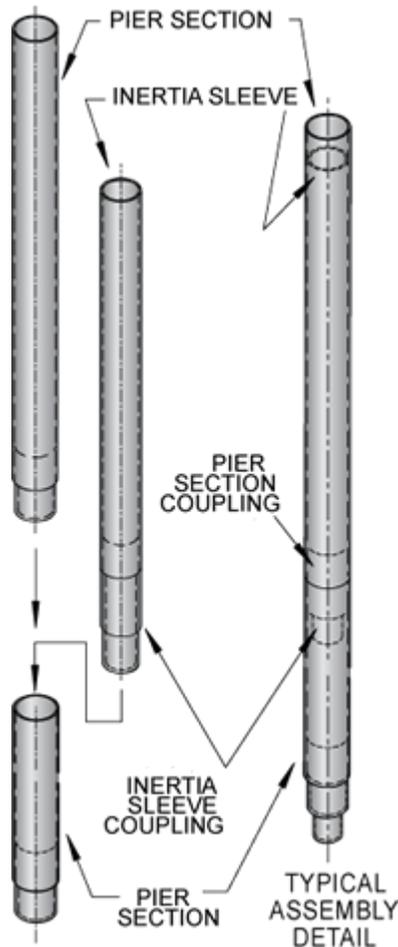


# Inertia Sleeve

Earth Contact Products offers a patented product for our Model 300 and Model 350 steel push piers that we call the ECP Inertia Sleeve. This unique product is designed to improve the axial moment of inertia (stiffness) of the pier system. Simply, the ECP Inertia Sleeves create a double wall of support for our two most popular underpinning piers.



The Inertia Sleeve is easy to install when driving the pier pipe. One simply allows the Inertia Sleeve to drop by gravity into the current section of pier pipe prior to coupling together another section of pier pipe. The low cost Inertia Sleeve takes nearly no labor to install and instantly increases the stiffness of the pier shaft. The unique design of the Inertia Sleeve also strengthens the pier pipe couplings. The coupling on the Inertia Sleeve extends nine inches. This allows the Inertia Sleeve coupling to fully pass through the pier pipe coupling and to engage inside a previously installed section of Inertia Sleeve. The couplings are therefore doubled and staggered, providing a strengthened coupled joint.

To increase the axial strength of the pier shaft you also can install an external pier sleeve. Many designers like this method and it provides a significant increase in pier stiffness because the sleeve has a larger diameter than the pier shaft. When installed, the external sleeves must be positioned such that the joints in the sleeves are staggered with the pier pipe couplings. This method is not as economical as an Inertia Sleeve, because the external sleeve must be installed after the pier has been driven and prior to field load testing.

The external sleeve installation requires the use of the hydraulic drive cylinder. The installation time for the external sleeve is generally equivalent to the time required for installing pier pipe, but only to the required depth for the pier sleeve.



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The combination of the Model 350 pier pipe plus the inertia sleeve provides 92% of the axial stiffness of the ECP Model 400 system when there is a lack of sufficient lateral support for a distance of 8 feet. If the designer provides 4" diameter exterior sleeve and grouts the Model 350 pier pipe, the allowable load on the system will be 160% that of the grouted Model 400 pier system. One must keep in mind that the pier sleeve is required only in the areas of weak soil or exposed pier pipe. The cost savings should be very evident especially on projects that require extra strength only in the upper several feet of soil.

When specifying sleeve, the designer must extend the sleeve at least three feet into competent material. For example, if a site has 6 feet of peat with blow counts from 0 to 2 blows per foot followed by sand having suitable density as indicated by an SPT reading of 5 blows per foot or greater; the designer should specify sleeve to a depth of 9 feet in order to provide adequate protection through 6 feet of weak soil.



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