

High Strength Phosphor Bronze

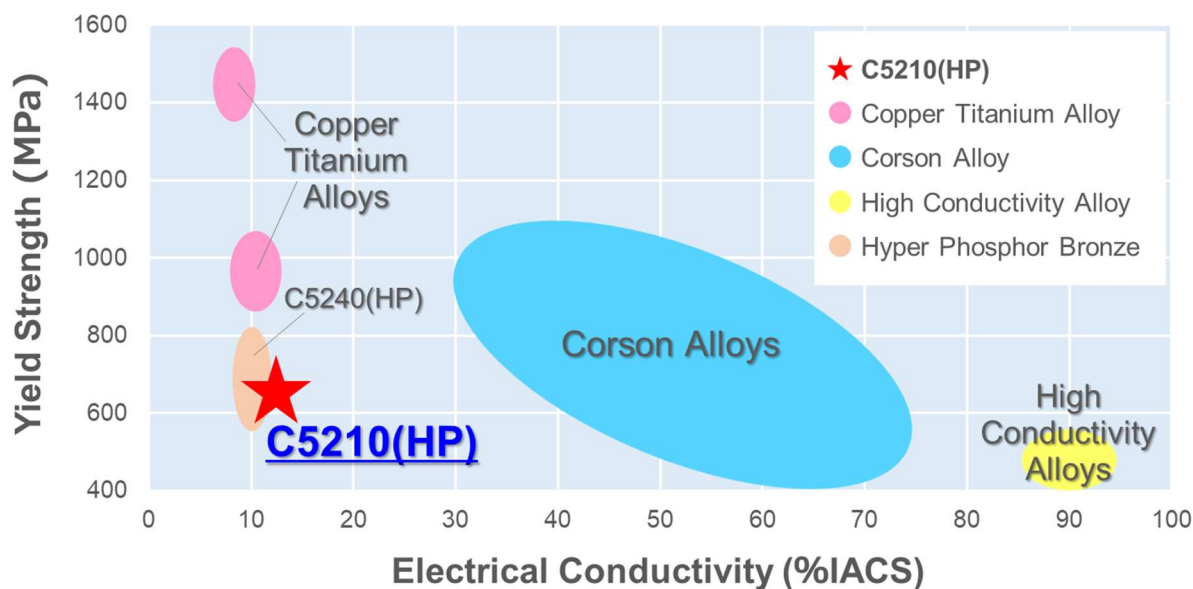
C5210(HP)

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

Features

- C5210(HP) has the same chemical composition as the typical spring phosphor bronze C5210.
- C5210(HP) has high strength and good bend formability.

Our Copper Alloy Lineup



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Material Properties

1. Chemical Composition

Element	Cu	Sn	P
Nominal Value (wt%)	Bal.	8.0	0.1

2. Physical Properties

Electrical Conductivity (%IACS) (@20°C)	12
Specific Resistivity (nΩ·m) (@20°C)	144
Thermal Conductivity (W/(m·K))	63
Thermal Expansion Coefficient (×10 ⁻⁶ /K) (@20~200°C)	18.2
Modulus of Elasticity (GPa)	110
Specific Gravity	8.80

Material Properties

3. Mechanical Properties

Temper	Tensile Strength (MPa)	Yield Strength (MPa)	Elongation (%)	Hardness (Hv)
H	636 (590-705)	565 (-)	33.4 (≥ 20.0)	- (185 - 235)
EH	729 (685 - 785)	688 (-)	22.1 (≥ 11.0)	- (210 - 260)
SH	790 (735 - 835)	760 (-)	17.8 (≥ 9.0)	- (230 - 270)
ESH	853 (785 - 885)	823 (-)	12.0 (≥ 5.0)	- (245 - 285)
XSH	918 (835 - 1000)	879 (-)	2.8 (≥ 1.0)	- (-)

