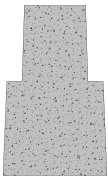


# TECHNICAL DOCUMENT

## 225mm SPAN FIRE CHARTS



Beam Reference	Depth	Breadth At Bottom	Breadth At Top	Ledge
L27 (7 Tendon)	225 mm	136 mm	80 mm	20 mm
Depth Of Flange	Bottom Splay	Up Splay	Weight	Force
125 mm	5 mm	3 mm	59 kg/m	0.582 kN/m

The below tables are for informative purposes only, for further information please contact Litecast on 02746 356161, alternatively email [sales@litecast.co.uk](mailto:sales@litecast.co.uk)

Beam Arrangement	Width, Density and Type of Infill	Spacing of Beams	Screed and Finishes	Imposed Load	Service Load Per Beam	Maximum clear span (m) (for 100 mm bearing) for maximum fire resistance to EC2-1-2 or BS EN 15037-1			
						30 mins.	60mins.	90 mins.	120 mins.
Single	Concrete 440 mm 1950 kg/m <sup>3</sup>	526 mm	1.495 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	3.01	>	6.47		
				2.0 kN/m <sup>2</sup>	3.27	>	6.20		
				2.5 kN/m <sup>2</sup>	3.53	>	5.97		
				3.0 kN/m <sup>2</sup>	3.79	>	5.75		
				4.0 kN/m <sup>2</sup>	4.32	>	5.38		
				5.0 kN/m <sup>2</sup>	4.85	>	5.08		
				7.5 kN/m <sup>2</sup>	6.16	>	4.49		
Double	Concrete 440 mm 1950 kg/m <sup>3</sup>	331 mm	1.495 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	2.07	>	7.83	5.91	
				2.0 kN/m <sup>2</sup>	2.23	>	7.53	5.80	
				2.5 kN/m <sup>2</sup>	2.40	>	7.26	5.69	
				3.0 kN/m <sup>2</sup>	2.56	>	7.02	5.59	
				4.0 kN/m <sup>2</sup>	2.89	>	6.60	5.40	
				5.0 kN/m <sup>2</sup>	3.22	>	6.25	5.23	
				7.5 kN/m <sup>2</sup>	4.05	>	5.56	4.87	
Treble	Concrete 440 mm 1950 kg/m <sup>3</sup>	266 mm	1.495 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	1.75	>	8.51	8.42	
				2.0 kN/m <sup>2</sup>	1.89	>	>	8.20	
				2.5 kN/m <sup>2</sup>	2.02	>	>	7.92	
				3.0 kN/m <sup>2</sup>	2.15	>	>	7.67	
				4.0 kN/m <sup>2</sup>	2.42	>	>	7.23	
				5.0 kN/m <sup>2</sup>	2.68	>	>	6.86	
				7.5 kN/m <sup>2</sup>	3.35	>	>	6.13	
Quad	Concrete 440 mm 1950 kg/m <sup>3</sup>	234 mm	1.495 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	1.60	>	8.92	8.81	
				2.0 kN/m <sup>2</sup>	1.71	>	>	8.61	
				2.5 kN/m <sup>2</sup>	1.83	>	>	8.33	
				3.0 kN/m <sup>2</sup>	1.95	>	>	8.07	
				4.0 kN/m <sup>2</sup>	2.18	>	>	7.62	
				5.0 kN/m <sup>2</sup>	2.41	>	>	7.24	
				7.5 kN/m <sup>2</sup>	3.00	>	>	6.48	
Single	Concrete 215 mm 1950 kg/m <sup>3</sup>	301 mm	1.495 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	1.90	>	8.17		
				2.0 kN/m <sup>2</sup>	2.05	>	7.86		
				2.5 kN/m <sup>2</sup>	2.20	>	7.58		
				3.0 kN/m <sup>2</sup>	2.35	>	7.33		
				4.0 kN/m <sup>2</sup>	2.65	>	6.90		
				5.0 kN/m <sup>2</sup>	2.96	>	6.53		
				7.5 kN/m <sup>2</sup>	3.71	>	5.82		
Double	Concrete 215 mm 1950 kg/m <sup>3</sup>	219 mm	1.495 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	1.51	>	9.16	6.87	
				2.0 kN/m <sup>2</sup>	1.62	>	8.85	6.75	
				2.5 kN/m <sup>2</sup>	1.73	>	8.56	6.64	
				3.0 kN/m <sup>2</sup>	1.84	>	8.30	6.53	
				4.0 kN/m <sup>2</sup>	2.06	>	7.84	6.33	
				5.0 kN/m <sup>2</sup>	2.28	>	7.45	6.15	
				7.5 kN/m <sup>2</sup>	2.82	>	6.68	5.77	
Triple	Concrete 215 mm 1950 kg/m <sup>3</sup>	191 mm	1.495 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	1.38	>	9.59	9.43	
				2.0 kN/m <sup>2</sup>	1.48	>	9.27	9.26	
				2.5 kN/m <sup>2</sup>	1.58	>	>	8.98	
				3.0 kN/m <sup>2</sup>	1.67	>	>	8.72	
				4.0 kN/m <sup>2</sup>	1.86	>	>	8.25	
				5.0 kN/m <sup>2</sup>	2.05	>	>	7.85	
				7.5 kN/m <sup>2</sup>	2.53	>	>	7.07	

