

# UV R&D Product Spotlight



**UV Hybrids** are novel materials combining the robustness of an epoxy with the speed of a UV tack (10 seconds).

**BENEFITS INCLUDE:**

- Overall Process Improvement
  - Lower Stress & Less Shrinkage
  - Easier Handling

**TEMPERATURE SENSITIVE  
APPLICATIONS  
RT CURING**



**EPO-TEK® HYB121-29-7**

- Two Component, Pourable Liquid
- Pot Life (4 hours)
- UV + RT for 3 days
- Excellent Optical Transmission



**EPO-TEK® HYB113-119-4**

- Single Component, White
- Viscous Paste
- Long Pot Life (4 weeks)
- UV + Heat (150°C/1 hour)
- Thermally Conductivity = 0.92 W/mK

**THERMALLY CONDUCTIVE**

**Low CTE  
VERY HIGH STRENGTH**



**EPO-TEK® HYB113-125-1**

- Two Component, Pourable Liquid
- Pot Life (8 hours)
- UV + Heat (150°C/30 min)
- Very High Strength (34Kg Die Shear)
- Low CTE (20/60x10<sup>-6</sup> in/in/°C)

# What's Special About EPO-TEK® UV Hybrid Curing Epoxies



**NEW!** 353ND Modified Epoxy/UV Hybrid

	HYB-353ND-LV	HYB-353ND	HYB-353ND-HV	HYB-353ND-TX2	HYB-353ND-TX3
	Low viscosity, fast tack	Viscosity match of 353ND	Higher viscosity version	Thixo version TI = 1.6	Thixo version TI = 1.3
<b>Mix Ratio</b>	100 to 5	10 to 1	100 to 5	100 to 3	100 to 3
<b>Viscosity (@10 rpm)</b>	1,172 cPs	4,225 cPs	11,019 cPs	25,310 cPs	34,962 cPs
<b>Pot Life</b>	20 hrs	2 hrs	2 hrs	2 days	2 days
<b>Tg (°C)</b>	83	109	116	105	89
<b>Cure Condition</b>	UV 10 sec @ 100mW/cm <sup>2</sup> +150°C/30min	UV 20 sec @ 100mW/cm <sup>2</sup> +150°C/30min	UV 10 sec @ 100mW/cm <sup>2</sup> +150°C/30min	UV 10 sec @ 100mW/cm <sup>2</sup> +150°C/30min	UV 10 sec @ 100mW/cm <sup>2</sup> +150°C/30min
<i>Lower temperature cures (≥80°C) are possible depending upon application</i>					
<b>Degradation Temp (°C)</b>	400	400	388	410	399
<b>Weight Loss</b>	0.08%	0.06%	non detectable	0.05%	0.19%
<b>Die Shear (kg)</b>	19	24	28	17	18
<b>Spectral Transmission</b>	≥95% @ 1100-1600nm ≥98% @ 800-1000nm	≥95% @ 1100-1600nm ≥98% @ 800-1000nm	≥95% @ 1100-1600nm ≥98% @ 800-1000nm	≥95% @ 1100-1600nm ≥98% @ 800-1000nm	≥95% @ 1100-1600nm ≥98% @ 800-1000nm
<b>*Index of Refraction</b>	1.5221	1.5547	1.5556	†N/M	†N/M

**Process Improvement**



- Higher throughput
- Easier handling
- Tack Free in 10-20 seconds
- 85°C/85%RH resistance, comparable to 353ND



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