



FABPANEL™ 200 6 Cores

1195 mm Wide
Cover = 30 mm

Fire = 60 minutes
Topping = 100 mm

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Designed to Eurocodes and EN1168

SECTION

Hollow core slab	FabPanel 200	N° Cores	6	$A_b =$	2321.3 cm ²	$A_n/A_b =$	57.5%
	$b_{mod} =$	1200 mm		$A_n =$	1334.5 cm ²	$A_{jnt} =$	76.8 cm ²
	$h_p =$	200 mm		$I_{yc} =$	64584.4 cm ⁴	$e_{zt} =$	101.04 mm
Support depth	70 mm			$b_w =$	292.9 mm	$e_{zb} =$	98.96 mm
Topping	100 mm			$A_{top} =$	1200.00 cm ²		

MATERIALS

Concrete

Hollow core slab	C50	Code ref.	EN206-1	Density	2400 kg/m ³	Aggregate	Limestone
In situ joint/topping	C30	Density	2400 kg/m ³	Aggregate	Quartzite		

Prestressing reinforcement

				Code ref.	EN10138		
Type	Diam. (mm)	A_p (mm ²)	Grade	f_{pk} (N/mm ²)	$f_{p0.1k}$ (N/mm ²)	E_p (N/mm ²)	$F_{p0.1k}$ (kN)
S7	Ø9.53	54.8	Y1860	1860	1674	201000	91.8
S7	Ø12.7	98.7	Y1860	1860	1674	201000	165.2

S7 = 7-wire strand

Prestressing of <u>top</u> reinforcement	70%	• f_{pk}			
Prestressing of <u>bottom</u> reinforcement	70%	• f_{pk}			
Concrete cover on <u>bottom</u> reinforcement	30 mm	$\Delta c =$	0 mm		

Mild reinforcement

				Code ref.	EN10080		
Type	Diam. (mm)	A_s (mm ²)	Grade	f_{uk} (N/mm ²)	f_{yk} (N/mm ²)	E_s (N/mm ²)	
RB	N/A	N/A	B500	550	500	200000	

RB = Ribbed bar

UTILITY FEATURES

User Category :	A	Domestic and residential areas
Exposure class :	XC1	
Fire resistance :	60 min.	

DESIGN FACTORS

Load safety factors

Permanent load :	$\gamma_g =$	1.35
Variable load :	$\gamma_q =$	1.50

Combination factors

$\psi_0 =$	0.7
$\psi_1 =$	0.5
$\psi_2 =$	0.3

DEFLECTION CRITERIA

Total long term deflection: variable load	with $\psi_2 =$	30%	
$UZ < L /$	250	loads =	$SW_{slab} + SW_{top} + \Sigma PL + \psi_2 \cdot \Sigma VL$
Additional long term deflection: variable load	with $\psi_2 =$	30%	SW = self weight
$\Delta UZ < L /$	500	loads =	$\Sigma PL + \psi_2 \cdot \Sigma VL$
			PL = permanent load
			VL = variable load



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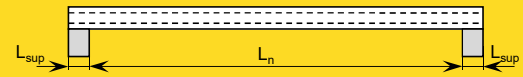
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Reinforcement type	STR 01	STR 02	STR 03							
Top reinforcement			2xØ9.53							
Bottom reinforcement	4xØ12.7	5xØ12.7	7xØ12.7							
Reinforcement (kg/m ²)	2.58	3.23	5.24							
M _{Rd} (kNm/m)	130.8	168.0	216.1							
V _{nc,Rd} (kN/m)	76.0	80.9	84.4							
V _{c,Rd} (kN/m)	72.4	90.5	106.8							

