



ELAM Ltd
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Product Specification

Hi-Bright EL Wire 48S series

PD 0113/c, Rev. 12, 11.05.03

Common Characteristics*

Overall Diameter	2.3 – 2.8 mm (0.090" - 0.110")
Storage & Operating Conditions:	
Temperature	-20 to +50 deg. C (-4 to +122 deg. F)
Humidity (R.H.)	not more than 65%
Max. Storage Time	2 year

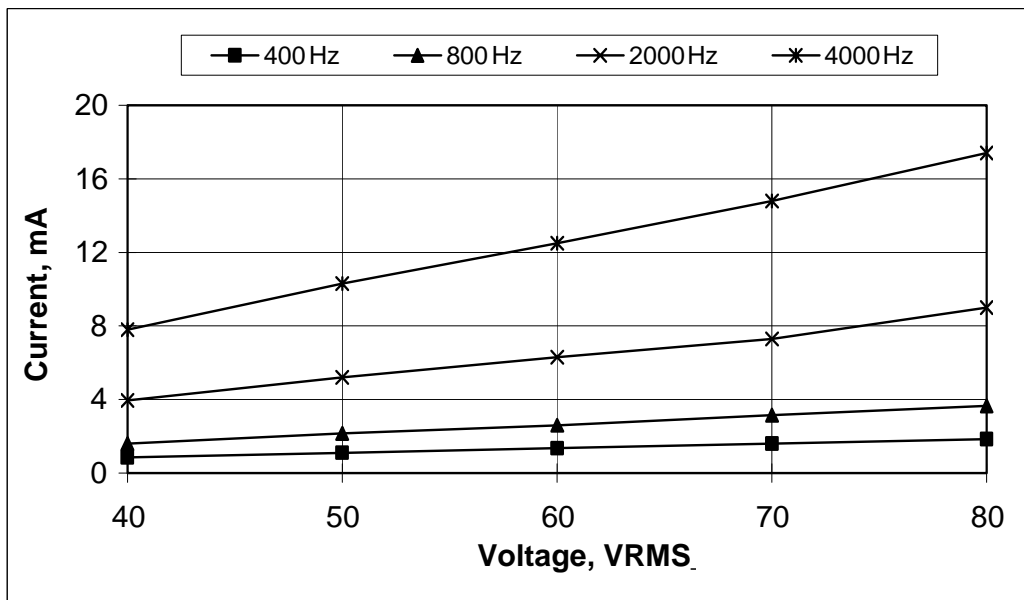
Absolute Maximum Ratings

Power Supply Voltage	90 Volts (RMS)
Stretching Force	1.5 Kg
Bending Diameter	12 mm
Twisting Angle	30 degrees per meter

Insulation Breakdown Voltage	4000 Volts
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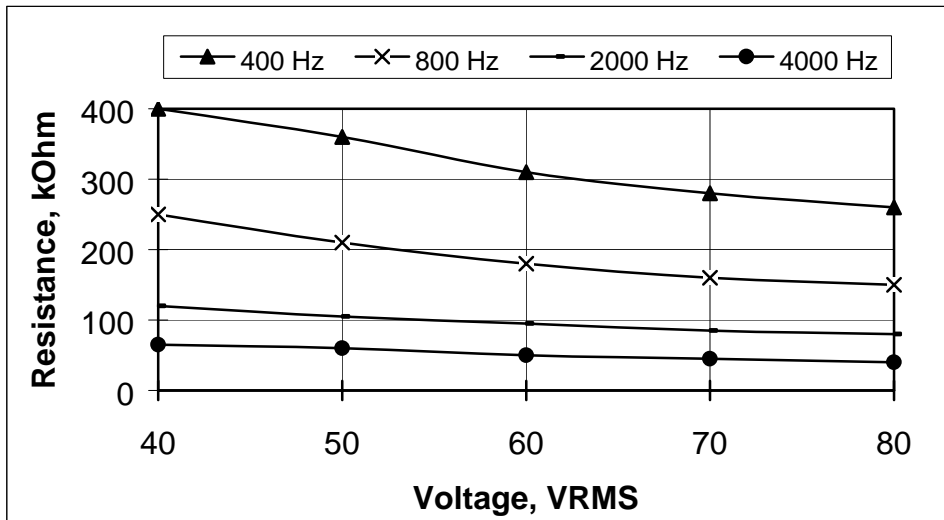
Current Consumption (mA) of 1 meter length