Load v span data based on exposure XC1 using permissible tension in service  $f_{ctm} = 4.21 \text{ N/mm}^2$  for concrete strength  $f_{ck} = 55 \text{ N/mm}^2$ .

Minimum fire resistance based on BS EN 15037-1, cl B2.3 and Table K.1 with a reinforced screed.

If necessary; for solid blocks = 60 mins and hollow or polystyrene blocks = 30 mins.

Data for UDL only (no wall or point loads)

# TECHNICAL DOCUMENT

## 225mm SPAN FIRE CHARTS



Beam Arrangement	Width, Density and Type of Infill	Spacing of Beams	Screed and Finishes	Imposed Load	Service Load Per Beam	Maximum clear span (m) (for 100 mm bearing) for maximum fire resistance to EC2-1-2 or BS EN 15037-1			
						30 mins.	60mins.	90 mins.	120 mins.
Quad	Concrete 215 mm 1950 kg/m <sup>3</sup>	177 mm	1.495 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	1.32	>	9.82	9.65	
				2.0 kN/m <sup>2</sup>	1.41	>	9.50	9.48	
				2.5 kN/m <sup>2</sup>	1.50	>	>	9.22	
				3.0 kN/m <sup>2</sup>	1.59	>	>	8.95	
				4.0 kN/m <sup>2</sup>	1.76	>	>	8.48	
				5.0 kN/m <sup>2</sup>	1.94	>	>	8.08	
				7.5 kN/m <sup>2</sup>	2.38	>	>	7.28	
Single	Tray Tile 440 mm 2000 kg/m <sup>3</sup>	526	1.495 kN/m <sup>2</sup> 0.15 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	3.54	>	>	5.96	
				2.0 kN/m <sup>2</sup>	3.80	>	>	5.75	
				2.5 kN/m <sup>2</sup>	4.06	>	>	5.55	
				3.0 kN/m <sup>2</sup>	4.33	>	>	5.38	
				4.0 kN/m <sup>2</sup>	4.85	>	>	5.07	
				5.0 kN/m <sup>2</sup>	5.38	>	>	4.81	
				7.5 kN/m <sup>2</sup>	6.69	>	>	4.31	
Double	Tray Tile 440 mm 2000 kg/m <sup>3</sup>	331	1.495 kN/m <sup>2</sup> 0.15 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	2.34	>	>	7.35	
				2.0 kN/m <sup>2</sup>	2.51	>	>	7.10	
				2.5 kN/m <sup>2</sup>	2.67	>	>	6.87	
				3.0 kN/m <sup>2</sup>	2.84	>	>	6.67	
				4.0 kN/m <sup>2</sup>	3.17	>	>	6.30	
				5.0 kN/m <sup>2</sup>	3.50	>	>	5.99	
				7.5 kN/m <sup>2</sup>	4.33	>	>	5.38	
Triple	Tray Tile 440 mm 2000 kg/m <sup>3</sup>	266	1.495 kN/m <sup>2</sup> 0.15 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	1.94	>	>	8.08	
				2.0 kN/m <sup>2</sup>	2.08	>	>	7.81	
				2.5 kN/m <sup>2</sup>	2.21	>	>	7.57	
				3.0 kN/m <sup>2</sup>	2.34	>	>	7.35	
				4.0 kN/m <sup>2</sup>	2.61	>	>	6.96	
				5.0 kN/m <sup>2</sup>	2.87	>	>	6.62	
				7.5 kN/m <sup>2</sup>	3.54	>	>	5.96	
Quad	Tray Tile 440 mm 2000 kg/m <sup>3</sup>	234	1.495 kN/m <sup>2</sup> 0.15 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	1.74	>	>	8.53	
				2.0 kN/m <sup>2</sup>	1.86	>	>	8.26	
				2.5 kN/m <sup>2</sup>	1.98	>	>	8.01	
				3.0 kN/m <sup>2</sup>	2.09	>	>	7.78	
				4.0 kN/m <sup>2</sup>	2.33	>	>	7.37	
				5.0 kN/m <sup>2</sup>	2.56	>	>	7.02	
				7.5 kN/m <sup>2</sup>	3.15	>	>	6.33	
Single	Tray Tile 215 mm 2000 kg/m <sup>3</sup>	301	1.495 kN/m <sup>2</sup> 0.15 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	2.17	>	>	7.64	
				2.0 kN/m <sup>2</sup>	2.32	>	>	7.39	
				2.5 kN/m <sup>2</sup>	2.47	>	>	7.15	
				3.0 kN/m <sup>2</sup>	2.62	>	>	6.94	
				4.0 kN/m <sup>2</sup>	2.92	>	>	6.57	
				5.0 kN/m <sup>2</sup>	3.22	>	>	6.25	
				7.5 kN/m <sup>2</sup>	3.97	>	>	5.62	
Double	Tray Tile 215 mm 2000 kg/m <sup>3</sup>	219	1.495 kN/m <sup>2</sup> 0.15 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	1.66	>	>	8.75	
				2.0 kN/m <sup>2</sup>	1.77	>	>	8.48	
				2.5 kN/m <sup>2</sup>	1.88	>	>	8.22	
				3.0 kN/m <sup>2</sup>	1.99	>	>	7.99	
				4.0 kN/m <sup>2</sup>	2.20	>	>	7.58	
				5.0 kN/m <sup>2</sup>	2.42	>	>	7.22	
				7.5 kN/m <sup>2</sup>	2.97	>	>	6.52	
Triple	Tray Tile 215 mm 2000 kg/m <sup>3</sup>	191	1.495 kN/m <sup>2</sup> 0.15 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	1.49	>	>	9.25	
				2.0 kN/m <sup>2</sup>	1.58	>	>	8.96	
				2.5 kN/m <sup>2</sup>	1.68	>	>	8.70	
				3.0 kN/m <sup>2</sup>	1.77	>	>	8.46	
				4.0 kN/m <sup>2</sup>	1.96	>	>	8.03	
				5.0 kN/m <sup>2</sup>	2.16	>	>	7.66	
				7.5 kN/m <sup>2</sup>	2.63	>	>	6.92	

