

1ST FLOOR

EXTRUDED HOLLOWCORE PRECAST FLOORS

1ST FLOOR CONCRETE DESIGN DETAILS

150MM DEEP SLABS

SECTIONAL INFORMATION

Cross section area	117.248 10e3mm ²	Conc. 28 day strength	50N/mm ²
Moment of inertia	286.517 10e6mm ⁴	Conc. strength at transfer	35N/mm ²
Section modulus top	3.790 10e6mm ³	Mod. of elasticity or conc.	34kN/mm ²
Section modulus bottom	3.851 10e6mm ³	Stressing of strand/wire	70%
Total breadth of webs	468mm	Check: stresses at transfer	O.K.
Centroidal axis from bottom	32,5mm	Cover to steel Core Cover	30,0mm 25,0mm

STRUCTURAL INFORMATION

Moment & Shear Capacities	Wiring Pattern					
	A	B	C	D	E	F+2
Service moment	24,39kN/m	29,94kN/m	36,03kN/m	39,83kN/m	45,15kN/m	51,51kN/m
Ultimate moment	25,94kN/m	38,50kN/m	52,60kN/m	61,64kN/m	73,53kN/m	86,03kN/m
Ultimate shear resist	112.48kN	121.83kN	128.35kN	131.28kN	134.27kN	141.47kN

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150MM DEEP SLABS | CONTINUED

STANDARD WRITING PATTERNS

A = 8 x 5mm wires	D = 7 x 5mm wires + 5 x 9,53mm strand
B = 12 x 5mm wires	E = 4 x 5mm wires + 8 x 9,53mm strand
C = 9 x 5mm wires + 3 x 9,53mm strand	F+2 = 12 x 9,53mm strand + 2x5mm wire (top)

LOAD CAPACITY TABLE

Live Load kN/m ²	Wiring Pattern					
	A Span	B Span	C Span	D Span	E Span	F Span
0,75	5,1	6,2	7,2	7,6	7,8	8,6
1,5	4,7	5,7	6,7	7,0	7,5	8,0
2,5	4,3	5,2	6,1	6,3	6,9	7,4
4,0	3,8	4,7	5,5	5,8	6,2	6,6
5,0	3,6	4,4	5,1	5,5	5,8	6,2
7,5	3,2	3,8	4,5	4,8	5,2	5,5
10,0	2,8	3,5	4,0	4,4	4,7	4,9

