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Pier Tech

Helical Pier Footer system eBook

Contents

Benefits of the PierTech system over traditional foundation systems

The foundation of a home is one of the most crucial design features. When a foundation isn't sound, it can financially jeopardize a family's greatest asset, and if the problem isn't addressed, it can even lead to the eventual loss of the home. While finding the right foundational solution can be stressful, homeowners should be aware there have been innovations within this industry. Options beyond the traditional concrete and wood system exist, including a helical pile system from PierTech.

10 Benefits of the PierTech Helical Pile Foundation System

1. **Less Time and Money**

   One of the most appealing benefits of the PierTech system for homeowners is the ability to save time and money. The patented Cross-Lock Connection, for example, allows for instant alignment and provides full steel-on-steel loading. This means jobs can be completed in an even timelier manner, with installation contractors saving up to 50 percent in labor costs. (These savings can then be passed on to the homeowner.) Because time-consuming digging is also not required, all the holes required for a job can typically be drilled in one day, which, again, saves on labor time and costs.

   Homeowners also see significant savings over the life of the project because they don't have to worry about costly foundational repairs down the line or even the extreme cost of a full foundation replacement.

2. Yard Preservation

With the traditional foundation system, yards and landscaping features often have to be torn up or otherwise destroyed in order to install the foundation or to complete foundation repair work. With the PierTech system, the helical piles merely drill the required holes, which results in little mess and minimal yard destruction. No disruptive digging is required.

This saves the homeowner the expense and hassle of grading the holes created in a concrete and wood system. It also saves those homeowners from having to deal with the aesthetic fallout of traditional foundation work.

3. Decreased Safety Concerns

With the traditional system, homeowners can expect one to two days of digging and large piles of dirt left in the yard. This often leaves giant holes, which, until filled, can be dangerous. These holes pose an especially large risk for families with small children.

4. Flexible Year-Round Installation

While many construction jobs are hamstrung by weather, the PierTech system can be used in any conditions. That includes rain or even freezing winter temperatures. Because there's no need for digging, the foundation work can be done year round, making it much more convenient for homeowners. If important structural work needs to be done to the foundation, homeowners no longer have to risk further damage by waiting it out through the winter for the work to be completed in the spring.

5. ICC-Certified Products

All PierTech products go through a rigid quality control program. This ensures everything conforms to International Code Council (ICC) protocols and meets all industry standards for quality and safety.

6.Patented, Innovative Products

Earning patents for many of their products, PierTech prides itself on creating innovative products within the industry. The TRU-LIFT Bracket, for example, when compared to traditional foundation repair brackets, is lightweight and easy to install and does not require anchor bolts. Another product, the patented Hercules Pile, delivers a load capacity in excess of five hundred tons, meaning there's really no project too big for the PierTech system. All these innovations help ensure PierTech products work seamlessly, safely, and effectively, no matter the job parameters.

7. Step-by-Step Install

With the PierTech system, you only need one excavator or skidsteer (typically only for one day), and each hole is created through an easy three-step process:

-Bring the equipment to the job site.
-Hook up the anchor. (The drive head will already be hooked up.)
-Drill down until you've hit the torque capacity, which is usually when you hit rock.

When this is done, you simply move on to drilling the next hole.

8. Longevity

With the PierTech system, you avoid dealing with building materials that have limited life-spans, such as pressure treated wood and concrete.
In traditional foundation systems , pressure-treated wood is often put into the ground or even into the concrete itself, allowing the wood to soak up moisture from both the soil and concrete. This is a recipe for wood that rots in as little as ten years. Especially as weather conditions, including rain, become more extreme, this issue of rotting foundational wood is only going to become more pronounced.

The PierTech system avoids these products, so homeowners don't have to wait for concrete to settle, and they don't have to undergo the expensive, disruptive, and time-consuming process of lifting the house and restarting the foundation work from scratch. While lots of factors determine helical pile life expectancy, 150 years is a good estimate in normal soil conditions. The company offers a 75-year limited warranty.

9.Extensive Experience

For almost twenty years, PierTech has been leading the helical pile industry. Homeowners can feel confident knowing they are working with products and systems from the company that revolutionized the technology.

10. Free Training Seminars

PierTech holds monthly training seminars where contractors can become certified installers of the PierTech system. Whether the contractor is new to the industry or an expert, PierTech makes an effort to support all aspects of the project. For homeowners, this means there's often no shortage of qualified, well-trained installers in their areas to perform the work.

