
STEEL FLOOR AND ROOF DECKING

STEEL FLOOR DECKING

Corrugated steel floor decking with a sitecast concrete topping is the slab system most commonly used over structural steel framing. Typical span ranges for steel floor decking when used with structural steel framing are from 6 to 15 ft (1.8 to 4.6 m). Longer spans or shallower depths than those indicated on the chart on the facing page may be possible, although increased construction costs may result from the need for additional temporary shoring of the decking during erection.

CELLULAR FLOOR DECKING

The use of cellular decking to provide protected spaces within the floor slab for the running of electrical and communications wiring may influence the overall framing plan for the building. The layout of such a distribution system can determine the direction in which the decking cells will run in various areas of the building plan. The orientation of the beams or joists carrying the decking will be determined from this in turn, as in all cases these elements must run perpendicular to the cells in the decking. See page 187 for additional information on the planning of such systems. When reading from the chart for cellular deck on the facing page, read toward the bottom in the indicated area.

STEEL ROOF DECKING

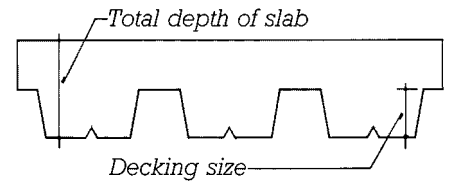
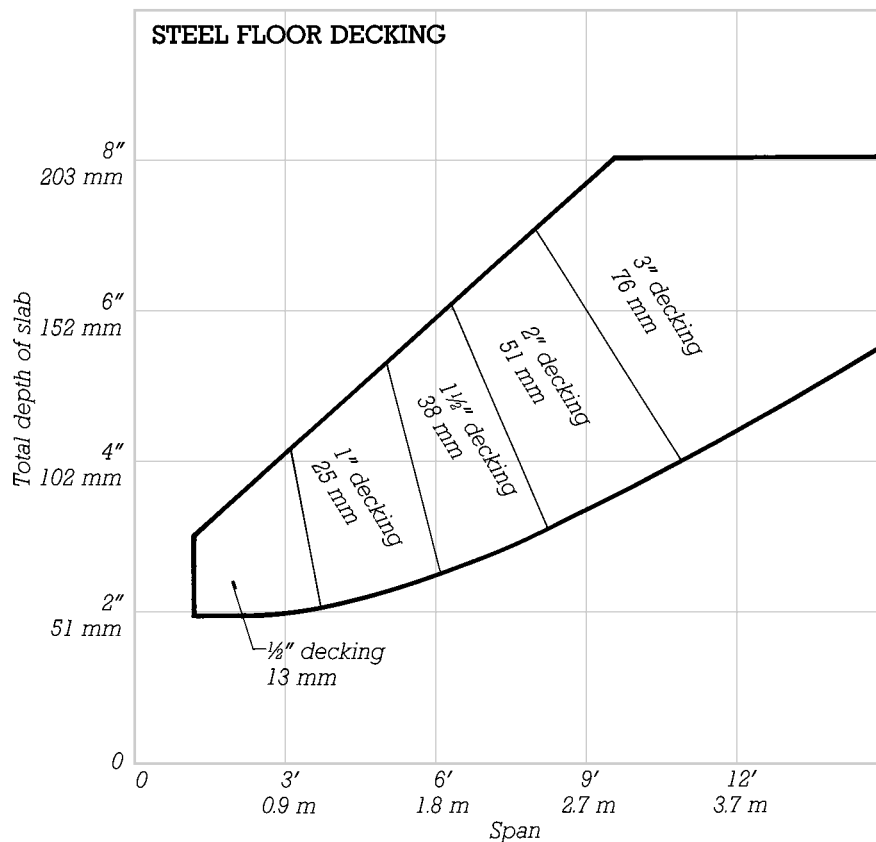
Steel roof decking may have a sitecast concrete or gypsum topping or may be covered directly with a variety of board or roofing products. A common and economical configuration for roof decking is 1½ in. (38-mm) decking spanning up to approximately 8 ft (2.4 m). Many proprietary metal roof decking systems, with a wide variety of performance characteristics, are also available. For information on such systems, consult individual manufacturers.

