



# MATERION

## PRODUCT BRIEF

### Truextent Acoustic Beryllium

The scope of this specification is to define the characteristics of Truextent® acoustic beryllium that is made from a proprietary high-purity grade of input material.

Truextent material contains a minimum beryllium content of 98.0%. Foil manufactured to this specification is available in a variety of standard pre-formed dome shapes and sizes.

Truextent beryllium can also be supplied as flat stock in standard thickness ranges of 0.002 inches (0.050 mm) or 0.006 inches (0.152 mm) with a +/-10% thickness tolerance, pre-cut into shapes such as discs, ovals, rectangles and other configurations.

Simple and complex custom shapes can also be supplied in production quantities per customer specification. Our in-house engineering and fabrication capabilities allow us to work with you through the prototyping and pilot stages to supply a final component design meeting your precise performance requirements.

The surface shall be clean and free from foreign materials or internal and external imperfections that are detrimental to fit, form or function of the material.

Contact Materion to discuss your project requirements.



**All material is appropriately identified, packaged and labeled to comply with applicable government regulations.**

#### For comparison only - typical properties of each material:

| Property                    | Beryllium  | Magnesium | Titanium  |
|-----------------------------|------------|-----------|-----------|
| Density, r                  | 1.85 g/cc  | 1.74 g/cc | 4.50 g/cc |
| Young's Modulus, E          | 310 GPa    | 44 GPa    | 116 GPa   |
| Speed of Sound $\sqrt{E/r}$ | 12,945 m/s | 5,029 m/s | 5,077 m/s |
| Yield Strength              | 200 MPa    | 85 MPa    | 140 MPa   |
| Poisson's Ratio, $\nu$      | 0.032      | 0.350     | 0.340     |
| Thermal Conductivity        | 216 W/m-K  | 159 W/m-K | 17 W/m-K  |

#### Health & Safety Note:

Processing beryllium-containing alloys poses a health risk if safe practices are not followed. Inhalation of airborne beryllium can cause serious lung diseases in some individuals. Occupational safety and health regulatory agencies worldwide have set mandatory limits on occupational respiratory exposures. Read and follow the guidance in the Safety Data Sheet (SDS) before working with this material. The SDS and additional important beryllium health and safety information and guidance can be found at [beryllium-safety.com](http://beryllium-safety.com), [berylliumsafety.eu](http://berylliumsafety.eu) and [Materion.com](http://Materion.com). For questions on safe practices for beryllium-containing alloys, contact the Materion Product Stewardship Group at +1.800.862.4118 or contact us by email at [Materion-PS@Materion.com](mailto:Materion-PS@Materion.com).

| Feature         | Dimension inches (mm) |            | Tolerance     |
|-----------------|-----------------------|------------|---------------|
|                 | From                  | To         |               |
| Diameter        | 0.25 (3.81)           | 6.0 (152)  | 0.003 (0.08)  |
| Length or Width | 0.25 (5.08)           | 3.0 (76.2) | 0.015 (0.381) |
|                 | 3.0 (76.2)            | 6.0 (203)  | 0.030 (0.762) |

**Tighter tolerances on formed parts are available on request. Please contact Materion for price and availability.**

#### MATERION Global Headquarters

6070 Parkland Boulevard  
Mayfield Heights, OH 44124 USA

#### Contact Us:

[connect@materion.com](mailto:connect@materion.com)  
+1.800.375.4205 (+1.216.383.6800)  
[www.materion.com](http://www.materion.com)

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