It's never fun to find yourself in need of foundation repair, and it can be equally overwhelming to face the prospect of a new foundation install. However, if you have qualms about the way foundations are typically repaired or installed, you're not alone, and you can take heart knowing other systems, including the PierTech approach, address many of these problems and, ultimately, create a more cost-effective, long-lasting, sound foundation.

PierTech footers vs pressure treated footers

Without a solid foundation, a home can be put into major jeopardy. Foundation issues can result in uneven flooring, cracks in drywall or ceilings, sticking doors or windows, or gaps between walls and ceilings or walls and floors. Cracks in the actual foundation concrete or a sagging roof are two external indicators of foundation problems. If this settling is allowed to continue without addressing it, it can ultimately lead to real structural damage to your home—and very real financial damage as well.

Why Do Foundations "Settle"

Settling often occurs in a foundation when there isn't sufficient drainage and the foundation isn't allowed to fully dry after wet or extreme weather. Another weather-related factor that contributes to this problem is the expansion and contraction of soils throughout the seasons. In areas where there's extreme fluctuations between temperatures, these problems are only exacerbated.

Issues with the soil, such as overly loose, dry, or wet earth, can all result in foundation problems. Poor initial construction can also, ultimately, lead to settling, sinking, or cracking in your foundation down the line. Less common reasons for foundation problems include one-off events, such as earthquakes.

When the material used in your foundation is susceptible to rotting (think pressure-treated wood), the likelihood of foundation issues increases significantly, which is why so many are seeking alternate solutions. This includes the all steel helical pile system from PierTech.

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PierTech footers vs pressure treated footers

Wood versus Steel: How PierTech Footers Outperform Pressure Treated wood

Stagnated Technology

One of the major problems with pressure-treated wood is that the technology hasn't advanced. As problems present themselves in traditional foundation systems, the wood typically used in those foundations hasn't changed or evolved in order to address these problems that keep cropping up.

Pressure-treated wood footers used in foundations are typically created with a specific type of soil condition in mind. This means they aren't treated to be compatible with all soil types, which can significantly reduce the life-span. Innovations or changes within the wood creation process that might combat these issues simply haven't occurred.

Changing Weather Conditions

Over the last few years, the East Coast has seen unprecedented levels of rain. In these conditions, more and more water ends up in the soil, where it can reach the pressure-treated wood incorporated into traditional foundation work. Contractors and design and build firms are already seeing the effects of this, with some former clients calling to report rotting footers in their foundations.

PierTech footers vs pressure treated footers

Given the amount of rain experienced in these areas, as well as predicted levels in the future, the wood simply can't handle the added moisture. More and more homeowners are realizing rotting foundation components only looks to be a bigger problem as the years go on.

A system like PierTech uses all steel components, so rotting isn't an issue the homeowner has to worry about, and this will hold true even if the amount of rain or other inclement weather continues to intensify. PierTech components are also not susceptible to other weather-related issues, including frost heave, wherein the soil swells upward in freezing conditions.

Lifelong Solution

Pressure-treated wood in a traditional foundation system is put into the ground, where it can soak up ambient moisture. When the wood is placed in the concrete itself, it's liable to rot even quicker because it soaks up water from both the soil and the actual concrete. Because wood eventually rots, it's simply not a lifelong solution. If you repair your home's foundation, therefore, using the same kind of wood and concrete materials you started with, you could be facing similar issues in as little as ten to twenty years down the road.

PierTech footers vs pressure treated footers

An all-steel solution, such as the patented helical piers from PierTech, are a permanent way to address residential foundation issues. (While no construction project can be truly “permanent,” the company estimates their foundations last around 150 years, and they offer a 75-year warranty on their projects.) This system effectively prevents further settling by raising the home and foundation to the appropriate height and establishing proper drainage.

Cheaper, Easier Install

The helical system from PierTech is cost effective, not only initially but also over the life of the project because it won’t need to be replaced down the line. The homeowner doesn’t need to financially deal with damage to the yard or landscaping during the foundation install process, and labor costs are reduced because it’s a quick install. (Rather than digging for several days, most projects can have all the holes drilled in a single day.)

The PierTech system can also be installed in all weather conditions and during all seasons, so if there is foundation damage that needs to be addressed, the homeowner doesn’t have to risk waiting weeks (or even an entire winter) to address those issues. By stopping the problem from getting any worse, the homeowner can save an untold amount of money in potential subsequent home damage.

Conclusion

When a home’s foundation is in need of repair, it can put the entire integrity of the house in jeopardy, and because the home is usually a family’s greatest financial asset, it’s crucial to think carefully about the system used to install or to repair that foundation. Given the drawbacks associated with pressure-treated wood footers, many are finding it’s worth looking into the benefits of alternate systems, such as the PierTech all steel solution.

