How to Resolve Incorrect Anchor Bolt Settings

Anchor Bolt Settings

When anchor bolts are set incorrectly, the pole will not mount properly to the foundation and the installer must consider different solutions to correct the problem. Options may include replacing the foundation; use of a special base adaptor; or, installation of epoxy set anchor bolts.

Replacing a foundation can be expensive or unrealistic on large projects. Base adaptors may not be possible for all conditions and are bulky, expensive and aesthetically unappealing. HILTI brand epoxy set anchor bolt systems offer a wide range of sizes and a technical support team for assistance. HILTI's phone number is 800-879-8000. We can provide base reactions (shear force, axial force, bending moment and torsional moments occurring at the pole base used for foundation design) for the pole to assist HILTI technicians select the proper anchor bolt and epoxy formulation for the application. For base reactions, we will require the wind zone for the installation site and the total EPA and weight loading of the fixtures mounted on the pole.

Bolt Circle: Larger than Required

If the existing bolts were set to a larger bolt circle diameter and the pole has not been produced, it is possible to either:

1. Select a similar pole that has a properly matched bolt circle for the existing foundation.

2. Produce the original pole with a modified anchor base plate using the new bolt circle requirement without need of a base adapter.

If the pole already exists, then the pole can be adapted to the new bolt circle using a custom-sized adaptor spool that installs between the pole base plate and the new bolt circle. Or the existing bolts can be cut off at the concrete surface and HILTI bolts installed.

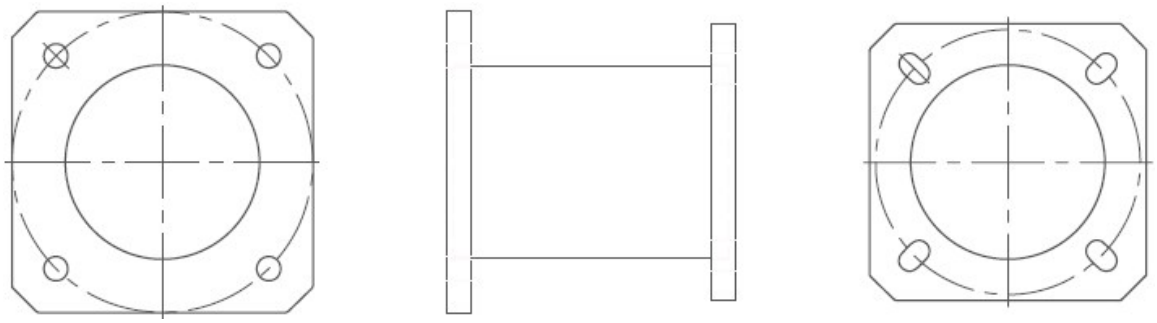
Bolt Circle: Smaller than Required

If the existing bolt circle is smaller than that required for the pole to mount, care must be taken to ensure the foundation and anchor bolts are not overstressed through the use of an adaptor spool. In cases where the bolt circle is more than 1" smaller than that required for the pole, it may not be possible to provide an adapter. These situations need to be carefully evaluated on a case by case basis.

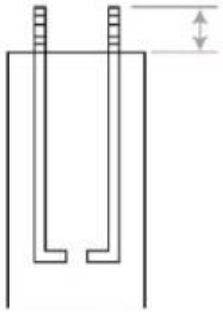
When choosing between a base adapter and the use of HILTI products, some considerations would involve size of anchor bolt, aesthetics, time and cost. The base adapter method is rather expensive, involves more time to produce the adapter and delays the project. Additionally, the spool increases the mounting height of the fixture which may violate local building codes—requiring the pole to be field-modified if necessary. Ultimately, the customer may not accept the "bulky look" of a base adapter. One possible option to the base adapter is the use of a standard Transformer Base. While it is bulky like the base adapter, it does present a much cleaner, finished look and can be supplied faster than a custom manufactured adapter when time is an issue.

The HILTI system provides a clean transition between the foundation and the pole. However, the HILTI bolts have to be set within, or close to, the foundation's rebar for strength and to avoid cracking the edge of the foundation. If the foundation is undersized, use of HILTI products may not be possible. Also, HILTI bolts are only available up to 1.25" diameter so poles requiring larger diameter bolts will necessitate the use of an adapter spool or replacement of the foundation.

Base Adapters



Exisitng Anchorage Verfication Form



Anchor Bolt Projection = _____"

Anchor Bolt Diameter = _____"

NOTE: STEEL POLES require 2 anchor nuts per bolt. Absolute minimum anchor bolt projection for .76" diameter bolts is 3.25". This is NOT the recommended projection. Consult Lithonia Lighting Technical Support.

Absolute minimum anchor bolt projection from 1.0" diameter bolts is 3.76". This is NOT the recommended projection. Consult Lithonia Lighting Technical Support.

Job Name:_____ **Measured By:** _____

Location:_____ **Order #** _____