C87850

ECO BRONZE™
HIGH PERFORMANCE LEAD-FREE BRONZE

TESTED TO BE TOUGH STUFF

YOUR LEAD-FREE/COST COMPETITIVE SOLUTION

SLIDING BLOCK ON RING WEAR LOSS AND DYNAMIC COEFFICIENT OF FRICTION

ECO BRONZE™ has been independently tested and proven to be a superb alternative to the standard C93200 leaded tin bronze alloy. Best of all, it's an environmentally-friendly, lead-free and RoHS compliant bearing bronze. The Sliding Block on Ring test is designed to determine wear loss on a steel surface. ECO BRONZE and other alloys were tested by an independent laboratory for wear loss performance.

ALLOYS TESTED

Alloy	Cu (%)	Pb (%)	Sn (%)	Zn (%)	Fe (%)	Si (%)	Bi (%)	Al (%)	P (%)	UTS (ksi)	YS (ksi)	E (%)	Brinell 500kg Load	P Max	V Max	PV Max
C87850*	76			21		3			0.1	65	25	8	103	4,400	450	100,000
C93200*	83	7	7	3						35	20	10	65	4,000	750	75,000
C93700*	80	10		10						35	20	6	60	4,000	1,000	85,000
C89835	87		6.5	3			2.5			30	14	6	65	4,000	500	75,000

* ASTM B505 nominal chemistry, minimum mechanical properties

TEST

SLIDING BLOCK ON RING WEAR LOSS TESTING

This test is designed to determine the wear loss against a hard counter face.

TEST: ECO BRONZE and other alloys were tested by an independent laboratory to the ASTM G77 methodology, against a 4140 steel with a hardness of HRC 28. The bronze ring rotated at 72 rpm with the applied load starting at zero and increasing at a rate of 629 pounds/minute to a maximum of 524 pounds, reaching the maximum in 50 seconds. The maximum load was held constant for 2 minutes.

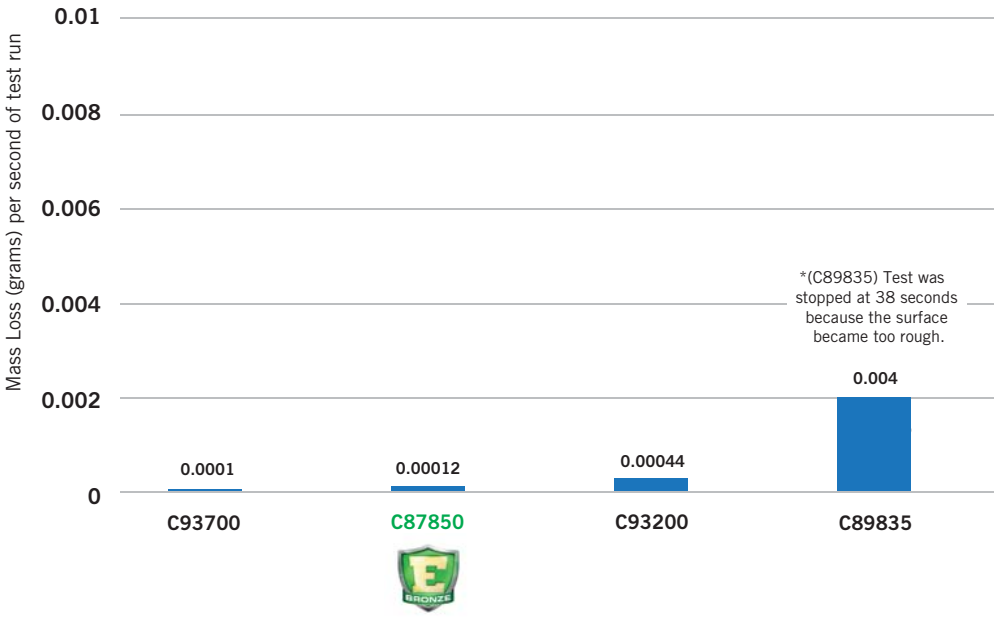
RESULTS

RESULTS: The graph shows the amount of material lost to the steel block. ECO BRONZE proved to be an effective bearing material.

