



# TRANSMITTANCE

## Materion Electrofusion Transmittance of Beryllium

### Fractional Transmittance Data

| Material Type      | IF-1® Foil | PF-60® Foil | PS-200® Sheet | I 100 Aluminum |
|--------------------|------------|-------------|---------------|----------------|
| Purity             | 99.8%      | 99.0%       | 98.5%         | 99.0%          |
| Thickness (Inches) | Be         | Be          | Be            | Al             |
| 0.001              | 0.995      | 0.991       | —             | 0.717          |
| 0.002              | 0.990      | 0.982       | —             | 0.513          |
| 0.003              | 0.985      | 0.973       | —             | 0.368          |
| 0.004              | 0.979      | 0.964       | —             | 0.264          |
| 0.005              | 0.974      | 0.955       | —             | 0.189          |
| 0.006              | 0.969      | 0.946       | —             | 0.135          |
| 0.007              | 0.964      | 0.938       | —             | 0.097          |
| 0.008              | 0.959      | 0.929       | 0.924         | 0.070          |
| 0.010              | 0.949      | 0.912       | 0.905         | 0.036          |
| 0.012              | —          | 0.895       | 0.888         | 0.018          |
| 0.015              | —          | 0.871       | 0.861         | 0.007          |
| 0.020              | —          | 0.832       | 0.820         | 0.001          |
| 0.040              | —          | 0.692       | 0.672         | —              |
| 0.050              | —          | 0.631       | 0.608         | —              |
| 0.060              | —          | 0.575       | 0.551         | —              |

Target: CuK alpha      Energy: 8.041 keV      Wavelength: 1.5418 Angstroms      \* Preliminary standard, subject to revision.

- Notes:
- 1 Transmittance values per formula  $T = e^{-\rho \Sigma \mu_i f_i}$  where...  
 $l$  = x-ray path length  
 $\rho$  = mass density of material  
 $f_i$  = fraction of material mass due to element (i)  
 $\mu_i$  = mass absorption coefficient of element (i).
  - 2 Thicknesses shown may not be available. Please contact Materion Electrofusion for current availability.
  - 3 Beryllium content percentage (Be%) is minimum value specified by manufacturer. Typical content is greater than that noted. Calculations are based on maximum material conditions (highest impurity levels) as established by actual material certification documents.
  - 4 Every effort has been made to assure the accuracy of this data. However, no responsibility for possible errors can be assumed, and Materion Electrofusion is not responsible for any damage that may result from any use of this data. For critical calculations, the data should be independently verified.

### 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.