FIRE-RESISTANCE RATINGS FOR STEEL DECKING

Steel roof decking without a concrete topping may be used in Unprotected Noncombustible construction.

The fire resistance of roof or floor decking with a concrete topping varies with the configuration of the decking and the thickness of the topping. Though resistance ratings of as high as 3 hours may be possible, for preliminary design, assume that decking must be protected with applied fireproofing or an appropriately fire-resistive ceiling to achieve ratings of more than 1 hour.

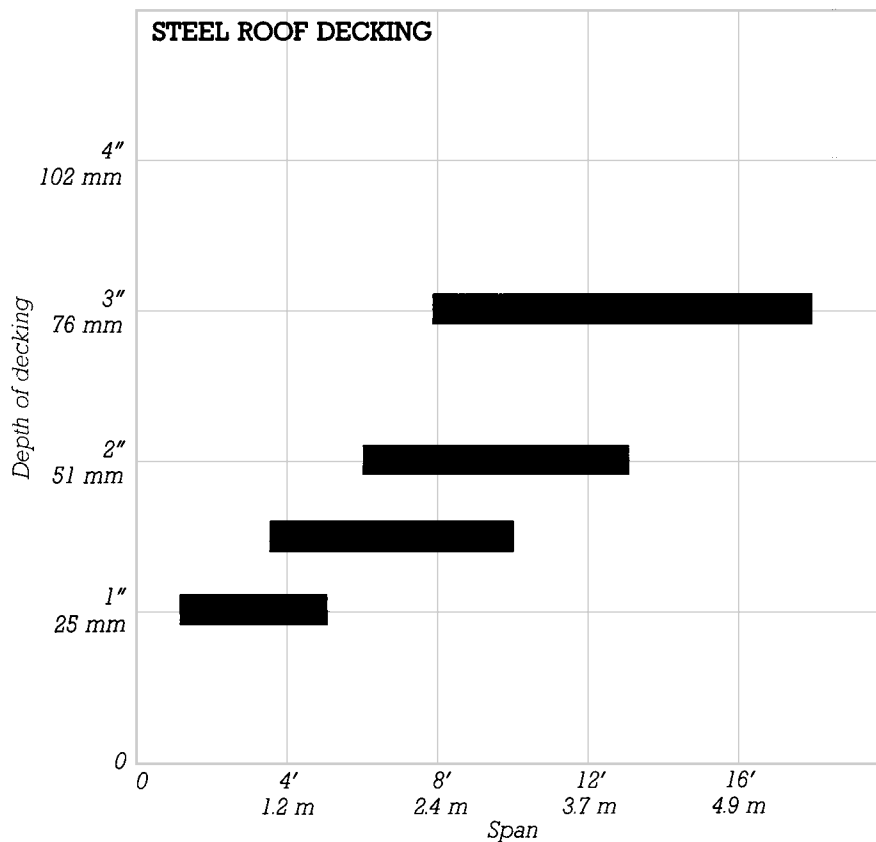
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The top chart is for corrugated or cellular steel floor decking with concrete slab topping. For light loads, read toward the bottom in the indicated areas. For heavy loads, read toward the top.

■ Total depth of slab is the depth of the decking and the concrete topping. Approximate sizes for the steel decking alone are shown within the chart.

■ Deeper deck sections with spans of up to approximately 25 ft (7.6 m) may be available from some manufacturers.



The bottom chart is for corrugated steel roof decking. For light loads, read toward the right in the indicated areas. For heavy loads, read toward the left.

■ Deeper deck sections with spans of up to approximately 25 ft (7.6 m) may be available from some manufacturers.