High Strength Phosphor Bronze

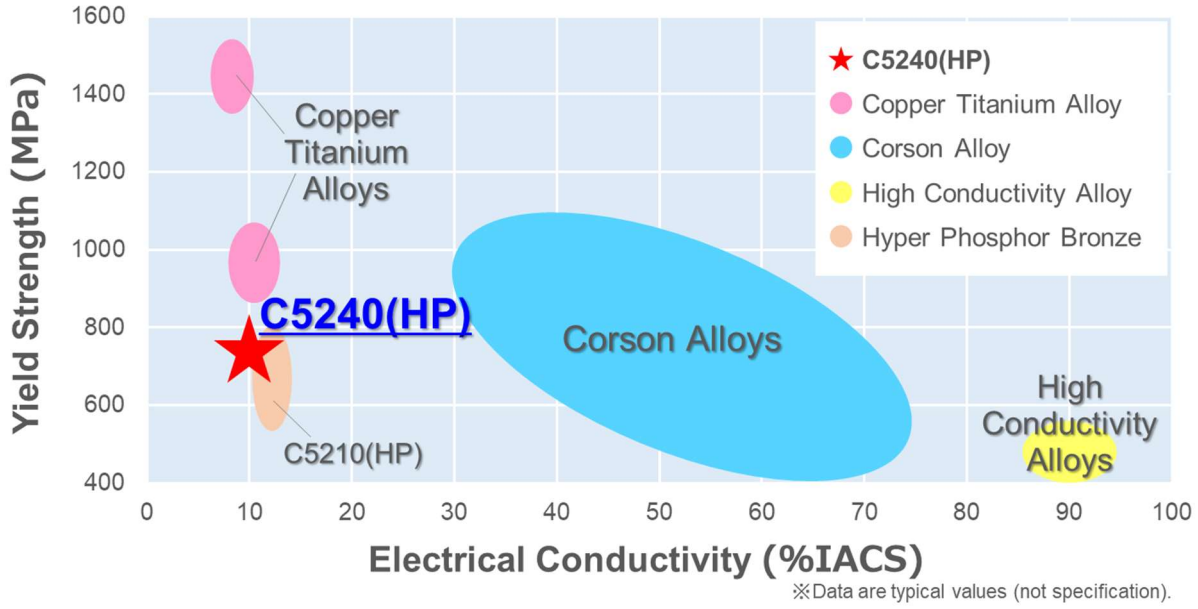
C5240(HP)

※Data in this sheet are typical values (not specification).

Features

- C5240 (HP) is a copper alloy with good bend formability and high strength among phosphor bronze that is a general connector material.

Our Copper Alloy Lineup



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Material Properties

1. Chemical Composition

Element	Cu	Sn	P
Nominal Value (wt%)	Bal.	10.0	0.1

2. Physical Properties

Electrical Conductivity (%IACS) (@20℃)	10
Specific Resistivity (nΩ·m) (@20℃)	157
Thermal Conductivity (W/(m·K))	50
Thermal Expansion Coefficient ($\times 10^{-6}$/K) (@20～200℃)	18.4
Modulus of Elasticity (GPa)	100
Specific Gravity	8.78

Material Properties

3. Mechanical Properties

Temper	Tensile Strength (MPa)	Yield Strength (MPa)	Elongation (%)	Hardness (Hv)
H	708 (650 - 750)	617 (580 - 690)	29.6 (≧11.0)	- (200 - 240)
EH	805 (750 - 850)	755 (650 - 790)	18.5 (≧9.0)	- (230 - 270)
SH	866 (850 - 950)	813 (780 - 920)	11.6 (≧5.0)	- (250 - 290)
ESH	998 (950 - 1050)	935 (900 - 1030)	2.8 (≧1.0)	- (270 - 310)
XSH	1039 (1000 - 1200)	997 (950 - 1190)	1.1 -	- (≧290)

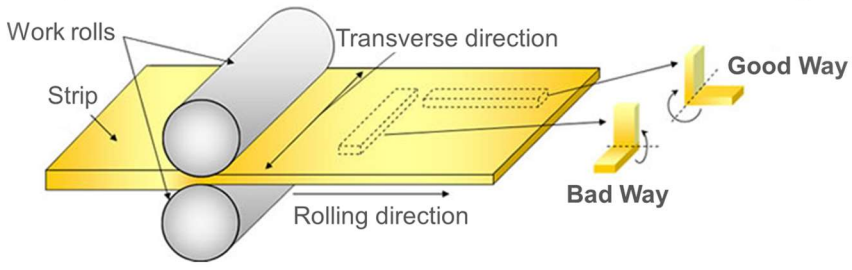
Upper : Typical value, (Lower) : Standard range