Permanent load g (kN/m ²)	Variable load q (kN/m ²)	CLEAR SPAN (IN METERS)												
1.50	1.50	11.36	11.53	12.35										
1.50	2.00	10.92	11.44	12.10										
1.50	2.50	10.48	11.38	11.87										
1.50	3.00	10.09	11.19	11.66										
1.50	3.50	9.74	11.01	11.46										
1.50	4.00	9.43	10.66	11.27										
1.50	5.00	8.88	10.04	10.94										
1.50	6.00	8.42	9.52	10.63										
1.50	7.00	8.02	9.07	10.29										
1.50	8.00	7.67	8.68	9.85										
1.50	9.00	7.37	8.34	9.26										
1.50	10.00	7.10	8.03	8.66										
1.50	12.50	6.53	7.20	7.44										
1.50	15.00	6.00	6.34	6.53										
1.50	20.00	4.86	5.11	5.28										



SECTION - self weight

Precast slab :	2.62	kN/m ²				
Joint :	0.15	kN/m ²	--> Sum =	2.77	kN/m ²	(slab + joint)
Topping :	2.35	kN/m ²	--> Sum =	5.12	kN/m ²	(slab + joint + topping)

UTILITY FEATURES

User Category :	A	Domestic and residential areas
Exposure class :	XC1	Fire resistance : 60 min.

DEFLECTION CRITERIA

- Long term part of variable load $\psi_2 = 0.3$
- Long term TOTAL deflection under self weight of the slab + total permanent load + 30% of the variable load $< L / 250$
 - Long term ADDITIONAL deflection under total permanent load + 30% of the variable load $< L / 500$



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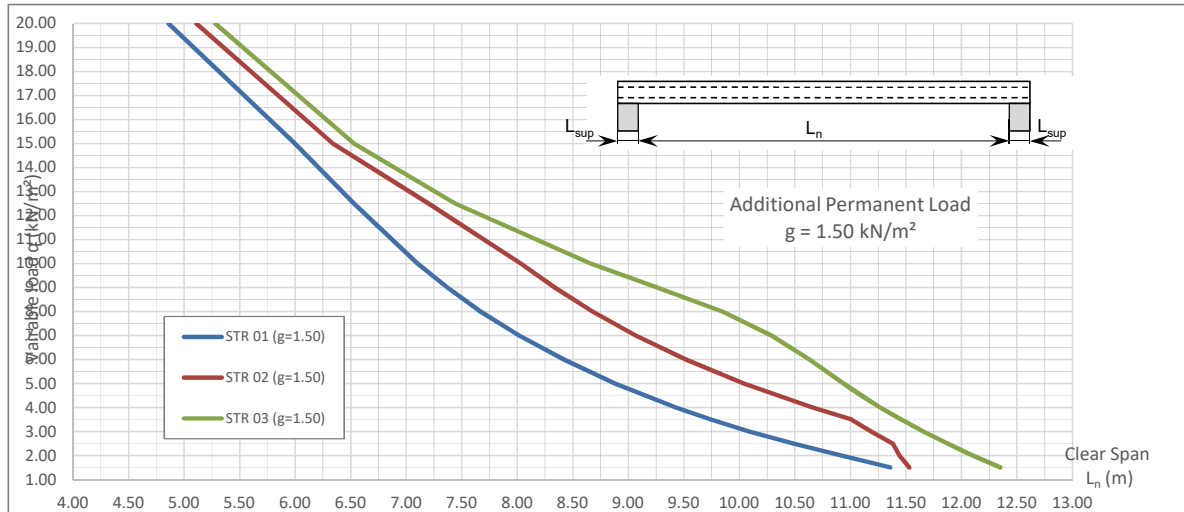
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MATERIALS

Concrete	Precast slab :	C50	Density =	2400	kg/m ³		
	Joint/Topping :	C30	Density =	2400	kg/m ³		
Prestressing steel	Strand Ø9.53	Y1860	$f_{pk} =$	1860	N/mm ²	$f_{p0.1k} =$	1674 N/mm ²
	Strand Ø12.7	Y1860	$f_{pk} =$	1860	N/mm ²	$f_{p0.1k} =$	1674 N/mm ²
	Prestressing of <u>top</u> reinforcement		70%	$\cdot f_{pk}$			
	Prestressing of <u>bottom</u> reinforcement		70%	$\cdot f_{pk}$			
	Concrete cover on <u>bottom</u> reinforcement		30	mm	$\Delta c =$	0	mm

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