Load v span data based on exposure XC1 using permissible tension in service  $f_{ctm} = 4.21$  N/mm<sup>2</sup> for concrete strength  $f_{ck} = 55$  N/mm<sup>2</sup>.

Minimum fire resistance based on BS EN 15037-1, cl B2.3 and Table K.1 with a reinforced screed.

If necessary; for solid blocks = 60 mins and hollow or polystyrene blocks = 30 mins.

Data for UDL only (no wall or point loads)

# TECHNICAL DOCUMENT

## 225mm SPAN FIRE CHARTS



Beam Arrangement	Width, Density and Type of Infill	Spacing of Beams	Screed and Finishes	Imposed Load	Service Load Per Beam	Maximum clear span (m) (for 100 mm bearing) for maximum fire resistance to EC2-1-2 or BS EN 15037-1			
						30 mins.	60mins.	90 mins.	120 mins.
Quad	Tray Tile 215 mm 2000 kg/m <sup>3</sup>	177	1.495 kN/m <sup>2</sup> 0.15 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	1.40	>	>	9.53	
				2.0 kN/m <sup>2</sup>	1.49	>	>	9.24	
				2.5 kN/m <sup>2</sup>	1.58	>	>	8.97	
				3.0 kN/m <sup>2</sup>	1.67	>	>	8.73	
				4.0 kN/m <sup>2</sup>	1.84	>	>	8.29	
				5.0 kN/m <sup>2</sup>	2.02	>	>	7.92	
				7.5 kN/m <sup>2</sup>	2.47	>	>	7.16	
Single	EPS Infill 540 mm 20 kg/m <sup>3</sup>	626	1.725 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	2.70	6.83			
				2.0 kN/m <sup>2</sup>	3.01	6.46			
				2.5 kN/m <sup>2</sup>	3.33	6.15			
				3.0 kN/m <sup>2</sup>	3.64	5.87			
				4.0 kN/m <sup>2</sup>	4.27	5.42			
				5.0 kN/m <sup>2</sup>	4.89	5.05			
				7.5 kN/m <sup>2</sup>	6.46	4.39			
Double	EPS Infill 540 mm 20 kg/m <sup>3</sup>	381	1.725 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	1.87	8.23			
				2.0 kN/m <sup>2</sup>	2.06	7.84			
				2.5 kN/m <sup>2</sup>	2.25	7.49			
				3.0 kN/m <sup>2</sup>	2.44	7.19			
				4.0 kN/m <sup>2</sup>	2.82	6.68			
				5.0 kN/m <sup>2</sup>	3.21	6.27			
				7.5 kN/m <sup>2</sup>	4.16	5.49			
Triple	EPS Infill 540 mm 20 kg/m <sup>3</sup>	299	1.725 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	1.59	8.93			
				2.0 kN/m <sup>2</sup>	1.74	8.53			
				2.5 kN/m <sup>2</sup>	1.89	8.18			
				3.0 kN/m <sup>2</sup>	2.04	7.87			
				4.0 kN/m <sup>2</sup>	2.34	7.35			
				5.0 kN/m <sup>2</sup>	2.64	6.91			
				7.5 kN/m <sup>2</sup>	3.39	6.09			
Quad	EPS Infill 540 mm 20 kg/m <sup>3</sup>	259	1.725 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	1.46	9.34			
				2.0 kN/m <sup>2</sup>	1.59	8.95			
				2.5 kN/m <sup>2</sup>	1.71	8.60			
				3.0 kN/m <sup>2</sup>	1.84	8.29			
				4.0 kN/m <sup>2</sup>	2.10	7.76			
				5.0 kN/m <sup>2</sup>	2.36	7.32			
				7.5 kN/m <sup>2</sup>	3.01	6.47			
