

- **What is electroluminescence?**

Direct conversion of electric energy to light.

- **How does it work?**

A solid phosphor is subjected to an strong alternating electric field.

- **How strong is strong?**

Typically 90 VAC @ 500 Hz.

- **What's in this phosphor?**

Zinc Sulfide, Copper, and Silver.

- **How does it *really* work?**

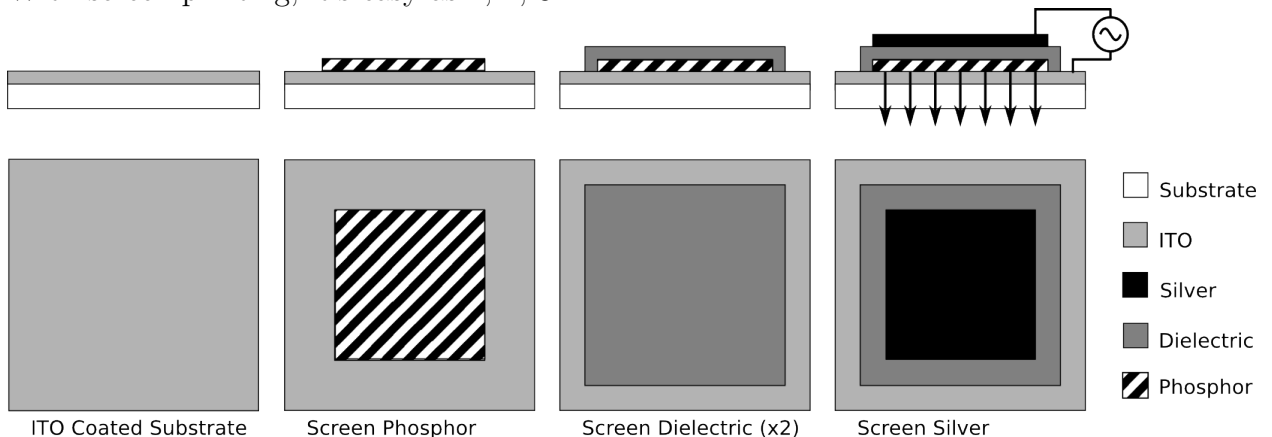
- The copper precipitates to form nanocrystals of copper sulfide. These enhance the strength of the electric field in the phosphor.
- The zinc sulfide and silver form a semiconductor matrix.
- When a positive field is applied, holes enter the matrix; when a negative field is applied, electrons enter the matrix.
- Light is produced when electrons and holes recombine on a silver atom in the matrix.

- **What's inside an electroluminescent display?**

- Transparent, conductive electrode
- Phosphor
- Dielectric (Insulator)
- Non-transparent, conductive electrode

- **How do I make an electroluminescent display?**

With screen printing, it's easy as 1, 2, 3!



- **Where can I learn more?**

<http://sites.google.com/site/elen4193/>