

High-Strength Corson Alloy

NKC388

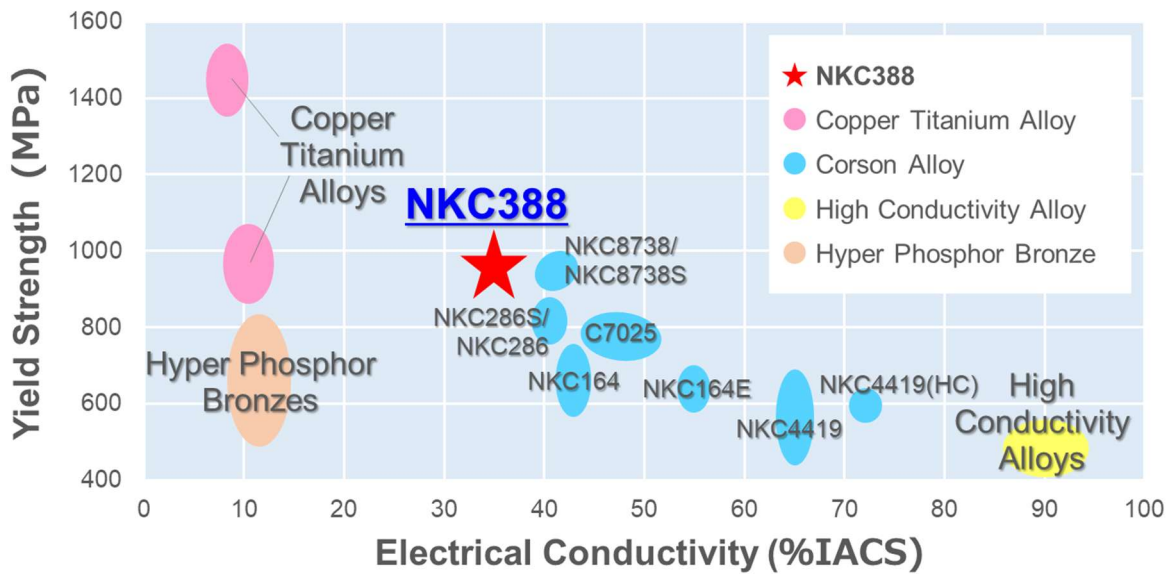
UNS C70252

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

Features

- NKC388 has the same balance of strength, electrical conductivity, and bending workability as conventional Corson alloys. Moreover, it is an alloy that has been successfully made stronger than general Corson alloys.
- NKC388 has the strongest class strength among Corson alloys.
- NKC388 has high stress relaxation properties. Therefore, contact force can be maintained at high temperatures.

Our Copper Alloy Lineup



※Data are typical values (not specification).

Material Properties

1. Chemical Composition

Element	Cu	Ni	Si	Mg	Mn
Nominal Value (wt%)	Bal.	3.8	0.8	0.1	0.13

Material Properties

2. Physical Properties

Temper	SH	XSH	USH
Electrical Conductivity (%IACS) (@20°C)	38	34	32
Specific Resistance (nΩ·m) (@20°C)	45	51	54
Thermal Conductivity (W/(m·K))	160	143	136
Thermal Expansion Coefficient (×10 ⁻⁶ /K) (@20~200°C)	17.6	17.6	17.6
Modulus of Elasticity (GPa)	123	123 TD : 135	120 TD : 140
Specific Gravity	8.82	8.82	8.82

3. Mechanical Properties

Temper	Tensile Strength (MPa)	Yield Strength (MPa)	Elongation (%)	Hardness (Hv)
SH	940 (890 - 990)	910 (860 - 960)	3.0 (≥1.0)	280 (250 - 310)
XSH	1030 (970 - 1090)	1000 (940 - 1060)	2.0 (≥1.0)	325 (285 - 350)
USH	L.D. 1030 (970 - 1090)	1000 (940 - 1060)	2.0 (≥1.0)	325 (285 - 350)
	T.D. 1130 (1070 - 1190)	1100 (1040 - 1160)		

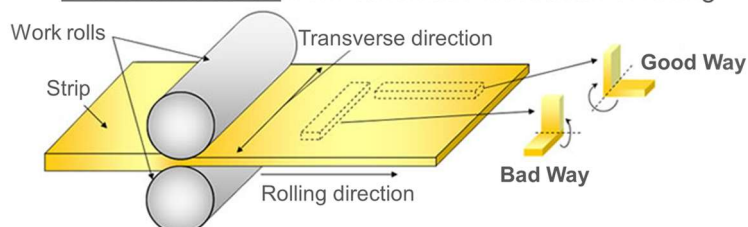
Upper : Typical value, Lower : Standard range