4. W-Shaped 90 degrees Bend Formability

Width (mm)	Temper	Thickness (mm)	Minimum Bend Radius / Thickness	
			Good Way	Bad Way
10	H	≦0.15	0	0
	EH	≦0.1	0	1.0
	SH	≦0.1	0	3.0

※In accordance with Japan Copper and Brass Association technical standard (JCBA T307)

Bend direction from schematic illustration of rolling

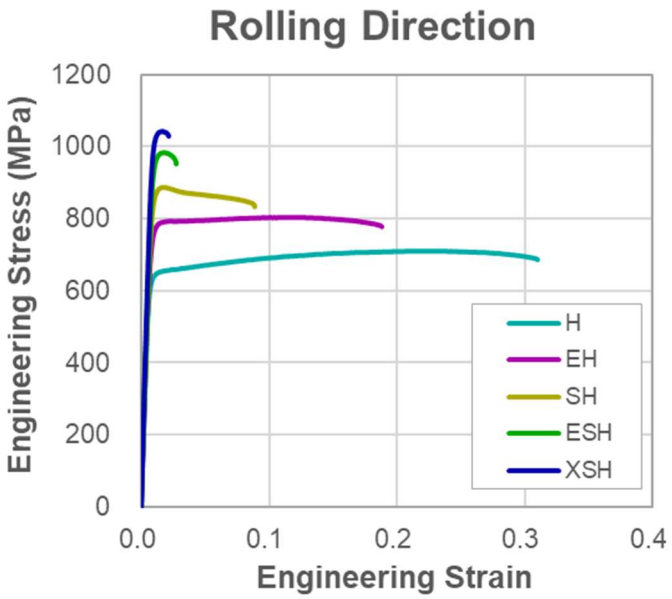


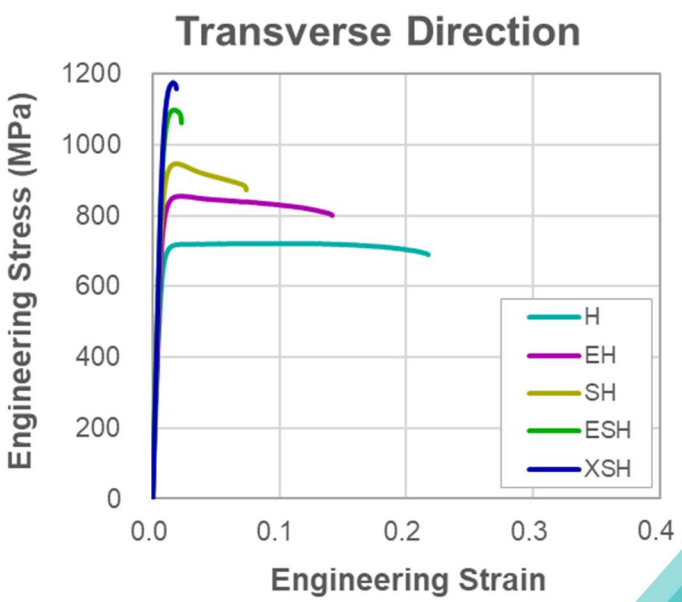
Material Properties

5．Stress-Strain Curve

● Engineering Stress-Strain Curves for each temper of C5240(HP) can be downloaded from our official website.

Download：https://www.jx-nmm.com/english/products/copper_foil_and_alloy/01hppb/C5240HP_S-S_Curve.xlsx





Production Thickness Range

Temper	Thickness Range (mm)
H	0.06 ～ 0.15
EH	0.05 ～ 0.30
SH	0.06 ～ 0.30
ESH	0.08 ～ 0.25
XSH	0.08 ～ 0.20

● Please contact us for the latest stock status and inquiry of other thicknesses.

Contact Address

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C5240(HP) introduction URL : https://www.jx-nmm.com/english/products/copper_foil_and_alloy/01hppb/c5240hp.html

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