



# THE MECHANICAL PROPERTIES OF WROUGHT PHOSPHOR BRONZE ALLOYS

By

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COMMITTEE B-5 ON COPPER AND COPPER ALLOYS



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*Special Technical Publication No. 183*

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Published by the  
AMERICAN SOCIETY FOR TESTING MATERIALS  
1916 Race St., Philadelphia 3, Pa.

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Printed in Baltimore, Md.  
January, 1956

## FOREWORD

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This paper on "The Mechanical Properties of Wrought Phosphor Bronze Alloy" was presented on October 6, 1955, before the Fall Meeting of ASTM Committee B-5 on Copper and Copper Alloys, at Philadelphia, Pa. The section covering the fatigue testing was presented at the Annual Meeting of the Society in June. Although, the investigation was not sponsored by ASTM, Committee B-5 has a direct interest in the data presented, because of its jurisdiction over the Standard Specification for Phosphor Bronze Plate, Sheet, Strip and Rolled Bar (B 103). On several occasions during the past twelve years, changes have been suggested in some of the mechanical properties required by this specification, but each proposal has been questioned because of the lack of substantiating data. This paper covers a most systematic study of the effect on mechanical properties of phosphor bronze strip, resulting from: (1) variations in tin and phosphorus contents, (2) cold working, and (3) variations in grain size. The data presented provide Committee B-5 with a basis for the review of the requirements of Specification B-103 to determine the possibility of establishing more realistic specification limits on the particular tin alloys. Because of the outstanding nature of this investigation and the inestimable value of the data, Committee B-5 is pleased to sponsor the publication of this paper as a special technical publication which would be readily available for use of future ASTM investigators.

G. H. HARNDEN  
*Chairman, Committee B-5*

[Discussion of this paper is invited. Any discussion received will be reviewed for possible publication in the ASTM BULLETIN.—ED.]

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**NOTE.**—The Society is not responsible, as a body, for the statements  
and opinions advanced in this publication.

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