

# Zone Refined Beryllium and Al-Be Alloys

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## Pure Beryllium from Brush Wellman

Purest readily available material is 99.8% Be (IF-1), as used in test by Zhao.

Zone refined material (99.999%) is available in small quantities:  
Max. diam. = 0.5", max. length = 10".

Cost is about twice that of IF-1 material.

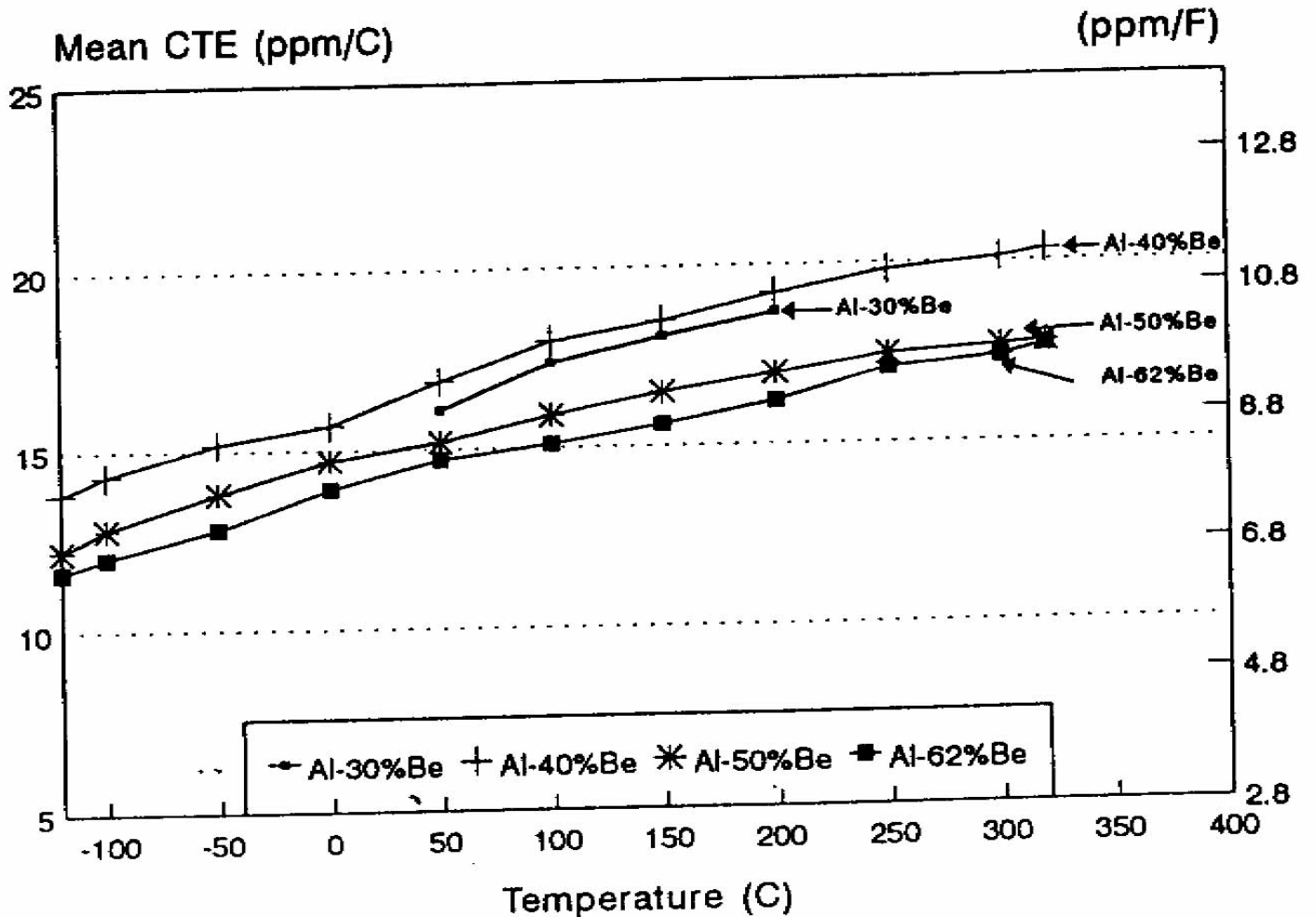
Zhao could use a pair of small rods or strips in his rf conductivity setup, but desires length = 6.25".

(Contact: Christopher Dorn, 510-661-9747. He is generating a quote for 2 6.25"-long strips, sliced out of a rod by wire EDM.)

# Aluminum-Beryllium Alloys from Brush Wellman

Al/Be (by weight)	Density (g/cm <sup>3</sup> )	$X_0$ (g/cm <sup>2</sup> )	$X_0$ (cm)
60/40	2.3	32.1	14.0
50/50	2.2	35.1	15.9
38/62	2.1	39.5	18.8

Thermal expansion coef. closer to that of copper.



Electrical conductivity about 1/2 that of copper.

**Table 8 - Experimental Al-Be Alloy Electrical Conductivity (%IACS)  
Heat Treated at 986°F (530°C) for 3-hrs**

Al-40%Be	48
Al-35.8%Be-3.8%Mg	34
Al-38.5%Be-1.5%Mg-0.5%Si	42
Al-62%Be	42
Al-57.9%Be-2.8%Mg	34

Thermal conductivity:

