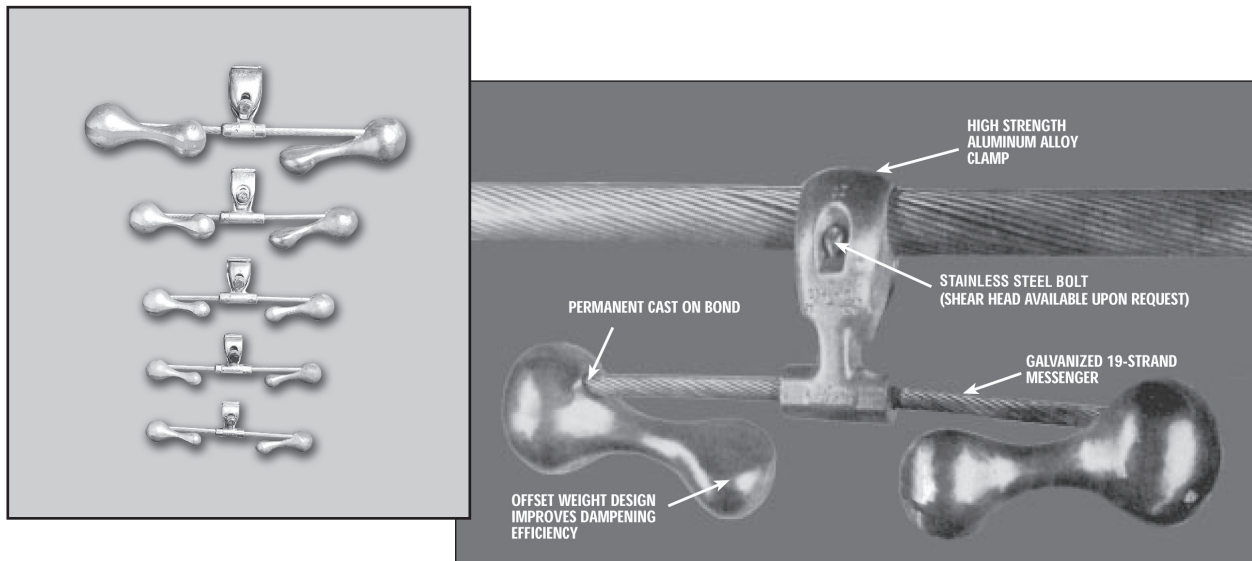




# DOGBONE® Vibration Damper



## NOMENCLATURE

### Materials

**CLAMP** – Cast of high strength aluminum alloy.

**BOLT** – Galvanized bolt or aluminum shear head break away head bolts available on special request.

**FLAT WASHER** – Galvanized steel

**MESSENGER** – Exclusive preformed 19 strand EHS galvanized steel.

**MASSES** – High grade zinc.

## GENERAL RECOMMENDATIONS

DOGBONE Vibration Dampers are designed to eliminate conductor fatigue damage and line maintenance costs by effectively reducing Aeolian vibration. The messenger cable and unique “dog bone” shape of the masses are designed to achieve optimal energy dissipation and minimal clamp movement. The messenger cable and DOGBONE weights are sized to give additional resonant modes and wider effective frequency response. The mechanical impedance of the damper is matched to the guy wires to optimize performance. The offset DOGBONE shaped masses also introduce a torsional mode of vibration damping not present in conventional Stockbridge type dampers. The range of DOGBONE vibration dampers is a development resulting from our extensive experience and research in the field of guy wires vibration control. The DOGBONE damper concept is based on the known and proven principles of the Stockbridge damper but embodies improvements which increase both power dissipation and range of frequency response beyond those of standard Stockbridge types.

### Placement

Due to the many parameters involved and the exhaustive tests conducted, please contact PLP to calculate optimum damper recommendations, placements and quantities.

