

STEP 1 – DETERMINE REQUIRED WALL BRACING

You first need to choose which wall lines will be used as braced wall lines. The braced-wall-line locations need to meet the spacing requirements and allowable offsets defined in the code.

Then, determine the length of wall bracing required for each braced wall line. The required length of wall bracing along each braced wall line shall be the greater of that required by the design wind speed or Seismic Design Category (SDC) per Section R602.10.1.2 of the 2009 IRC. The length of bracing required is also based on the wall bracing construction method, presence of masonry veneer, and applicable adjustment factors. Simpson Strong-Tie offers our FREE Wall-Bracing-Length Calculator that is simple to use. Visit www.strongtie.com/wallbracing to try it. Consult with your local Building Official for specific local requirements.

Where the available wall length is less than the required length of wall bracing, select a Strong-Wall® shearwall wall-bracing replacement using the steps below.

STEP 2 – DETERMINE YOUR JOBSITE CATEGORY

- Using Page 12, determine which of the three categories applies to your jobsite and building.



Wind



Seismic



Seismic with Masonry Veneer

STEP 3 – SELECT THE STRONG-WALL® SHEARWALL AND ANCHORAGE CLASSIFICATION

- Identify the base material that the Strong-Wall® shearwall will be installed on. The options are:

On Foundation		On Wood Floor
Concrete	Concrete Masonry Units (CMU) ¹	Wood Floor on Concrete or CMU ²

- CMU shall be grout filled at Strong-Wall® locations minimum and fully grouted where required by Code.
- For additional Steel Strong-Wall® options consider installing the wall through the floor system directly on the foundation. See the alternate first floor installation on page 78.

- Using your application and the jobsite category from step 2, determine the corresponding page number(s) for the Strong-Wall® shearwall and anchorage options.

Application			Jobsite Category		
			Wind	Seismic	Seismic with Masonry Veneer
Garage Front	Single Story	First of Two or Three Story	Pages 20-21	Pages 30-31	Pages 37-41
First Story on Foundation	Single Story	First of Two or Three Story	Page 22	Page 32	Page 42
First Story on Wood Floor	Single Story	First of Two or Three Story	Page 23	Page 33	Page 43
Two-Story Stacked on Foundation			Pages 24-26	Pages 34-35	Page 44
Two-Story Stacked on Wood Floor			Pages 27-28	Page 36	No solution available. Install panel on foundation (See page 44)
Balloon Framing on Foundation			Page 29	Page 36	Page 44
Balloon Framing on Wood Floor			Page 29	Page 36	No solution available. Install panel on foundation (See page 44)



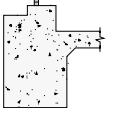

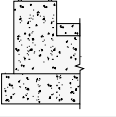
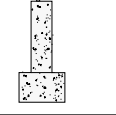
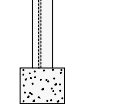
How To Use This Design Guide

STEP 3 (continued) – SELECT THE STRONG-WALL® SHEARWALL AND ANCHORAGE CLASSIFICATION

- Determine which and how many Strong-Wall® shearwalls will provide equivalent wall bracing length to meet the length of wall bracing you need.
- Verify the dimensions of your available wall length and your wall height compared to the available Strong-Wall® shearwalls in the wall model column. “SW” denotes a Wood Strong-Wall® panel and “SSW” denotes a Steel Strong-Wall® panel. Note that there may be more than one solution.
- Now match the selected wall model to your base material. The letter in the table will correspond to an appropriate anchorage classification.

STEP 4 – SELECT AN ANCHORAGE SOLUTION

- Based on your foundation type, wall location and wall type determine the corresponding page number(s) for available anchorage solutions.

Foundation Type	Wall Location	Strong-Wall® Shearwall Model		
		Steel: SSW12 (¾" Diameter Anchor)	Steel: SSW15 to SSW24 (1" Diameter Anchor)	Wood: All SW Models (⅞" Diameter Anchor)
Slab on Grade	 Garage Curb	Pages 46 and 52	Pages 47 and 52	Pages 48 and 52
	 Slab Edge	Pages 49 and 52	Pages 50 and 52	Pages 51 and 52
Brick Ledge	 Garage Curb with Brick Ledge	Pages 53 and 59	Pages 54 and 59	Pages 55 and 59
	 Slab Edge with Brick Ledge	Pages 56 and 59	Pages 57 and 59	Pages 58 and 59
Concrete Stemwall (Anchorage into Wall)	 Garage Front	Page 60	Page 61	Page 62
	 Perimeter	Page 63	Page 64	Page 65
Concrete or CMU Stemwall (Anchorage into Footing)	 Garage Front or Perimeter	Pages 66 and 69	Pages 67 and 69	Pages 68 and 69

- Your concrete compressive strength and anchorage classification (*letter ID from step 3*) defines the anchorage options. The corresponding row in the table defines the minimum foundation dimensions and anchor bolt required for your Strong-Wall® shearwall. Usually there will be a choice between cast-in-place and post-installed anchors.
- Choose an anchor with an effective length (l_e) equal to or greater than the distance from the top of concrete to bottom of embedment depth (d_e). See pages 72 and 73 for SWAB and SSWAB anchor bolt information.
- Refer to page 74 (*Steel Strong-Wall® shearwall*) or page 75 (*Wood Strong-Wall® shearwall*) to select the template for your foundation type. Note that for cast-in-place solutions it is critical to use a template to accurately locate the anchor bolts. Templates may also be used to accurately locate post-installed anchor locations.
- For additional information see:
 - Strong-Wall Product Data, pages 14-19
 - Anchorage Product Data, pages 70-75
 - Installation Information, pages 76-80
 - Design Examples, page 13