

Application of Developed Atmospheric Pressure Chemical Vapor Deposition (APCVD) Transparent Conducting Oxides and Undercoat Technologies for Economical OLED Lighting

Bluhm, Martin; Korotkov, Roman; Salemi, Alexandre; Silverman, Gary*; Smith, Robert; Smith, Ryan; Stricker, Jeff; Xu, Chen; Carson, Steve - **Arkema Inc.** 900 First Avenue, King of Prussia, PA 19406

Goldman, Claudia; Hartmann, Sören; Jessen, Frank; Krogmann, Bianca; Rickers, Christophe; Schwab, Holger*; Bertram, Dietrich - **Philips Lighting GmbH** Philipstrasse 8, 52086 Aachen, Germany

Arkema Inc and Philips Lighting have engaged in the development of an alternative for tin doped indium oxide (ITO) as a transparent conducting oxide (TCO) on glass substrates. This project is supported by the Department of Energy. Doped ZnO has been developed by Arkema and its partners for application in the fenestration (window) market. Subsequently, this project is focused on using technology from the fenestration industry and applying it to the OLED lighting market. This represents a necessary economical step for OLED lighting by shifting the “Substrate” cost from expensive ITO Flat Panel Display glass to doped ZnO on residential window glass. The key deliverable at the end of the two-year project is a one-square foot OLED prototype suitable for market testing.