

Sono-Tube/Concrete Footing – Foundations **Level of Difficulty: More Challenging**

Sono-tube, also known as concrete footings, are used in situations where a garden shed needs to be raised, the ground is very uneven, or a building permit is required. In some jurisdictions, a building permit is required if the area of the structure exceeds 110 square feet). Check your jurisdiction's building codes for rules and regulations.

Concrete footings can be expensive to install, as they must be used for your entire garden shed. However, they provide the necessary support for structures that are, for example, situated on a steep slope.

A Word about Sono-tube/Concrete Footings

- Concrete footings are not included in your kit. If you prefer some experienced help when pouring your concrete footings, simply tell us. We are happy to recommend contractors in your area.

Concrete Footings & Your Garden Shed

Here's what you need to know when laying the shed foundation for your Todd's Sheds floor using concrete footings:

1. Before you begin digging holes for your concrete footings, it is very important to check with your local area's building codes for rules and regulations. You can also contract the services of an experienced building inspector to help you determine the appropriate size and depth of your concrete footings, before and after they have been installed.
2. Contact your local utility company to check if you will be digging near underground cables or gas lines.
3. Once you have confirmed the legal size and depth of your concrete footings, you can dig the holes by hand with a digger or ask a friend to help. Your local hardware store will be able to offer other digging suggestions that work optimally in your area.
4. When your holes are complete, you can either pour concrete directly into the holes and set your structural beams onto the concrete later, or intersperse tubes in the ground and pour concrete until it is level. Later, the tubes will be cut and your structure affixed to the tubes.
5. Concrete footings should generally be 10 inches in diameter and drilled well below the frost line. The positioning of your concrete footings should

be similar to the layout for patio stones. We can provide that to you when you purchase a kit from us. Please note that this does not apply to plans purchases.

6. Let your concrete footings set thoroughly and properly.
7. If you'd like to lay a gravel base to ensure that water doesn't accumulate around your footing, 6" is the recommended amount.
8. To easily attach your shed to the concrete footings you've poured, consider sinking a bolt into the footing. It's not necessary to do this but it may make your installation easier.

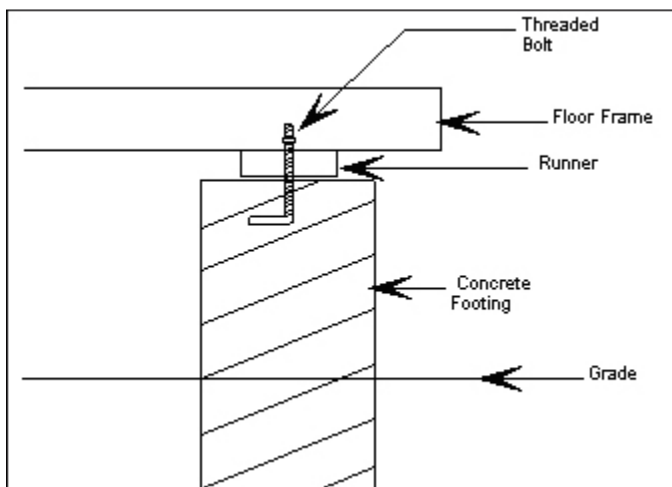
What We Recommend

When using sono-tube/concrete footings for your garden shed foundation, we suggest the following (depending on the size of your structure, the recommendations below may be adjusted accordingly):

- We recommend hiring an experienced contractor who is also aware of local regulations and will ensure that your structure complies with regional building codes.
- Set your footings 6" from the end of the beam and sides

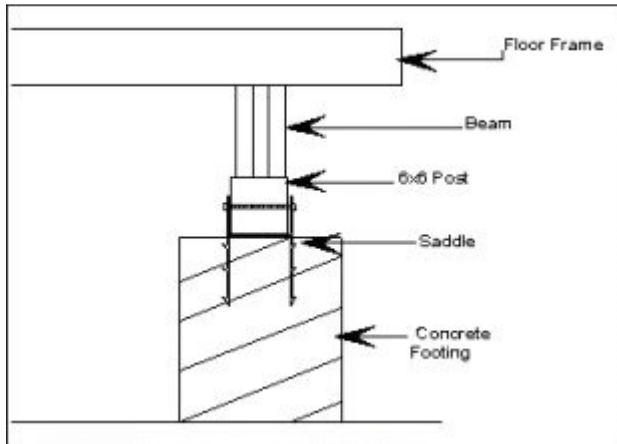
Small Sheds - using 4" x 4" Pressure treated Beams

Use the supplied 4" x 4' Pressure treated beams. Simply J bolt thru the beams and secure with a washer and nut are the easiest and simplest way to go. They should be placed every 4' in any direction.



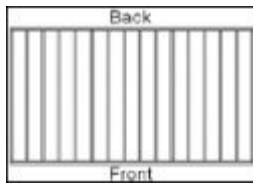
Large Sheds - using beams

Use 6x6 post brackets in your concrete footings. There are several varieties, visit your local hardware store to find which one is common in your area. The floor will rest on the 6x6 post. You will have to level your floor and the easiest way to do so is with these posts. Cutting the small post pieces to obtain level is far easier than trying to shave beams themselves.



Framing and Beams/Runners

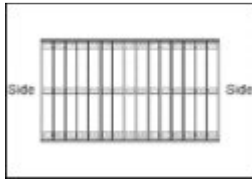
Think of our floors in building depths. Our floor joists always run from the front of the building to the back.



Unless otherwise upgraded, our floor members come in the following dimensions

Building Depth	Lumber Dimension
4' - 8'	2x4 - 12" Centres
8' - 13'	2x4 - 12" Centres
14' +	2x8 - 16" Centres

Beams will run the length of your building. From sidewall to sidewall. They run the opposite direction of your floor joist.



Footings spacing from the front of the building to the back should be approx. 5' - 6' apart.

Use the following chart to space the footings from side to side.

Building length	Spacing of concrete footings		
	2 x 4 floor joists (2 - 2 X 6 Ply Beam)	2 x 6 floor joists (2 - 2 X 8 Ply Beam)	2 x 8 floor joists (3 - 2 X 8 Ply Beam)
8'	68"	68"	68"
10'	42"	42"	92"
12'	54"	54"	116"
14'	41 3/8"	66"	66"
16'	49 3/8"	78"	78"