Voltage, (VRMS)	400 Hz	800 Hz	2000 Hz	4000 Hz
40	0.85	1.60	3.95	7.80
50	1.10	2.16	5.20	10.30
60	1.35	2.60	6.30	12.50
70	1.60	3.15	7.50	14.80
80	1.85	3.65	9.00	17.40



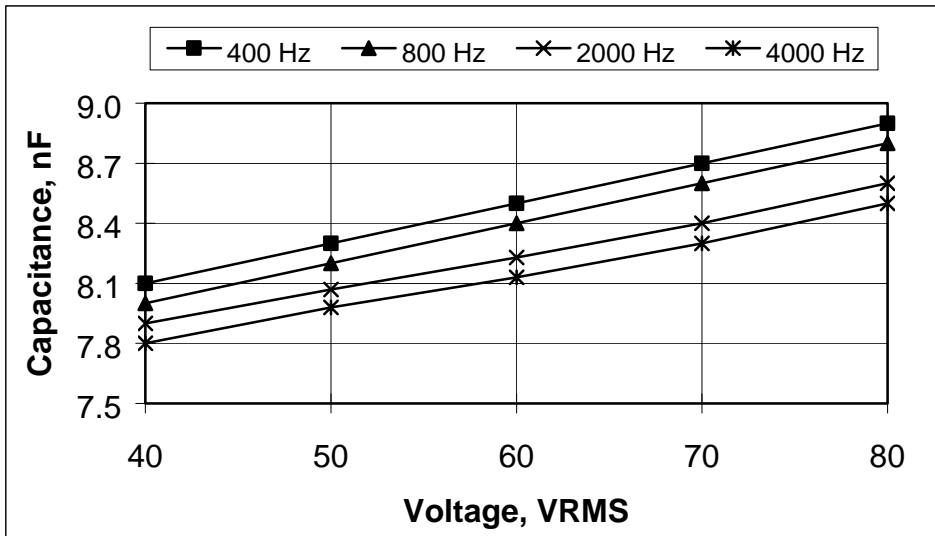
Equivalent Ohmic Resistance (kOhm) of 1meter length

Voltage, (VRMS)	400 Hz	800 Hz	2000 Hz	4000 Hz
40	400	250	120	65
50	360	210	105	60
60	310	180	95	50
70	280	160	85	45
80	260	150	80	40



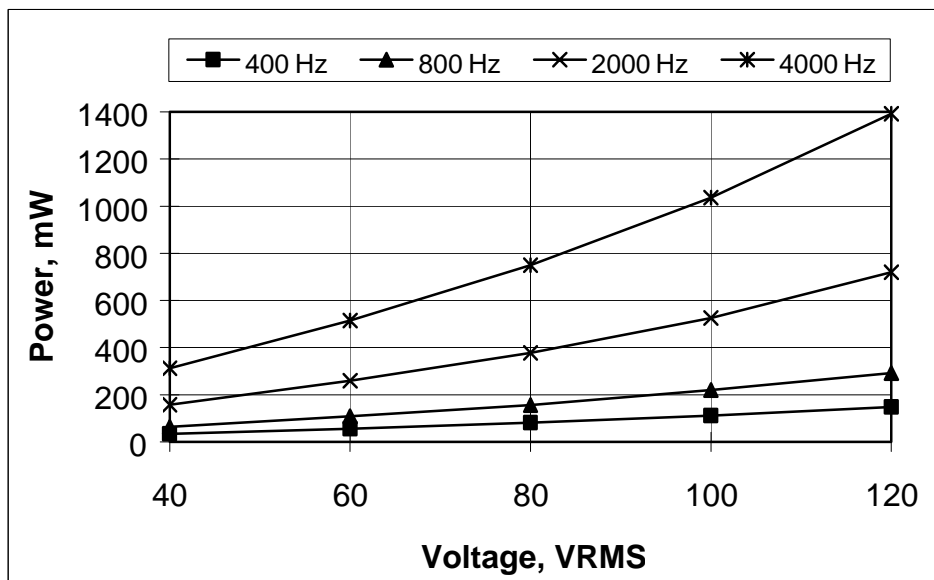
Equivalent Capacitance (nF) of 1meter length

