

USE OF SHIMS FOR PLUMBING POLE

Hapco can provide 1/16" thick U-shaped aluminum shims for the purpose of plumbing anchor base mounted poles that are installed on foundations that are not level. These shims are placed between the base of the pole and the foundation around the anchor bolts as needed. The shape of these shims allows them to be inserted under the pole base while the pole is on the foundation. Shim installation requires that the nuts on the anchor bolts be loose enough to move the pole to the plumb position. With the pole being held in the plumb position but not lifted entirely off the foundation, shims are to be inserted at each anchor bolt location wherever there is room for a shim (*or shims*). Once all the shims that can be inserted around the anchor bolts between the pole base and the foundation are in place, the nuts on the anchor bolts are to be tightened down. It is recommended that the maximum number of 1/16" thick shims on one anchor bolt be limited to four.

SHIMS VS. LEVELING NUTS FOR PLUMBING POLES

Hapco can provide anchor bolt leveling nuts for plumbing poles. Shims are generally preferred rather than leveling nuts because shims provide a larger bearing surface for the bottom of the pole. This greater bearing surface is particularly important for developing the maximum bending strength of some transformer bases. Hapco recommends that the space between the original concrete surface and the bottom of the pole be filled with concrete when leveling nuts are used. This additional concrete will help provide bearing area for the bottom surface of the pole or transformer base and reduce anchor bolt bending loads. Tests for Federal Highway Administration approval of breakaway bases were conducted with the breakaway device sitting on a rigid surface. Installing these breakaway bases on leveling nuts without filling in the space between them and the foundation with concrete could adversely affect the breakaway performance of these bases. Also, the projection of the anchor bolts above the ground when using leveling nuts is likely to exceed the 4" maximum allowed by AASHTO "Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals" for breakaway pole installations.