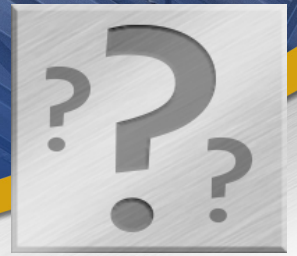




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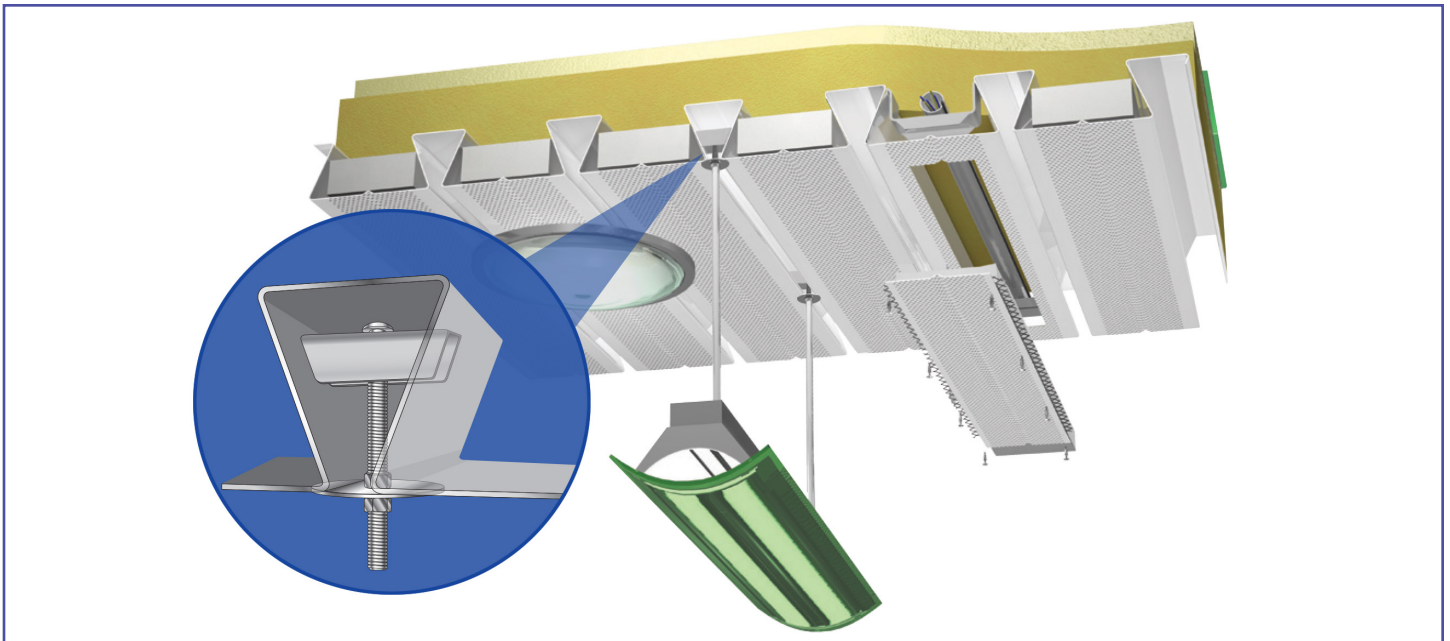


DID YOU KNOW?

June, 2018

The Versatility of the Versa-Wedge® Hanger System

The Versa-Wedge® hanger system is an efficient and economical way to install lighting, suspending ceilings, and some lighter utilities such as mechanical ductwork, electrical, sprinkler and plumbing lines. Verify all loading with the engineer of record and refer to the loading information given in this article. The hanger system integrates with ceilings and floors constructed of both composite and non-composite dovetail steel deck. This system contributes to the aesthetics of a clean, crisp ceiling and aids in the ease of design early in the project.



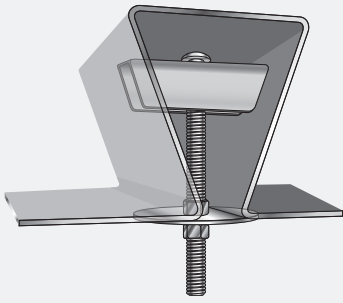
With few exceptions, every project calls for equipment to hang from the ceiling structure. Some building systems that are commonly mounted to the ceiling are fire suppression, mechanical ducts, lighting, and signage. In multi-story residential, these can extend to water lines, electrical conduit, and any number of vital networks.

