



Octane Elite EDS System



Octane Elect EDS System



Element EDS System

The game changing advancements in the EDAX energy dispersive spectroscopy (EDS) Systems take materials analysis to the next level. The systems include silicon drift detectors (SDDs) with a silicon nitride (Si_3N_4) window, offering remarkable improvements in low energy sensitivity for light element detection and low kV microanalysis. The EDAX systems with fully vacuum encapsulated modules include the most advanced electronics, which yield high speed X-ray data processing and the most efficient configuration available.

Best light element performance

The silicon nitride window offers major improvements compared to a polymer window, leading to greatly improved light element performance and significantly more critical data for the analyst. The spectra shown in Figure 1 were acquired from a silicon dioxide sample at 10 kV using an Octane Elect detector. The two spectra have been scaled to the same peak amplitude at the Si K peak to facilitate comparison and a clear improvement for the Si_3N_4 window is seen in the increased oxygen peak intensity.

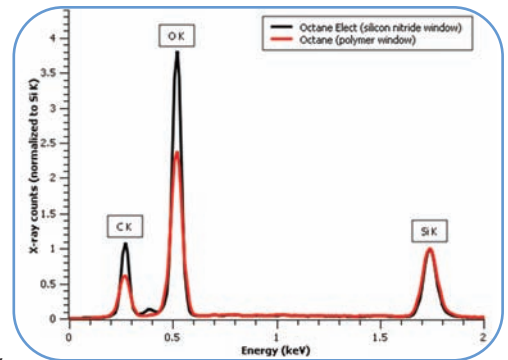


Figure 1

Excellent low kV performance

The mechanical properties of Si_3N_4 allow the windows to be very thinly fabricated, offering a great benefit in terms of sensitivity, enabling optimal low voltage analysis.

Reliability

The material properties and durability of Si_3N_4 ensure the most robust and reliable detectors available for all EDS applications.

Vacuum encapsulated module

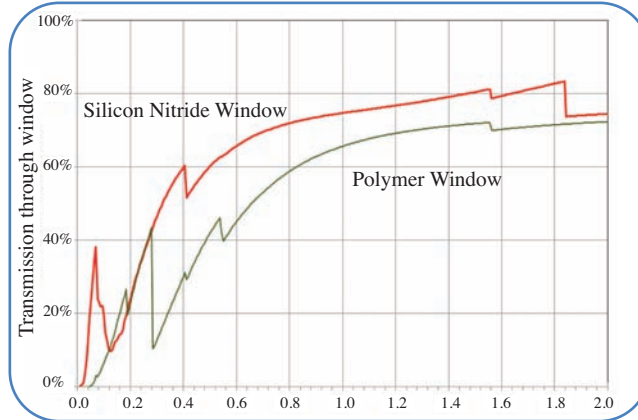
The vacuum encapsulated module reduces X-ray attenuation and increases low energy peak intensity. It also eliminates moisture and prevents degradation and failure.

Safe for plasma cleaning

The ceramic properties of the Si_3N_4 window with vacuum encapsulation allow for plasma cleaning to reduce the build-up of contamination.

Benefits

- Si₃N₄ window
- Vacuum encapsulated module
- Low energy detection
- Superior resolution
- Fast electronics
- Low noise
- Highest throughput
- Peak/Background > 10,000/1
- Thermoelectric Peltier cooling (fan and LN free)
- Plasma cleaning



Optimized SDD Electronics

- The market-leading electronics and DPP allow the detectors to function at lower temperatures using less power for better resolution, fast pulse processing and the highest throughput available.

Stable energy resolution at high collection speeds

- Data quality optimized at all count rates
- Extraction of high-resolution quantitative analysis at mapping speeds up to 400,000 output cps

Conclusion

The design enhancements and analytical benefits of the EDAX EDS Systems ensure that they offer a range of analysis tools, which enable users to solve their most challenging materials characterization problems. The range of tools ensures that analysts can select solutions, which match their individual applications and have a level of sophistication, tailored to specific analysis requirements.

System Overview

	Element EDS System	Octane Elect EDS System	Octane Elite EDS System
Resolution	129 eV	127 eV	125 eV standard 123 eV premium
Detector size	30 mm ²	Plus - 30 mm ² Super - 70 mm ²	Plus - 30 mm ² Super - 70 mm ²
Slide Options	Fixed/Manual	Manual	Motorized
Technique Options	EDS	EDS EBSD	EDS EBSD WDS
Cooling	Peltier	Peltier	Peltier