

A Meridian Adhesives Group Company

**OPTICAL** 

**EPO-TEK®** 

# SELECTOR GUIDE

Specialty Epoxies, UV & UV Hybrids



THERMALLY CONDUCTIVE

**ELECTRICALLY CONDUCTIVE** 

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**UV & UV HYBRID** 

# **OPTICAL**

**Epoxy Technology's** extensive line of optical adhesives is used for bonding, potting, and coating in many applications, most commonly in fiberoptics. Our epoxy adhesives are frequently used to bundle optical fibers and bond components in optoelectronic devices.



## **SELECTED PRODUCT LISTING FOR EPO-TEK® OPTICAL ADHESIVES**

EPO-TEK®	COLOR Before/After CURE (thin film)	CURE CONDITIONS (minimal)	VISCOSITY @ 23°C (cPs)	GLASS TRANSITION TEMPERATURE (°C)	LAP SHEAR STRENGTH(PSI)	MODULUS (PSI)	INDEX OF REFRACTION(Nd)	SPECTRAL TRANSMISSION	POT LIFE (@ room temp)
301	Clear / Colorless	65°C – 1 hour 23°C – 24 hours	@ 100 rpm 100 – 200	≥65	>2,000	436,249	1.5190	≥99% @ 382 - 980nm ≥97% @ 980 - 1640nm	1-2 hours
301-2	Clear / Colorless	80°C – 3 hours 23°C – 2 days	@ 100 rpm 225 – 425	≥80	>2,000	432,279	1.5318	>99% @ 400 – 1200nm >98% @ 1200 – 1600nm	8 hours
301-2FL	Clear / Colorless	80°C – 3 hours 23°C – 3 days	@ 100 rpm 100 – 200	≥45	>2,000	318,685	1.5102	>99% @ 400 – 1000nm >97% @ 1000 – 1600nm	10 hours
302	Clear / Light Yellow	23°C – 2 hours	@ 20 rpm 5,000 – 10,000	≥40	1,756	153,918	1.5442	>85% @ 440 - 900nm >88% @ 900 - 1600nm	10 min
302-3M	Clear / Colorless	65°C – 3 hours 23°C – 24 hours	@ 100 rpm 800 – 1,600	≥55	>2,000	456,443	1.5446	>95% @ 460 – 1620nm	1 hour
305	Clear / Colorless	65°C – 1 hour 23°C – 24 hours	@ 100 rpm 150 – 250	≥35	1,880	100,395	1.4763	>95%@340nm >98%@400-1600nm	1 hour
310M-2	Clear / Colorless	65°C – 2 hours 23°C – 24 hours	@ 100 rpm 250 – 325	≤ 30	678	1,936	1.4947	>98% @ 380 – 1660nm	1.5 hours
320 t	Black / Black	65°C – 2 hours 23°C – 24 hours	@ 100 rpm 700 – 1,200	≥55	>2,000	506,751	N/A	<1% @ 300 – 2500nm	1 hour
323LP	Slight Yellow / Amber	90°C – 30 min	@ 50 rpm 3,500-5,000	≥100	>2,000	444,110	1.5704	>90% @ 640 – 800nm >94% @ 820 – 1620nm	24 hours
353ND	Amber / Dark Red	150°C – 1 min 100°C – 10min	@ 50 rpm 3,000 – 5,000	≥90	>2,000	508,298	1.5694	>98% @ 800 – 1000nm >95% @ 1100 – 1600nm	≤3 hours
353ND-T†	Tan / Dark Red	150°C – 1 min 100°C – 10min	@ 20 rpm 9,000 – 15,000	≥90	1,953	559,120	N/A	N/A	3 hours
354	Amber / Dark Red	150°C – 10 min 80°C – 2 hours	@ 50 rpm 4,000 – 6,000	≥95	1,668	356,376	1.5734	>96% @ 600nm >99% @ 800nm	3 days
360	Light Yellow / Amber	150°C – 1 min 100°C – 10 min	@ 100 rpm 350 – 550	≥90	>2,000	322,012	1.5345	>97% @ 700 - 1600nm >88% @ 600nm	6 hours
377	Amber / Dark Amber	150°C – 1 hour	@ 100 rpm 150 – 300	≥95	1,456	373,622	1.5195	≥90% @ 600nm - 1000nm ≥98% @ 1000 - 1600nm	24 hours
383ND	Amber / Dark Red	90°C – 30 min	@ 50 rpm 3,500 – 6,000	≥100	>2,000	369,039	1.5715	≥90% @ 520 – 1600nm	8 hours
OD1001-67	Cream / Tan	150°C - 30 min 125°C - 1 hour	@ 100 rpm 1,400	3	N/A	111,780	1.5247	≥90% @ 660 – 2100nm	28 days
OD2002	Cloudy Amber / Dark Amber	150°C - 5 min 100°C - 30 min	@ 5 rpm 24,000 – 42,000	≥140	1,570	263,291	1.5728	>98% @ 800 – 1640nm	4 hours

