

## Truextext Brand Acoustic Beryllium

The scope of this specification is to define the characteristics of Truextext brand Acoustic Beryllium that is made from a proprietary high purity grade of input material.

Acoustic Beryllium shall contain 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. These domes are available with and without surrounds. There are no tooling or non-recurring engineering charges incurred when ordering these standard domes.

Acoustic Beryllium can also be supplied as flat stock in standard thickness ranges from 0.001 – 0.020 inches (0.025 – 0.508 mm), 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 uniform in quality and condition, clean, and free from foreign materials, or internal and external imperfections that are detrimental to fabrication. A variety of cosmetic coatings and treatments are also available.

Standard surface finish shall be 63 microinches  $R_a$  or better. Different surface finishes are available on certain thicknesses.

Contact Materion Electrofusion to discuss your project requirements.

Feature	Dimension inches (mm)		Tolerance inches (mm) + / -
	From	To	
Thickness	0.001 (0.025)	0.020 (0.508)	10%
Diameter	0.15 (3.81)	8.0 (203.2)	0.003 (0.076)
Length / Width	0.20 (5.08)	3.0 (76.2)	0.015 (0.381)
	3.0 (76.2)	8.0 (203.2)	0.030 (0.762)

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



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

Property	Acoustic Beryllium	Magnesium	Titanium
Density, $\rho$	1,850 kg/m <sup>3</sup>	1,740 kg/m <sup>3</sup>	4,500 kg/m <sup>3</sup>
Young's Modulus, $E$	310 x 10 <sup>9</sup> Pa	44 x 10 <sup>9</sup> Pa	116 x 10 <sup>9</sup> Pa
Speed of Sound $\sqrt{E/\rho}$	12,945 m/s	5,029 m/s	5,077 m/s
Tensile Strength (yield)	240 x 10 <sup>6</sup> Pa	115 x 10 <sup>6</sup> Pa	140 x 10 <sup>6</sup> Pa
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:

Handling solid beryllium material poses no significant health risks. However, as with many other industrial materials—materials containing beryllium may pose a health risk, if and when recommended safe handling practices are not followed and adhered to. Inhalation of airborne beryllium may cause a serious lung disorder in susceptible individuals. The Occupational Safety and Health Administration (OSHA) have set mandatory limits on occupational respiratory exposures. Read and follow the guidance set forth in the Material Safety Data Sheet (MSDS) before working with beryllium. For additional information on safe handling practices or technical data on beryllium, contact Materion Electrofusion.