

Know the Effects of Common Types of Soil On Metal Building Foundations

In order to withstand natural weather elements and ensure a longer lifespan, a metal building needs a strong foundation. Every type of soil has its characteristics that will have distinct effects on the foundation of a metal building, such as its density and ability to retain water.

How Soil Types Can Make or Break a Foundation

Peat

Peat soil is made up of decomposed organic matter and is often a dark brown color. It is very porous and retains a lot of water. When it dries out, peat soil is very brittle and can even be a dangerous fire hazard. It is often found in wetland areas.

Effects on Metal Building Foundations

- Peaty soil will shift and change structure and does not provide adequate stability for a metal building.
- Peaty soil retains water and dries to a porous, brittle state, which means it is too susceptible to weather to be a good foundation for a metal building.
- Peaty soil is easily compressible and does not have a high enough bearing capacity to be a sufficient foundation for metal buildings.

Clay

Clay soil is largely made up of tiny particles. When it gets wet, those particles expand dramatically. In this state, it is pliable and easy to manipulate. When it dries, clay has the opposite qualities of when it is wet. It shrinks again to tiny particles and becomes very hard.

Effects on Metal Building Foundations

- Clay can crack when it dries after being exposed to rain or water, making the foundation of a metal building unstable.

- The dramatic differences in qualities depending on the state of clay will put pressure on the foundation and eventually cause it to crack.
- Clay can successfully be used as a foundation only if the climate is naturally dry and is not prone to flooding.

Silt

Silty soil is also made up of small particles, and because of this, it will retain water for a very long time. This keeps the ground at a lower temperature and keeps it from draining very well. Silty soil also expands and contracts from moisture in the same way that clay does.

Effects on Metal Building Foundations

- When silt gets wet and expands, it pushes on the foundation of a metal building, weakening the foundation.
- Silt has poor drainage qualities, which will cause it to be moist and not suitable for metal building foundations.
- Using silt can cause water pooling around the foundation of your metal building.

Sand/Gravel

Often sand and gravel are mixed to create a foundation to build on. Together they have the largest particles of all of these soil types, and together they do not retain very much water. Because there is more room, or bigger gaps between particles, this combination drains water easily.

Effects on Metal Building Foundations

- When sand and gravel are mixed and compacted, they make a solid foundation for metal buildings.
- Mixed sand and gravel make a good foundation for metal buildings because they don't retain moisture and quickly drain it away.
- One concern about sand and gravel is that as water is drained away, the particles can loosen, creating erosion that will have to be repaired - or you risk damaging or destroying the building.

Loam

Loam is a combination of materials. Most often, those materials are silt, clay, and sand. Loam has a dark color and feels dry and crumbly. It has very evenly balanced properties, such as how it interacts with moisture. It doesn't change size or shape easily, which makes it very stable.

Effects on Metal Building Foundations

- Loam is considered the best soil type for building foundations.
- Loam has very few flaws, but a significant concern is if another kind of soil or dirt finds its way onto the loam's surface.
- Loam provides good support and drainage as a foundation for metal buildings.

Rock

There are many varieties of rock available that can be used when choosing a foundation. Rock like limestone, sandstone, and bedrock have very high weight-bearing capacities. The stone's natural surface can be any shape, but the flatter it is, the more advantageous it is for building on.

Effects on Metal Building Foundations

- If the rock is not level, the metal building will have to be held in place with anchors.
- Most rock has a high weight-bearing capacity, making it a good fit for use as a foundation for metal buildings.
- Rock makes a good foundation for metal buildings because of its stability and depth.

Which Soil is Best as a Foundation for Metal Buildings?

Which soil will be best for your particular metal building foundation? The most important thing for your foundation is that it is stable, has good drainage, and doesn't retain too much water. Generally, sand and gravel or rock will work well, although you may face some repair issues down the road. Universally loam is considered the best soil for building because it handles water evenly and is very stable. No matter the type of soil you have or choose to build on, [brand name] is the best metal building dealer in America. [brand name] guarantees you the lowest prices possible on metal buildings and free delivery and installation of metal buildings on level land.

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