JSR’s OLED Materials

Cross-Section Diagram of Top-Emission AMOLED Panel

- Thin Film Encapsulation (TFE)
- Pixel Defining Layer (PDL)
- Planarization Layer (PLN)

<table>
<thead>
<tr>
<th>Material</th>
<th>Status</th>
<th>Performance</th>
</tr>
</thead>
</table>
| Thin Film Encapsulation (TFE)     | Under Development                   | ■ Low WVTR  
■ Ink Jet coatability  
■ Based on the technology of "Vitex Systems Inc.". |
| Pixel defining Layer (PDL)        | MP                                  | ■ High Reliability  
■ Wide Range of Taper Angle  
■ Low moisture release and outgassing  
■ Available to control taper angle by middle baking process  
■ Good planarity for PLN  
■ Controlability of various characteristics (Reflective Index/Dielectronic constant) |
| Planarization Layer (PLN)         | MP                                  | ■ High Reliability  
■ Wide Range of Taper Angle  
■ Low moisture release and outgassing  
■ Available to control taper angle by middle baking process  
■ Good planarity for PLN  
■ Controlability of various characteristics (Reflective Index/Dielectronic constant) |
| Low Temperature Curable Color Resist | Under Development for next generation | ■ Deposition without thermal damage to underlayer  
■ Low temperature curable. |
| Low Temperature Curable Over Coat | Under Development for next generation | ■ Deposition without thermal damage for underlayer  
■ High Resolution  
■ Low temperature curable.  
■ Fine size hole patterning |
**OPTMER™ JEM Series**
*PDL/PLN Materials for OLED*

### Taper Control

<table>
<thead>
<tr>
<th>Middle Baking After Dev.</th>
<th>Skip</th>
<th>100°C×30min</th>
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<tbody>
<tr>
<td><strong>Taper Profiles</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>After Post Baking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>at 230°C for 30min</td>
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</table>

Taper angle of “JEM Series” can be controlled by adjustment of middle baking condition.

### Reliability

**Moisture Release by TDS**
- Conventional Material
- JEM Series

"JEM Series" shows lower moisture release and outgassing.

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