Note: 23 °C denotes RT cure † Thixotropic Paste



Learn more: www.epotek.com

Adhesive Expert advice at: techserv@epotek.com

# **EPO-TEK® 301 Family**

The 301 Family of Adhesives is clear and colorless. Available in a variety of related formulations for your specific application needs.

Room Temperature Curing*	301, 301-1, 301-2, 301-2FL, 302, 305, 310M-2
Very Low Viscosity	301, 301-1, 301-2 & 301-2FL
Low Stress	301-2FL, 302, 305, 310M-2
Long Pot Life	301-2 (8 hrs), 301-2FL (10 hrs)

<sup>\*</sup> Faster curing achieved at higher temperatures, see data sheets for alternate cure schedules

## **EPO-TEK® 353ND Family**

The 353ND Family is one of our most popular, well known adhesive product lines. Variations are most easily characterized by these distinct properties:

Long Pot Life	323LP (24 hrs), 354 (3 days) & 383ND (8 hrs)
High Tg	OD2002 (high strength, low modulus)
High Thixotropy	323LP-T, 353ND-T, 354-T
UV Tacking	HYB-353ND (Refer to UV Hybrid Section)
UV Tacking & Thixotropic	HYB-353ND-TX2, HYB-353ND-TX3



Preferred Packaging for EPO-TEK® adhesive products is a single component syringe.

# **EPO-TEK®** syringes offer many advantages:

- Ease of use no mixing, less waste, lower environmental impact
- Increased productivity cost effective

**OPTICAL** www.epotek.com

# THERMALLY CONDUCTIVE

**EPO-TEK®** thermally conductive, electrically insulating adhesives (TCA) are widely used in many high-tech electronic applications for superior performance & thermal management. Properties range from rigid (providing thermally enhanced circuit protection) to flexible (ideal for CTE mismatches).



## SELECTED PRODUCT LISTING FOR EPO-TEK® THERMALLY CONDUCTIVE ADHESIVES

EPO-TEK®	CURE CONDITIONS (minimal)	VISCOSITY @ 23°C (cPs)	GLASS TRANSITION TEMPERATURE (°C)	DIE SHEAR STRENGTH @ (80 mil X 80 mil)	MODULUS (PSI)	THERMAL CONDUCTIVITY (W/m°K)	SUGGESTED INTERMITTENT OPERATING TEMPERATURE (°C)	POT LIFE (@ room temp)
930-4	150°C - 10 min 80°C - 6 hours	@ 20 rpm 12,000 – 17,000	≥90	≥15kg / 5,334psi	607,651	1.70	<325	1 day
H65-175MP†	180°C – 1 hour	@ 2.5 rpm 80,000 – 120,000	≥100	≥20kg / 7,112psi	816,394	0.80	<300	28 days
H67-MPt	150°C – 1 hour	@1rpm 300,000 – 400,000	≥90	≥20kg / 7,112psi	641,860	0.50	<300	28 days
H70E	150°C - 5 min 80°C - 90 min	@ 50 rpm 4,000 – 7,000	≥80	≥10kg / 3,556psi	787,350	0.90	<300	2 days
H70E-2	150°C - 5 min 80°C - 90 min	@ 20 rpm 9,000 – 15,000	≥80	≥5kg / 1,778psi	1,214,415	1.00	<300	2 days
H74	150°C - 5 min 100°C - 20 min	@ 5 rpm 45,000 – 65,000	≥100	≥15kg / 5,334psi	860,430	1.30	<350	2 hours
H77 ste	150°C - 1 hour 100°C - 1 hour+ 120°C - 2 hours	@ 20 rpm 6,000 – 12,000	≥80	≥5kg / 1,778psi	950,693	0.70	<350	6 hours
T7109	150°C - 10 min 80°C - 8 hours	@ 20 rpm 14,000 – 20,000	≥45	≥15kg / 5,334psi	258,593	0.70	<300	4 hours
T7109-19	80°C – 2 hours 23°C – 2 days	@ 5 rpm 40,000 – 70,000	≤40	≥5kg / 1,778psi	29,931	1.30	<250	2 hours
T7110	80°C – 2 hours 23°C – 3 days	@ 100 rpm 1,400 – 2,200	≥40	≥10kg / 3,556psi	789,250	1.00	<250	3.5 hours
T905BN-3	80°C – 2 hours	@ 50 rpm 2,000 – 7,000	≥40	≥10kg / 3,556psi	721,520	2.00	<300	3 hours
TJ2139-LH BLACK	200°C - 5 min 140°C - 40 min	@ 10 rpm 25,000-35,000	≥100	≥30 Kg /10,668 psi	631,753	0.50	<350	2.5 days
TV2001	160°C – 5 min 120°C – 30 min	@ 20 rpm 10,000 – 20,000	≥15	≥15kg / 5,334psi	16,271	0.40	<325	2 days
TZ101	150°C – 1 hour	@ 10 rpm 24,000 – 30,000	≥40	≥10kg / 3,556psi	513,778	0.90	<275	28 days

