

- **Coating Measurement Conversion Chart**

- A) Coating Thickness varies by product stoichiometry but is generally  $2.6\mu\pm 10\%$
- B) 2.6 microns is the same as  $2.6\mu$
- C) 1 thou =  $25.4\mu = 0.0254\text{ mm}$
- D) .001 inch = 1 thou =  $0.0254\text{ mm}$
- E) .0001 inch =  $2.54\mu = 0.0025\text{ mm}$

- **Thou to Microns Conversion Formula**

$$L_{microns} = L_{thou} * \frac{127}{5}$$

Where  $L_{thou}$  is the length in thou and  $L_{microns}$  is its equivalent in microns.

- [Reverse formula \(microns to thou\)](#)

- **Definitions**

The **thou** is a unit of measure for length equivalent to 1/1000 of an inch, that is 0.001 inches. It is also known as 'mil'. Introduced around 1844, it is still used today in manufacturing specifications of certain products such as printed circuit boards (ex. size of holes and distance between lines), paper thickness (ex. newspaper paper thickness is around 2 to 4 thou), latex gloves. Reference: Wikipedia

The **micron ( $\mu$ )**, is a unit of length that is equivalent to  $10^{-6}$  m (one millionth of a meter). It is in fact an alternate name for micrometer. The unofficial term micron is still used in many fields of technology, such as electronic component manufacturing and specification.

**Aspect Ratio** is the throw of a material in ratio of hole (or gap) diameter to depth. Like the standard WIDTH to HEIGHT references found in other applications expressed as a ratio 2:1. AlCrN will not throw as far as TiN.

**Correlative Test Pin** is a standard part ran in a standard location. Each load contains one that is destructively tested to reveal the coating thickness and structure present on that pin. This is a correlative value because the coating is **Line of Sight** linear transmission of ions from a cathode percolating the coating structure on the surfaces in-front of the cathode. Rotation and physical part placement effects this number considerably.

- **Practical Application**

A) For Cathodic Arc PVD Coating of general type such as a Titanium Nitride variant applied to a basic specification such as AMS2444, the recognized throw because of the linearity of discharge from a single planar target is 2:1.

B) Rotation of the work piece is critical for uniformity with toroidal deposition down into a hole for maximum line of sight coverage. Additional angular occlusion occur with less than 90° degree angles.

C) Make certain to remember that the coating thickness is expressed as a material addition to the parent part. Holes have two sides. In such a case clearance is reduced by 2x the coating thickness.

D) Remember to discuss needed coverage areas in detail with customer service. As your parts become more familiar our team of engineers and lab associates will make certain you receive the coating thickness you expect.

For Additional Calculation and Conversion Support Try This URL

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