IDEMITSU KOSAN CO., LTD. AND SONY CORPORATION ACHIEVE
WORLD’S HIGHEST LEVEL OF LUMINOUS EFFICIENCY FOR BLUE FLUORESCENT

Idemitsu Kosan Co., Ltd. (hereafter Idemitsu) and Sony Corporation (hereafter Sony) today announced the achievement of 28.5% internal quantum efficiency (IQE) in deep blue fluorescent OLED devices, the world’s highest level of luminous efficiency for this technology. This ground-breaking development is a result of Idemitsu’s advanced OLED material technologies and Sony’s OLED device expertise, brought together by the two companies’ joint development agreement (established in November 29th, 2005). This joint agreement has led to the development of a wide range of high-performance OLED materials that have been incorporated in Sony products, and going forward both Idemitsu and Sony will also consider various practical applications for this newly developed, world-leading blue OLED technology.

Previous fluorescent OLED devices were limited to a maximum 25% IQE, however the implementation of new carrier transport materials and optimized device structure has led to the achievement of 28.5% IQE. Furthermore, the use of Sony’s proprietary “Super Top Emission” OLED device technology has enabled blue color deepness (CIE chromaticity: 0.137, 0.065) exceeding NTSC standards to be achieved.

With this technology significantly reducing the driving current of blue OLEDs, the most energy-intensive of the three primary RGB colors, it is expected to significantly reduce the power consumption of OLED panels, contributing to the future development of large-size OLED TVs.

These results will be presented at "SID2008" (Society for Information Display) to be held from May 18th, 2008 at Los Angeles, CA, U.S.A..

Specifications

Type: Blue Fluorescent OLED
Internal Quantum Efficiency: 28.5%
Luminous half decay time: Over 30k Hours
(Initial luminance: 200cd/m², Temperature: 50°C using test pieces)
Current Efficiency: 3.9cd/A
Color Coordinate in CIE chromaticity: (0.137, 0.065)

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