



Approval #

20179004
(Replaces 201702-O)

Industry Services Division
4822 Madison Yards Way
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Madison, WI 53701-7302

Wisconsin Building Product Evaluation

Material

PowerBrace™ Wall Bracing System

Manufacturer

Supportworks, Inc.
11850 Valley Ridge Drive
Papillion, NE 68046

SCOPE OF EVALUATION

PowerBrace™ wall bracing system is a proven method to laterally support bowed, leaning and sheared foundation walls. PowerBrace™ has been evaluated against the current **Wisconsin Uniform Dwelling Code (UDC)**.

DESCRIPTION AND USE

PowerBrace™ wall bracing system is a patented system that, when properly installed, will not only stabilize foundation walls against further appreciable lateral movement, but also in many cases improve the wall's final position and partially or fully straighten it. The product is for use in dwellings constructed under the **Wisconsin Uniform Dwelling Code (UDC)**.

A steel beam is positioned against the foundation wall and braced at the top and bottom with brackets. The bottom angle bracket is bolted or cast into to the concrete floor. The adjustable top bracket is connected to the floor joists supporting the floor system above. Steel beams of S4x7.7 grade 50 steel or alternate W4x13 grade 50 steel are cut to length and span between the top and bottom connections.

Spacing of braces is determined by the height of wall, the depth of backfill on the outside of the wall, and on the type of wall being supported – CMU or poured concrete. The Supportworks

Technical Manual contains spacing tables for those two wall types up to 9' tall and for various unbalanced fill heights. Installation of the first brace shall be no greater than 3' from a wall corner and then braces to a maximum 6' on center.

Top bracket attachment is based on the two floor system types (dimension lumber or I-joists) and the two orientations (parallel or perpendicular to joists) of the floor construction above the basement. Case specific instructions are provided, including diagrams, for each of the different situations of the top support. System components and hardware are zinc plated in accordance with ASTM B633. The tightening bolt used within the top brackets are tightened against the top of the beam. A torque wrench is used to set the applied load, with torque not to exceed 45 ft-lb for block (CMU) walls and 50 ft-lb for poured concrete walls. Periodic tightening may improve a walls position over time until its original vertical orientation is achieved.

TESTS AND RESULTS

Approval under IAPMO UES ER-812 was issued 04/19/2022 via tests meeting ISO/IEC 17025. Data for typical 8' wall example was submitted to verify the conservative design for the beam sizing and end connections of the different parallel and perpendicular installations used.

Installation guidelines shall be followed and good judgement used by the installing contractor. For applications against walls greater than 9' in height or if there is any doubt regarding the safety or integrity of the structure, the contractor shall consult with a qualified professional such as a Structural Engineer.

LIMITATIONS OF APPROVAL – WISCONSIN UNIFORM DWELLING CODE (UDC)

The Wisconsin Building Product Evaluation Number must be provided when plans that include this product are submitted for review.

Use limits are as follows:

- The PowerBrace™ system is limited to maximum 9' deep basement wall height below joists.

DISCLAIMER

This approval will be valid through 12/31/2028 unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. DSPS is not endorsing or advertising this product. This approval addresses only the specified applications for the product and does not waive any code requirement not specified in this document.

Reviewed by: Jack A. Miller

Peer Review by: J.R.Z.

Approval Date: 2/06/2023 By: Jack A. Miller

Commercial building plan examiner and product reviewer