Sliding Block on Ring Wear Loss Per Second

(Contact surface = 4140 Steel @ Rc 28; 524 lb force)

Test Duration =120 seconds*



TEST

RESULTS

DYNAMIC COEFFICIENT OF FRICTION

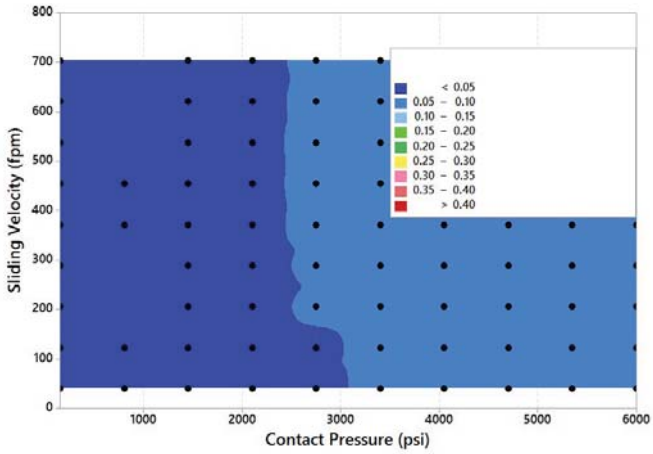
ECO BRONZE was put through a variety of performance tests by independent laboratories to prove its suitability as a quality bearing material, including dynamic coefficient of friction.

TEST: Tests were performed on ECO BRONZE and other bearing alloys in a simulated lubricated environment using a disc-style tribometer model TTMO1 utilizing SAE 50 oil. The counter face material was 4140 steel with a hardness HRC 50, and ground to Ra 12µin. surface finish.

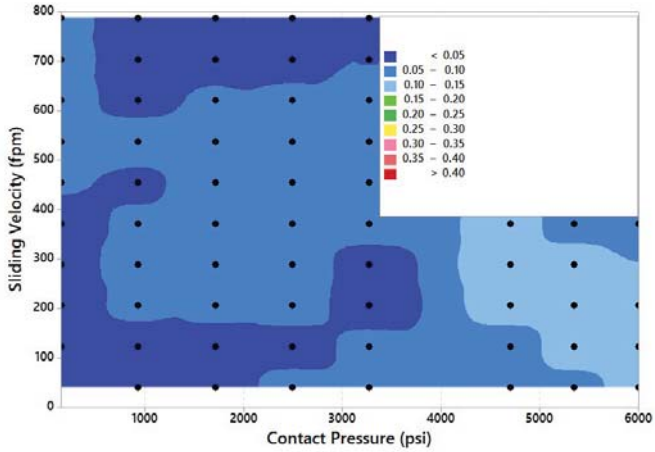
RESULTS: The tests show that C87850 ECO BRONZE dynamic coefficient of friction with SAE-50 oil outperformed the traditional lead-free bronze bearing materials in this study. Other tests and alloys were involved. Please call your Bunting Bearings or Chase Brass representative for more information.

- Optimal low friction
- Good low friction
- Moderately low friction
- Acceptable friction
- Less acceptable friction
- Moderately high friction
- High friction
- Excessive friction

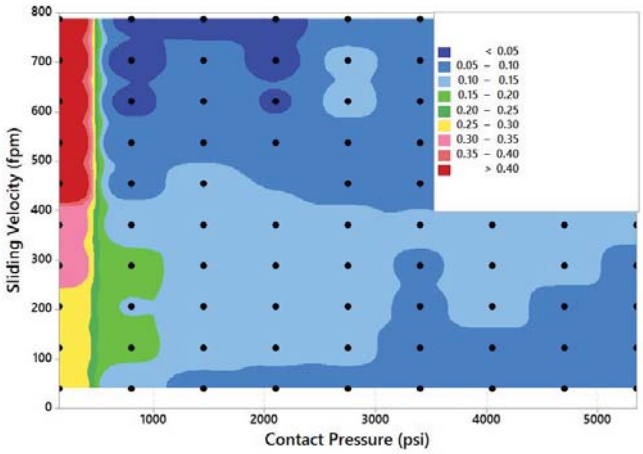
C87850



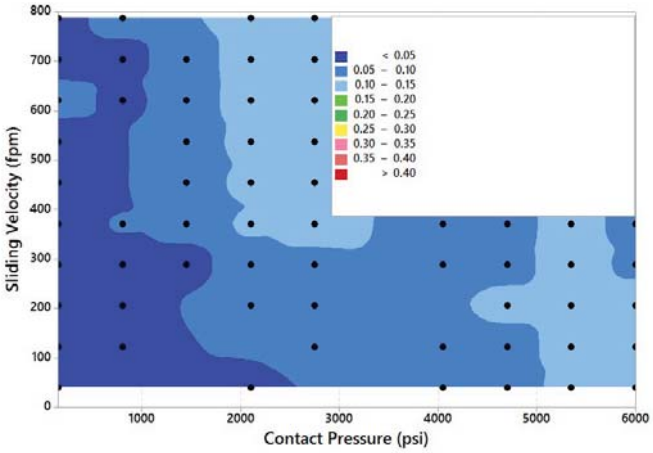
C93200



C95400



C89835



MADE IN THE USA

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