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RESEARCH REPORT: RR 25787  
(CSI # 05 05 19)

BASED UPON ICC ES EVALUATION SERVICE  
REPORT NO. ESR-2818

REEVALUATION DUE

DATE: June 1, 2018

Issued Date: June 1, 2016

Code: 2014 LABC

**GENERAL APPROVAL** –Reevaluationl - Powers Power-Stud+ SD1 Expansion Anchors for Cracked and Uncracked Concrete.

**DETAILS**

The above assemblies and/or products are approved when in compliance with the use, description, design, installation, conditions of approval, and identification of Evaluation Report No. ESR-2818, reissued December 1, 2015 of the ICC Evaluation Service, Incorporated. The report in its entirety is attached and made part of this general approval.

The parts of Report No. ESR-2818 which are excluded on the attached copy have been removed by the City of Los Angeles Department of Building and Safety as not being included in this approval.

**The approval is subject to the following conditions:**

1. The allowable and strength design values listed in the attached report and tables are for the fasteners only. Connected members shall be checked for capacity (which may govern).
2. The anchors shall be identified by labels on the packaging indicating the manufacturer's name and product designation.
3. The anchors shall be installed as per the attached manufacturer's instructions except as otherwise stated in this report. Copies of the installation instructions shall be available at each job site.

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Powers Fasteners, Inc.

Re: Powers Power-Stud+ SD1 Expansion Anchors for Cracked and Uncracked Concrete.

4. Design values and minimum embedment requirements shall be per Tables in ICC ES Report No. ESR-2818.
5. The concrete shall have attained its minimum design strength prior to installation of the anchors.
6. Special inspection in accordance with Section 1705.1.1 and Table 1705.3 of the 2014 Los Angeles City Building Code shall be provided for anchor installations.
7. The use of anchors is limited to dry interior locations.
8. The anchors are not approved for masonry application.
9. Calculations demonstrating that the applied loads or factored loads are less than the allowable load values or design strength level values respectively, described in this report shall be submitted to the plan check Engineer at the time of permit application. The calculations shall be prepared by a Civil or Structural Engineer registered in the State of California.

**EXCEPTION:** Anchors used for the installation of mechanical, plumbing and electrical equipment may be designed and detailed on a plan prepared by an engineer licensed by the state of California.

## **DISCUSSION**

The report is in compliance with the 2014 Los Angeles City Building Code.

The approval is based on tests in accordance with ICC ES Acceptance Criteria for Mechanical Anchors in Concrete Elements (AC 193), dated February 2009, which incorporate requirements in ACI 355.2-04, for use in cracked and uncracked concrete; including optional suitability Test 12 and 13 (AC 193, Table 4.2) for seismic tension and shear, and quality control documentation.

This general approval will remain effective provided the Evaluation Report is maintained valid and unrevised with the issuing organization. Any revision to the report must be submitted to this Department for review with appropriate fee to continue the approval of the revised report.

Addressee to whom this Research Report is issued is responsible for providing copies of it, complete with any attachments indicated, to architects, engineers and builders using items approved herein in design or construction which must be approved by Department of Building and Safety Engineers and Inspectors.

This general approval of an equivalent alternate to the Code is only valid where an engineer and/or inspector of this Department has determined that all conditions of this Approval have been met in the project in which it is to be used.

Powers Fasteners, Inc.

Re: Powers Power-Stud+ SD1 Expansion Anchors for Cracked and Uncracked Concrete.

Powers Fasteners offers software to assist in the design of anchorages using Powers Fasteners products. The software "PDA Powers Design Assist" includes selectable Strength Design methodology utilizing ICC-ES AC193-compliant data to generate designs in conformance with the 2011 Los Angeles City Building Code. The PDA Software may be downloaded at [www.Powers.com](http://www.Powers.com).

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Attachment: ICC ES Report No. ESR-2818 (14 Pages)