4. W-Shaped 90 degrees Bend Formability

Width (mm)	Temper	Thickness (mm)	Minimum Bend Radius / Thickness	
			Good Way	Bad Way
10	SH	≤ 0.1	1.0	1.0
0.2	SH	≤ 0.1	0	0

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

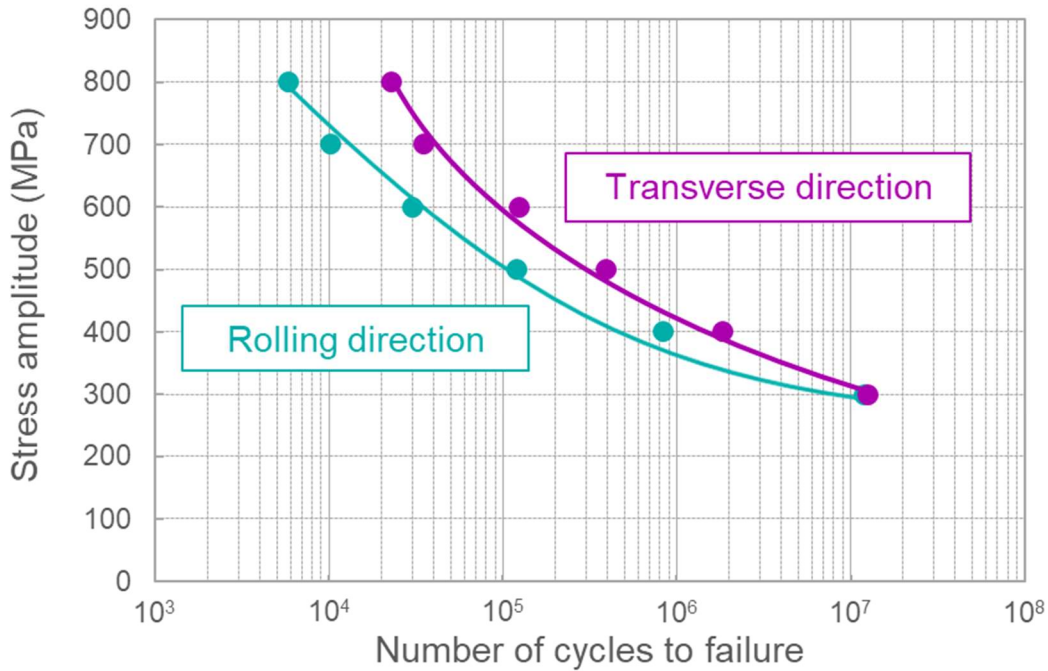
Bend direction from schematic illustration of rolling



Material Properties

5. Fatigue Property

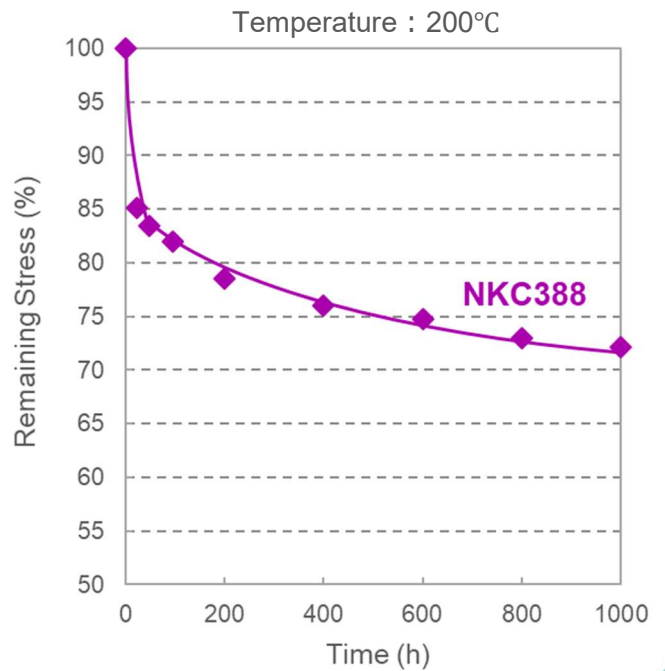
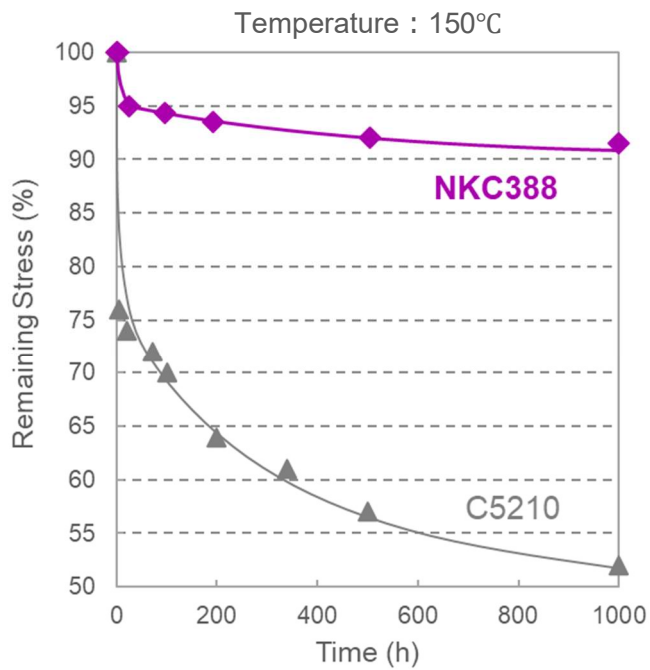
● NKC388 has excellent fatigue resistance.



