

## Mesh sizes for Simplified Fire Designs - Normal weight concrete

Fire Rating (Hrs)	Slab Depth (mm)	Span (m) for given Imposed Load (kN/m <sup>2</sup> )								
		A142			A193			A252		
		5.0	6.7	10.0	5.0	6.7	10.0	5.0	6.7	10.0
1.0	100	3.50	3.29	2.84	3.50	3.50	3.03	3.50	3.50	3.22
	120	3.92	3.56	3.09	4.19	3.81	3.30	4.20	4.06	3.52
	130	4.04	3.68	3.20	4.32	3.94	3.42	4.55	4.20	3.65
	150	4.20	3.84	3.35	4.48	4.10	3.58	4.79	4.38	3.82
	175	--	--	--	4.64	4.27	3.75	4.95	4.55	4.00
	200	--	--	--	4.78	4.41	3.90	5.09	4.70	4.15
1.5	110	3.33	3.02	2.61	3.60	3.27	2.82	3.85	3.51	3.03
	120	3.45	3.14	2.72	3.74	3.40	2.94	4.02	3.66	3.17
	130	3.56	3.25	2.82	3.85	3.51	3.05	4.16	3.79	3.29
	150	3.72	3.41	2.98	4.04	3.70	3.23	4.36	3.99	3.48
	175	--	--	--	4.17	3.84	3.37	4.50	4.14	3.63
	200	--	--	--	3.96	3.66	3.23	4.28	3.96	3.50
2.0	125	2.99	2.73	2.37	3.31	3.01	2.62	3.62	3.30	2.86
	130	3.04	2.78	2.42	3.36	3.07	2.67	3.69	3.36	2.92
	150	3.20	2.93	2.57	3.55	3.25	2.84	3.89	3.56	3.11
	175	--	--	--	3.65	3.36	2.96	4.01	3.69	3.24
	200	--	--	--	3.74	3.46	3.06	4.11	3.80	3.36

### Some technical benefits of Holorib:

- Best concrete compression block for flexural resistance
- Deep concrete section/high steel content for best vertical/longitudinal shear resistance

- Shape of troughs allows a greater number of shear studs and optimum shear stud performance
- Only decking type not requiring fire stops over support beams for fire resistance periods up to 2 hours
- Strongest load carrying performance
- Shallowest slabs for providing 2 hours fire resistance

- Embossments in tops of ribs ensure the most effective shear bond characteristics
- Allows construction of most dense slabs for best sound insulation
- Greatest flexibility for low cost, stronger service/ceiling suspension
- High composite inertia minimises service deflections

### Notes: applicable to simplified fire design tables

1. Tables are applicable for any construction where the mesh may act in tension over a supporting beam or wall (negative bending). This includes end bay conditions i.e. the concrete slab is continuous over more than one span.
2. Loads shown are unfactored working loads and should include all imposed live and dead loads, excluding only the self-weight of the slab.
3. An ultimate load factor of 1.0 is assumed throughout.
4. -- indicates that the area of mesh is less than the minimum for crack control recommended in BS5950: Part 4
5. Mesh should satisfy the minimum elongation requirement given in BS4449: 1988.
6. For conditions outside the scope of the simplified tables, including all isolated spans, consult SCI publication 56 (2nd edition) or RLSD's Deckspan software.

## Mesh sizes for Simplified Fire Designs - Lightweight concrete

Fire Rating (Hrs)	Slab Depth (mm)	Span (m) for given Imposed Load (kN/m <sup>2</sup> )								
		A142			A193			A252		
		5.0	6.7	10.0	5.0	6.7	10.0	5.0	6.7	10.0
1.0	100	3.00	3.00	2.91	3.00	3.00	3.00	3.00	3.00	3.00
	120	3.60	3.60	3.18	3.60	3.60	3.40	3.60	3.60	3.60
	130	3.90	3.81	3.29	3.90	3.90	3.52	3.90	3.90	3.76
	150	4.38	3.98	3.45	4.50	4.26	3.69	4.50	4.50	3.94
	175	--	--	--	4.88	4.45	3.87	5.21	4.75	4.13
	200	--	--	--	5.04	4.62	4.04	5.37	4.92	4.30
1.5	105	3.15	3.09	2.65	3.15	3.15	2.87	3.15	3.15	3.09
	120	3.60	3.29	2.83	3.60	3.58	3.07	3.60	3.60	3.32
	130	3.77	3.41	2.94	3.90	3.71	3.20	3.90	3.90	3.45
	150	3.91	3.55	3.08	4.25	3.86	3.34	4.50	4.18	3.61
	175	--	--	--	4.41	4.02	3.50	4.76	4.35	3.78
	200	--	--	--	4.54	4.16	3.64	4.90	4.49	3.93
2.0	115	3.11	2.81	2.42	3.45	3.12	2.68	3.45	3.42	2.94
	120	3.17	2.86	2.47	3.52	3.18	2.74	3.60	3.50	3.01
	130	3.28	2.97	2.57	3.65	3.30	2.85	3.90	3.64	3.13
	150	3.42	3.11	2.69	3.80	3.45	2.99	4.19	3.80	3.29
	175	--	--	--	3.92	3.58	3.12	4.31	3.94	3.43
	200	--	--	--	4.02	3.68	3.22	4.42	4.05	3.55