

A Resource for Steel Deck Diaphragm Shear Resistance

By Steven A. Roehrig

Organized in 1939, the Steel Deck Institute (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. Using the technical knowledge of its broad-based membership, the SDI has developed and continually updates guidelines for the different uses of steel deck.

Since 1965, the SDI, along with its member and associate member companies, has been involved in continuous research, testing and analysis of a design method to calculate the capacity of diaphragms using steel roof decks or composite steel floor decks. This ongoing work has been under the direction of Dr. Larry Luttrell, Technical Advisor to the SDI and Professor Emeritus of West Virginia University since its inception. This effort resulted in the publication of the initial *SDI Diaphragm Design Manual*, DDMO1, in 1981 and was followed by the second *SDI Diaphragm Design Manual*, DDMO2, in 1987.

The Third edition, DDMO3, of this design manual has just been published and continues the evolution of building shear resistance presented in the two editions. Based on the 2004 Supplement of the *2001 North American Specification for the Design of Cold-formed Steel Structural Members*, the expanded

shear diaphragm load capacity tables show nominal shear values. These tables can be used with either the allowable stress design (ASD) or load and resistance factor design (LRFD) methods. The nominal shear 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. With over 100 pages of diaphragm problems for ASD and LRFD design and equations to check fasteners for the combined effect of shear and tension, DDMO3 is a comprehensive resource for the design profession.

The SDI web site www.sdi.org, contains extensive information on the SDI, publications, list of member companies and web site links, white papers, position statements and revisions to current specifications. There is also an online order form that can be used to purchase a copy of DDMO3. The web site is updated regularly, and most information can be downloaded for free. It is a convenient method to stay informed on the activities of the Steel Deck Institute and the metal deck industry. ■

Steven A. Roehrig is Managing Director of the Steel Deck Institute, Fox River Grove, IL

For Advertiser Information, visit www.structuremag.org



BRING ON
THE TOUGH STUFF

Bring your next project to some of the most experienced designers in the steel industry. Let us help you with your next longspan challenge...





CANAM

Solutions + Service

U.S. HEADQUARTERS OFFICE

4010 Clay St. Point of Rocks MD 21777

Telephone: 301-874-5141

Fax: 301-874-5685