※Test method : JIS-Z-2273
 ※Presenting the fatigue resistance properties of NKC388-XSH

6. Thermal Stress Relaxation Resistance

● NKC388 has superior stress relaxation properties compared to phosphor bronze C5210. NKC388 maintains a high stress relaxation rate even in a high temperature atmosphere of 200°C.



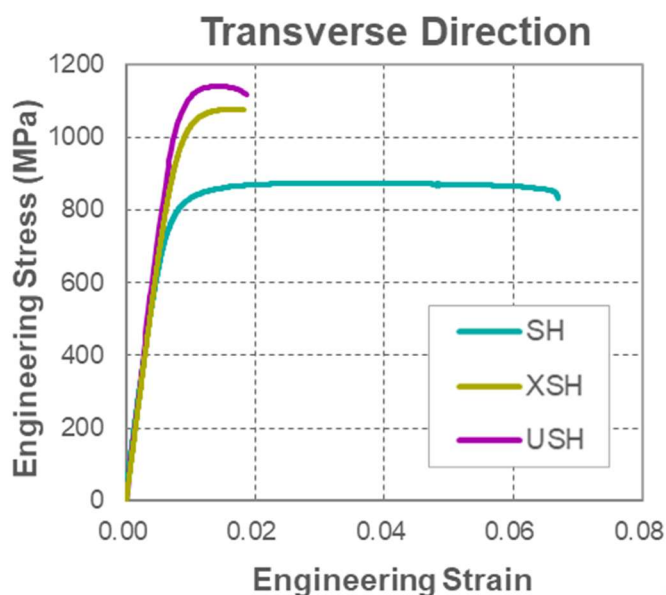
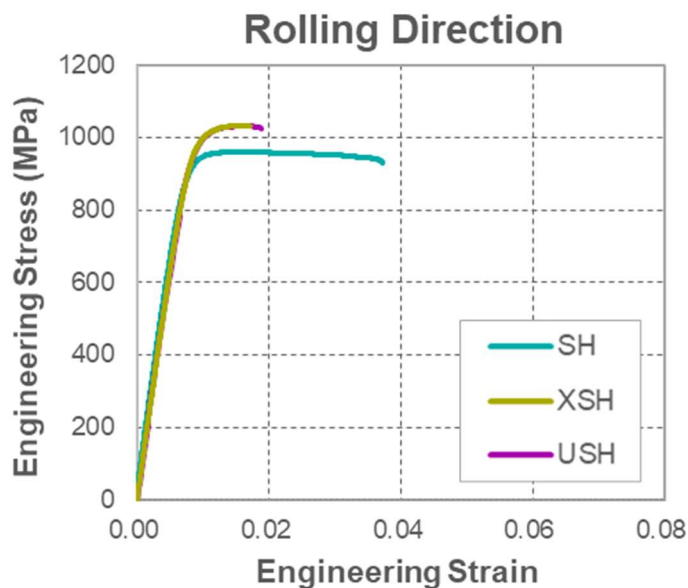
※Test method : JCBA T309
 ※Applied stress : Yield Stress×80%

Material Properties

7. Stress-Strain Curve

- Engineering Stress-Strain Curves for each temper of NKC388 can be downloaded from our official website.

Download : https://www.jx-nmm.com/english/products/copper_foil_and_alloy/03corson/excel/NKC388_S-S_Curve.xlsx



Production Thickness Range

Temper	Thickness Range (mm)
SH	0.05 ~ 0.30
XSH	0.08 ~ 0.22
USH	0.05 ~ 0.18

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

Contact Address

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

NKC388 introduction URL : https://www.jx-nmm.com/english/products/copper_foil_and_alloy/03corson/nkc388.html

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