

System	Span max. (without postensioning)	Span min. (without postensioning)	depth	Span to Depth ratio	width length	loading	geometric character	weather req's	acoustic qualities	fire protection
<b>Sitecast Concrete</b>										
1 way flat plate	18'	6'	up to 8" (10" post ten)	1:22 (1:40 post ten)	limited by span only	light	no limits unless beams dropped	bet. Freezing and 80 deg. F. (without special treatment)	high mass good isolator	inherent, 2" cover over rebar gives 3 hr
1 way joist slab	45'	12'	up to 30"	1:18 (1:36 post ten)	limited by span only	moderate to heavy	strongly linear, limited	bet. Freezing and 80 deg. F. (without special treatment)	high mass good isolator	inherent, 2" cover over rebar gives 3 hr
2 way flat plate	28'	10'	up to 12"	1:30 (1:45 post ten)	within 20% of square	light to moderate (depends on shear panels) column area = 2x slab depth	no limits unless beams dropped	bet. Freezing and 80 deg. F. (without special treatment)	high mass good isolator	inherent, 2" cover over rebar gives 3 hr
2 way flat slab	33'	12'	up to 12"	1:30 (1:45 post ten)	within 20% of square	moderate (depends on shear panels) (panel width = 1/3 span) panel projection below slab = 1/2 slab depth	no limits unless beams dropped	bet. Freezing and 80 deg. F. (without special treatment)	high mass good isolator	inherent, 2" cover over rebar gives 3 hr
2 way joist slab	55'	15'	up to 30"	1:24 (1:55 post ten)	limited by span only	moderate to heavy	strongly linear, limited	bet. Freezing and 80 deg. F. (without special treatment)	high mass good isolator	inherent, 2" cover over rebar gives 3 hr
Concrete beam	governed primarily by economy, bridge spans to 300'+			1:16 (1:24 post ten)						
Concrete girder	governed primarily by economy, bridge spans to 300'+			1:12 (1:20 post ten)						

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<b>Precast Concrete</b>										
precast solid slab	22'		min 3" max8"	1:40	8-12 wide, up to 60' length	light	no limits	all temps	high mass good isolator	inherent, 2" cover over rebar gives 3 hr
precast hollow core slab	45'		min 6" max12"	6"=14', 8"=25', 12"=45'	2', 3'4",4', 8'	light to moderate	linear, no limits	all temps	high mass good isolator	inherent, 2" cover over rebar gives 3 hr
precast single tee	105'		min 16" max 48"	36"=85', 48"=105'	6', 10', 12', wide up to 105' long	moderate to heavy	strongly linear, limited	all temps	high mass good isolator	inherent, 2" cover over rebar gives 3 hr
precast double tee	100'		min 10", max 41"	1:28	8', 10', 12' wide, length to 100'	moderate to heavy	strongly linear, limited	all temps	high mass good isolator	inherent, 2" cover over rebar gives 3 hr
"I", "T", rectangle precast beams	60'		18" min, 48" max	1:15 light load, 1:12 heavy loads (floor)	12" wide (plus 6" haunch if req'd) length to 60'	moderate to heavy	strongly linear, limited	all temps	high mass good isolator	inherent, 2" cover over rebar gives 3 hr
<b>Steel</b>										
Hot Rolled "W" sections	70'	6'	4" min, 44" max	1:20 beams, 1:15 girder		moderate to heavy	strongly linear, limited	all temps	low mass poor isolator	needs sprayed on protection or fireproof membrane
Hot Rolled "C" sections	25'	5'	3"min, 15" max	1:20 beams		light to moderate	strongly linear, limited	all temps	low mass poor isolator	needs sprayed on protection or fireproof membrane
Hot Rolled "L" sections	12'	3'	2" min, 8" max	1:20 beams		light	strongly linear, limited	all temps	low mass poor isolator	needs sprayed on protection or fireproof membrane
Open web (bar) joists (K series)	60'		8" min 30" max	1:20 floor 1:24 roof		light to moderate	strongly linear, limited	all temps	low mass poor isolator	needs fireproof membrane
Longspan web joists (LH series)	96'		18" min 48" max	1:20 floor 1:24 roof		light to moderate	strongly linear, limited	all temps	low mass poor isolator	needs fireproof membrane
Deep Longspan web joists (DLH series)	144'		52" min 72" max	1:20 floor 1:24 roof		light	strongly linear, limited	all temps	low mass poor isolator	needs fireproof membrane