Versa-Wedge® hangers install quickly and easily into the dovetail channels of New Millennium's Versa-Dek® steel decking, using commonly available nut, bolt, and washer components. The system is ICC and UL approved for selected applications.

- Quick to install and adjust on site
- Suspends loads from dovetail steel deck ceilings and floors
- Easy to remove or reposition in the future
- Reliably suspends ceilings, light fixtures, MEP, and more
- Options for up to 1,000 pound load capacity

Whether the ceiling is the underside of a floor or underside of a roof is only relevant as to what is being supported. In many roof scenarios, it is preferable to hang from structural members like joists or wide flange beams. For floors, having fasteners secured to concrete or composite deck can be performed in a range of possibilities. When a structural system outspans the necessary intervals of lighting, for example, the design team has the option to fasten to the steel deck.

Versa-Wedge®



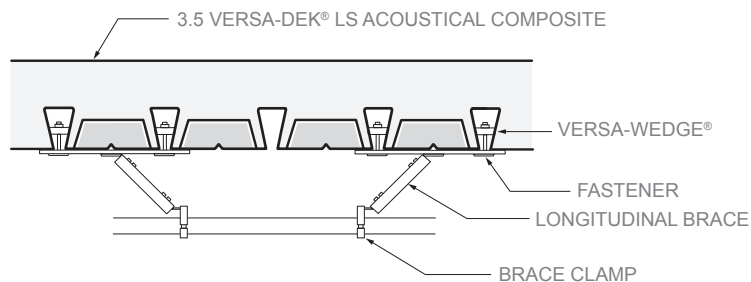
Fast and economical to install, the Versa-Wedge® system is ICC and UL approved for selected applications and uses commonly available nut, bolt, and washer components. The Versa-Wedge® hanger is not ICC approved for use with Versa-Dek® panels installed at a slope greater than 5%.*

**The Versa-Wedge® hanger is only to be used with Versa-Dek® and not with deck manufactured by others. Wedge hangers produced by other deck manufacturers may not be used with Versa-Dek®.*

Using Versa-Wedge® hangers with dovetail profile systems

Steel roof and floor systems are now designed specifically for the integration of suspension hardware. Versa-Dek® is a long-span deck with a dovetail profile. It can be used in either a roof or floor deck application, and is available in acoustical options as well.

The Versa-Wedge® utilizes the profile shape to stay in place. This can be done without puncturing the steel deck, unlike typical hanging devices. While lights and mechanical ducts are the most frequently used, there are many other situations where fastening through the deck is avoided. Alternatively, Versa-Wedge® hangers are popular with building managers, particularly at schools. They can install banners simply with eye bolts that enable them to hang temporary banners in school gymnasiums without repeatedly puncturing the structural deck for every event.



Versatile bracing designs can be conceived using Versa-Wedge® hangers, such as the use of angle plates, braces, and clamps as shown here.

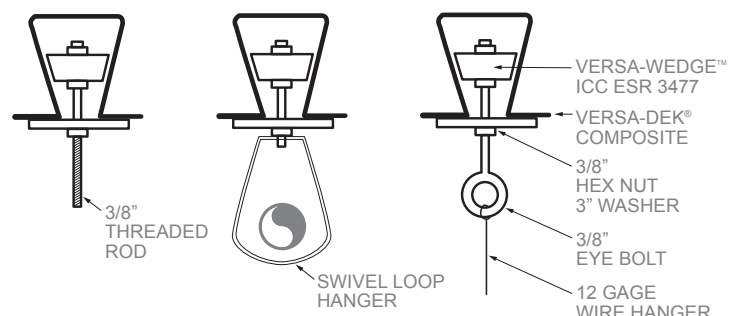


This Versa-Dek® Composite floor system installed in a multi-story residential project features the Versa-Wedge® system to hang MEP conduits.

Hanger options

The versatility of the Versa-Wedge® system can be seen in the variety of hangers that can be used with it. For example, a threaded rod can provide a strong connection point for a system design to receive a screw, a swivel loop hanger can suspend a length of conduit or pipe, and an eye bolt can provide a general hanging point for a wide range of ceiling features.

Two Versa-Wedge® hanger profiles serve a full range of suspension applications and loads. The clip profile supports lighter loads using a 16 gage galvanized steel "U" shape. The tube profile supports heavier loads using galvanized structural steel tubing of various thicknesses.