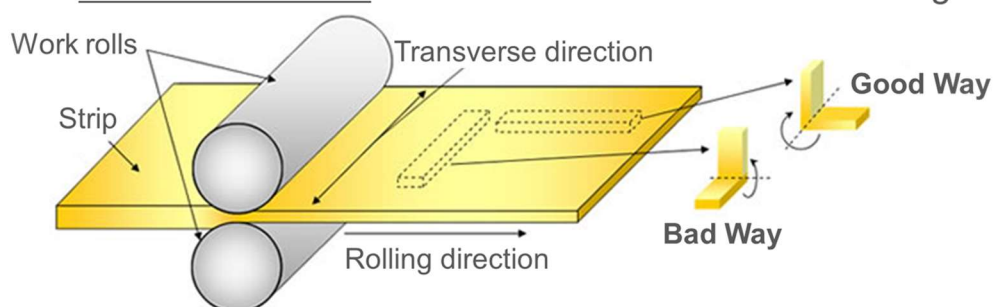
Upper : Typical value, (Lower) : Standard range

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	≤ 0.15	0	0.5
	SH	≤ 0.20	0	2.0
	ESH	≤ 0.15	0	4.0

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

Bend direction from schematic illustration of rolling

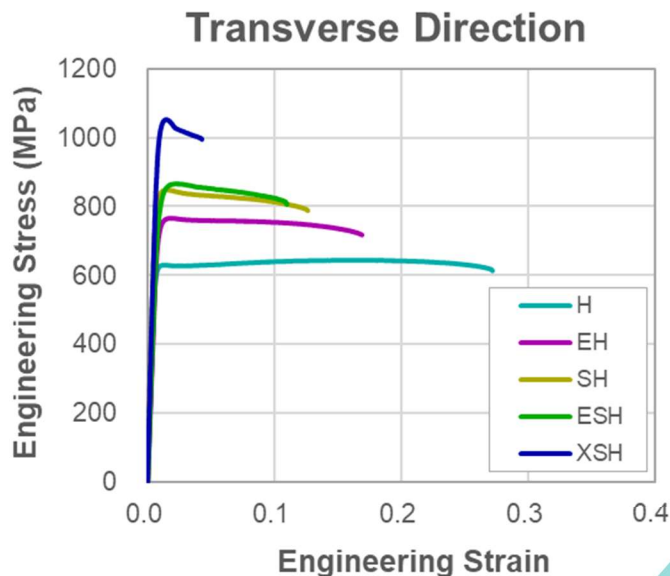
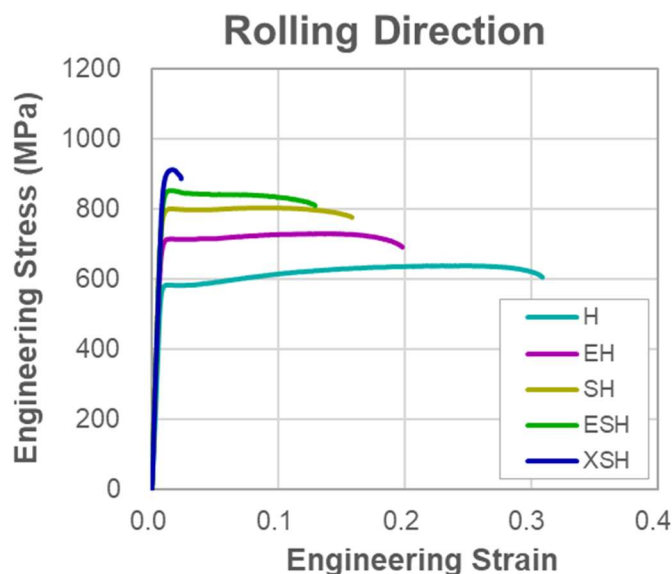


Material Properties

5. Stress-Strain Curve

- Engineering Stress-Strain Curves for each temper of C5210(HP) can be downloaded from our official website.

Download : https://www.jx-nmm.com/english/products/copper_foil_and_alloy/01hppb/C5210HP_S-S_Curve.xlsx



Production Thickness Range

Temper	Thickness Range (mm)
H	0.06 ~ 0.70
EH	0.05 ~ 0.60
SH	0.06 ~ 0.50
ESH	0.07 ~ 0.32
XSH	0.08 ~ 0.18

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

Contact Address

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C5210(HP) introduction URL : https://www.jx-nmm.com/english/products/copper_foil_and_alloy/01hppb/c5210hp.html



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