C87850

ECO BRONZE™
HIGH PERFORMANCE LEAD-FREE BRONZE

TESTED TO BE TOUGH STUFF

YOUR LEAD-FREE/COST COMPETITIVE SOLUTION

CORROSION, THERMAL EXPANSION AND HEAT GENERATION

ECO BRONZE™ has been independently tested and proven to be a superb lead-free, environmentally friendly alternative to the standard C93200 leaded tin bronze alloy.

It was put through a variety of tests at independent laboratories for bearing alloy attributes, including dezincification to prove its resistance.

CORROSION

Dezincification is the selective leaching of zinc from brass. It is important that the bearing alloy chosen is resistant to this phenomenon.

TEST

TEST: ECO BRONZE and other common bearing alloys were tested for dezincification resistance per the ISO 6509 protocol., and for added severity, the test was extended from 24 hours to 144 hours. ECO BRONZE showed the same resistance even in the longer test.

RESULTS

RESULTS: ECO BRONZE was among the leaders with ZERO dezincification

ISO 6509 DEZINCIFICATION TESTING COMPARISON

Alloy	Commercial	Dezincification	Cu%	Zn%	Pb%	Sn%	Si%	S%	P%
C83470	Biwalite	0	93	2		4		0.4	
C83600	85 Metal	0	85	5	5	5			
C87850	ECO BRONZE	0	76	21			3		0.1
C90300	Tin Bronze	0	88	4	8				
C93200	High Lead Tin Bronze	0	83	3	7	7			
C93700	Bearing Bronze	0	80	10	10				

ECO BRONZE C87850 COEFFICIENT OF THERMAL EXPANSION

Temperature Range (°C)	Temperature Range (°F)	Coefficient of Thermal Expansion (µm/m C)	Thermal Expansion (µin./in. F)
80-355	176-671	22.2	12.3
407-636	765-1177	18.1	10.1
659-708	1218-1306	-5.5	-3.1

TEST

RESULTS

HEAT GENERATION

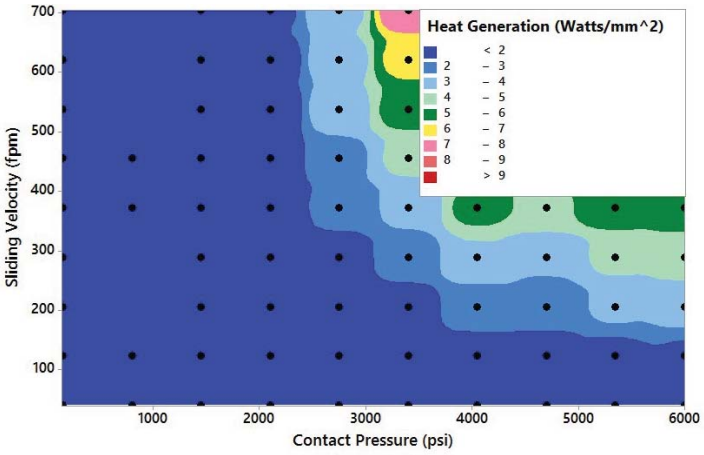
Heat generation is an important criteria when considering a bearing material. ECO BRONZE was put through a variety of performance tests by independent laboratories to prove its suitability as a quality bearing material, including heat generation.

TEST: Tests were performed on ECO BRONZE and other bearing alloys in a simulated lubricated environment using SAE 50 oil. The counter face material was 4140 steel with a hardness HRC 50, and ground to Ra 12µin. surface finish. The tribometer recorded the heat generated by the bearing material.

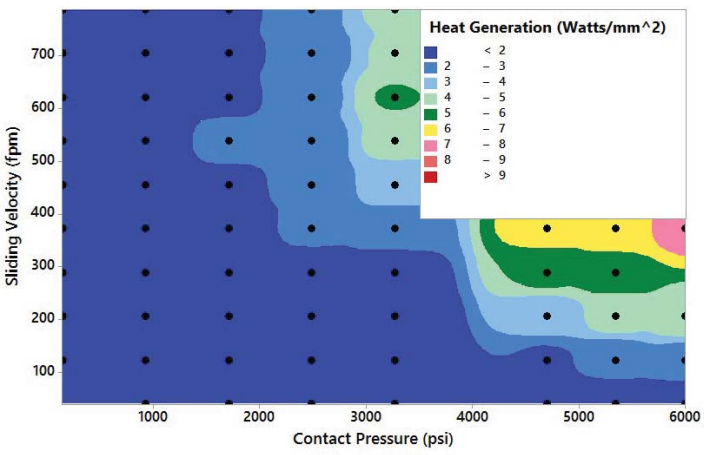
RESULTS: ECO BRONZE did exceptionally well with SAE 50 lubrication. It ran cooler at higher pressures and velocities than other alloys in the test

- Most acceptable
- Good performance
- Moderately low heat
- Higher heat
- Acceptable heat
- Less acceptable heat
- Moderately high heat
- Extensive heat
- High heat

C87850



C93200



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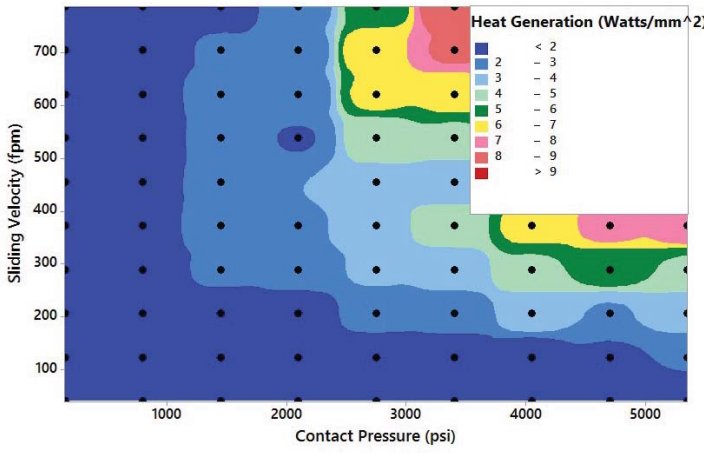

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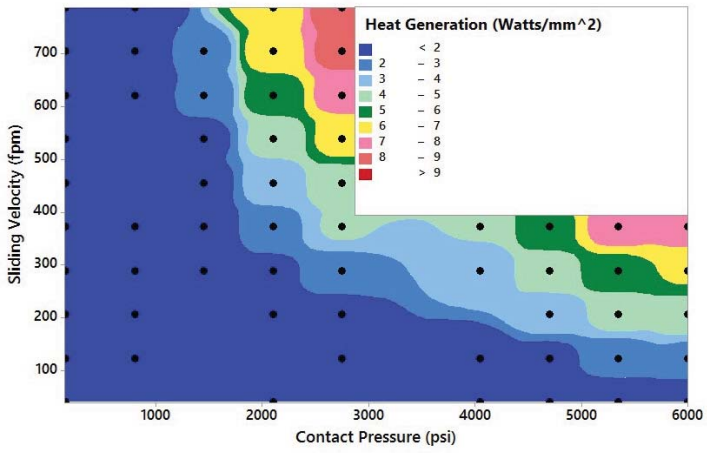

MADE IN THE USA

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