SAES® Getters’ DryFlex®

Enhances OLED Display Lifetime to over 30%

Tests on the use of SAES® Getters’ DryFlex® demonstrate the real benefits of this solution in increasing the life of OLED displays.

Lainate (Milan), April 19, 2006 - SAES Getters DryFlex proves to be the accomplished technology that boosts OLED display duration to over 30%, as demonstrated by a main OLED manufacturer in its tests.

OLED (organic light-emitting diode) displays consist of a series of organic layers and a metal cathode for electron injection. With respect to other competing display technologies, OLEDs have the potential of being much thinner and of offering the possibility of flexible displays.

These devices are affected by corrosion due to water infiltration, causing dark spots and pixel shrinkage in the regions of the leaks. A protective encapsulation system incorporating a dryer is therefore needed to protect the OLED structure from moisture (both in small-molecule and polymer OLEDs) and to ensure the device proper functioning throughout the designed lifetime. OLED dryers need to be extremely thin and flexible, as well as able to fit any geometrical requirement. SAES Getters’ DryFlex meets all these requirements: it is the thinnest dryer solution available for OLEDs, delivering the best trade-off between high sorption speed and reduced product thickness and it can be fully customized in shape and size to accommodate any display geometry.

DryFlex was tested in OLED displays for more than 5 months in accelerated life-test conditions and the results showed that displays with DryFlex were still within specifications, while these limits were already reached after just 3 months with other commercially available dryers. In terms of overall OLED lifetime, this means that the adoption of DryFlex technology ensured the displays an extension of more than 30%.

Measured pixel shrinkage with DryFlex versus same size commercially available dryers in a 1.5" display
DryFlex was developed by SAES Getters to be completely compatible with OLED requirements. It consists of calcium oxide captured in a matrix. This matrix is created onto a stainless steel substrate through a proprietary process that confers to DryFlex its unique porous structure, mechanical stability, flexibility and easy handling. DryFlex is stuck on an adhesive layer, for easy and reliable insertion into the device. The parts are supplied on a PET liner and provided in a reel configuration.

DryFlex size can be customized upon request to meet any specific OLED display requirement.

SAES Getters supports OLED display manufacturers also by providing physical and chemical modeling, to optimize dryer and device configurations.

About the SAES Getters Group
Pioneering the development of getter technology, the SAES Getters Group is the world leader in a variety of scientific and industrial applications where stringent vacuum conditions or ultra-pure gases are required. For 60 years its getter solutions have been supporting innovation in the information display and lamp industries, in technologies spanning from large vacuum power tubes to miniaturized silicon-based micromechanical devices, as well as in sophisticated high vacuum systems and in vacuum thermal insulation. The Group also holds a leading position in ultra pure gas handling for the semiconductor and other hi-tech markets. Starting in 2004, by leveraging the core competencies in special metallurgy and materials science, the SAES Getters Group has expanded its business into advanced material markets, with the introduction of new optical crystal, shape memory alloy and metalorganic precursor product lines. A total production capacity distributed at 8 manufacturing plants across 3 continents, a worldwide-based sales & service network, over 800 employees allow the Group to combine multicultural skills and expertise to form a truly global enterprise. SAES Getters is headquartered in the Milan area (Italy) and has been listed on the Italian Stock Exchange Market, STAR segment, since 1996.

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