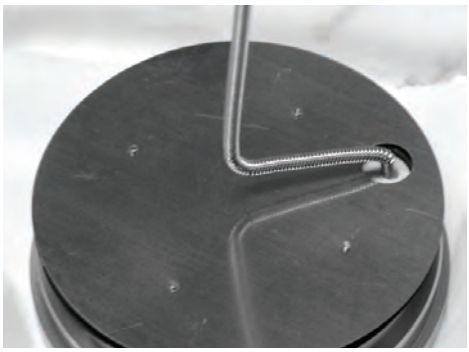
saes group SMI a SAES Group company Spectra-Mat, Inc.

Setting the Standard for Cathode Products

from beginning to end...

Over 50 years ago, Spectra-Mat, Inc. recognized the need for thermionic emitters for high power electron tubes. The development of these emitters was accomplished by utilizing a porous tungsten matrix impregnated with barium-calcium-aluminate. When heated, the cathodes provide low work function electron emission. This impregnated tungsten matrix is commonly known as a dispenser cathode and is the workhorse of the vacuum electron device industry. Dispenser cathodes are used where low temperature, high current density electron emission is desired.

Spectra-Mat's state of the art machining and processing centers provide the nucleus of our ability to deliver the highest standard in tungsten dispenser cathodes. Complex cathode assemblies, original designs to ten inch (or greater) diameter cathodes and volume production TWT cathodes are common at Spectra-Mat. Our facility is well suited to smaller, high volume products, such as magnetron or x-ray cathodes, as well as one-of-a-kind elliptically shaped sheet beam cathodes. The tungsten matrix density and composition may be structured for control of emission and life. Impregnant compositions and surface coatings may be varied to enhance emission, lower barium evaporation, increase lifetime and decrease operating temperature. Design considerations include fast warm-up, long life, space qualifications and high current density parameters.



For additional information, applications or pricing, please contact:

Spectra-Mat, Inc.
100 Westgate Drive
Watsonville, CA 95076, USA
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www.thermalmanagementsolutions.com

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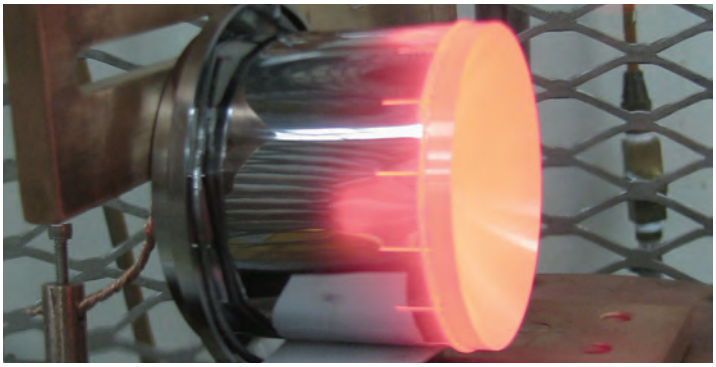
Dispenser Cathode Products

Whether you require a standard product for an existing line or a new tube design, our design experts and assembly technicians handle your parts with the utmost care and consideration. Our strengths in design and engineering continually prove Spectra-Mat as the preferred vendor in new development programs. Our ability to internally create prototype heaters also allows us to provide a customer with faster response times for small runs.

As we expand our expertise, we continue to develop capabilities to produce electron sources for a variety of applications: microwave, laser technology, research, communications, linear accelerators and medical research. From the innovation of our patented directly heater tungsten dispenser cathode to our proprietary process in powder metallurgy to our gun assembly products, Spectra-Mat maintains its capability leadership and highest standards in cathodes.

Types

Standard Impregnants:	532, 411, 311, 612
Scandate mixes:	532X, 411X, 311X, 612X
Specialty Mixes Available	
Tungsten Densities:	From 50 to 84% In stock: 78% to 82%
Size:	Ø.010 inch tip to Ø10.0 inch
Heaters:	Alumina potted heaters as well as directly heated

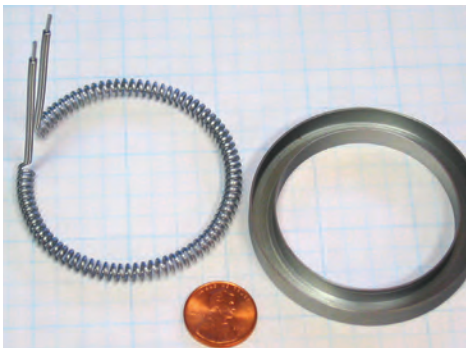


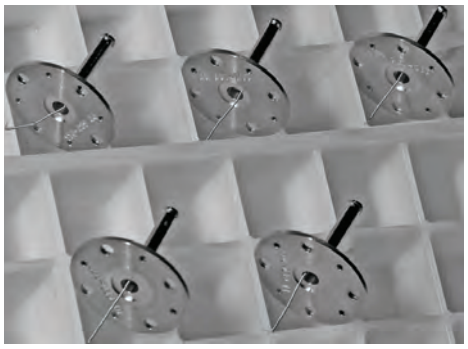
Applications

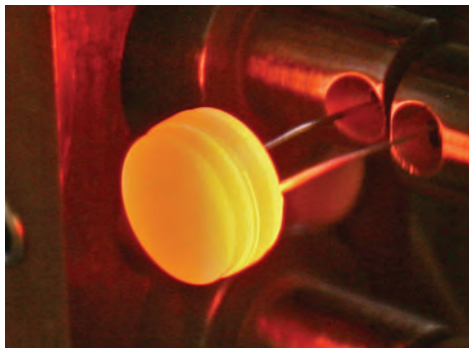
- Magnetrons
- Gyrotrons
- Klystrons
- Klystrodes
- TWTs
- X-ray guns
- Lasers

Fields of Use

- Radar
- Communications
- Medical
- Printing
- Semiconductor Processing
- Research
- Lighting
- Spark igniters
- Flashlamps







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