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[\[PDF \(549K\)\]](#) [\[References\]](#)**Development of High Performance Optical Filter for PDP**Yuji NAKATSUGAWA¹⁾, Takayuki SHIBATA¹⁾, Atsuo TSUZUKI¹⁾, Isao INOUE¹⁾
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Abstract

In recent years, plasma display panels (PDP) have attracted attention because of their suitability for use in applications such as large-sized, thin television receivers and monitors, and have begun to spread into the market. However, a special filter is necessary for PDP to shield the harmful radiation such as electromagnetic interference (EMI) and near-infrared radiation (NIR). To meet this requirement, we have developed a high performance optical filter for PDP that has the excellent shielding characteristics against EMI and NIR, and also has great anti-reflection function. In the manufacturing process for the filter, a new production method of "intermittent wet coating" was applied for the smoothing treatment process for the EMI shielding filter. This new method for the smoothing process was developed to apply to the Roll-to-Roll system, and could not only produce a clear filter but also improve the productivity dramatically. Furthermore, the filter was achieved the transmittance of not higher than 10% in the NIR region, the intensity level of electric-field radiation of not greater than 30dB, and low reflectance of surface (less than 1.0%). It is also excellent in environmental stability; for example, it could maintain the above-mentioned optical properties even after heat and humidity load tests of 60 degree Celsius 90%RH for 1000 hours.

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