Click Here

- use for lightweight structures - - best for cabins & small homes - - alternative to poured concrete - Leveling with water tubes Mild Climate Footings for sheds and out buildings In mild winter climates (12" or less frost depth) and well drained non-clay soil, there is little chance of freezing soil lifting the footings and piers. In this case you can dig down into the soil and either pour a concrete footing or fill the footing hole with clean crushed rock. The size of this footing hole should be a 16" diameter circle or square for gravel or rocky soils and a 24" circle or square for soils with mostly loam, loose sand or gravel. The footing depth should be 1/2 the width or more. This foundation is used in the Little House Plans kit. Make sure the bottom of the footing rests on undisturbed soil free of organic material. Don't build on fill or soil that has been dumped on the site (unless it is incompressible material such as crushed rock). Your footings will spread out the total weight of the building over the bearing soil. Good solid material under these footings is essential. When in doubt, make the footings larger thus reducing the load per square foot (think snowshoes). Note: This is the most inexpensive and lightweight foundation option for a small building or shed. It would not be appropriate for a more expensive house. It should not be used in areas of high wind exposure or on steep sloping ground. Cold Climate Footings In colder climate areas or locations with expansive clay type soils you need the footing to beon soil that is below frost depth. Coming up from the footing will be either a pressure treated wood post or a concrete pier made out of mortared blocks or a poured concrete tube. Such a foundation will likely need to be engineered to meet your local requirements so these options are only suggestions. Block Piers You can also build your piers from 8 x 8 or 12 x 12 concrete blocks. For short piers use the smaller blocks, for taller ones go larger. Tube piers come in various diameters as well and larger ones should be used on the downhill side of a sloping site where they will stand higher. A safe rule of thumb is that a pier or post should not exceed 12 (for concrete) or 20 (wood) times its width in unsupported height. Confirm this with your building inspector or a local engineer. When using concrete blocks for your piers, the footings must all be level in order for the piers to be level under the beams. If you have to change footing levels they must be in the same increments to match the height of the blocks. With poured tubes you can cut them off level prior to filling so the footings can be at different levels. Check for level using a laser or an inexpensive water level made from clear tubing. Setting the Tops of the Piers Set the height of the piers so that there is a minimum of 12" under the beams and 16" under the floor joists of the floor platform. This will provide enough space for plumbing, wiring and insulation to be worked on from below. Provide cross bracing between the piers to provide additional lateral stability. Provide straps or other hardware to tie the walls, floor and foundation together for extra stiffness. Wood Post Foundation Piers When using wood posts get foundation grade 6x6 treated poles or posts.When using a gravel footing, nail a square of pressure treated 2x10 or 2x12 to the bottom to act as a foot. Use only hot dipped galvanized, "Z-max" or stainless steel nails and bolts with PT material. Don't rely only on the bolts to hold the beams. Set the beams on top of the wood posts and connect them with appropriate metal brackets or wood plates as shown. There are many different types of metal brackets and strap anchors. Ask locally at the lumber yard as these will vary by brand and the size of beam and post. A "Y" anchor that is nailed to both sides of the beam is sometimes more available than the Simpson hardware shown in the diagrams. Treated wood posts can be packed with crushed rock or soil cement made from 5 to 10 parts clean gravel and sand type soils (no organic material) to 1 part cement. Mix well and add only enough water to make workable. For longest service, the post holes should drain and not hold water against the posts. You can also extend service by painting the posts with asphalt roofing tar for 8" either side of the final soil line. This is where posts are most likely to experience organic attacks. These foundations can be used to build mostof the cabin andsmall home plans from CountryPlans.com. Most of our plans also include other foundation options (slab and crawlspace) where post and pier is not appropriate. Pier and post foundations have been popular for decades because theyre cost-efficient to build and provide easy access to the homes plumbing and wiring for repairs. In this blog post, well cover the basics of pier and post foundations, their pros and cons, common problems, possible repair solutions, and more.What Is a Pier and Post Foundation?A pier and post foundation (also called a pier and beam foundation) is a type of foundation that is often used for homes which are built on sloping areas or in regions with expansive soils that can shift or settle over time. This foundation is made up of a series of support piers spaced at regular intervals around the perimeter of the home. These piers are also topped with beams or posts, which support the structures weight.What Are the Pros and Cons of a Pier and Post Foundation?ProsOne of the primary benefits of a pier and post foundation is that it creates a crawl space under the home. This crawl space allows for easy access to the homes plumbing, electrical, and HVAC systems, along with providing a space for storage.A pier and post foundation is also good at protecting a home from water damage. Because the house is raised off the ground, water is less likely to seep into the structure, thus reducing the risk of flooding and potential damage.Additionally, if any plumbing or utility repairs need to be done, it is much easier to access the systems with a pier and post foundation than it is with other types of foundations. Finally, a pier and post foundation is often less expensive than full basement foundations and requires less excavation work.ConsOne of the biggest risks that comes with a pier and post foundation is moisture damage. If the area beneath the house becomes damp, the moisture can seep into the wood and other materials of the