

STEEL DECK BEARING SURFACES

Steel decking provides a load bearing capacity to safely and efficiently create floors and roofs. The engineer of record will design these steel deck surfaces to resist and transfer specific design loads, such as shear, gravity, and uplift. Through the use of welds, screws, or power-driven pins, these loads are transferred through the steel deck into the structural support framing (steel beams, steel angles, steel channels, bar joists, light gage members, wood trusses, structural fiberglass members, concrete beams, etc.) below without adversely damaging the steel deck.

In order for these loads to be transferred properly, all steel deck bearing/support surfaces, including intermediate members in short span conditions, must provide "in-plane" bearing surfaces. "In-plane" surfaces are flat surfaces, a minimum of 1.5" wide* running parallel to the bottom surface of the steel decking, providing full-bearing surface for steel decking support. "In-plane" bearing surfaces can deviate from parallel a maximum of $\pm 1/16"$ (or 1:24). This is true for all steel deck surfaces—flat, steep-slope, low-slope, radius, or serpentine.

Without proper steel deck bearing surfaces, the steel decking is subject to damage such as, but not limited to, deck punctures, flange/web buckling, fastener failure, reduced load capacity, shear failure, or severe deck deflection. Any of these factors could result in additional structural failures.

The design professional is responsible for providing proper information and details within the contract drawings to insure these in-plane surfaces are properly designed and fabricated. Deck bearing surfaces are not the responsibility of the steel deck supplier or deck erector. Any deviation from the above referenced criteria must be brought to the attention of the support framing contractor and, if necessary, the engineer of record, and appropriate corrections made prior to installation of the steel decking.

* Project load resistance requirements and some deck section properties may require a wider minimum bearing surface. Refer to your steel deck manufacturer/supplier for clarification.

Adopted by SDI - May 2008

