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**MARK ZIEGLER, P.E.,
POWERS FASTENERS VICE PRESIDENT
OF TECHNICAL SERVICES**

ICC-ES Upgrades Powers Fasteners Evaluation Service Reports (ESRs) for Anchorage to Concrete

The attributes of anchors like those manufactured by Powers Fasteners are critical in maintaining the structural integrity of concrete structures and their components to resist static, wind and seismic tension and shear loads. Although Powers has been supplying outstanding products for years, the enhancements made recently to the Power Stud+® SD1 wedge expansion anchors and the Wedge-Bolt+® screw anchors product evaluations now attest to these anchors' greater versatility and enduring strength.

As previously evaluated by ICC Evaluation Service (ICC-ES), both anchoring product families can be used for cracked and uncracked concrete projects. However, as evaluated in ESR-2818 for the Power-Stud+ SD1 and ESR-2526 for the Wedge-Bolt+, the anchors can now be installed in the topside of concrete-filled steel deck assemblies, in addition to installations in the soffit (bottom) of these structures. This offers greater flexibility and increases the products' code compliant applications. Aside from this broader use, the new and improved report for the Powers Wedge-Bolt+ screw anchor (ESR-2526) now also includes recognition for screws with a mechanically galvanized (MG) coating for greater corrosion resistance. This provides additional protection for the life of the project on which the Powers Wedge-Bolt+ screw anchor is being used, and it becomes the first screw anchor recognized as code compliant for anchoring pressure-treated wood to concrete.



“Powers took two excellent and widely-used products and made them more versatile and potentially longer lasting. We expect that recognition of these new applications through an ICC-ES ESR, which illustrates evidence of code compliance, will help strengthen the use of these products in the marketplace,” said Mark Ziegler, P.E., Powers Fasteners Vice President of Technical Services. “We are very proud to be the first to offer these application enhancements made to our Power-Stud+ SD1 and Wedge-Bolt+ anchors for the construction industry.”

Both of these products, as evaluated in ESR-2818 and ESR-2526, are compliant with the 2009, 2006 and 2003 *International Building Code*® (IBC) and *International Residential Code*® (IRC).

Both anchors can be installed in cracked and uncracked normal-weight or sand-lightweight concrete-filled steel deck as follows:

- In the topside, Wedge-Bolt+ screw anchors in ¼-inch- (6.4mm), 3/8-inch- and ½-inch-diameter (6.4mm, 9.5mm and 12.7mm) sizes, and Power-Stud+ expansion anchors in 3/8-inch- and ½-inch-diameter (9.5mm and 12.7mm) sizes;
 - The concrete must have a specified compressive strength, f'_c , of 2,500 psi to 8,500 psi (17.2 MPa to 58.6 MPa);
- In soffits, Wedge-Bolt+ screw anchors in 3/8-inch- to 5/8-inch-diameter (9.5 mm to 15.9 mm) sizes, and Power-Stud+ expansion anchors in 3/8-inch- to 3/4-inch-diameter (9.5 mm to 19.1 mm) sizes;
 - The concrete must have a minimum specified compressive strength, f'_c , of 3,000 psi (20.7 MPa).

“Both of Powers updated evaluation reports now offer an expanded scope, allowing broader use in many jurisdictions,” said Jason Wagner, P.E., ICC-ES Staff Engineer. “Including a galvanized version of the Powers Wedge-Bolt+ screw anchor allows flexibility for building officials, designers and specifiers looking for a code compliant solution in environments where corrosion is a great concern.”

“Working with ICC-ES staff on the improvements to our ESRs was a real pleasure,” Ziegler added. “Their technical expertise is very high, and the evaluation process to implement these important changes was relatively simple and very efficient.”

Powers Design Assist® (PDA) is an anchor design software program that facilitates easier understanding of the applications and installation of anchorage to concrete through 3D modeling, real-time calculation and simple design steps. It provides detailed results in accordance with ACI 318 Appendix D for post-installed and cast-in-place anchors in concrete, including concrete-filled steel deck assemblies

To learn more about these products, visit www.icc-es.org to view [ESR-2818](#), Powers Power-Stud+ SD1 expansion anchors and [ESR-2526](#), Powers Wedge-Bolt+ screw anchors, which were reissued on December 1, 2012 and January 1, 2011, respectively.

All ICC-ES Evaluation Reports can be accessed and downloaded free of charge at www.icc-es.org/evaluation_reports/index.shtml, and are readily searchable based on attributes such as product type, manufacturer or report number. For more information, please visit www.icc-es.org.

**This article is intended to provide information on a product for which ICC-ES Evaluation Reports have recently been issued. It should not be construed as a product endorsement or a recommendation for use.*

