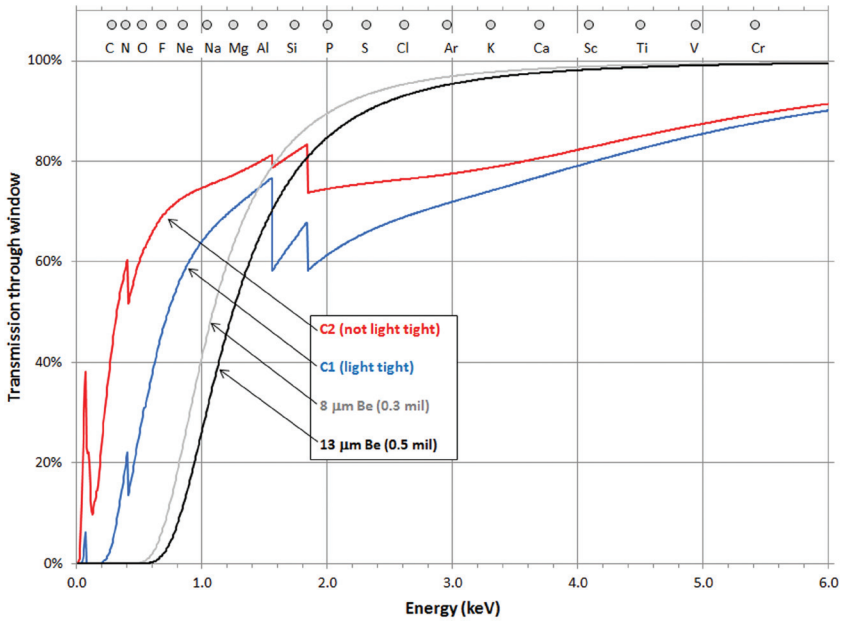
Low Energy X-ray Windows

Amptek "C Series" Windows for XRF

Amptek Inc has introduced a new series of low energy X-ray windows for XRF. The new technology "C Series" X-ray windows, made of Silicon Nitride (Si_3N_4) with aluminum coating, extend the low energy response of the Amptek Super SDD down to Beryllium (Be). These windows can be used in SEMs, benchtops, or hand-held analyzers.

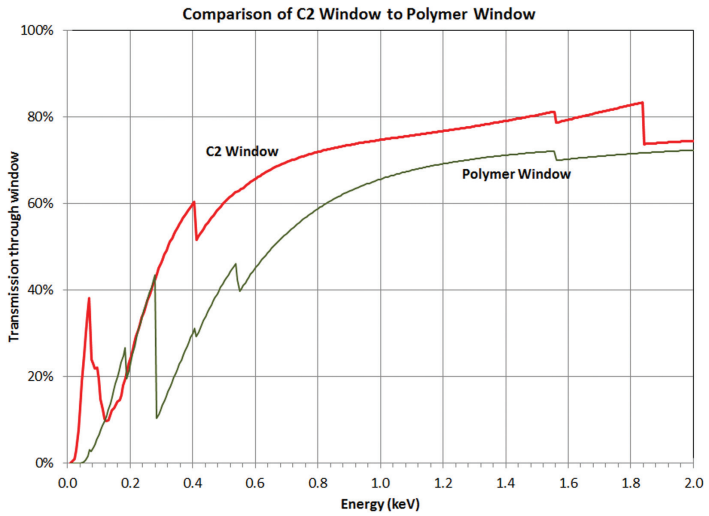
Amptek provided an alternative to liquid nitrogen when it introduced the first thermoelectrically cooled detector. Now with the C Series, Amptek provides an alternative to the Beryllium (Be) window.

