

High Performance Lamp Electrodes

Mercury vapor, metal halide and high pressure sodium lamps require heavy duty electrodes that can perform reliably in the high temperature environment of the application.

Much of the technology in lamp filaments, cathodes and electrodes originated with GE Lighting. Today we are one of the world's leading producers of these very specialized lamp components.

Double Wound

GE's heavy duty electrodes consist of a double layer of backwound coils made of pure tungsten. These are slipped over and snugly fit to a 2% thoriated tungsten shank.

The thoria dispersion creates a fine grained, equiaxed structure that helps dissipate shock and vibration. It also lowers the work function and improves the electron emission characteristics of the tungsten.

Electrodes are hydrogen fired and shipped ready for use. High pressure sodium and mercury vapor lamps require an application of emission material just prior to lamp assembly.

This data sheet presents information on the most commonly used types and sizes.

High Quality Standards

GE electrodes meet the highest standards of metallurgical purity and dimensional accuracy.

Manufacturing and heat treatment are closely controlled to provide sufficient strength required for lamp assembly as well as the high temperature properties required for good lamp performance and long operating life.

To make certain the full surface length is free of oxides and other contamination, a combination of visual, microscopic and chemical inspection methods are used.

A video camera wired to our on-line computer scans electrodes at various stages in the manufacturing process, passing them through only if the length and pitch match the specifications programmed into the software.

To verify that heat treatments are effective, both tensile and bending tests which simulate stresses encountered in lamp assembly are conducted. Tolerances are spot checked during manufacturing and prior to shipment.

In transport and storage, electrodes should be protected from vibration, mechanical shock and humid atmospheres. They should not be stored in their original packing for longer than one year, and the contents of open packs should be used within one week.

Metal Halide Lamp Electrodes

Figure 1

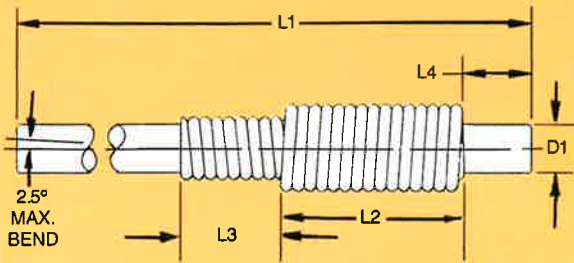


Figure 2

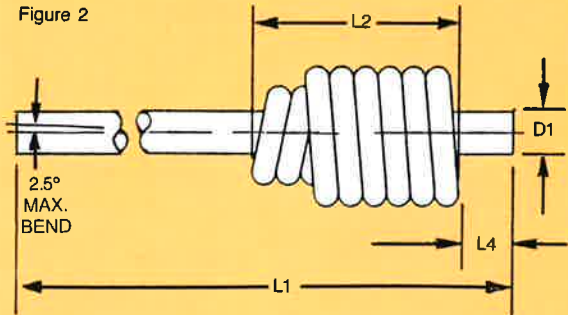


Figure 3

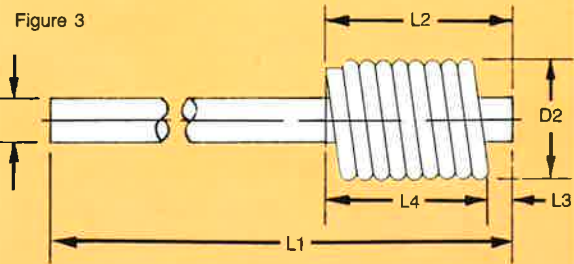
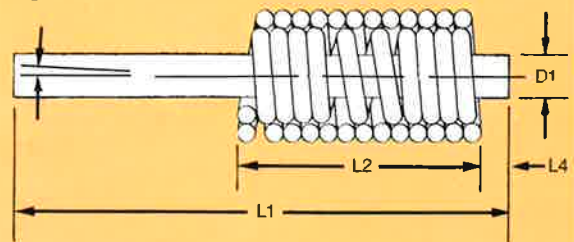


Figure 4



Part Number	Resource Number	Lamp Watts	Dimensions (mm)					
			L1	L2	L3	L4	D1	Fig.
9537	1857913	175	8.5	1.7	1.4	0.80	0.50	1
9538	1858804	250	8.5	1.7	1.4	1.00	0.57	1
3429	3701093	400	14.0	3.5	n/a	2.50	0.90	2
3421	3701069	1000, 1500	15.0	3.8	n/a	2.50	1.20	2

High Pressure Sodium Lamp Electrodes

Part Number	Resource Number	Lamp Watts	Dimensions (mm)						
			L1	L2	L3	L4	D1	D2	Fig.
9534-01	1857864	35, 50, 70	6.1	5.1	0.7	4.4	0.75	n/a	3
9534-02	1857872	35, 50, 70	14.0	5.1	0.7	4.4	0.75	n/a	3
2568-01	2350495	100 - 250	8.1	5.5	0.7	4.5	1.10	3.20	3
2568-02	2350479	100 - 250	16.0	5.5	0.7	4.5	1.10	3.20	3
3065-01	2350453	400	18.0	7.5	1.0	6.0	1.10	4.24	3
3065-02	2350437	400	10.0	7.5	1.0	6.0	1.10	4.24	3
2537-01	2350510	1000	18.0	7.5	1.0	6.0	1.10	4.24	3
2537-02	2350536	1000	10.0	7.5	1.0	6.0	1.10	4.24	3

High Pressure Mercury Lamp Electrodes

Part Number	Resource Number	Lamp Watts	Dimensions (mm)					
			L1	L2	L3	L4	D1	Fig.
9521	2351005	40, 50, 75	9.0	2.80	1.7	0.75	0.50	1
9523	2350974	100	14.0	4.40	n/a	0.75	0.55	2
2069	2350916	175, 250	11.0	4.75	n/a	1.25	0.75	2
9518	2351013	400	16.0	6.00	n/a	2.00	1.20	2
9525	2354174	1000	19.0	9.00	n/a	1.50	1.20	2
9516	2354140	1000	21.0	10.0	n/a	1.50	1.77	4

Ordering Information

To order high performance electrodes or obtain additional information, contact:

GE Lighting Components
 Building 315, Nela Park, Cleveland, OH 44112
 (216) 266-2451 FAX: (216) 266-3372



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