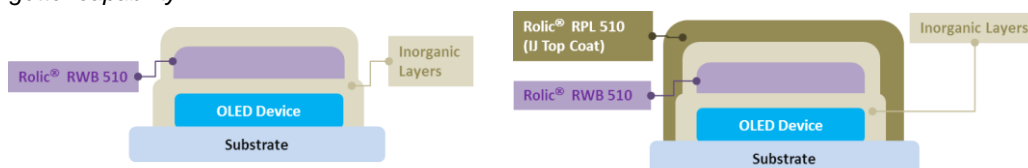


## Technical Data Sheet Rolic® RWB 510

**Description** Rolic® RWB is a photo curable resin used as getter and planarization layer in a high performance barrier stack for thin film encapsulation (TFE), e.g. in organic photo-voltaic (OPV) and organic light-emitting diode (OLED). Thanks to the dispersion of inorganic nano-size getter, the matrix delays the moisture penetration through the barrier layer and extends significantly the life time of the device. The RWB 510 is opaque and thus suited for a none-transparent encapsulation stack.

*Two examples of OLED protected by the Rolic® Barrier Materials with RWB 510 as interlayer with getter capability*



- Features**
- VOC-free (volatile organic compound – free)
  - Suitable for coating in vacuum
  - UV-curable (<395nm)
  - Fast crosslinking in oxygen free atmosphere
  - Proprietary stable getter material evenly distributed in formulation
  - Formulation developed for ink-jet and slot die coating

| Properties of liquid | Appearance            | opaque whitish liquid  |                        |
|----------------------|-----------------------|------------------------|------------------------|
|                      | Viscosity @ 25°C/55°C | 37 mPa.s / 14 mPa.s    | (Brookfield DVII-CP40) |
|                      | Density               | 0.99 g/cm <sup>3</sup> |                        |
|                      | Surface tension       | ~31 mN/m               |                        |

| Properties of Film | E <sub>modulus</sub> | >1'000 MPa / >200 MPa   | (DMA @ 25°C/120°C)        |
|--------------------|----------------------|-------------------------|---------------------------|
|                    | T <sub>g</sub>       | ~120°C                  | (DMA)                     |
|                    | Surface energy       | ~35 mN/m                | (Contact angle method)    |
|                    | Transparency         | >80% of glass reference | (T @550nm, 20µm on glass) |
|                    | Haze                 | ~30%                    | (H @550nm, 20µm on glass) |
|                    | Water uptake         | >1.6wt%                 | (24h @40°C/90%rh)         |

**Processing** Preferred printing technology for Rolic® RWB 510 is ink-jet printing with print head heated at 50°C-60°C and should be applied in a thickness range from 5 to 20µm. It is a UVA-curable material with a strong UVA-absorption up to 395nm, with fast cross-linking in an oxygen-free atmosphere. The typical UV dose level is between 1 to 3 J/cm<sup>2</sup>: it is anyhow recommended to conduct a ladder study for optimization of the curing conditions. For optimal interface adhesion, a surface treatment (e.g. O<sub>2</sub> plasma) of the organic or inorganic substrate is recommended before processing of Rolic® RWB 510.

|                             |                     |   |
|-----------------------------|---------------------|---|
| <b>Handling and Storage</b> | Storage temperature | 20°C – 25°C   |
|                             | Storage container   | product must be protected from light (store in original packaging only) |
|                             | Shelf life          | 3 months  |

### Disclaimer

IN REGARD TO THE PRODUCT, ROLIC MAKES NO WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR NONINFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHTS.

No statements or recommendations made herein are to be construed as an inducement to infringe any patent. Technical data and results are based upon tests under controlled laboratory conditions and must be confirmed by customer by testing for its intended conditions of use. ROLIC shall not be liable for any technical advice or technical information provided and does not assume any obligation or liability for the information in this document.

Updated & Printed in Switzerland on 30-Jun-17

ROLIC Technologies Ltd. | Gewerbestrasse 18 | 4123 Allschwil | Switzerland | Phone: +41 61 487 22 22 | [www.rolic.com](http://www.rolic.com) | email: info@rolic.ch

1 / 1