PierTech and your homes sinking foundation

For many people, their homes are their largest and most valuable assets. They rely on them not just to protect their families from the elements but to serve as a financial safety net. When you start to experience foundation issues, however, it can seriously threaten the value of that important asset. It's crucial, therefore, to address any foundation problem quickly and effectively. The PierTech solution is one available option to do just that.

Foundation Issues: What You Need to Know

A home's foundation can be compromised in several different ways, including settling and upheaval. (Settling is when the foundation sinks, and upheaval is when the foundation rises.) Both upheaval and settling can cause a litany of problems. The following are some signs you might need to repair your foundation:

Cracked foundation concrete
Cracked or buckled walls
Cracked bricks
Sticking doors
Sticking windows
Uneven floors
Countertops that are no longer level

When foundation issues are left unfixed, it can eventually lead to a cracked home frame or a compromised roof that sags or waves.

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Because it's so visually evident, cracked foundation concrete is one of the most known symptoms of a foundation in need of repair. Cracking at the joint is a significant issue because it allows insects, water, and other types of moisture into the home. Even a hairline crack, though, can eventually turn into a bigger problem, so it's a good idea to visually inspect your foundation every year to ensure damage hasn't occurred.

As a general rule, if the crack is 1/16 of an inch or larger, you need to address that problem by taking preventative measures. Failing to do so puts your home at risk of serious structural damage. If foundation problems are significant enough and they're left unchecked, they can worsen over time and eventually compromise the entire structure.

Nearly every home is going to experience settling eventually. It's a natural process of the home sinking into the ground. Even though it's common, it can still cause all the issues noted, meaning the foundation still needs to be monitored, and if issues arise, they need to be addressed.

Potential Solutions to Foundation Issues

Several options are available on the market to address foundation problems. In order to stabilize the home, you can choose from timber posts, concrete piers, or helicals. (The PierTech solution uses high-tensile and high-yield strength domestic steel piles and anchors.)

PierTech and your homes Sinking foundation

When making this important decision, price is, of course, going to be a factor. A homeowner, however, should think about price in terms of the life of the home. The cheapest repair solution might seem appealing initially, but if you're using materials like pressure-treated wood, which can eventually rot, you're looking at having to redo the project down the line. This can quickly add up and end up actually costing you more than if you'd simply paid for the helical solution in the first place.

In addition to being easy to install, possessing a better bearing capacity to securely stabilize the home, and being minimally invasive during the install process, the patented PierTech system is a *permanent* solution. The stability your home gains with a PierTech repair (or new construction) lasts for the entire life of the home. No other solution on the market can make that promise.

Conclusion

Foundation problems are understandably scary for a homeowner because they significantly threaten the value of that home—especially when the problems are ignored and allowed to worsen. The good news is there's a quick, easy, permanent way to secure the foundation and stabilize the home. Using the PierTech helical system is also cost effective because it's a one-time investment. After the work is done, you won't ever have to deal with the cost or disruption of foundation repair again.

Safety concerns: The PierTech system vs traditional footers

Nothing is more important than the safety of your family, and if you're considering undertaking a home construction project as important and significant as foundation work, the safety of the system you use for that work should absolutely be a consideration.

The PierTech system, which uses helical piles to drill holes for your foundation work, helps ensure the safety of your project and family at two critical stages: during the actual work and after the fact.

Safety Considerations during the Work

When homeowners undertake foundation work (new construction or repair) and they opt for traditional footing systems, the result is often lots of machinery digging massive holes over several days. The homeowner is then left with piles upon piles of dirt and rock, as well as dangerous holes around the property. Especially for families with small children or pets, this can pose a serious risk.

Because the construction process also takes considerably longer with the traditional footing systems, your family is left to work around these obstacles and all heavy machinery for several more days than is necessary with the PierTech system, which can usually be completed in one day using a single Bobcat or skid steer.

During the work itself, PierTech can also be safer for the actual installers. The PierTech system features instant alignment, which provides a full steel-on-steel connection. All torque is contained in this quick connection. This ensures there's no hole deformation, and it means no torque or compression loads reach the bolts, so there's never an issue when putting in or removing nuts or bolts into the system.

Safety concerns: The PierTech system vs traditional footers

Safety Considerations after the Work

In addition to creating a safer environment during the foundation work, you and your family can also rest easy knowing you used a system that helps ensure your home is maximally secure. When you use the PierTech system, you know you're using the technology with the best chance of creating a safe and secure foundation for many years to come. Whether you're using PierTech to repair a cracked or failing foundation or you're undertaking a new construction project, the PierTech helicals create a sound foundation for your home.

