
THE MECHANICAL PROPERTIES OF COPPER- BERYLLIUM ALLOY STRIP



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AMERICAN SOCIETY FOR TESTING AND MATERIALS
1916 Race St., Philadelphia 3, Pa.

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FOREWORD

This paper was presented on April 3, 1963, before the Spring Meeting of ASTM Committee B-5 on Copper and Copper Alloys, in Washington, D. C. 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 on Copper-Beryllium Alloy Plate, Sheet, Strip, and Rolled Bar (B 194). On several occasions during the past several years, changes have been suggested in some of the mechanical property requirements of this specification, but these proposals have been questioned because of the lack of substantiating data.

This paper covers a systematic study of the effect on mechanical properties of copper-beryllium alloy strip resulting from: (1) variations in beryllium content, (2) cold working, (3) effect of precipitation heat treatment environment, temperature, and time. Also, there are results on resistance to stress-corrosion-cracking in the standard mercurous nitrate test.

The data presented provide Committee B-5 with a basis for the review of the requirements of Specification B 194 to determine the possibility of establishing more realistic specification requirements on the nominal 1.92 per cent beryllium alloy as well as the desirability of including a second alloy having a nominal beryllium content of 1.70 per cent. Because of the high quality of this investigation and the considerable new data, Committee B-5 is pleased to sponsor the publication of this paper as a Special Technical Publication which will be readily available for future use by ASTM and other investigators.

W. H. JENNINGS, Chairman
ASTM Committee B-5

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

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RELATED ASTM PUBLICATIONS

The Mechanical Properties of Wrought Phosphor Bronze Alloys, G. R. Gohn, J. P. Guerard, and H. S. Freynik, STP 183 (1955)

THIS PUBLICATION is one of many issued by the American Society for Testing and Materials in connection with its work of promoting knowledge of the properties of materials and developing standard specifications and tests for materials. Much of the data result from the voluntary contributions of many of the country's leading technical authorities from industry, scientific agencies, and government.

Over the years the Society has published many technical symposiums, reports, and special books. These may consist of a series of technical papers, reports by the ASTM technical committees, or compilations of data developed in special Society groups with many organizations cooperating. A list of ASTM publications and information on the work of the Society will be furnished on request.

