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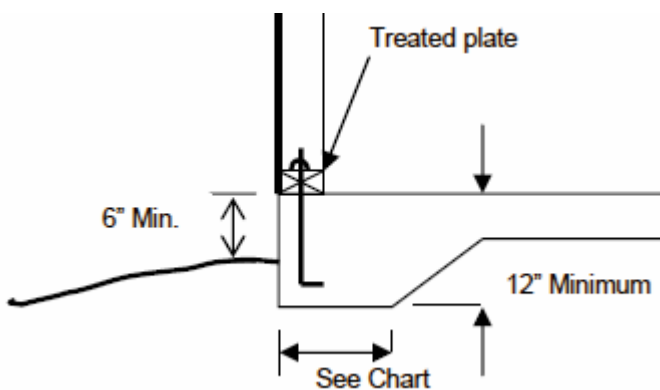
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Residential Garages/Storage Sheds Floating Slab Informational Guide

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Monolithic slabs with integral footings, more commonly known as “floating slabs”, are a widely used method used for construction of detached (from the dwelling) garages and some residential storage sheds. One of the advantages of floating slab is that it offers a cost effective means of providing a solid concrete base for the structure, without the cost of excavating for a full conventional footing and foundation wall. The disadvantage of this method is that the building will be subject to movement from the freeze/thaw cycles that soil beneath it will endure with the Wisconsin seasons. Care must be taken during the planning and construction of your building to ensure that the slab will properly support the structure during the different seasons without succumbing to the elements. This document is intended solely as a guide to provide general information you can use to properly plan and choose if you want to use a floating slab. It is not intended to address every condition such as subject soils, and shall not be used as a substitute for a design professional or licensed contractor. Circumstances such as large buildings, buildings exceeding 1 story and buildings greater than 1,000 square feet should be designed by a professional to ensure that the slab will adequately support the loads applied to it, and it will be a safe and useful structure for many years to come.

Sample Monolithic “Floating” Slab



Presumptive load-bearing values of soils	
Class of materials Load-bearing pressure	(Pounds per square foot)
Crystalline bedrock	12,000
Sedimentary and foliated rock	4,000
Sandy gravel and/or gravel (GW and GP)	3,000
Sand, silty sand, clayey sand, silty gravel and clayey gravel (SW, SP, SM, SC, GM and GC)	2,000
Clay, sandy clay, silty clay, clayey silt, silt and sandy silt (CI, ML, MH and CH)	1,500

Soil Bearing Value and Recommended Footing Width					
1,500	2,000	2,500	3,000	3,500	4,000
16"	12"	10"	8"	7"	6"

- Remove all sod, roots and debris from under the slab. A minimum of 4" of compacted sand or gravel fill should be placed under the slab.
- Most typical soil conditions will dictate a 12" or 16" wide thickened edge.
- The slab should be a minimum of 3 ½" to 4" thick concrete.
- The slab should be reinforced with either #10 6" x 6" wire mesh, #4 rebar at 24" on center laid both ways, or with an approved fiber mesh concrete system.
- The thickened edge “footing” portion of the slab should have two #4 horizontal reinforcement bars placed at the center. The lower reinforcement bar set two (2) inches above the bottom of the thickened edge and the upper reinforcement bar set six (6) inches above the bottom of the thickened edge.
- The concrete should be air-entrained (no less than 5" nor more than 7%) and have a minimum strength of 3,500 psi.
- Anchor bolts to attach the building should be a minimum of ½" diameter structural steel embedded at least 7" into the concrete with a maximum spacing of 72" and within 18" of wall corners and openings. Other mechanical fasteners may be used as long as they are adequate to resist the design loads and are installed in accordance with the manufacturer’s instructions. Copies of those instructions should be on site during the inspection.
- The exterior grade should be at least 6" below the wood framing of the structure.



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