

STUDY OF MICROSTRUCTURE OF CHILL CAST
ALUMINIUM BRONZES (Cu-Al-Fe-Mn) (*)

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Substantial information is available on the microstructures of high tensile aluminium bronzes but most of the literature is pertaining to the alloys containing nickel. In the present paper authors have studied and presented the microstructures of various nickel-free aluminium bronze alloys containing iron and manganese. As an exhaustive amount of work had been done at National Metallurgical Laboratory to study the mechanical properties of such aluminium bronze alloys in the chill cast condition, the present microstructure study is also limited to the as cast alloys.

The alloys whose microstructures are being represented have got the composition in the following range:- Aluminium 8.8 - 10.8%, iron 2 - 5.5%, manganese 0.01 - 3.4% and copper balance.

Though it had been concluded in the earlier work, that microstructures do not appear to have any relation with the proof stress values of the alloys yet an exhausted study has been made on the microstructure of more than hundred alloys in the above said range. A few typical structures have been presented in the present paper.

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