Note: 23 Cidenotes RT cure | f MIL-STD 883/5011 certified



Learn more: www.epotek.com

Adhesive Expert advice at: techserv@epotek.com

## **High Thermal Management**

EPO-TEK® products are unparalleled in their performance for effectively removing heat, providing increased dielectric strength and protecting circuits from hostile environments.

## 930-4\*

- · Long Pot Life
- Hi-Rel (Automobile Grade)
- Excellent Adhesion To Diverse Substrates
- Small Particle Size (≤20um)

## H74\*

- Thixotropic Paste
- NASA Low Outgassing
- Superior Chemical & Moisture Resistance
- Medium to Avg. Particle Size (≤50um)

## H70E\*

- · Long Pot Life
- Semi-Conductor Die Attach
- Precision Dispensing
- NASA Low Outgassing

# **Low Stress/Flex/Compliant**

This grouping was specially formulated for stress relieving applications such as: large area bonding, potting and thermal cycling.

## T7109

- Syringe Dispensing
- Thermal Cycling Resistance
- · Photonics Packaging

### TZ101\*

- Low Tg & Modulus
- · Long Pot Life
- · High Strength
- One Component

## **TV2001**

- Very Low Tg
- Low Modulus
- High Strength
- Excellent Adhesion

## **Low Temperature Cure**

## T7109-19\*

- Low Tg
- Low Modulus
- High Thermal Conductivity
- Room Temperature Curable

## T7110\*

- Low Viscosity, Self-leveling
- Room Temperature Curable
- Large-Scale Potting

## T905BN-3

- Ideal for Large Volume
- Potting & Casting
- Large Particle Size (<300 microns um)</li>
- Tamper-proof



Preferred Packaging for EPO-TEK® adhesive products is a single component syringe.

# EPO-TEK® syringes offer many advantages:

- Increased reliability and consistency
- Ease of use no mixing, less waste, lower environmental impact
- Increased productivity cost effective

<sup>\*</sup> Variations of these formulations available

# **ELECTRICALLY CONDUCTIVE**

**Epoxy Technology** offers a full range of electrically, thermally conductive and mechanical epoxy adhesives (ECA). Our extensive product line allows users to easily select the optimal adhesive for their specific application; based on the best combination of physical, electrical and mechanical characteristics.

