

February 1, 2015

TECHNICAL BULLETIN

Subject: Wedge-Bolt+ Screw Anchor Torque Values for Installation in Concrete with Impact and Torque Wrenches

The Powers Fasteners Wedge-Bolt+ screw anchor has been independently tested and qualified according to ICC-ES AC193 “Acceptance Criteria for Mechanical Anchors in Concrete Elements” as indicated in the ICC-ES Evaluation Service Report No. 2526 (ESR-2526). AC193 is a recognized acceptance criteria that allows for screw anchors to be qualified for installation with a powered impact wrench, torque wrench or both. In practice, the vast majority of screw anchors are installed with a powered impact wrench, as the speed and simplicity of this installation method is one of the major benefits of screw-type anchors.

The Wedge-Bolt+ ESR-2526 report covers the powered impact wrench installation method and includes maximum impact torque ratings for each diameter which correspond to common impact wrenches in the market. Recommended DEWALT impact wrenches are listed in Table 1 below for each diameter of the Wedge-Bolt+.

Although the torque wrench installation method is not covered in the ESR, there is not any negative performance associated with this type of installation. The Powers Wedge-Bolt+ has been evaluated in our laboratory according to AC193 procedures to determine the proper maximum tightening torque, $T_{inst,max}$, for manual torque wrench installations. Table 1 below summarizes the maximum installation torque values for both the powered impact wrench and manual torque wrench installation methods.

Table 1: Installation Torque Values for Powers Fasteners Wedge-Bolt+ Screw Anchors in Concrete

Wedge-Bolt+ Diameter Nominal size (in.)	$T_{impact,max}$ (ft. – lbs.)	Recommended Tool DEWALT Part No.	$T_{inst,max}$ (ft. – lbs.)
1/4"	115	DCF885 (cordless)	20
3/8"	245	DCF880B (cordless)	35
1/2"	300	DCF889L (cordless)	60
5/8"	350	DCF889L (cordless) DW292 (corded)	150
3/4"	400	DCF889H (cordless) DW292 (corded)	200

Note: other installation parameters such as minimum spacing, minimum edge distance, drill bit diameter and slab thickness must be strictly followed for all applications.

If there are any questions or if you require any additional information, please contact us.

Powers Fasteners, Inc.
www.powers.com
engineering@powers.com