Left alone, small foundational problems can become much bigger issues as time passes. In some cases, it can even lead to serious damage to floors, walls, windows, and doors, ultimately jeopardizing the integrity of the entire home. PierTech piles and anchors are made from high-tensile and high-yield strength domestic steel, which means you never have to worry about the durability of the products used in the PierTech system. Unlike concrete and wood system foundations, you also don't have to worry about eventual rotting. All this means your foundation is sure to be solid, sound, and safe for your family for as long as you own the home.

Conclusion

If your foundation is cracked, unstable, or failing, your home is simply not as safe as it could be. If you're looking to install a new foundation or repair an old one, know there are more options on the market today than just traditional footing systems. Whatever system you choose, just make sure it creates the safest possible environment during the work and leaves you home maximally secure for years after the work is done.

The PierTech system: speed of construction

Home construction projects often have a reputation for taking longer (and costing more) than originally anticipated. This becomes especially pronounced when the project is a significant undertaking, such as foundation work. With the PierTech footer system, however, new construction installs, as well as foundation repair work, can be done significantly faster than the traditional wood and concrete system.

Material Issues

In a traditional foundation install or repair system, concrete and pressure-treated wood are used. Both these materials pose several speed-related issues for your install:

-Concrete must cure. You'll typically have to wait at least twenty-four hours for this process to finish and for construction to begin again.

-Once it's poured, concrete cannot be removed without significant expense and time. If there are issues with the project that require slight shifts or adjustments, it would be highly costly and time consuming to remove the concrete and pour again.

-If improperly installed, concrete can crack, and if that happens, it will need to be replaced soon after installation. Undertaking a new (and avoidable) repair process can cost you a considerable amount of time. (Note, the warranty for concrete work is often not guaranteed, meaning this can be costly in terms of both time and money.)

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The PierTech system: speed of construction

-Concrete is susceptible to frost heave and other weather-related issues. This shortens its life-span and increases the likelihood you'll have to undertake time-consuming repairs or even a foundation replacement down the line.

-Concrete piers cannot be installed as deep as helicals, and you also can't verify if they're installed to specific load ratings. These factors can lead to eventual problems that cause time-consuming repairs.

-Pressure-treated wood can eventually rot, with several factors speeding that process up. (This includes exposing the wood to excessive amounts of rain and placing the pressure-treated wood in the concrete itself, where it can soak up moisture from both the ground and concrete.)

The PierTech system: speed of construction

The PierTech system uses all steel components, so you never have to worry about rotting or any other form of material degradation. The PierTech system is a permanent solution to foundation problems, preventing further settling and raising the home to the proper height. Because you only have to do this once, it saves you a significant amount of time over the life of the home.

Foundation Installation Process

With a wood and concrete system, several pieces of heavy machinery are often required to perform the full excavation. This process can take several days—and more if unexpected weather delays occur since this kind of digging becomes difficult to impossible in freezing temperatures.

With the PierTech system, one piece of machinery can typically do the drill work in a single day. The work can also be done in any weather conditions, so you don't have to worry about delays due to rain or even extreme cold. The installer simply drills, puts the PierTech pole in, and moves on to the next hole.

Post-Installation Cleanup

In addition to saving you time during the actual installation process, the PierTech system also saves you time and hassle after the fact. With traditional wood and concrete foundation installs, homeowners must dedicate lots of time to cleaning up the mess created during any foundation work. (This is work homeowners either have to undertake themselves or pay workers to handle.) This work includes repairing any landscaping, garden features, or yards damaged in the digging process. It also involves clearing out the massive piles of dirt and rock created during excavation. There's also the possibility of concrete spillage, which creates a messy jobsite that must be cleaned afterward.

The PierTech system: speed of construction

Time (and Money) Savings

When talking about the speed of any construction project, it's important to remember it's not just about time. Construction projects are undoubtedly disruptive to people's lives, and it's desirable for them to be completed as quickly as possible in order for homeowners and their families to get back to enjoying their homes. However, as in so many undertakings, time is also money. If a construction project can be completed in a timelier manner, that often directly equates to paying less in labor costs.

With traditional wood and concrete foundation installs, it can take days to dig the foundation out, you have to wait for the concrete to cure (at least twenty-four hours), and if you come up against bad weather, you face lengthy and, ultimately, expensive delays. You're also paying for the time required to clean up the piles of rock and dirt created in the excavation process, as well as any repairs that need to be done to landscaping, gardens, or yards damaged in the installation process.

There's also machinery costs to consider. With the traditional foundation system, you're often required to pay for multiple pieces of machinery for several days; with PierTech, a single Bobcat or skid steer can typically drill all the required holes in a single day.