Voltage, (VRMS)	400 Hz	800 Hz	2000 Hz	4000 Hz
40	8.1	8.0	7.9	7.8
50	8.3	8.2	8.1	8.0
60	8.5	8.4	8.2	8.1
70	8.7	8.6	8.4	8.3
80	9.0	8.8	8.6	8.5



Power Consumption (mW) of 1meter length

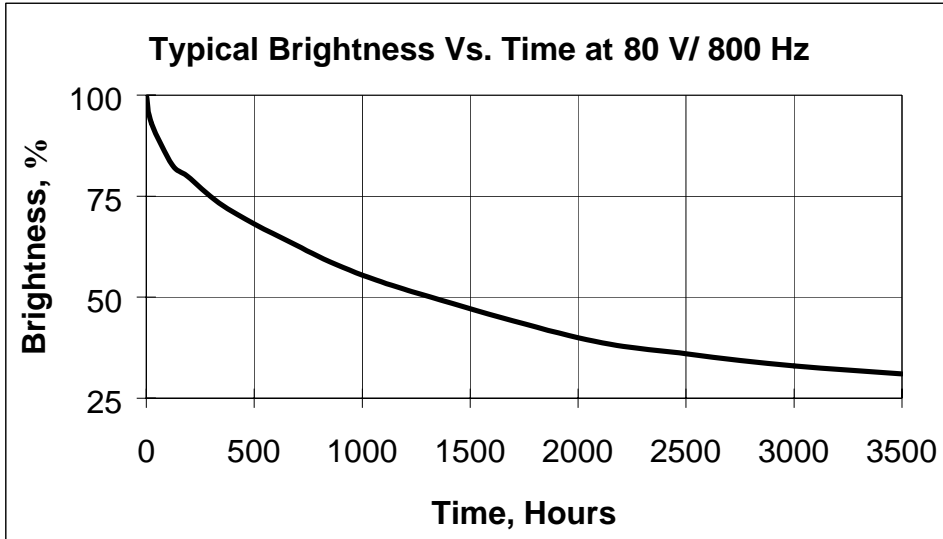
Voltage, (VRMS)	400 Hz	800 Hz	2000 Hz	4000 Hz
40	34	64	158	312
50	55	108	260	515
60	81	156	378	750
70	112	220	525	1036
80	148	292	720	1392





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Lifetime



* Remark: Actual parameters of each lot may vary from Common Characteristics within +/- 20%. All parameters shown for room conditions.

Contact Preparation

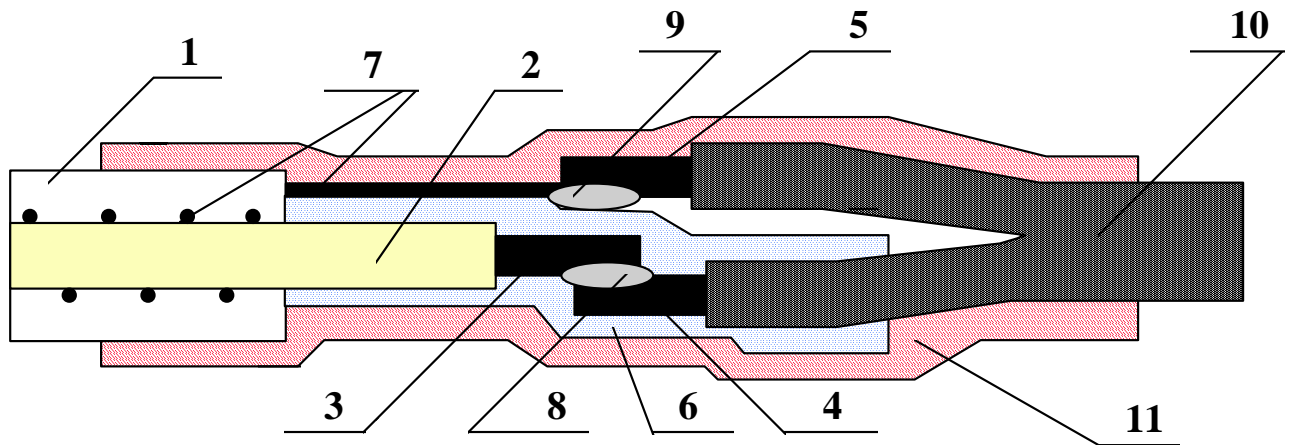


Fig. 1

Step by step instructions for connection preparation:

