



## **NGK BERYLCO** STRIP PRODUCTS

*Reliable products for  
superior performance.*

### CHARACTERISTICS OF **NGK BERYLCO** STRIP PRODUCTS

Beryllium Copper strip products are ideal for the electronics manufacturing industry. NGK Berylco alloy characteristics include:

- *High Strength & Elastic Modulus*
- *High Fatigue Strength*
- *Elevated Temperature Properties/  
Resistance to Stress Relaxation*
- *Good Formability*
- *High Electrical Conductivity*
- *Corrosion Resistance*

**NGK BERYLCO** · STRIP PRODUCTS  
WORLD-CLASS QUALITY FOR A GLOBAL MARKETPLACE

# What is Beryllium Copper?

## Chemical Composition

BERYLCO ALLOY NO.	UNS NO.	COMPOSITION	WT.%	OUTSTANDING CHARACTERISTICS
25	C17200	Be Ni + Co Ni + Co + Fe Cu + Be + Ni + Co + Fe	1.80-2.00 0.20 min. 0.6 max. 99.5% min.	high strength high fatigue strength good conductivity wear resistance non-magnetic
165	C17000	Be Ni + Co Ni + Co + Fe Cu + Be + Ni + Co + Fe	1.60-1.79 0.20 min. 0.6 max. 99.5% min.	
10	C17500	Be Co Cu + Be + Ni + Co	0.4-0.7 2.4-2.7 99.5%	high conductivity good fatigue strength good strength wear resistance non-magnetic
14 TMP 17510	C17510	Be Ni Cu + Be + Ni	0.2-0.6 1.4-2.2 99.5%	
7	C17530	Be Co + Ni Cu + Be + Co + Ni	0.2-0.4 1.8-2.5 99.0 min	

## Specifications

AUTHORITY	SPECIFICATION NO.	BERYLCO ALLOYS	
ASTM	B194 (C17200, C17000) B534 (C17500, C17510)	25 • 165 10 • 14	
SAE Federal	AMS 4530 AMS 4532 (noncurrent) (C17200) QQ-C-533 (C17200) (cancelled)	25 25 • 165	
Military	MIL-C-81021	10	
Unified Numbering System (CDA)	C17200 C17000 C17500 C17510 C17530	25 165 10 14 • TMP 17510 7	
JIS	H3130 C17200 H3130 C17000	25 165	
DIN	17666 Chemical Composition 17670,1777 Mechanical Properties 1777,1791 Tolerances	BERYLCO ALLOY	DIN
		165	2.1245
		25	2.1247
		10	2.1285
		14 • TMP 17510	2.0850

## Typical Physical Properties

ITEMS	ALLOY	25	165	10	14 • TMP 17510	7
Melting Point (liquidus) °F		1800	1830	1955	1958	1978
Melting Point (solidus) °F		1590	1630	1885	1840	1922
Density at 68°F lb/cu. in.		0.298	0.304	0.311	0.317	0.316
Coefficient of thermal expansion 69 - 392°F		9.7 x 10 <sup>-6</sup>	9.7 x 10 <sup>-6</sup>	9.8 x 10 <sup>-6</sup>	10.0 x 10 <sup>-6</sup>	9.8 x 10 <sup>-6</sup>
Thermal conductivity BTU/(ft.hr.°F)		60	60	115	120	90 - 140
Electrical conductivity at 68°F IACS% minimum	AT	22	22	45	45	38 min.
	HT	22	22	48	48	
Thermal capacity (specific heat) BTU/(lb.°F)@68°F		0.1	0.1	0.1	0.1	0.1
Modulus of elasticity 10 <sup>6</sup> psi		18.5	18.5	19.5	19.2	18.5
Modulus of rigidity 10 <sup>6</sup> psi		7.2	7.2	7.2	7.5	7.5



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