

## Steel Deck Resources

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Using the technical knowledge of its broad-based membership, the Steel Deck Institute (SDI) has developed and continually updates specifications for the different uses of steel deck. Organized in 1939, SDI is a trade association concerned with cold-formed steel products used to support finished roofing materials or to serve as a permanent form and/or positive reinforcement for concrete floor slabs. Member companies of the SDI are manufacturers of steel roof deck, non-composite form deck and composite floor deck products. Associate members are manufacturers of steel-deck related products.

The SDI's specifications are published in a *Design Manual*, now in its 30th edition. In 2002, the SDI decided to submit these specifications for ANSI approval as American National Standards through the consensus method. This process currently is ongoing. It involves a detailed review of the proposed specifications for uniformity, followed by revisions. Eventually, a panel of technical non-SDI individuals familiar with the use of steel deck will approve the modified specifications.

The design of steel deck is based on the properties and resistance values calculated according to the *North American Specification for the Design of Cold-Formed Steel Structural Members*,

2001 Edition. The *Specification* covers the formulas adopted by Canada, Mexico and the United States. However, there are still some differences in the application of the formulas regarding the performance factors to be used for Canadian Limit States Design and United States Load and Resistance Factored Design methods.

The SDI also publishes a number of additional design manuals providing guidelines for the calculation of allowable capacity of steel roof deck, non-composite form deck and composite floor deck with a concrete slab to resist gravity, wind-uplift and shear diaphragm loads. The third edition of the *SDI Diaphragm Design Manual* is near completion and will be available in 2004. This edition will contain information pertaining to the variables affecting the shear diaphragm resistance of steel deck as well as formulas used to quantify those variables. Expanded shear diaphragm load-capacity tables will be included covering welds, screws and additional mechanical fastener products. The capacity tables in this new edition will show nominal diaphragm shear values applicable to either Allowable Stress Design (ASD) or Load and Resistance Factored Design (LRFD) methods. These nominal values must be divided by a given safety factor or multiplied

by a given resistance factor in order to compare the service or factored loads.

The safe installation of steel deck is one of the SDI's primary concerns. The *SDI Manual of Construction with Steel Deck, MOC1* is available for free download directly off the SDI web site, [www.sdi.org](http://www.sdi.org). The web site also contains a SDI position statement regarding the recently issued OSHA Steel Erection Standard. As part of this Standard, it is important that covering roof or floor openings during building construction is considered by the design professional. Additional deck issues affected by this Standard include column protection, bundle size and controlled decking zones.

In addition, the SDI web site contains extensive information on the SDI, lists of member and associate member companies, publications, direct links to member and associate member companies, white papers, position statements, and revisions to current specifications. The web site is updated regularly, and much information can be downloaded for free. It is a convenient method to stay informed of the activities of the Steel Deck Institute and the metal deck industry in general. ★

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Above: SDI's 30th Edition *Design Manual*, Right and Far Right: *Manual of Construction with Steel Deck*, and cartoon illustration from the manual.

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