

High-performance Copper Alloy for Connectors

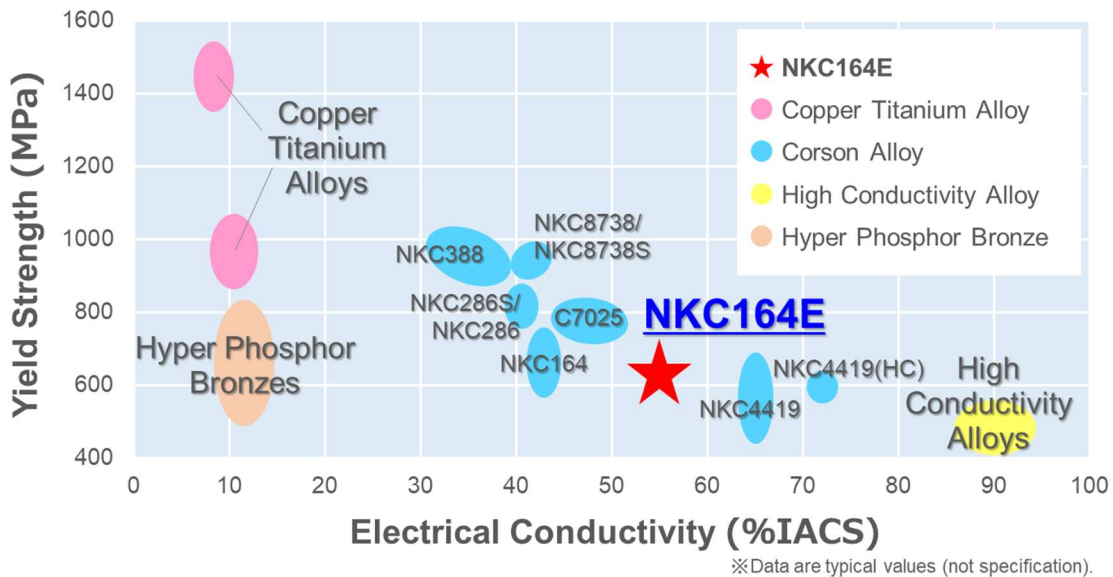
NKC164E

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

Features

- NKC164E is an alloy that has a conductivity of 55%IACS and strength of 600MPa level.
- NKC164E has excellent bending workability. Close bending and box bending are possible.
- NKC164E has excellent stress relaxation properties in high temperature environments.

JX copper alloy lineup



Material Properties

1. Chemical Composition

Element	Cu	Ni	Si
Nominal Value (wt%)	Bal.	1.6	0.35

2. Physical Properties

Electrical Conductivity (%IACS) (@20°C)	55
Specific Resistivity (nΩ·m) (@20°C)	30
Thermal Conductivity (W/(m·K))	240
Thermal Expansion Coefficient (×10 ⁻⁶ /K) (@20~200°C)	17.7
Modulus of Elasticity (GPa)	120
Specific Gravity	8.89

Material Properties

3. Mechanical Properties

Temper	Tensile Strength (MPa)	Yield Strength (MPa)	Elongation (%)	Hardness (Hv)
H	630 (590 - 680)	610 (540 - 680)	12.0 (≥ 5.0)	200 (160 - 220)
EH	690 (620 - 760)	670 (600 - 740)	5.0 (≥ 2.0)	210 (170 - 230)

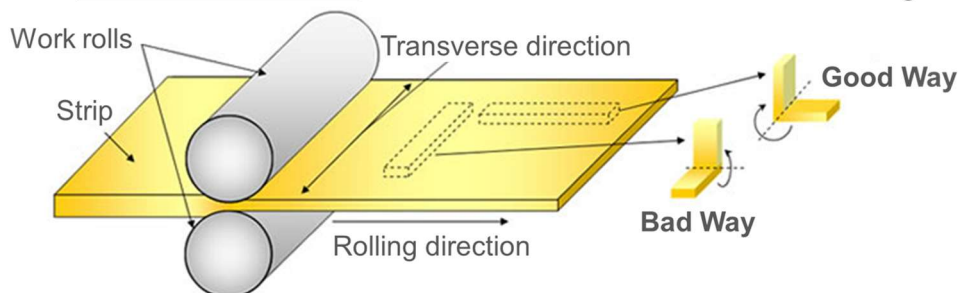
Upper : Typical value, Lower : Standard range

4. W-Shaped 90 degrees Bend Formability

Width (mm)	Temper	Thickness (mm)	Minimum Bend Radius / Thickness	
			Good Way	Bad Way
10	H	≤ 0.20	0	0
	EH	≤ 0.20	0	0.2

