
Hi-Performance Alloy Series
Technical Data

High Strength 5%-Tin Phosphor Bronze

Hyper C5210



1.Introduction

JX Nippon Mining & Metals has been supplying numbers of copper alloys.

Recently, NMM has developed new series of alloys, *Hi-Performance Phosphor Bronze Series*. On this brochure, *Hyper C5210 Alloy* will be introduced.

Hyper C5210 (C5210HP) has high tensile strength as well as excellent bend formability, while chemical composition stays same as conventional C5210 Alloy.

You will be satisfied, we are sure, to find excellent characteristics of *Hyper C5210* for electronic materials such as switches, connectors, relays etc.

*T388omher, etc.

Hyper C5210

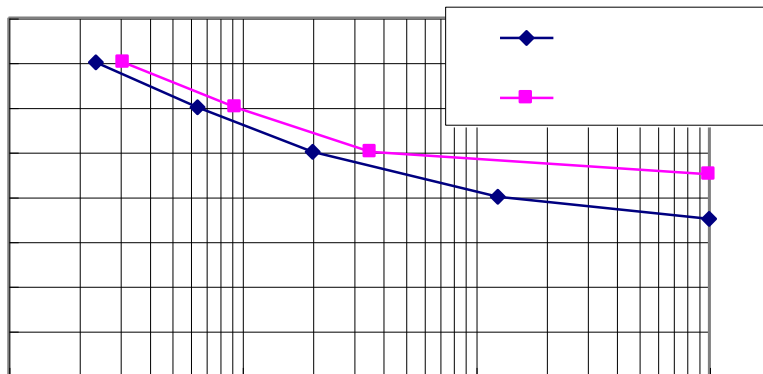
C5210(Conventional)

EH temper, bad way, R/t=1.0, Specimen size : 0.5 10mm, Number of tests=4
90° W shaped bending test (According to JIS-H-3130)

Fig. 1 Surface appearance of W shaped bending test specimen.

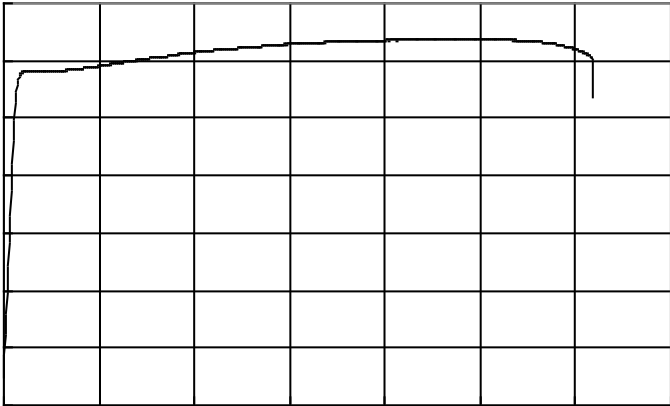
7. Fatigue Characteristic

Fatigue Characteristic is important when material is used as spring application such as connectors. Fig. 2 shows results of fatigue tests. *Hyper5210(C5210HP)* shows better fatigue strength, compared with conventional C5210.

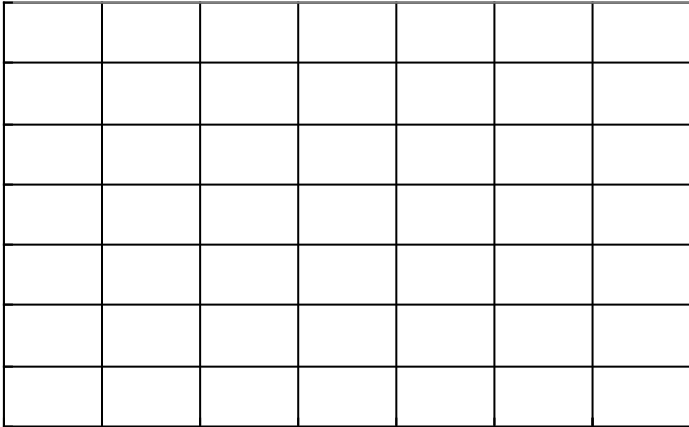


8.Stress-Strain Curve

Fig.3 through Fig.4 show stress-strain curve of Hyper C5210.



S-S curve (temper H, longitude to rolling)

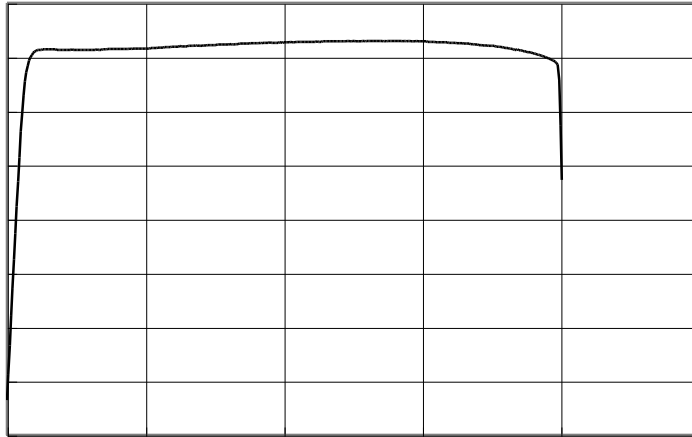


S-S curve (temper H, traverse to rolling)

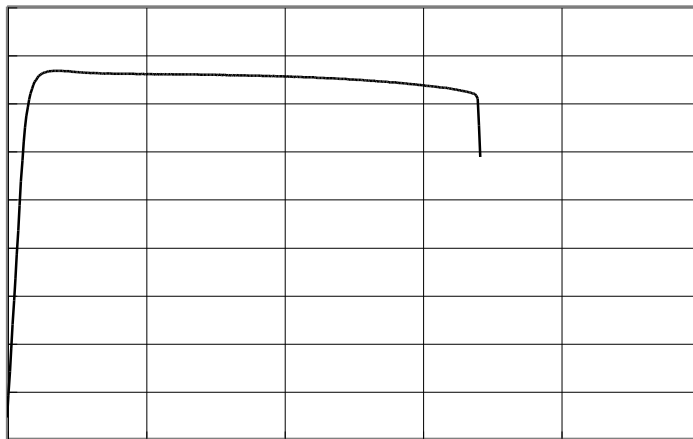
Tensile test (according to JIS-Z-2241)

Specimen : JIS-Z-2201#5 tensile test specimen number of tests : 2

Fig. 3 Stress-Strain Curve 1



S-S curve (temper EH, longitude to rolling)



S-S curve (temper EH, transverse to rolling)

Fig. 4 Stress-Strain Curve 2

S-

