AR Products

Solutions for Galloping and Vibration Control

Sandamper®

Low Frequency Galloping Control
for Guy Cables and Broadcast Towers

Applications

Tall tower guy cables are subject to galloping or vertical dancing motion of large amplitude if the wind force or ice buildup adversely impacts the aerodynamics of the cable and its supports.

Mounted along the cable at pre-selected positions from the end of the guy cable, Sandampers are designed to protect tall towers from structural damage caused by guy galloping and weather-related motion. Installation position along the cable is generally near the mid-point of the guy cable. Dampers on all three guys for each level work as a system to balance the load and off-load aerodynamic lift during periods of high winds.

Galloping may occur in any direction of a 360 degree circle around the cable axis depending upon the orientation of the cable relative to the wind direction.

Expert engineering customizes the product application and installation to the design features of the tower and guy cables. This low frequency galloping control system is engineered to the structure by optimizing four elements: the glide path of the sphere, the weight of the damper, the tension of the guy cable and the grounding at the anchor.

How it Works

Sandampers glide up and down along the guy cable in response to the aerodynamic lift caused during galloping conditions. In order to counteract a tendency toward galloping once the conditions of wind force and complementary angle are present, the Sandamper increases the friction on the cable to change the aerodynamics of the cable. Filled with sand, when gravity pulls on the weight of the Sandamper, the sand tumbles inside the sphere to dissipate energy and help move the damper up and down along the guy cable. This motion interrupts any galloping motion caused by wind conditions or assists in the shedding of any ice foils.

When ice foils build and then begin to melt on guy cables, the Sandampers work as a system at each guy level to move in unison so that the tension on the guys (and the tower) remains balanced.

Performance Tested

Sandampers have been in service for more than 40 years. The product has been field tested for strength and galloping control.

The design of the device is rugged enough to resist heavy ice and hurricane force winds**.** Annual maintenance is limited to visual inspection and greasing of the cable.

Specifications

Aluminum Casting	Aluminum Castings | Aluminum Alloy A356-T6 per ASTM B26
Hardware	HDG Steel specified ASTM A153 Heavy hex structural bolts specified in ASME B18.2.6

Construction and Impact on the Cable

Sandampers are forged aluminum casting. Galvanized bolts and ANCO lock-nuts secure the 30” diameter Sandamper. Designed to roll up and down the heavy steel guy cable, inside the Sandamper is loose, dry sand, sealed in at the time of manufacture. The damper is secured to the cable by a Helical Grip.

The smooth, round inner edges of the Sandamper and spacing between the two halves makes the Sandamper System suitable for a range of guy sizes and tower designs. Total weight (including sand) is 175 lbs.

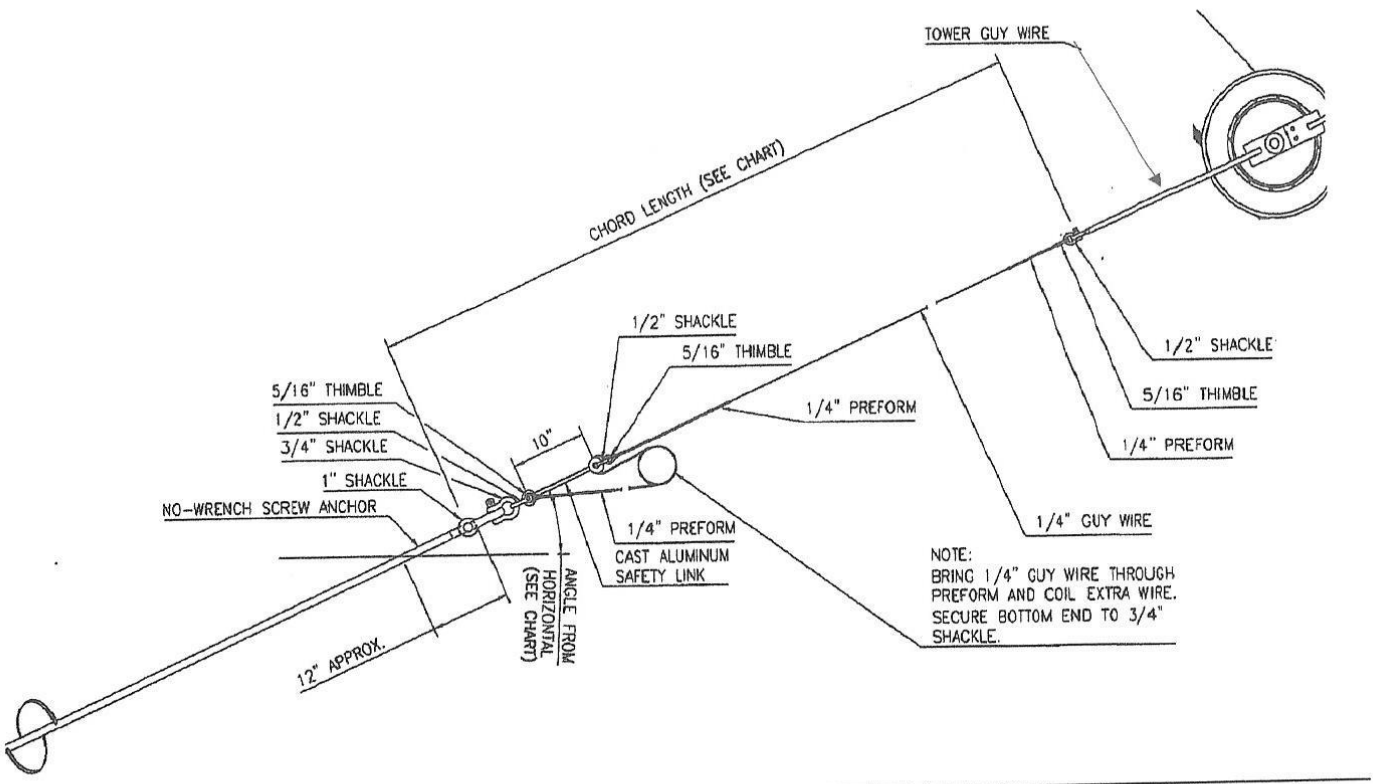
Included:

Sandamper | Fit to cable diameter
¼” Helical Grips w/ thimbles (3) & Safe-Link

Not Included:

Ground Anchors
Shackles
Tether wire

Illustrating Safe-Link Installation



Safe-Link System for Sandamper