Learn more: www.epotek.com



## SELECTED PRODUCT LISTING FOR EPO-TEK® ELECTRICALLY CONDUCTIVE ADHESIVES

EPO-TEK®	CURE CONDITIONS (minimal)	VISCOSITY @ 23°C (cPs)	GLASS TRANSITION TEMPERATURE (°C)	DIE SHEAR STRENGTH @ RT (80 mil X 80 mil)	VOLUME RESISTIVITY (ohm-cm)	THERMAL CONDUCTIVITY (W/m°K)	SUGGESTED INTERMITTEN OPERATING TEMPERATUR (°C)		POT LIFE (@ room temp)
E2101	150°C – 1 hour	@ 20 rpm 15,000 – 18,000	≥90	>5kg / 1,778psi	≤0.0005	2.50	<300	1,052,430	5 days
EJ2108	150°C – 1 hour 80°C – 2 hour 23°C – 3 days	@ 10 rpm 8,000-20,000	≥30	≥ 5kg/1,778psi	≤0.0001	4.00	<175	2,553	1hour
EJ2189-LV	150°C – 1 hour 23°C – 3 days	@1rpm 25,000 – 45,000	≥40	≥10kg / 3,556psi	≤0.0005	2.50	<250	213,672	4 hours
EJ2312	150°C – 1 hour 23°C – 24 hours	@1rpm 58,822	N/A	≥13kg / 4,623psi	≤0.0005	5.6	<250	N/A	90 mins
EK1000†	150°C - 1 hour Step: 150°C - 1 hour + 200°C - 1 hour	@ 100 rpm 1,800 – 3,600	≥80	>10kg / 3,556psi	≤0.0009	26.3 (two-step cure)	<300	273,528	2 weeks
H20E†	150°C - 5 min 80°C - 3 hours	@ 100 rpm 2,200 – 3,200	≥80	>10kg / 3,556psi	≤0.0004	2.50	<300	808,700	2.5 days
H20E-PFC	175°C - 45 sec 80°C - 3 hours	@ 100 rpm 3,000 – 4,000	≥80	≥5kg / 1,778psi	≤0.0004	3.20	<325	921,254	3 days
H20S	150°C - 5 min 80°C - 90min	@ 100 rpm 1,800 – 2,800	≥80	≥5kg / 1,778psi	<0.0005	3.3	<300	339,720	3 days
H22	150°C - 5 min 100°C - 20min	@10 rpm 17,000 - 30,000	≥100	≥5kg / 1,778psi	≤0.005	0.90	<350	540,120	16 hours
H35-175MP*	180°C – 1 hour 165°C – 1.5 hours	@ 10 rpm 22,000 – 28,000	≥100	≥10kg / 3,556psi	≤0.0005	1.50	<300	1,106,623	28 days
H37-MP*	150°C – 1 hour	@ 10 rpm 22,000 – 26,000	≥90	≥10kg / 3,556psi	≤0.0005	1.59	<300	727,680	28 days
* Certified to MII -STD	883/5011 (MP) † H20E and E	K1000 are also available	in "MP" grade						

Certified to MIL-STD 883/5011 (MP) † H20E and EK1000 are also available in "MP" gra



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# **Room Temperature Curing**

EJ2189	Most robust room temperature formulation with superior adhesion
EJ2189-LV	Lower viscosity version of EJ2189 (viscosity is similar to H20E)
EJ2108	Room temperature cure with some flexiblity
EJ2312	Fastest room temperature cure for ECA

# **Highest Thermal and Electrical Conductivity**

Innovative, "Next Generation" ECA's with unsurpassed performance & exceptional thermal management

EK1000	Single component with superior thermal conductivity
EK2000	Two component version of EK1000
EK1000-1	Extended dry time version of EK1000 (<7 days vs. ≤ 1day)
EK1000-1-D	Enhanced dispensibility version of EK1000-1

# **Low Stress/Flex**

EJ2108	Medium viscosity, thixotropic paste with low modulus and low temp curable ( $<80^{\circ}$ C)
EV2118-2	Medium viscosity, thixotropic paste with excellent thermal conductivity

# **Industry Standard ECA Products**

H20E	Proven reliability for over 50 years
H20E-FC	Fastest curing version
H20E-HC	Highest thermal conductivity
H20E-PFC	Optimal rheology for screen/stencil printing
H2OS	Smooth consistency, designed for die stamping & dispensing
H20F-D/H20	S-D/H20F-PEC-D Single component versions with enhanced dispensability



A Meridian Adhesives Group Company



**EK1000-MP**Highest thermal conductivity

H20E-MP

Industry-standard

H35-175MP

Small chip & SMD bonding

H35-175MPLV

Lower viscosity version

H35-175MPT

Higher thixotropic version

H37-MP

Lower stress and lower cure temperature version of H35-175MP

H37MP-2

Slightly higher viscosity

**H37-MPT** 

Higher thixotropic version

# **UV ADHESIVES**

**EPO-TEK**® offers an exclusive line of high performance UV curing adhesives based on both epoxy as well as acrylate systems. Our unique UV formulations provide superior performance with short cure times for a wide variety of applications. Many of our novel epoxy/UV formulations can be further enhanced by thermal post curing.



