Method and Apparatus for Processing Electrochromic Materials and Devices

Invention: This technology is a new process for developing full color electrochromic displays for various industries including a contact printing process for patterning of electrochromic materials on rigid, flexible, and curved areas. In addition, it includes a means for assembly and usage of bench-top automated spray system for low cost, roll-to-roll compatible processing. The invention describes a design and packaging process for liquid electrolytes, flexible materials and protective coating. Lastly, the process includes a portable power supply for electrochromic devices.

Background: Electrochromic glass changes light transmission properties depending on the voltage provided. The versatility of the glass has led to potential applications in various industries such as architecture, transportation, electronics, and more. Within these industries there is a need to develop these materials more efficiently and cost effectively while remaining environmentally friendly.

Applications:

- Transportation
- Color switching sun glasses/helmets
- Active camouflage in military
- Electronic displays
- Architecture

Advantages:

- Eliminates unnecessary materials in production
- Increases reflectivity of a device
- Nontoxic
• Provides a scalable process

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