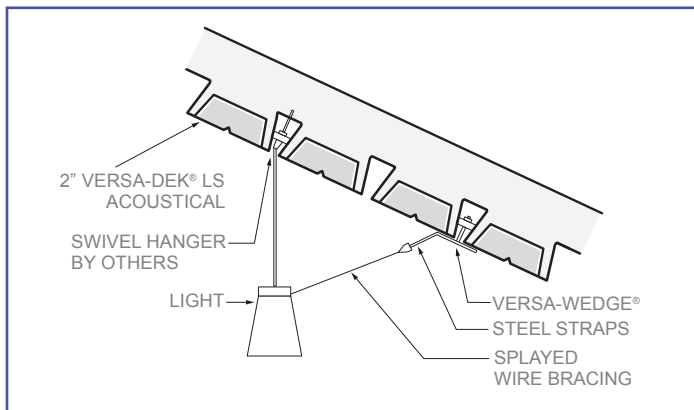


The Versa-Wedge® hangers are compatible with a wide range of components. Three commonly used are threaded rod, swivel loop, and eye bolt. Each is useful for a different type of system being suspended.

continued...

Sloped applications

The method of suspending objects is different when the deck is on sloped supports versus flat application. Using swivel hangers, the roof pitch is accounted for, and pendant lights can be suspended at a consistent height and interval. If lateral bracing is needed, a combination of hanger wire and Versa-Wedge® hangers are a potential option, while maintaining a crisp aesthetic. For applications calling for more secure solutions, Unistrut or other metal framing units and fittings can fasten to the Versa-Dek® system as well. Confirm with the structural engineer of record and refer to building code or overlays in the jurisdiction.



In a sloped application, the Versa-Wedge® system uses a swivel hanger to account for the roof pitch to maintain a crisp aesthetic. Wedge performance is contingent on the placement of the decking to run perpendicular to the slope. For projects requiring ICC approval, the slope cannot exceed 5%.

The codes that govern

The International Building Code (IBC) allows for the suspension of objects from steel deck. While the gravity loads from the framing and suspended objects are necessarily taken into consideration, it is important to account for lateral loads in seismic areas that may also require lateral bracing. The Structural Engineer of Record is responsible for design, interpretation of the local building code and code overlays, and the strategies for the suspension of objects. Additionally, in the state of California, some projects fall under the jurisdiction of the Division of the State Architect (DSA).

The DSA provides design and construction oversight for K-12 schools, community colleges, and other state-owned and leased facilities. The two categories that relate are document numbers IR25-9 that addresses suspension from ceilings and IR-16-9 "Pendant Mounted Light Fixtures." At a minimum, hanging devices must account for gravity load. Check to verify if the project requires a valid International Code Council Evaluation Service Report. ICC ESR is a preferred resource used by code officials to verify that building products comply with code requirements. As a third-party testing agency, many states, counties, and municipalities rely on products with a current ICC ES Report in their approval process.

Lateral supports may not explicitly have an ESR number due to the sheer number of solutions and combination of gravity and lateral possibilities. For example, some typical options include seismic sway bracing, wire hangers, cable bracing, or swivel hangers.

Wide range of applications and capacity

Design teams specify Architectural Deck for its aesthetics in addition to its performative qualities. For the range of projects that call for specialty profiles, there are numerous solutions for hanging objects from the deck structure. Thoughtfully articulated, hanging devices can add to the appearance, not detract from it.

APPLICATION	VERSA-WEDGE® MAX LOAD CAPACITY
Architectural Roof	
Versa-Dek® 2-in. including acoustical	150 lbf
Versa-Dek® 3.5-in. including acoustical	225 lbf
Floors (with concrete-filled panels)	
Versa-Dek® 2-in. Composite including acoustical	300 lbf
Versa-Dek® 3.5-in. Composite including acoustical	1000 lbf

Refer to ICC-ES ESR-3477, UL File EX16155 and cUL File EX16155 for specific application requirements, limitations, and load capacities. The proper sequence of loading, including any seismic design considerations, shall be determined by the engineer of record. Allowable tension loads for the Versa-Wedge® hangers may be smaller than those given in the chart (depending on deck span, deck gage, slab thickness, etc.). See ICC-ES ESR-3477 for details. Components are additional to the Versa-Wedge® hanger and are to be supplied by the installer. The Versa-Wedge® hanger is not to be used with dovetail deck by other manufacturers.



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