Single	EPS Infill 270 mm 20 kg/m <sup>3</sup>	356	1.725 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	1.79	8.42			
				2.0 kN/m <sup>2</sup>	1.97	8.02			
				2.5 kN/m <sup>2</sup>	2.15	7.68			
				3.0 kN/m <sup>2</sup>	2.32	7.38			
				4.0 kN/m <sup>2</sup>	2.68	6.86			
				5.0 kN/m <sup>2</sup>	3.04	6.44			
				7.5 kN/m <sup>2</sup>	3.93	5.65			
Double	EPS Infill 270 mm 20 kg/m <sup>3</sup>	246	1.725 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	1.42	9.48			
				2.0 kN/m <sup>2</sup>	1.54	9.09			
				2.5 kN/m <sup>2</sup>	1.66	8.74			
				3.0 kN/m <sup>2</sup>	1.79	8.43			
				4.0 kN/m <sup>2</sup>	2.03	7.90			
				5.0 kN/m <sup>2</sup>	2.28	7.45			
				7.5 kN/m <sup>2</sup>	2.89	6.60			
Triple	EPS Infill 270 mm 20 kg/m <sup>3</sup>	209	1.725 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	1.29	9.93			
				2.0 kN/m <sup>2</sup>	1.40	9.55			
				2.5 kN/m <sup>2</sup>	1.50	9.21			
				3.0 kN/m <sup>2</sup>	1.61	8.90			
				4.0 kN/m <sup>2</sup>	1.81	8.36			
				5.0 kN/m <sup>2</sup>	2.02	7.91			
				7.5 kN/m <sup>2</sup>	2.55	7.04			

Load v span data based on exposure XC1 using permissible tension in service  $f_{ctm} = 4.21 \text{ N/mm}^2$  for concrete strength  $f_{ck} = 55 \text{ N/mm}^2$ .

Minimum fire resistance based on BS EN 15037-1, cl B2.3 and Table K.1 with a reinforced screed.

If necessary; for solid blocks = 60 mins and hollow or polystyrene blocks = 30 mins.

Data for UDL only (no wall or point loads)

# TECHNICAL DOCUMENT

## 225mm SPAN FIRE CHARTS



Beam Arrangement	Width, Density and Type of Infill	Spacing of Beams	Screed and Finishes	Imposed Load	Service Load Per Beam	Maximum clear span (m) (for 100 mm bearing) for maximum fire resistance to EC2-1-2 or BS EN 15037-1			
						30 mins.	60mins.	90 mins.	120 mins.
Quad	EPS Infill 270 mm 20 kg/m <sup>3</sup>	191	1.725 kN/m <sup>2</sup>	1.5 kN/m <sup>2</sup>	1.23	10.18			
				2.0 kN/m <sup>2</sup>	1.32	9.81			
				2.5 kN/m <sup>2</sup>	1.42	9.47			
				3.0 kN/m <sup>2</sup>	1.52	9.16			
				4.0 kN/m <sup>2</sup>	1.71	8.63			
				5.0 kN/m <sup>2</sup>	1.90	8.18			
7.5 kN/m <sup>2</sup>	2.37	7.30							

Load v span data based on exposure XC1 using permissible tension in service  $f_{ctm} = 4.21 \text{ N/mm}^2$  for concrete strength  $f_{ck} = 55 \text{ N/mm}^2$ .

Minimum fire resistance based on BS EN 15037-1, cl B2.3 and Table K.1 with a reinforced screed.

If necessary; for solid blocks = 60 mins and hollow or polystyrene blocks = 30 mins.

Data for UDL only (no wall or point loads)