

Monarch Clip Panel System Pull Out Values



Monarch Z Clip System								
Panel Material	Panel Screw	Mounting Surface Stud Material	Mounting Surface Blocking	Mounting Surface Screw	Panel Screws		Mounting Surface Screws	
					Single Fastener	Typical 4' x 8' Panel (1)	Single Fastener	Typical 4' x 8' Panel (1)
System Failure Values in Shear								
3/4" MDF Panel	#8 x 3/4" Pan Head Deep Thread Screw	22 Ga. Metal Studs	3/4" Plywood Blocking	#8 x 2" Pan Head Sheet Metal Screw	177	4,254	473	4,254
3/4" MDF Panel	#8 x 3/4" Pan Head Deep Thread Screw	Wood Studs	3/4" Plywood Blocking	#8 x 2" Pan Head Sheet Metal Screw	177	4,254	473	4,254
3/4" MDF Panel	#8 x 3/4" Pan Head Deep Thread Screw	22 Ga. Metal Studs	1/2" Gypsum	#8 x 2" Pan Head Sheet Metal Screw	167	4,009	445	4,009
3/4" MDF Panel	#8 x 3/4" Pan Head Deep Thread Screw	Wood Studs	1/2" Gypsum	#8 x 2" Pan Head Sheet Metal Screw	167	4,009	445	4,009
3/4" MDF Panel	#8 x 3/4" Pan Head Deep Thread Screw	22 Ga. Metal Studs	NA	#8 x 2" Pan Head Sheet Metal Screw	167	4,009	445	4,009
3/4" MDF Panel	#8 x 3/4" Pan Head Deep Thread Screw	Wood Studs	NA	#8 x 2" Pan Head Sheet Metal Screw	167	4,009	445	4,009
3/4" Plywood or Hardwood Panel	#8 x 3/4" Pan Head Deep Thread Screw	22 Ga. Metal Studs	3/4" Plywood Blocking	#8 x 2" Pan Head Sheet Metal Screw	177	4,254	473	4,254
3/4" Plywood or Hardwood Panel	#8 x 3/4" Pan Head Deep Thread Screw	Wood Studs	3/4" Plywood Blocking	#8 x 2" Pan Head Sheet Metal Screw	177	4,254	473	4,254
3/4" Plywood or Hardwood Panel	#8 x 3/4" Pan Head Deep Thread Screw	22 Ga. Metal Studs	1/2" Gypsum	#8 x 2" Pan Head Sheet Metal Screw	167	4,009	445	4,009
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Important Note:

The holding values in the chart above are ultimate holding values for the variables shown. A safety factor of 4:1 (or 25%) is generally accepted as a safe working load. For example, if the ultimate shear value for the first option is 177 pounds, then the safe working load for that screw is 44 lbs. or 88 lbs. for the Monarch Clip. It is also important to remember that this value is the holding value for one screw. The system can be strengthened with more screws or larger diameter screws.

Disclaimer:

The tested capacity of the clips as defined herein is merely intended to provide guidance for all end-users on the capacity that is available when #8 x 3/4" Pan Phillips Deep Thread screws are used to attach clips to MDF panels. This capacity has been developed through testing under a given set of testing conditions that represent typical installations. Decisions made, by the end user, with respect to capacities must take into account installation deviations from the tested application, accuracy of screw placement, any potential for over driving of the screws, panel misuse, improper panel or clip storage, panel and clip handling, etc. The final capacity to be used for any installation is the responsibility of the end-user.

Typical Installation:

The Monarch Z Clip testing performed by Qualtim, a third party testing laboratory, were performed using the following installation. The tests were designed to assess the load bearing capacity in installing a 48" x 96" MDF panel vertically in shear. To install a 3/4" Thick, 48" Wide x 96" Tall MDF panel, you would mount three different continuous lengths along the wall parallel to the ground approximately 30" apart. These should be fastened to studs at a minimum of every 16" on center with the appropriate screw. Our testing was done with 22 Gauge Metal Studs and Wood Studs and the results would not apply for weaker substrates. Installers often use 3/4" blocking in front of the wall to allow for added fasteners every 8" on center along the wall. Along the panel, installers would typically use 12 panel clips on the back of the panel; 4 panel clips at each height to interlock with each of the 3 continuous lengths. These clips would be spaced 12-15 inches apart and fastened to the back of the panel with (2) #8x 3/4" Pan Head Deep Thread Screws for a total of 24 screws in a typical panel installation.

For a description of the testing performed, please visit: <http://monarchmetal.com/blog/z-clip-load-bearing-metal-french-cleat-load-rating/>