

merking

Seglkerfi fyrir ljósastaura



BannerSaver

THE SPRING-LOADED LIGHT POLE BANNER BRACKET SYSTEM

BannerSaver is the world's original and leading performance banner bracket. In high-wind, the patented spring-loaded bracket releases, reducing stress on and increasing the life of banners and poles. When the wind dies down, the banners return to their original position. BannerSaver is wind tunnel-tested to spill 87% of the wind and is the most specified banner bracket in the world.

TOP PRODUCT BENEFITS

- 1 Reduces damage and light pole liabilities.
- 2 Spring-loaded, wind-release bracket keeps banners safe.
- 3 Patented hardware is specified on six continents.
- 4 Wind tunnel-tested to spill 87% of wind load.
- 5 Ideal for festivals, streetscapes, parking lots, and more.
- 6 In use at hundreds of cities and venues across the world.

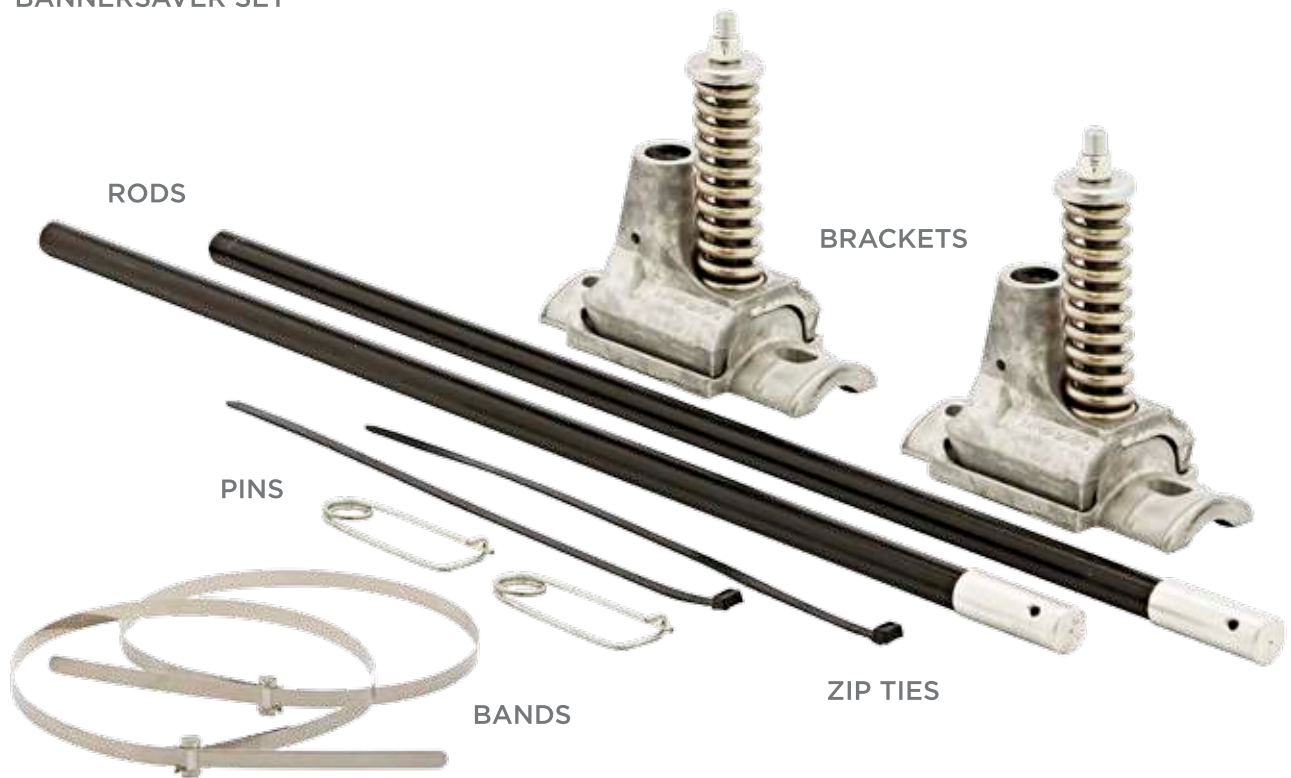
Spring-loaded,
wind-release bracket
keeps banners safe.



BANNERSAVER | COMPONENTS

Hentar öllum ljósastaurum

COMPLETE BANNERSAVER SET



LIGHT POLE BANNERS | ARTWORK TEMPLATES

Need banners? Our banners are efficiently printed doublesided on heavyweight vinyl with full UV-resistant ink and doubleneedle lock stitching on all pocket hems. Upon ordering BannerSaver, appropriate light pole banner artwork templates will be provided.



FIBERFLEX BRACKETS | AND OTHER HARDWARE

Standard bracket designed for short-term or budget-conscious installations. Priced at \$75.00 per set, including banding.

Britten Studios offer a wide range of other large format hardware options, including our patented BannerDrop• ceiling hoist and family of BriteWall• backlit LED displays.

