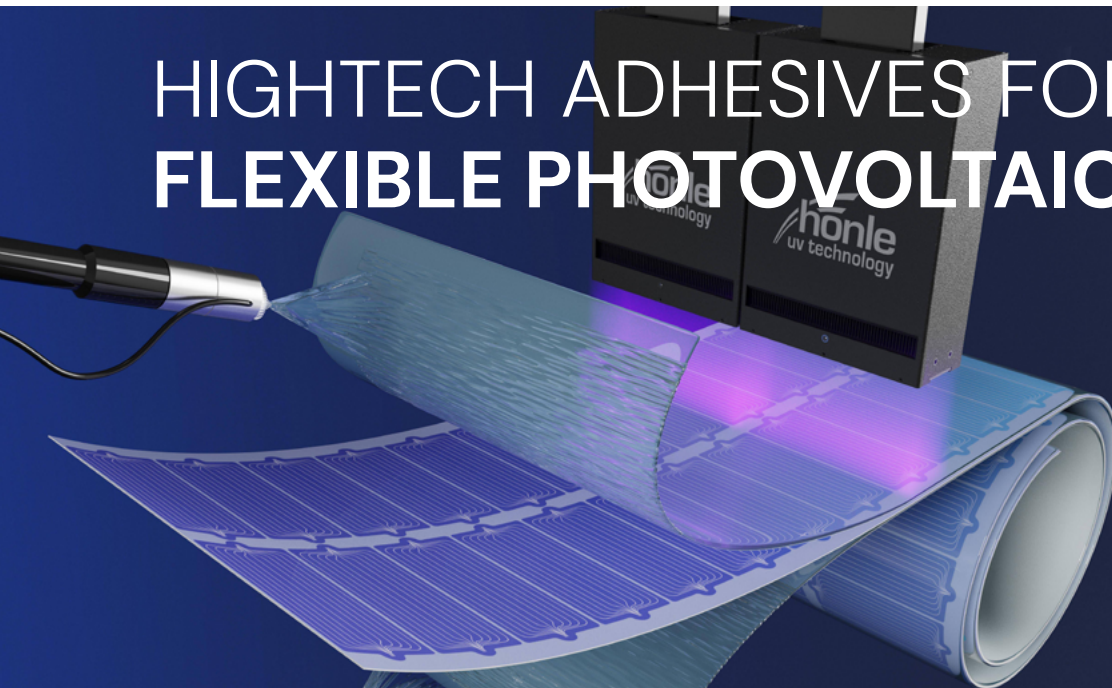


## HIGHTECH ADHESIVES FOR FLEXIBLE PHOTOVOLTAICS



Hoenle developed a range of multifunctional adhesives for applications in flexible photovoltaics and electronics. For OPV applications, these adhesives provide higher resistance to environmental stresses, an improved compatibility to the PV material and a high adhesion to the substrates.

New conductive adhesives efficiently adhere and protect electrical connections for SMD components in flexible assemblies. Significant benefits can be realized when an optimal pairing is achieved with the component design, assembly, (UV) adhesive properties, and the curing process. High-throughput processes, such as the roll-to-roll process, can be operated more efficiently which reduces total cost of ownership. The adhesives requirements such as flow properties can be modified to suit the application process perfectly.

### KEY ADVANTAGES

- **Environmental Resistance**  
Protection against moisture, heat, and other stresses in OPV applications
- **Material Compatibility**  
Excellent adhesion to PV materials and flexible substrate
- **Reliable Connections**  
Conductive adhesives ensure stable bonding and protection of SMD components
- **Customizable Properties**  
Adhesive flow and curing behavior can be tailored to specific application needs



LED CURABLE FOR HIGHER  
PROCESS EFFICIENCY



FLEXIBLE AND COMPATIBLE  
TO PV MATERIALS



ELECTRICALLY CONDUCTIVE

## FLEX OPV | SYSTEM SOLUTION

### FLEX OPV | ADHESIVES

	Viscosity [mPas] (Rheometer, 25°C, 10s <sup>-1</sup> )	Curing*	Description
Customized Vitralit®	Adaptable	UV/VIS (+Thermal)	Flexible adhesives with high adhesion to several substrates
Vitralit® UD 1410	1,500 – 2,000	UV/VIS/ Thermal	Flexible with approved compatibility to pv materials, low WVTR
Vitralit® UH 1411	6,000 – 7,000	UV/VIS	Flexible with approved compatibility to pv materials, excellent adhesion to barrier foil
Vitralit® E-VBB 1	1,300 – 1,600	UV/VIS	Elastic, high peel strength, LED-curable
Customized Elecolit®	Adaptable	Thermal	Flexible electrically conductive adhesive with high bond strength to several substrates
Elecolit® 3648	10,000 – 15,000	Thermal	Flexible, electrically conductive with high bond strength to several substrates, fast curing at 100 °C
Structalit® 3060-1	7,000 – 10,000	Thermal	Flexible, high bond strength to several substrates, fast curing

\*UV = 320 – 390 nm, VIS = 405 nm

### UV CURING SYSTEMS

	Dimension in mm	Available Wavelength in nm	Intensity in W/cm <sup>2</sup>	Cooling
LED Spotlights	Light emission up to Ø 20	365/385/405	up to 20.000	air-cooled
LED Line Emitters	Light emission width 10/20/40, length variable	365/385/395/405/460	up to 25.000	air and water-cooled
LED Floodlights	Light emission 20x20 / 40x40 / 100x100 / 200x50	365/385/395/405/460	up to 30.000	air and water-cooled
LED Curing Chambers	Inner dimension 180x180 / 350x350	365/385/395/405/460	up to 5.000	air-cooled
LED Conveyor Belts	Belt width 110 – 520	365/385/395/405/460	up to 25.000	air and water-cooled

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Operating parameters depend on production characteristics and may differ from the foregoing information. We reserve the right to modify technical data.

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