For all these reasons, PierTech routinely saves homeowners significant time—and money.

The PierTech system: speed of construction

Conclusion

Nobody likes a home construction project that drags on. Especially when you're paying an installation team to do the work, you want a project that's as efficient as possible. If you have foundation work that needs to be done—repairs or a new install—know this process doesn't need to last days on end. With newer technology, such as the PierTech system, your foundation work can be done in significantly less time (and for less money) than traditional systems.

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Chapter 6

PierTech footers system vs traditional footer systems

Of all the work you'll ever do on your home, foundation work is the most important. Whether you're looking at repairs or a new foundation install, the footer system you use could have significant ramifications for the stability and integrity of your home for years to come. For that reason, make sure you've looked into all your options, including the PierTech all-steel helical pile footer system.

How Does the PierTech Helical System Work?

With helical foundation stabilization, an all-steel pole is drilled into the ground. A qualified contractor does this for each pole until it hits solid rock. This is typically at least fifteen feet down. Because the poles reach rock—not just dirt—the contractor can ensure a sufficient load capacity is reached in order to permanently support the home.

Unlike with a concrete foundation, no excavation is necessary, making for a much cleaner, quicker, more cost-effective install.

PierTech footer system vs traditional footer systems

Key Differences between the PierTech Footer System and Traditional Systems

Foundation Depth

With a traditional system that uses concrete, contractors usually excavate down about ten feet. Because they're just digging into dirt and allowing the footers to rest on that soil, the concrete can settle over time. When this happen, everything above it settles as well, which can cause all the hallmarks of a settling foundation (cracked walls, uneven floors, sticking doors and windows, and so on). With PierTech, the poles are drilled into the ground until they hit solid rock. This is usually at least fifteen feet down. Unsurprisingly, rock provides a much more stable base than soil.

Load Capacity

With a traditional footer system, a contractor is largely going in blind when it comes to load capacity. He or she must simply trust that the system can hold the load of the home. With the PierTech system, though, you can actually test and monitor the load capacity as you drill, ensuring it's sufficient for the home in question.

Weather Delays

Excavating soil and pouring concrete both require favorable weather conditions. If the weather isn't cooperating, the project has to be delayed. With PierTech, the poles can be drilled in any weather conditions or temperature. This ensures there aren't inconvenient, costly delays, and if important foundation work needs to be done right away to prevent further damage to the house, a homeowner is never stuck waiting out the weather—or entire season.

PierTech footer system vs traditional footer systems

Permanence of Installation

With concrete, once you pour, it's incredibly difficult and costly to make any changes. If issues or problems arise after the fact, that work can't be undone without significant expense. With the PierTech system, each pile can be installed and removed at will. Because the installation process is just drilling holes (rather than excavating), moving a pile would only leave one extraneous narrow hole.

Settling and Frost Heave

With a concrete system, your foundation is susceptible to both settling and frost heave. This raising or lowering of the foundation can lead to varying levels of damage to the home, from uneven floors to a cracked house frame. With an all-steel footer system, these issues that can result in damage and instability aren't a problem.

Ease of Installation

Installing a traditional footer system usually requires multiple pieces of machinery and several days of work. The PierTech helical system, on the other hand, typically requires one skid steer and a single day of labor. This saves you on install costs, and it's also a quicker, less-disruptive process in general.

In terms of the project logistics, you also have to wait before you can put a load on concrete. With helical piers, however, you can put the load on them immediately. There's no waiting for the concrete to cure and to set. This also saves you time and hassle.

Cost

PierTech footer system vs traditional footer systems

Cost

While the traditional system is often less up-front money, the PierTech system usually ends up being more cost effective in the long run because you never have to spend another penny on repairs or foundation replacements. Some unexpected factors can also inflate the cost of a concrete installation. For example, if the contractors hit water during the excavation, the concrete must be cased, which adds money to any initial estimate.

Life of Product

Perhaps the most significant difference between the PierTech system and traditional footer systems is the expected life-span. Quite simply, the PierTech solution is permanent and will last a lifetime. With a traditional footer system, you could eventually be faced with a total replacement or costly repairs. Some factors, such as extreme rain, can also speed up the rate at which pressure-treated wood rots, meaning your likelihood of having to replace the foundation during the life of your home increases.

Conclusion

If you're in need of foundation repair or installation, don't fall into the trap that catches many homeowners: assuming the traditional wood and concrete system is your only option. Advances have been made to foundation footer systems, and you should know there is now an easy, quick, and (most importantly) permanent solution to foundation issues.