1ST FLOOR

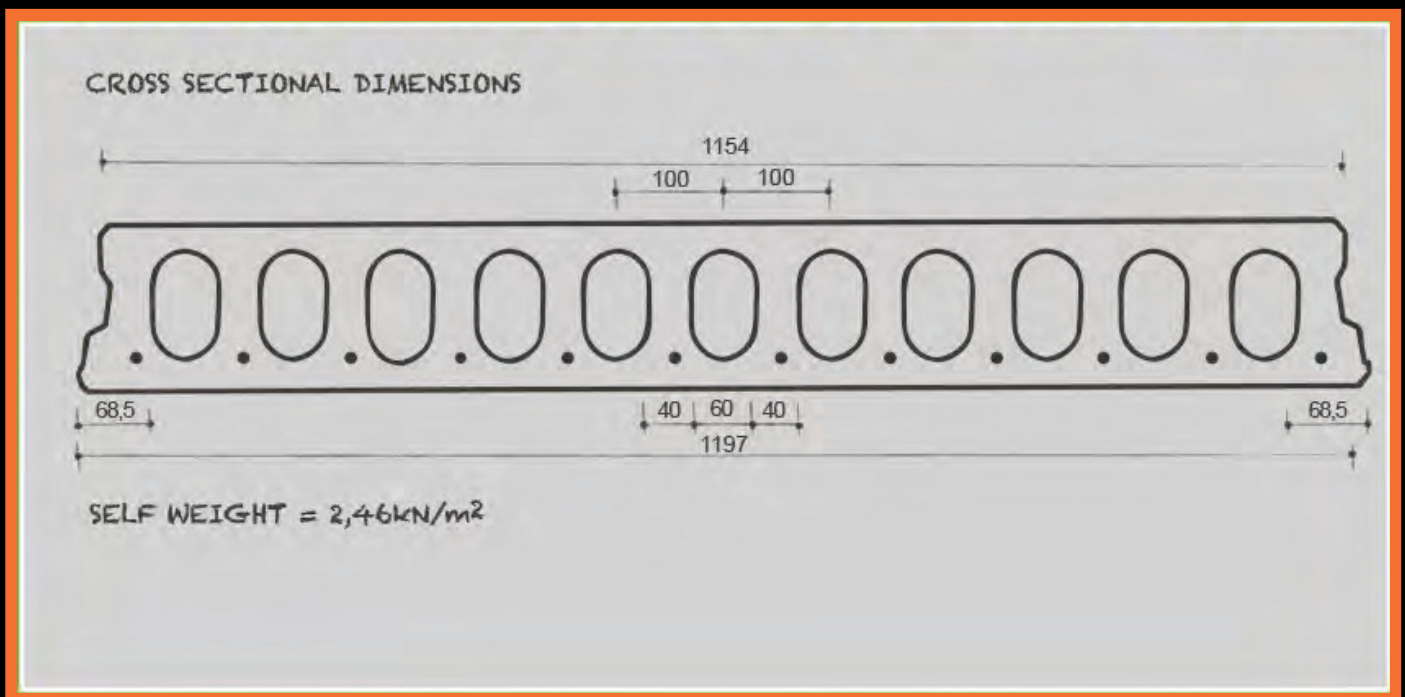
EXTRUDED HOLLOWCORE PRECAST FLOORS

1ST FLOOR CONCRETE DESIGN DETAILS

150MM DEEP SLABS | CONTINUED

CROSS SECTIONAL DIMENSIONS

PRESTRESSED CONCRETE DESIGN DETAILS - 150MM DEEP SLABS



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EXTRUDED HOLLOWCORE PRECAST FLOORS

1ST FLOOR CONCRETE DESIGN DETAILS

200MM DEEP SLABS

SECTIONAL INFORMATION

Cross section area	141.325 10e3mm ²	Conc. 28 day strength	50N/mm ²
Moment of inertia	626.385 10e6mm ⁴	Conc. strength at transfer	35N/mm ²
Section modulus top	6.240 10e6mm ³	Mod. of elasticity of conc.	34kN/mm ²
Section modulus bottom	6.287 10e6mm ³	Stressing of strand/wire	70%
Total breadth of webs	468mm	Check: stresses at transfer	O.K.
Centroidal axis from bottom	32,5mm	Cover to steel Core Cover	30,0mm 25,0mm

STRUCTURAL INFORMATION

Moment & Shear Capacities	Wiring Pattern					
	A	B	C	D	E	F+2
Service moment	38.16kN/m	46.48kN/m	55.79kN/m	61.61kN/m	69.76kN/m	80.64kN/m
Ultimate moment	36.98kN/m	55.47kN/m	76.98kN/m	90.73kN/m	110.80kN/m	137.75kN/m
Ultimate shear resist	146.37kN	157.61kN	166.63kN	170.77kN	175.07kN	184.22kN

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1ST FLOOR CONCRETE DESIGN DETAILS

200MM DEEP SLABS | CONTINUED

STANDARD WRITING PATTERNS

A = 8 x 5mm wires	D = 7 x 5mm wires + 5 x 9,53mm strand
B = 12 x 5mm wires	E = 4 x 5mm wires + 8 x 9,53mm strand
C = 9 x 5mm wires + 3 x 9,53mm strand	F+2 = 12 x 9,53mm strand + 2 x 5mm wires (top)

LOAD CAPACITY TABLES

Live Load Wiring Pattern						
kN/m ²	A Span	B Span	C Span	D Span	E Span	F+2 Span
0,75	5,8	7,2	8,4	9,0	9,6	10,3
1,5	5,4	6,6	7,8	8,4	8,9	9,6
2,5	5,0	6,1	7,1	7,8	8,3	8,9
4,0	4,5	5,5	6,4	7,0	7,5	8,0
5,0	4,2	5,1	6,0	6,6	7,1	8,0
7,5	3,7	4,5	5,3	5,8	6,3	7,6
10,0	3,3	4,1	4,8	5,2	5,7	6,1

