



Approval # Product # 201702-0

Industry Services Division
1400 East Washington Avenue
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Wisconsin Building Product Evaluation

Material

PowerBrace™ Wall Bracing System

Manufacturer

Supportworks, Inc.
12330 Cary Circle
Omaha, Nebraska 68128

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 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. Current Supportworks Technical Manual (<http://commercial.foundationsupportworks.com/technical-information/technical-manual.html>) in Appendix 3B contains spacing tables for two wall types

up to 9' tall and for various unbalanced fill heights. Installation of first brace shall be no greater than 3' from wall corner and then braces to maximum 6' on center.

Top bracket attachment is based on two floor system types (either 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.

REPORTS AND RESULTS

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, for open-web truss floors, 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.

ADDITIONAL 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. PowerBrace system use is limited to maximum 9' deep basement wall height below joists.

DISCLAIMER

This approval will be valid through December 31, 2022, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The department 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
Commercial building plan examiner

Approval Date: July 31, 2017

By: Jack A. Miller