

### Low-Background Just Got Better!

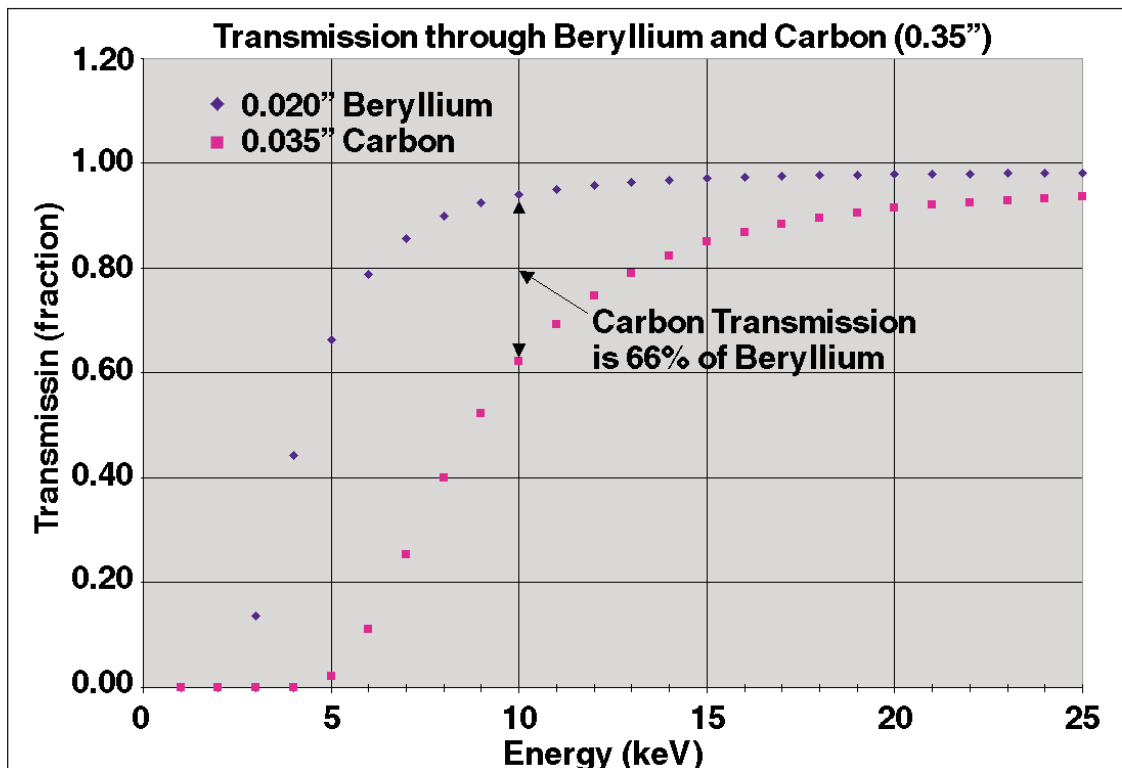
#### Carbon Fiber

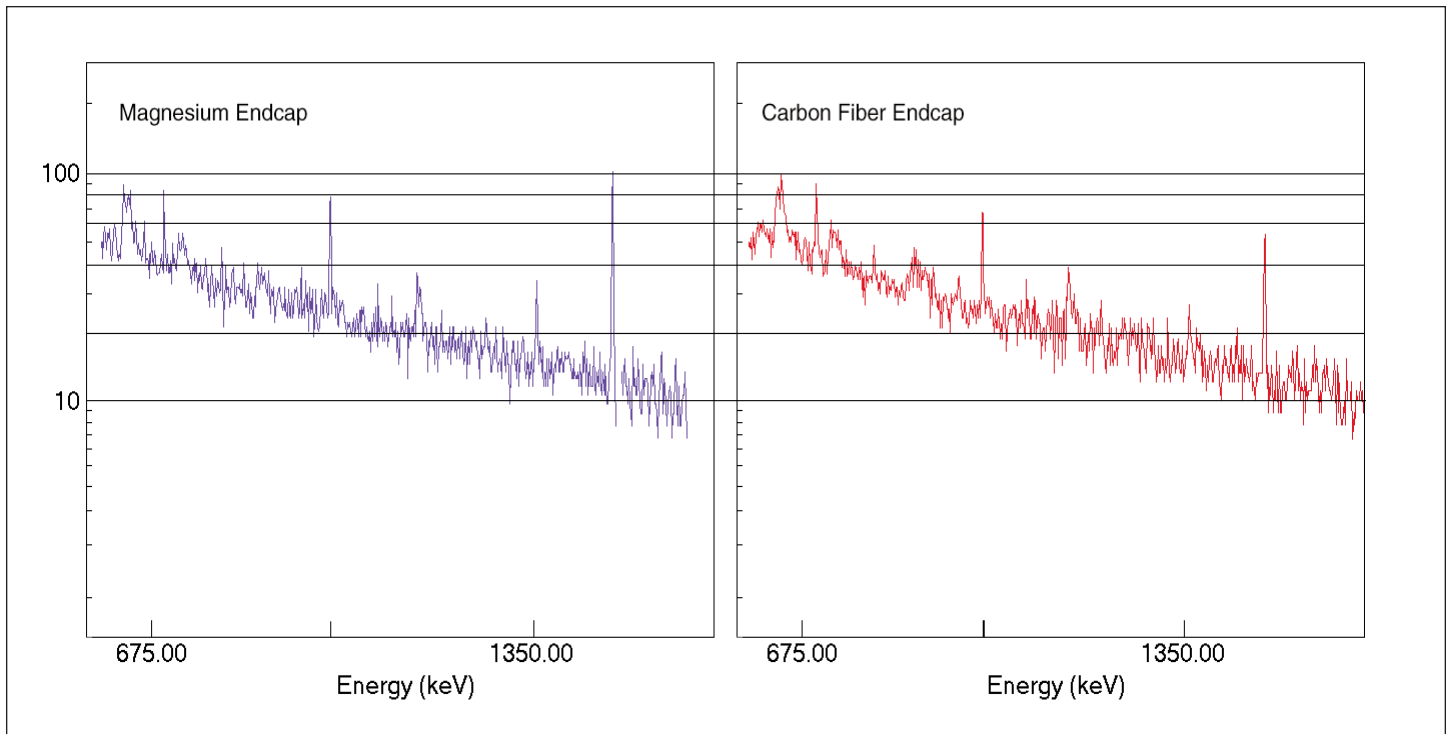
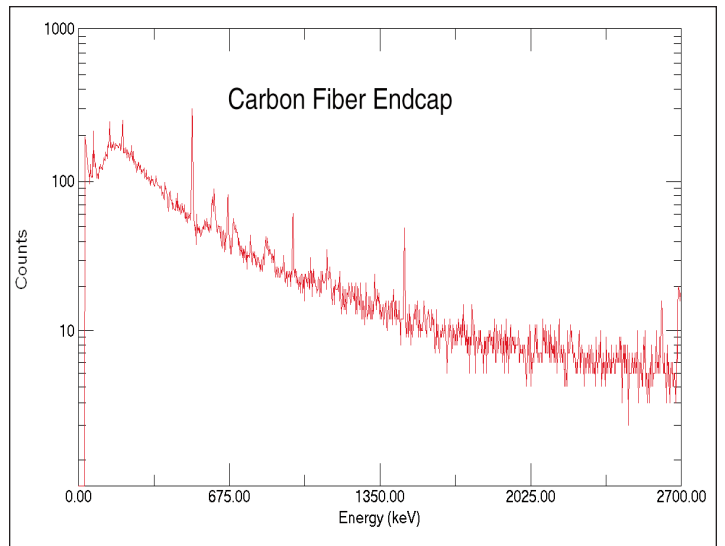
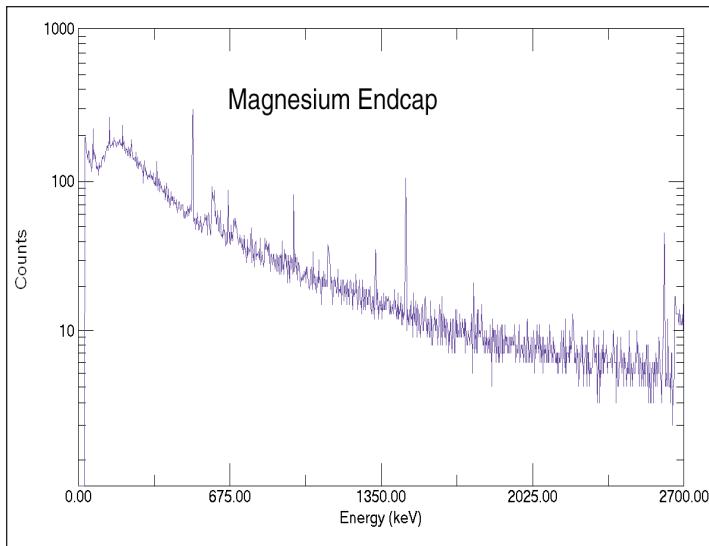
- is as strong as Al, Mg, and Cu
- creates less background
- does not corrode
- can detect energies less than 10 keV (see comparison chart)

A monolithic endcap made of Carbon Fiber is now available for ORTEC Low-Background detectors. This lower background material allows for lower Minimum Detectable Activity (MDA) for a specific counting time, which provides another step in increasing sample throughput in low-background counting applications. The lower Z of Carbon Fiber provides a low-energy window without the additional background found in most alloys (see transmission chart).

Beryllium windows in copper endcaps are available for Low-Background detectors where lower energy efficiencies are needed.

Carbon Fiber, unlike Beryllium, is non-toxic and can be cleaned with most laboratory solvents such as methanol, trichloroethylene, and acetone. Soap and water may also be used. Abrasive cleaners should not be used.





100,000 second live time spectra of two similar efficiency Low Background GEM detectors, one with a Magnesium endcap and one with a Carbon Fiber endcap. These background spectra were taken in a standard lead shield.

Specifications subject to change  
102110

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[www.ortec-online.com](http://www.ortec-online.com)

Tel. (865) 482-4411 • Fax (865) 483-0396 • [ortec.info@ametek.com](mailto:ortec.info@ametek.com)  
801 South Illinois Ave., Oak Ridge, TN 37831-0895 U.S.A.  
For International Office Locations, Visit Our Website

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