



PRODUCT DESCRIPTION

Cathode is composed of a carbon fiber velvet designed to provide a means of generating powerful electron pulses by field emission from the top of carbon fibers. The US-designed and produced Cathodes can be customized for different applications and can be fabricated in a wide variety of physical configurations, ranging from simple planar and cylindrical forms to more complex lobed shapes. Utilizing KULR Technology’s proprietary process of orienting carbon fibers in the vertical axis, we can apply various fiber types and at various densities on a multitude of substrates to create high performance solutions for your applications.

FEATURES AND BENEFITS

- Maximum Operating Temperature of 1000°C with graphite substrate
- Metallic or Graphite Substrate

TYPICAL APPLICATIONS

Typical applications include the generation of microwaves, x-rays, and laser radiation.

AVAILABILITY

Please contact KULR Technology Group for additional information.

CHARACTERISTICS AND CAPABILITIES DISCLAIMER

Characteristic	Demonstrated Capability
¹ Available Fiber Lengths, Typical (mm)	1 to 5 mm
² Available Fiber Diameters (µm)	5, 7
³ Fiber Density, 4% to 0.4%	% Covered by Area
⁴ Substrate	Graphite, aluminum, stainless steel, copper
⁵ Max. Operating Temperature (C) ⁴	1000+ for graphite substrate; 150 for metal
CTE	Determined by substrate
<ol style="list-style-type: none">1. 1 to 2 mm commonly used. Others lengths are stocked or are generally available on request, including bimodal (dual-length) velvet.2. Area-coverage carbon fiber velvets available with 5 or 7 µm diameter fibers; 20 and 35 µm diam. fibers available only as discrete-fiber emitters with high-precision fiber length and placement.3. Shorter fibers yield higher fiber density; 1 mm fibers yield ~4% density, while 5 mm fibers yield ~0.4%.4. These are the most commonly used materials; inquire for others.5. Cathodes with graphite substrates are typically given a pyrolytic carbon coating at >1000C. On metallic substrates, the fibers are bonded in place with a filled epoxy adhesive limited to ~150C operating temperature.	



DISCLAIMER

Data on this Technical Data Sheet (TDS) are typical values and for reference only. The information provided in this TDS, including but not limited to the recommendations for use and application of the product, are based on our knowledge and experience of the product. The product can have a variety of different applications, as well as differing working conditions and environments that are beyond our control. Factors or events that could cause actual results to differ may emerge from time to time, and it is not possible for us to predict all of them. We cannot guarantee future results, performance or achievements. Furthermore, no representations or warranties are made as to the accuracy or reasonableness of any assumptions on which the data or information is based.

This product is not intended for use with any products containing lithium metal. KULR Technology Group, Inc. is, therefore, not responsible or liable for the suitability of our products for the production processes and conditions in respect of which you use them, as well as the intended applications and results. We strongly recommend that you conduct your own prior trials to confirm such suitability of our product for your use and application and within your working conditions and environments.