1. Strip the external insulator(1) off using a usual wire stripper. Be careful
not to damage the additional electrodes (7).
2. Pull the free ends of the additional electrodes(7) back
3. Strip the dielectric layers(2) off the core copper electrode(3) using a magnet wire stripper or a sharp knife.
4. Strip the insulation off both edges (4 and 5) of a dual conductor flexible insulated wire(10) leaving the ends ~4cm long.
5. Put a 3 cm long shrinkable tube (6) on the insulated wire (4), solder the edge of wire (4) to the core electrode (3), pull the tube (6) to cover the soldering area (8) and shrike the tube (6) with the heat gun.
6. Bring the free ends of the additional electrodes (7) forward and solder them to the edge of the insulated wire (5).
7. Cover the contact areas (8 and 9) with a 6 cm long shrinkable tube (11) in such way that one side of the tube (11) is on top of the ELF (1) and the other side is on top and shrink it using a heat gun.
8. The ELF can be connected to an AC power source by soldering contacts A and B.

• Recommended Components:

- (6) 3M Shrink Tubing 1/8 inch 80610220230 MW Black
or Raychem Shrink Tubing CGAT 3/1-0-STK Black
- (11) 3M Shrink Tubing 1/4 inch 80610220255 MW Black
or Raychem Shrink Tubing ATUM 6/2-0-STK

ELF Free End Termination

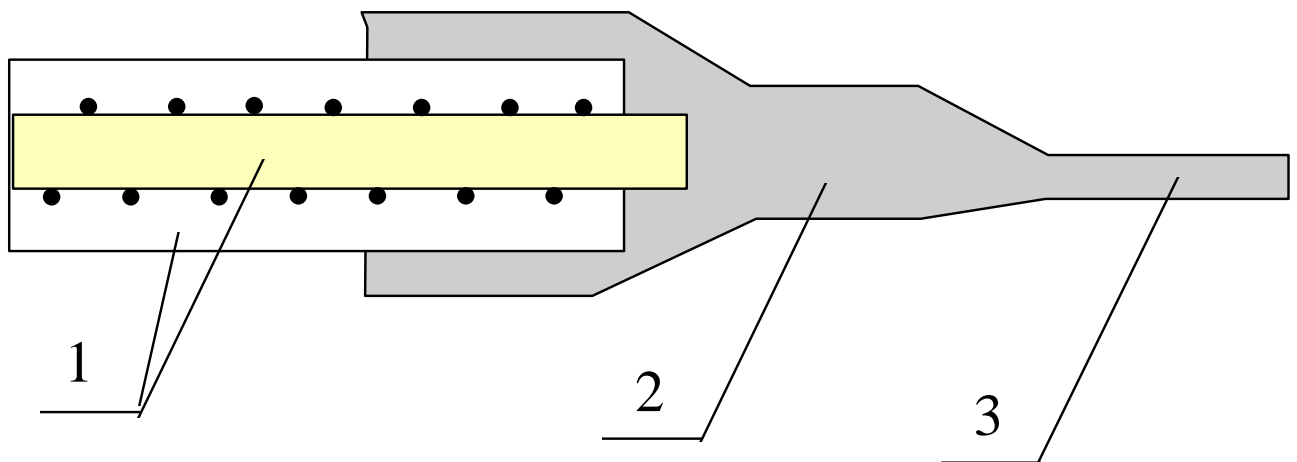


Fig. 3

1. ELF
2. Shrinkable Tube
3. Shrink Edge Sealed off

It is recommended to terminate the free end of the ELF to reduce moisture penetration into the phosphor layers.

- Recommended Components:
 - (2) 3M Shrink Tubing 1/4 inch 80610220255 MW
or Raychem Shrink Tubing ES1000-NO.1-C1-X STK