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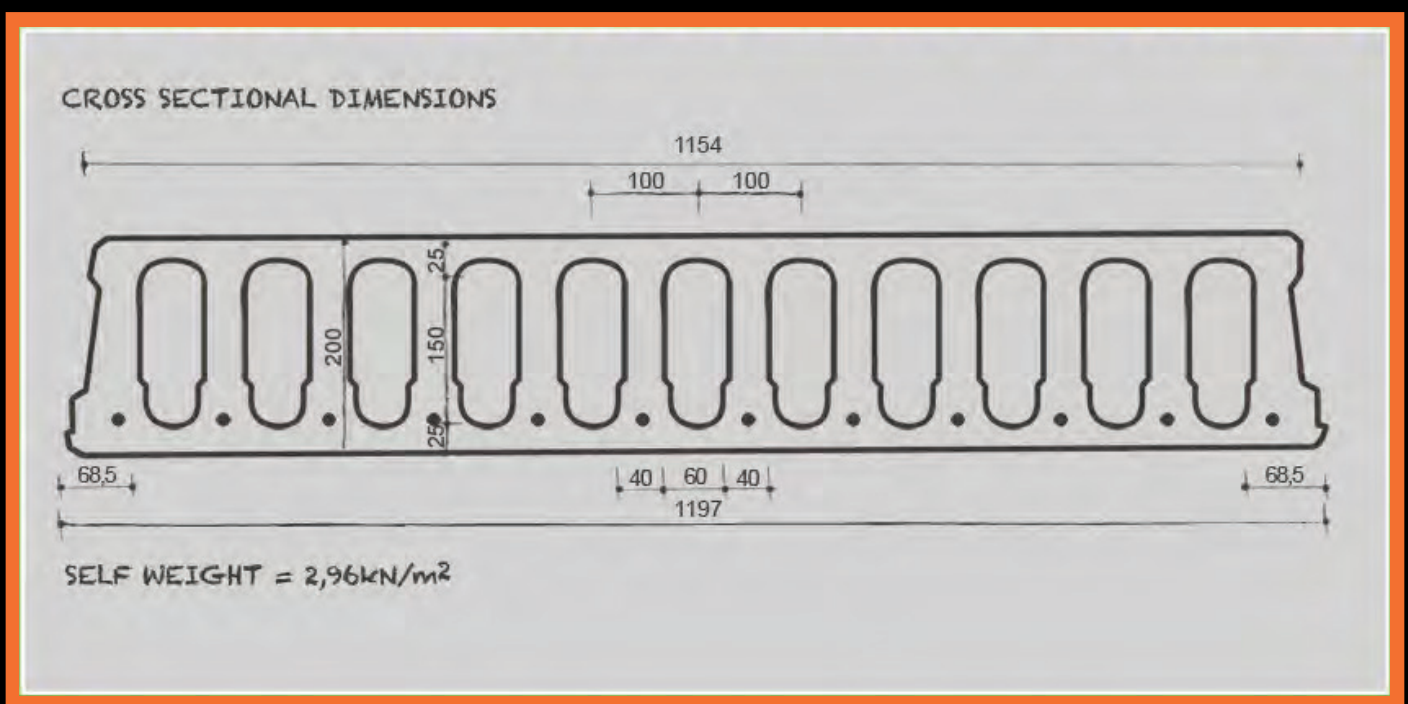
EXTRUDED HOLLOWCORE PRECAST FLOORS

1ST FLOOR CONCRETE DESIGN DETAILS

200MM DEEP SLABS | CONTINUED

CROSS SECTIONAL DIMENSIONS

PRESTRESSED CONCRETE DESIGN DETAILS - 200MM DEEP SLABS



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1ST FLOOR CONCRETE DESIGN DETAILS

250MM DEEP SLABS

SECTIONAL INFORMATION

Cross section area	165.675 10e3mm ²	Conc. 28 day strength	50N/mm ²
Moment of inertia	1143.163 10e6mm ⁴	Conc. strength at transfer	35N/mm ²
Section modulus top	9.137 10e6mm ³	Mod. of elasticity of conc.	34kN/mm ²
Section modulus bottom	9.154 10e6mm ³	Stressing of strand/wire	70%
Total breadth of webs	468mm	Check: stresses at transfer	O.K.
Centroidal axis from bottom	34,5mm	Cover to steel Core Cover	30,0mm 25,0mm

STRUCTURAL INFORMATION

Moment & Shear Capacities	Wiring Pattern						
	C	D	E	F+2	G+2	H+2	J+4
Service moment	77.07 kN/m	85.03 kN/m	96.27 kN/m	109.80 kN/m	118.87 kN/m	127.18 kN/m	141.96 kN /m
Ultimate moment	101.17 kN/m	119.86 kN/m	147.01 kN/m	182.20 kN/m	205.42 kN/m	227.22 kN/m	263.67 kN /m
Ultimate shear resist	204.44 kN	211.64kN	217.16 kN	230.24 kN	235.08 kN	238.96 kN	252.03 kN

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250MM DEEP SLABS | CONTINUED

STANDARD WRITING PATTERNS

C = 9 x 5mm wire + 3x9.53mm strand	F+2 = 12 x 9.53mm strand + 2 x 5mm wires (top)
D = 7 x 5mm wire + 5 x 9.53mm strand	G+2 = 10 x 9.53mm strand + 2 x 12mm strand + 2 x 5mm wires (top)
E = 4 x 5mm wires + 8 x 9.53mm strand	H+2 = 8 x 9.53mm strand + 4 x 12.5mm strand + 2 x 5mm wires (top)
	J+4 = 4 x 9.53mm strand + 8 x 12.5mm strand + 4 x 5mm wires (top)

LOAD CAPACITY TABLES

Live Load kN/m ²	Wiring Pattern						
	C Span	D Span	E Span	F+2 Span	G+2 Span	H+2 Span	J+4 Span
0,75	9,2	10,0	10,8	11,5	12,0	12,4	13,0
1,5	8,6	9,4	10,1	10,8	11,2	11,6	12,2
2,5	7,9	8,6	9,4	10,0	10,4	10,8	11,4
4,0	7,	7,8	8,5	9,1	9,5	9,8	10,4
5,0	6,8	7,4	8,1	8,6	9,0	9,3	9,8
7,5	6,0	6,5	7,2	7,7	8,0	8,3	8,8
10,0	5,5	5,9	6,6	7,0	7,3	7,6	8,0