structure, leading to rot, mold growth, and pest infestations. Proper moisture mitigation measures should be taken to address this issue.Another potential disadvantage of a pier and post foundation is its susceptibility to pest infestations. Because these foundations provide an open area for animals and insects to enter, it is essential to implement strategies to keep them out. Proper sealing and pest control measures should be taken to prevent rodents, termites, and other pests from causing damage to the foundation and the home.Common Problems With Pier and Post FoundationsSettlementOne of the most common problems with pier and post foundations is settlement. This occurs when the soil underneath the foundation shifts, causing the piers or posts to sink unevenly. Over time, this can lead to cracks in the foundation, uneven floors, and other structural issues.Wood rotAnother potential issue is the rotting or decay of the wooden posts. Pier and post foundations rely on wooden posts to support the structure above, and if these posts are exposed to moisture for extended periods, they may begin to rot or decay. This can weaken the foundation and compromise the structural integrity of the building.TermitesTermites feed on wood, which is the primary material for pier and post foundations. If left unchecked, termites can cause significant damage to the foundation, making it unstable and unsafe.To mitigate these potential problems, it is essential to maintain regular inspections and upkeep. This may include monitoring signs of settling, ensuring that the wooden posts are treated and protected from moisture, and conducting pest control measures. Consult with a professional foundation repair specialist if you notice any damage or instability in your foundation.Repair Solutions for Pier and Post FoundationsThe type of damage directly influences the appropriate repair solution. For instance: for differential settlement, underpinning is the go-to solution used to lift, level, and stabilize the foundation.If hydrostatic pressure has caused the foundation wall to crack or bow inward, the repair solution may be carbon fiber straps to strengthen the wall and prevent further movement from happening. Another option may be the installation of permanent steel braces, known as wall anchors.If the wooden support structures have deteriorated and are no longer vertical, the fix will be to replace them or install adjustable screw jacks.A thorough foundation inspection is needed to determine the appropriate repair solution. Its essential to bear in mind that fixing foundation damage should only be done by licensed foundation repair contractors.For more information, see our article How Much Does Pier and Beam Foundation Repair Cost?How to Keep Your Pier and Post Foundation HealthyOne of the most critical aspects of keeping a safe and stable foundation is proper maintenance. Here are some things you can do that will help prevent foundation issues. Note that most of these involve controlling groundwater around the foundation. This is because most foundation problems are caused by excess water in the soil around the foundation.Regrade your yard, if necessary This involves slightly sloping the ground away from the house so that excess water doesnt accumulate around the foundation, which can cause erosion and instability over time.Install downspout extensions These extensions direct rainwater away from the house, thus preventing water accumulation around the foundation.Clean gutters regularly Cleaning gutters regularly is also essential, as clogged gutters can lead to water overflowing and seeping into the foundation.Install a drain tile system This involves installing a drainage channel around the homes perimeter, which collects water and directs it away from the foundation. This prevents water from seeping into the foundation and causing damage.Keep trees away from the foundation Some trees have root systems as large as their canopies. They can stretch out and penetrate the foundation, leading to cracks or other damage.Its important to remember that prevention is key to maintaining a strong foundation, as repairs can be costly and time-consuming.If you have a concern about your pier and post foundation, contact us today to schedule a free evaluation. If we find a problem, well provide you with a repair estimate. We serve Southern California, Arizona, and Nevada. A post and pier foundationalso sometimes called a pier and beam foundationis one of two major types of home foundations. The other type is known as a slab foundation or slab-on-grade foundation. As the name suggests, a post and pier foundation consists of concrete piers that are set deep into the ground to bear the weight of the structure. Spanning up from the concrete piers are either concrete or wooden posts, and along the tops of the posts run horizontal wooden beams that provide the bed on which the structure will be built.Unlike a slab foundation, in which a bed of concrete is poured directly onto the soil substrate, a post and pier foundation does not rest directly on the ground but rather is usually elevated about 18 inches, creating a crawlspace beneath the home. One of the best benefits of a post and pier foundation is that the crawlspace provides easy access to the underside of the home, should repairs need to be made to plumbing and electrical units or to the foundation itself.Homebuilders often choose to use post and pier foundations because they can be easily built and are less expensive than other choices. However, this type of foundation is best suited for smaller buildings. Because post and pier foundations are not set deep into the earth, this type of foundation is less ideal for homes built in areas where earthquakes or hurricanes are common. Also, because of how post and pier foundations are constructed, homes that sit atop them are more susceptible to developing sagging and creaking floors.Contact ESOG to Learn MoreFor all of your foundation-related needs, turn to the experts at Engineered Solutions of Georgia. Whether you need repairs done on your existing foundation or are planning to build a home and need a foundation installed, our highly experienced team of structural engineers and geotechnical specialists are happy to lend a hand. We are based in Atlanta and proudly serve homeowners throughout all surrounding areas. Contact us today!

Post foundation. What is pad foundation in construction. What is a foundation pad.