/m3	31'320 kN	13'500 kN/m2	-	-	-
			Brick	383 m3	132 m2	18 kN/m3	6'890 kN	3'500 kN/m2	-	-	-
		Floor	Reinforced Concrete	1'080 m3	3'600 m2	25 kN/m3	27'000 kN	-	2 kN/m2	28'800 kN	94'644 kN
	20	Load (incl. Security Factor)		127'769 kN		Saved CO ₂ (maximum Amount)		901'428 kg			
		Lowest Floor Capacity		314'700 kN		New Apartments (maximally)		148			
		Possible Additional Load		186'931 kN							
				Generic Construction		Timber Construction		Light Weight Construction			
		Additional Floors		1.98		3.08		3.95			
	Type	Material	Volume	Area	Dead Load	Dead Weight	Capacity	Live Load	Live Weight	Total Load	
House C	Floors	Walls	Reinforced Concrete	1'743 m3	601 m2	25 kN/m3	43'574 kN	13'500 kN/m2	-	-	-
			Brick	720 m3	248 m2	18 kN/m3	12'968 kN	3'500 kN/m2	-	-	-
		Floor	Reinforced Concrete	1'386 m3	4'620 m2	25 kN/m3	34'650 kN	-	2 kN/m2	36'960 kN	128'965 kN
	21	Load (incl. Security Factor)		174'103 kN		Saved CO ₂ (maximum Amount)		901'428 kg			
		Lowest Floor Capacity		427'775 kN		New Apartments (maximally)		136			
		Possible Additional Load		253'672 kN							
				Generic Construction		Timber Construction		Light Weight Construction			
		Additional Floors		1.97		3.07		3.93			
	Type	Material	Volume	Area	Dead Load	Dead Weight	Capacity	Live Load	Live Weight	Total Load	
House D	Floors	Walls	Reinforced Concrete	1'128 m3	389 m2	25 kN/m3	28'188 kN	13'500 kN/m2	-	-	-
			Brick	345 m3	119 m2	18 kN/m3	6'201 kN	3'500 kN/m2	-	-	-
		Floor	Reinforced Concrete	972 m3	3'240 m2	25 kN/m3	24'300 kN	-	2 kN/m2	25'920 kN	85'180 kN
	18	Load (incl. Security Factor)		114'992 kN		Saved CO ₂ (maximum Amount)		901'428 kg			
		Lowest Floor Capacity		314'700 kN		New Apartments (maximally)		176			
		Possible Additional Load		199'708 kN							
				Generic Construction		Timber Construction		Light Weight Construction			
		Additional Floors		2.34		3.66		4.69			

	Type	Material	Volume	Area	Dead Load	Dead Weight	Capacity	Live Load	Live Weight	Total Load
House E	Walls	Reinforced Concrete	995 m3	343 m2	25 kN/m3	24'871 kN	13'500 kN/m2	-	-	-
		Brick	507 m3	175 m2	18 kN/m3	9'122 kN	3'500 kN/m2	-	-	-
	Floor	Reinforced Concrete	900 m3	3'000 m2	25 kN/m3	22'500 kN	-	2 kN/m2	24'000 kN	81'021 kN
	Load (incl. Security Factor)		109'378 kN		Saved CO ₂ (maximum Amount)		901'428 kg			
	Lowest Floor Capacity		349'520 kN		New Apartments (maximally)		210			
Floors	Possible Additional Load		240'142 kN							
			Generic Construction		Timber Construction		Light Weight Construction			
	Additional Floors		2.96		4.62		5.34			

	Type	Material	Volume	Area	Dead Load	Dead Weight	Capacity	Live Load	Live Weight	Total Load
House F	Walls	Reinforced Concrete	689 m3	238 m2	25 kN/m3	17'226 kN	13'500 kN/m2	-	-	-
		Brick	211 m3	73 m2	18 kN/m3	3'790 kN	3'500 kN/m2	-	-	-
	Floor	Reinforced Concrete	594 m3	1'980 m2	25 kN/m3	14'850 kN	-	2 kN/m2	15'840 kN	52'054 kN
	Load (incl. Security Factor)		70'273 kN		Saved CO ₂ (maximum Amount)		901'428 kg			
	Lowest Floor Capacity		314'700 kN		New Apartments (maximally)		269			
Floors	Possible Additional Load		244'427 kN							
			Generic Construction		Timber Construction		Light Weight Construction			
	Additional Floors		4.23		5.49		7.18			

	Type	Material	Volume	Area	Dead Load	Dead Weight	Capacity	Live Load	Live Weight	Total Load
House G	Walls	Reinforced Concrete	396 m3	137 m2	25 kN/m3	9'896 kN	13'500 kN/m2	-	-	-
		Brick	254 m3	88 m2	18 kN/m3	4'568 kN	3'500 kN/m2	-	-	-
	Floor	Reinforced Concrete	426 m3	1'421 m2	25 kN/m3	10'658 kN	-	2 kN/m2	11'368 kN	36'739 kN
	Load (incl. Security Factor)		49'598 kN		Saved CO ₂ (maximum Amount)		901'428 kg			
	Lowest Floor Capacity		307'000 kN		New Apartments (maximally)		443			
Floors	Possible Additional Load		257'402 kN							
			Generic Construction		Timber Construction		Light Weight Construction			
	Additional Floors		4.20		6.56		9.46			

