



## ATP1005 Samples

### Beryllium Oxide Solderable Submount Samples with Palladium barrier Metalization

Applied Thin-film Products (ATP) is pleased to provide ceramic Thin-Film samples for your evaluation.

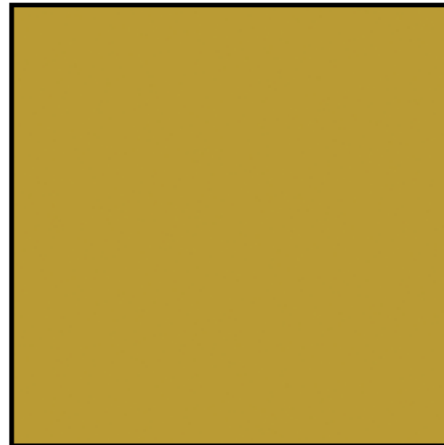
TiW/Pd/Au is a Solderable metalization on Beryllium Oxide (BeO). Since BeO has a thermal conductivity of 270 Watts/mK it is ideal for the toughest thermal applications.

Below are the Material Specifications and the Metalization thicknesses for the samples provided.

#### Material Specifications:

Properties	Units	BeO
Chemical Composition		BeO
Purity	%	99.5
Color		White
Nominal Density	g/cm	2.85
Surface Finish, Polished	u-inches / (nm)	2.0 - 4.0(50-100nm)
Coefficient of Thermal Expansion (CTE)	10 (-6)	9.0 (25-1000°C)
Camber	inches / um(microns)	.0003" / .0005" (7.6/12.7um)
Thickness	inches / um(microns)	.015" (.381mm)
Thickness Tolerance	inches / um(microns)	+/- 0.0005" (+/- 12.7 um)
Thermal Conductivity	Watts/m K	270
Dielectric Constant	1 MHz	6.5
Dissipation Factor (Loss Tangent)	1 MHz	0.0004
Hardness	Rockwell	n/a
Flexural Strength	K(10-3) lbs/sq.in	35 (4 pt. Bend)
Compressive Strength	M(10-3) lbs/sq.in.	n/a
Grain Size	um (microns)	9 to 16

#### Samples Provided:



#### ATP1005, Material is 15 mil BeO

TiW = 400 to 800 Angstroms  
Pd = 1000 to 1500 Angstroms  
Au = 120 u" minimum

Material Specifications provided by Accumet Engineering Company

ATP offers build-to-print service for a wide range of materials and metalization schemes. ATP fabricates circuits on substrates from As-Fired Alumina to Beryllium Oxide to Fused Silica, even Silicon. Metalizations range from the standard Tan/TiW/Au to films including Nickel, Palladium, Platinum, or Titanium.

At ATP, we constantly evolve our processing and material capabilities to reflect our customer's changing needs. If you have a circuit requirement that is out of the "normal" thin film type, please contact ATP at (510) 661-4287 or visit our web site [www.thinfilm.com](http://www.thinfilm.com). ATP would enjoy discussing your application with you and working to develop a solution.

web site: [www.thinfilm.com](http://www.thinfilm.com)