Amptek Low Energy "C Series" X-Ray Windows (compared to standard Be)



Transmission for Low Z Elements

Element	C1	C2	8 µm Be (0.3 mil)	12 µm Be (0.5 mil)
Be	0%	13%	0%	0%
B	0.06%	19.7%	0%	0%
Li	0%	29%	0%	0%
C	4.3%	43.9%	0%	0%
N	20.2%	59.2%	0%	0%
O	29.4%	62%	0%	0%
F	46.1%	69%	4%	1%
Ne	58.1%	72.9%	20%	9%
Na	65.4%	75.1%	40%	27%
Mg	70.6%	77.3%	59%	47%
Al	75.4%	80.3%	73%	64%
Si	64.7%	81.8%	82%	75%



OEM's #1 Choice

AMP TEK®

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Amptek.sales@ametek.com **www.amptek.com**

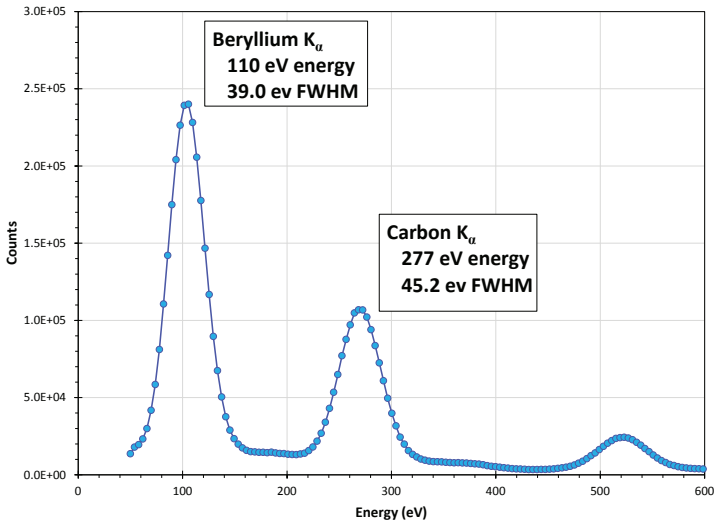
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MATERIALS ANALYSIS DIVISION

Amptek "C Series" Windows for XRF

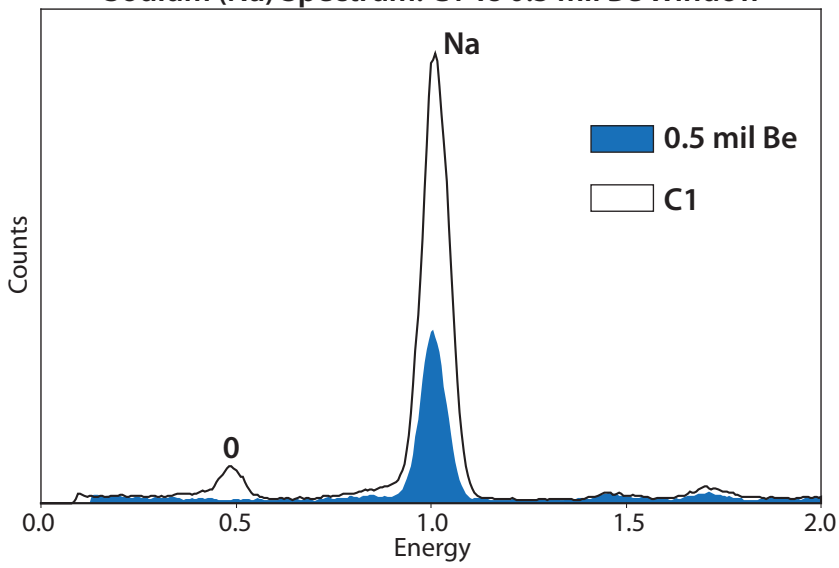
SPECIFICATIONS FOR C1 and C2 WINDOWS

	C1	C2
Thickness (Si3N4)	150 nm	40 nm
Aluminum Coating	250 nm Grounded	30 nm
Window Diameter	6.3 mm	5 mm
Window Area	30 mm^2	20 mm^2
Grid Type	Hexagonal Si, 15 µm thick	
Open Area Grid	78%	78%
Operating Temperature	-55 °C to +150 °C (0 bar pressure differential)	-40 °C to +85 °C (1 bar front pressure differential)
Pressure Testing	1.6 bar front pressure differential for 10 seconds 10 cycles of 1 second duration with 1.6 bar front differential pressure	

Amptek 25 mm^2/500 mm SDD with C2 Window
Beryllium (Be) and Carbon (C) Response



Sodium (Na) Spectrum: C1 vs 0.5 mil Be Window



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