Prófanir í vindgöngum Polir vind upp að 45 m/s

Introduction

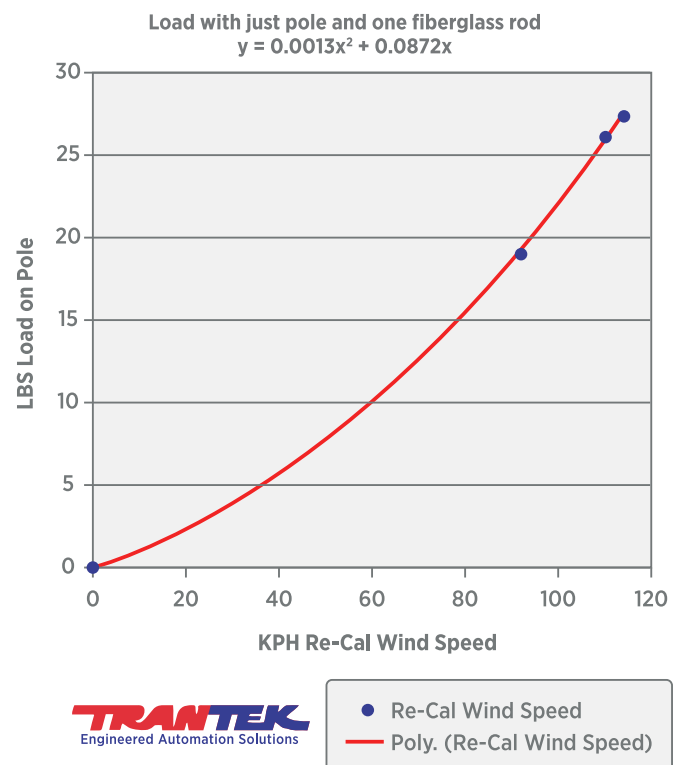
BannerSaver™ is a patented light pole bracket which utilizes a spring tension system to keep banners in place during normal conditions and allows them to rotate as wind speed increases to reduce wind-load forces and light pole liabilities.

Independent tests, developed by TranTek Drive Systems of Traverse City, Michigan, were conducted to determine how much wind-load is transferred to a light pole using a variety of banner mounting devices including BannerSaver, a flexible bracket and a fixed bracket.

The test apparatus simulated a light pole and was equipped with sensors to detect banner deflection and pole forces. Known wind speeds were provided by Behr America, a subsidiary of Behr GmbH and Co. KG, in a calibrated wind tunnel. The nozzle was set at a midpoint condition of 8m², and banners were positioned 12 feet away. These conditions assured consistent air distribution to the entire profile and allowed wind speeds up to 100 mph.

Forces were measured by a very precise load cell with a normal range of 0 to 500 lbs and a linearity specification of $\pm .0025\%$ of full scale. Post-test wind speeds above 10 mph were certified by Behr as accurate to within 1%.

Diagram A



Summary

Wind tunnel tests performed using BannerSaver™ and two 30fl x 80fl banners showed that the wind-load never exceeded 200 lbs at wind speeds in excess of 90 mph, while other bracket systems yielded loads in excess of 500 lbs under the same conditions.

Test Procedure

- Record Static Conditions - Diagram A
- Start wind tunnel and record base wind speed, force on banner pole, and deflection. Wind speeds were held for two minutes while increasing wind speed at 10mph increments.
- Repeat procedure on comparative brackets.

Results

Test results clearly illustrate BannerSaver’s advantages.

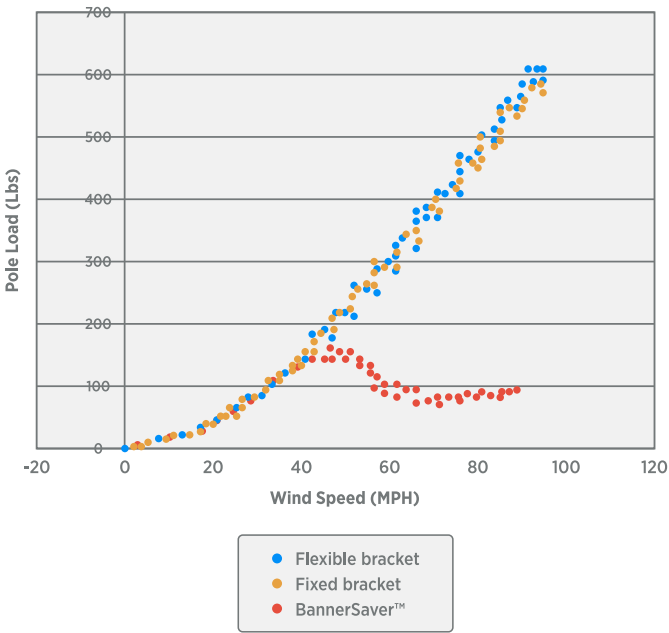
The most obvious and unique characteristic of the device is its ability to limit the forces to the pole by fispillingf the wind away.

In the test (see Diagram B) this spilling occurred between 42 and 52 mph. As the wind force overcame BannerSaver’s spring force, the banners changed direction.

They started out perpendicular to the wind, then billowed and turned such that at over 70 mph the middle of each banner became partially hidden behind the pole.

Diagram B

Force on pole from (2) 30fi x 80fi banners



Calculated Reduction of Area

Using the drag equation for air, derived from Bernoulli’s equation, the theoretical force at a given wind velocity can be calculated and directly compared to the measured force. From that comparison the reduction of banner area can be derived for each bracket.

Example: At 90 mph, the theoretical force on two 30fi X 80fi banners is: $F = (90)^2 * 33.3 * .00256 = 690 \text{ lbs}$

The following table shows the reduction of banner area:

	Flexible	Fixed	BannerSaver”
Force	545 lbs. (Avg.)	530 lbs. (Avg.)	90 lbs. (Avg.)
Reduction	21%	23%	87%



Vinyl banners with BannerSaver brackets during the wind tunnel test.

Wind speed shown in image: 0 mph.



Vinyl banners with BannerSaver brackets during the wind tunnel test.

Wind speed shown in image: 25 mph.

40 km/h



Vinyl banners with BannerSaver brackets during the wind tunnel test.

Wind speed shown in image: 52 mph.

82 km/h