	Type	Material	Volume	Area	Dead Load	Dead Weight	Capacity	Live Load	Live Weight	Total Load
House H	Walls	Reinforced Concrete	309 m3	106 m2	25 kN/m3	7'719 kN	13'500 kN/m2	-	-	-
		Brick	581 m3	200 m2	18 kN/m3	10'458 kN	3'500 kN/m2	-	-	-
	Floor	Reinforced Concrete	893 m3	2'977 m2	25 kN/m3	22'324 kN	-	2 kN/m2	23'812 kN	64'837 kN
	Load (incl. Security Factor)		87'530 kN		Saved CO ₂ (maximum Amount)		901'428 kg			
	Lowest Floor Capacity		305'505 kN		New Apartments (maximally)		952			
Floors	Possible Additional Load		217'975 kN							
			Generic Construction		Timber Construction		Light Weight Construction			
	Additional Floors		3.36		5.24		7.56			

	Type	Material	Volume	Area	Dead Load	Dead Weight	Capacity	Live Load	Live Weight	Total Load
House I	Walls	Reinforced Concrete	35 m3	12 m2	25 kN/m3	870 kN	13'500 kN/m2	-	-	-
		Brick	58 m3	20 m2	18 kN/m3	1'044 kN	3'500 kN/m2	-	-	-
Floors	Floor	Reinforced Concrete	360 m3	1'200 m2	25 kN/m3	9'000 kN	-	2 kN/m2	9'600 kN	20'725 kN
4	Load (incl. Security Factor)		30'052 kN		Saved CO ₂ (maximum Amount)		901'428 kg			
	Lowest Floor Capacity		58'000 kN		New Apartments (maximally)		1365			
	Possible Additional Load		27'948 kN							
			Generic Construction		Timber Construction		Light Weight Construction			
Additional Floors			1.35		2.10		3.03			
	Type	Material	Volume	Area	Dead Load	Dead Weight	Capacity	Live Load	Live Weight	Total Load
House J	Walls	Reinforced Concrete	61 m3	21 m2	25 kN/m3	1'523 kN	13'500 kN/m2	-	-	-
		Brick	44 m3	15 m2	18 kN/m3	783 kN	3'500 kN/m2	-	-	-
Floors	Floor	Reinforced Concrete	360 m3	1'200 m2	25 kN/m3	9'000 kN	-	2 kN/m2	9'600 kN	21'117 kN
3	Load (incl. Security Factor)		30'619 kN		Saved CO ₂ (maximum Amount)		901'428 kg			
	Lowest Floor Capacity		112'000 kN		New Apartments (maximally)		2230			
	Possible Additional Load		81'381 kN							
			Generic Construction		Timber Construction		Light Weight Construction			
Additional Floors			3.85		6.01		8.67			
	Type	Material	Volume	Area	Dead Load	Dead Weight	Capacity	Live Load	Live Weight	Total Load
House K	Walls	Reinforced Concrete	102 m3	35 m2	25 kN/m3	2'538 kN	13'500 kN/m2	-	-	-
		Brick	365 m3	126 m2	18 kN/m3	6'577 kN	3'500 kN/m2	-	-	-
Floors	Floor	Reinforced Concrete	791 m3	2'638 m2	25 kN/m3	19'787 kN	-	2 kN/m2	21'106 kN	50'473 kN
7	Load (incl. Security Factor)		68'138 kN		Saved CO ₂ (maximum Amount)		901'428 kg			
	Lowest Floor Capacity		130'500 kN		New Apartments (maximally)		943			
	Possible Additional Load		62'362 kN							
			Generic Construction		Timber Construction		Light Weight Construction			
Additional Floors			1.24		1.93		2.78			
	Type	Material	Volume	Area	Dead Load	Dead Weight	Capacity	Live Load	Live Weight	Total Load
House L	Walls	Reinforced Concrete	117 m3	41 m2	25 kN/m3	2'937 kN	13'500 kN/m2	-	-	-
		Brick	88 m3	30 m2	18 kN/m3	1'576 kN	3'500 kN/m2	-	-	-
Floors	Floor	Reinforced Concrete	1'800 m3	6'000 m2	25 kN/m3	45'000 kN	-	2 kN/m2	48'000 kN	98'570 kN
2	Load (incl. Security Factor)		144'897 kN		Saved CO ₂ (maximum Amount)		901'428 kg			
	Lowest Floor Capacity		326'320 kN		New Apartments (maximally)		2760			
	Possible Additional Load		181'422 kN							
			Generic Construction		Timber Construction		Light Weight Construction			
Additional Floors			1.84		2.87		4.14			