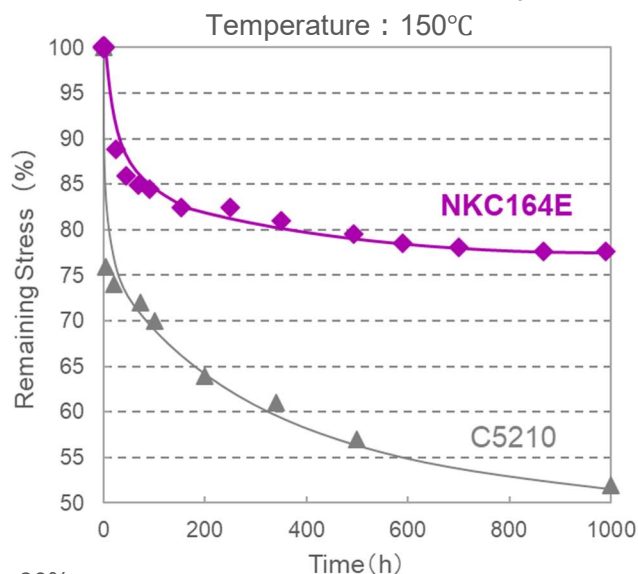
※In accordance with Japan Copper and Brass Association technical standard (JCBA T307)

Bend direction from schematic illustration of rolling



5. Thermal Stress Relaxation Resistance

- NKC164E has superior stress relaxation Resistance compared to phosphor bronze C5210.



※Test method : JCBA T309

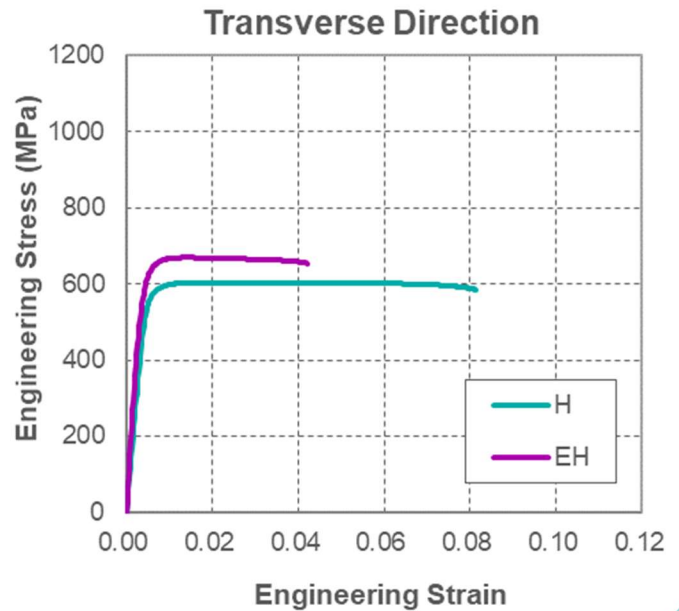
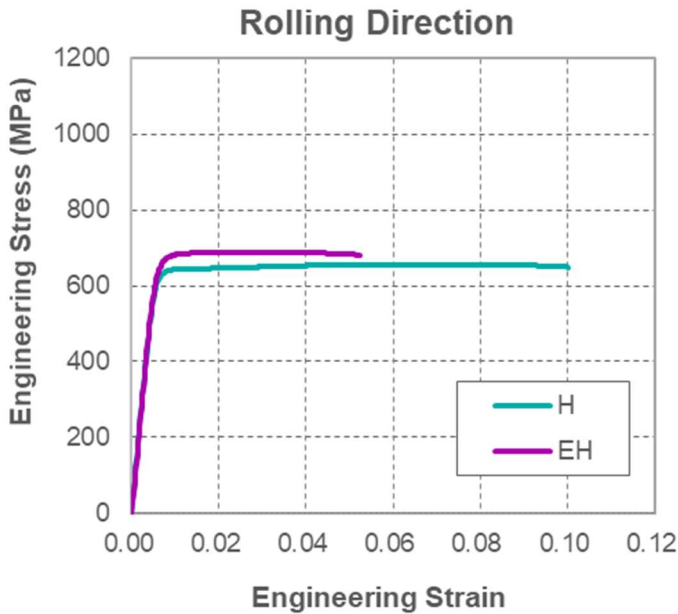
※Applied stress : Yield Stress $\times 80\%$

Material Properties

6. Stress-Strain Curve

- Engineering Stress-Strain Curves for each temper of NKC164E can be downloaded from our official website.

Download : https://www.jx-nmm.com/english/products/copper_foil_and_alloy/03corson/excel/NKC164E_S-S_Curve.xlsx



Production Thickness Range

Temper	Thickness Range (mm)
H	0.08 ~ 0.50
EH	0.04 ~ 0.30

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

Contact Address

Web Site : <https://www.jx-nmm.com/english/>

NKC146E introduction URL : https://www.jx-nmm.com/english/products/copper_foil_and_alloy/03corson/nkc164e.html

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