## NOTES

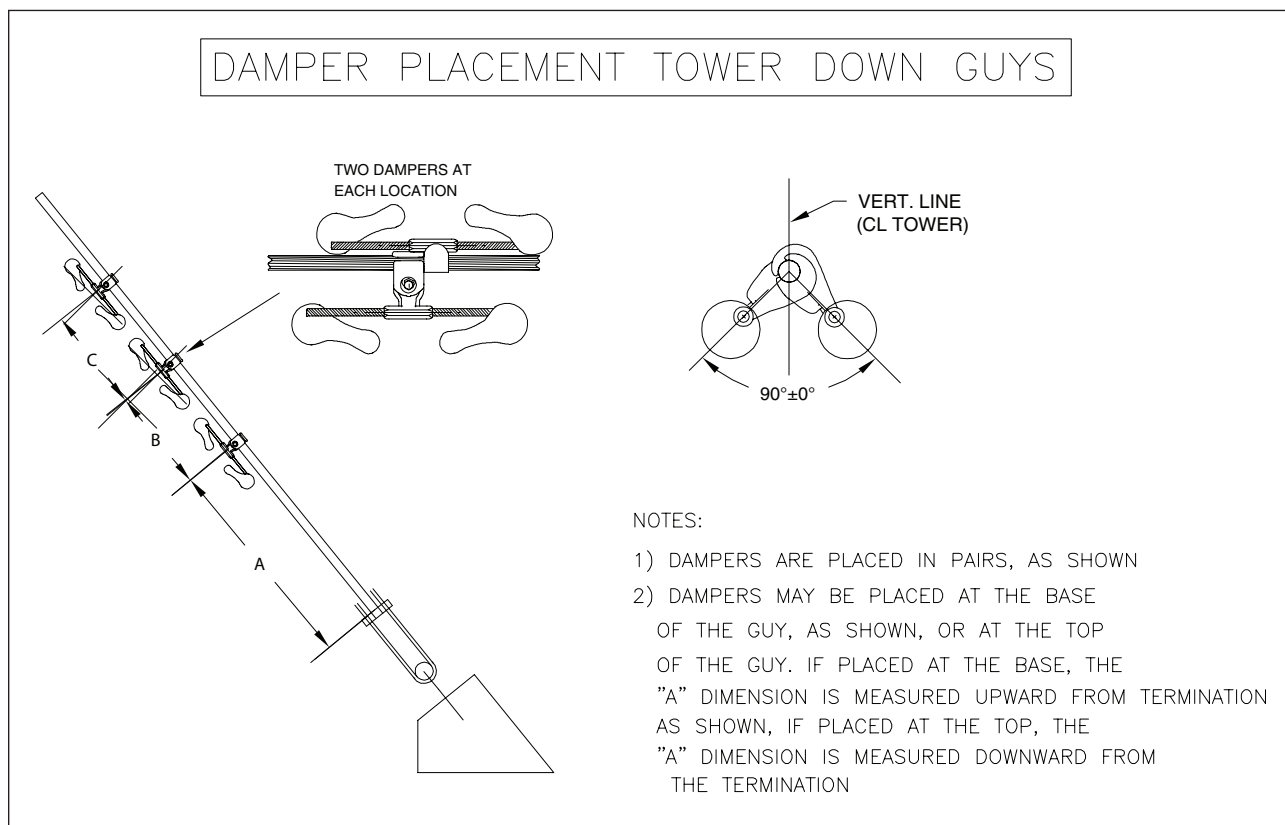
A pair of dampers is required at each placement location phased 90 degrees apart; Please refer to the "DOGBONE Tower Placements" Spec Sheet.

**Disclaimer:** PLP DOGBONE® Tower Dampers are designed to combat Aeolian vibration on tower/antenna down guys only; they are not designed or intended to combat other modes such as galloping, wind sway, some forms of aero elasticity, modes stemming from the tower/whole system vibration, etc. Note that as with much aerodynamic system modeling, unknowns remain and the field of tower/antenna vibration is not as well studied as some other areas. However, this recommendation is primarily based upon models for horizontal catenary spans, for which Aeolian vibration is assumed to be worse. It is our position that properly applying dampers is almost always better than using none, and since such dampers are designed to protect cables at their own expense, tower down guy vibration damage can be mitigated.

Due to the many parameters involved and the exhaustive tests conducted, please **contact PLP** to calculate optimum damper recommendations, placements and quantities.

**Contact PLP's Technical Support at (440) 461-5200 for Product Selection and Product Placement.**

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DOGBONE Tower Damper Recommendation												
Catalog Number	Strand	Strand Diameter (inches)	Length ft.	Guy Tension / Lbs.	Damper Quantity and Location						Total Number of Dampers Req'd per Guy	Total Number of Dampers Req'd per 3 Cables
					A		B		C			
					Qty	Inches	Qty	Inches	Qty	Inches		
TDB3-30	1	1-5/16"	301	19,080	2	47					2	6
TDB4-38	2	1-1/2"	421	27,600	2	56					2	6
TDB3-30	3	1-5/16"	573	21,200	2	49					2	6
TDB3-27	4	1-3/16"	912	17,200	2	44	2	38			2	12
TDB4-34	5	1-3/8"	1072	23,200	2	51	2	44			2	12

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