



**GENERAL
STRUCTURES
INC**
A DWM COMPANY

Vibration Dampener Instructions

The vibration dampener is used to minimize the effects caused by wind-induced Aeolian vibration. When this type of vibration is identified (it is site specific and unforeseeable), a dampening system is used to mitigate the effects. The phenomenon of Aeolian vibration is described in detail on our informational sheet titled *First and Second Mode Vibration*.

METHOD

Our vibration dampening system consists of a length of chain encased in a plastic tube approximately 2/3 the length of the pole. The plastic tube and chain combination disturbs the harmonic cycling of the shaft (Aeolian vibrations) by touching the inside surface of the pole in a random and spiral manner. The wind-induced agitation of the pole is then transferred to the tube and chain. The natural vibration frequency of the chain is out of phase with the natural frequencies of the pole. This condition, coupled with the energy-absorbing characteristics of the plastic tube and chain combination, provides effective dampening.

INSTALLATION PROCEDURE

CAUTION

Before installation, inspection should be made by an authorized electrician to ensure that the wiring and electrical components will allow for easy insertion of the dampening system. Items such as terminal blocks or fuse assemblies may require temporary removal.

STEP 1

Insert square cut (lead end) of plastic tube through the handhole and snake up the pole. The lower end is positioned and held captive on the edge of the handhole by the notch in the tube. Do not kink the plastic tube.

STEP 2

When the dampener assembly is pushed through the handhole, it will slip down inside the pole to contact the pole foundation. It is essential to ensure that the dampener does not crush or damage the electrical wiring in the pole. This can readily be accomplished by ensuring that the lower end of the dampener assembly slides down the pole tight to one side.

Electrical inspection is again required to check the system and verify safe operation.

NOTE: Poles are designed and quoted for a specific luminaire. Never install a pole without the intended luminaire being installed.

With the dampening device installed, short periods of vibration for 3 to 4 seconds may still be observed. The dampening device does not change the natural frequency of the pole to any significant extent or prevent the wind from trying to start vibration. However, the system provides effective dampening of the vibration.

1 1/4" POLYETHYLENE PIPE PER POLE

Pole Ht.	Length of Pipe	Qty. of Pipes
30'	20'	1
35'	25'	1
40'	30'	1

Chain: 5/16 GR. 30

Tubing: 1-1/4" X .095 Wall

Bolt: 3/8 - 16 X 2" LG

Tape: Vinyl Electrical Type
3/4" wide