## **CURRENT PRODUCT LISTING FOR EPO-TEK® UV ADHESIVES**

**EPOXY-BASED** > Thermal Post Cure - Increases the degree of cross-link; enhancing performance

	UV + 1	nermai Post	cure (typical	iy <del>ou</del> -150	C) FOR E	NHANCED PER	FORMANCE
EPO-TEK®	CURE CONDITIONS (minimal)	VISCOSITY @ 23°C(cPs)	GLASS TRANSITION TEMPERATURE (°C)	HARDNESS	INDEX OF REFRACTION Nd*	SPECTRAL TRANSMISSION	PERFORMANCE FEATURES
OG116	100mW/cm2 @ 240 – 365nm for > 30 sec	@ 2.5 rpm 80,000 - 105,000	≥135	80D	1.5892	89% @ 400nm ≥98% @ 560 - 1660nm	Higher viscosity version of OG116-31, good chemical resistance, high Tg & refractive index, very high strength
OG116-31	100mW/cm2 @ 240 – 365nm for > 30 sec	@ 10 rpm 20,000 – 30,000	≥115	83D	1.5842	≥92% @ 500nm ≥96% @ 660 – 1640nm	High speed dispensability, IC glob top, good chemical resistance, high ${\sf Tg}$ and high index
OG142-87	100mW/cm2 @ 240 – 365nm for > 30 sec	@ 100 rpm 250 – 600	≥100	82D	1.5058	>97% @ 580 – 1660nm	Low viscosity, excellent bond strength and optical clarity, non-yellow
OG142-95	100 mW/cm2 @ 240 - 365nm for > 30 sec	@ 100 rpm 300 - 700	≥100	82D	1.5123	≥ 97% @ 580 - 1660nm	Improved wetting version of OG142-87
OG142-112	100mW/cm2 @ 240 – 365nm for > 30 sec	@ 100 rpm 1,200 – 1,700	≥90	83D	1.5560	>97% @ 500 – 1660nm	Medium viscosity, high moisture resistance, exceptional bond strength
OG159-2	100mW/cm2 @ 240 - 365nm for > 30 sec	@ 2.5 rpm 100,000 – 140,000	≥30	69D	1.5715	≥98% @ 580 – 2000nm	Thixotropic, contains 1 mil glass beads, excellent moisture resistance
UJ1190	100mW/cm2 @ 240 – 365nm for > 60 sec	@ 100 rpm 501	100	80D	1.4993	≥80% @ 380 – 2440nm ≥94% @ 520 – 1560nm	Low viscosity, good for thick sections
UD1355	100mW/cm2 @ 240 – 365nm for > 90 sec	@ 100 rpm 447	36	77D	1.4925	≥96% @ 800 - 2200nm ≥99% @ 360 - 780nm	Optically clear, low viscosity, resists discoloration during solder reflow

<sup>\*</sup> Cured index measured at 589nm

UV + Thermal Post Cure (typically 80-150°C) FOR SHADOW CURING < 5mm shadow cure with proper thermal cure									
CURE CONDITIONS (minimal)	VISCOSITY @ 23°C(cPs)	GLASS TRANSITION TEMPERATURE (°C)	HARDNESS	INDEX OF REFRACTION Nd*	SPECTRAL TRANSMISSION	PERFORMANCE FEATURES			
100mW/cm2 @ 240 – 365nm for > 30 sec	@ 100 rpm 200 – 450	131	86D	1.5256	≥97% @ 460 – 1680nm	Low viscosity, high Tg, excellent bond strength			
100mW/cm2 @ 240 – 365nm for > 30 sec	@ 100 rpm 1,200 – 2,000	≥120	85D	1.5196	≥97% @ 560 – 1680nm	Highly thixotropic, non-flowing gel with high strength and high Tg			
	CURE CONDITIONS (minimal)  100mW/cm2 @ 240 – 365nm for > 30 sec  100mW/cm2 @ 240 – 365nm	CURE CONDITIONS (minimal)  100mW/cm2 @ 240 - 365nm for > 30 sec  100mW/cm2 @ 240 - 365nm	CURE CONDITIONS (minimal)         VISCOSITY @ 23°C(cPs)         GLASS TRANSITION TEMPERATURE (°C)           100mW/cm2 @ 240 - 365nm for > 30 sec         @ 100 rpm 200 - 450         131           100mW/cm2 @ 240 - 365nm         @ 100 rpm         130 rpm	CURE CONDITIONS (minimal)         VISCOSITY @ 23°C(cPs)         GLASS TRANSITION TEMPERATURE (°C)         HARDNESS           100mW/cm2 @ 240 - 365nm for > 30 sec         @ 100 rpm 200 - 450         131         86D           100mW/cm2 @ 240 - 365nm         @ 100 rpm         2120         28D	CURE CONDITIONS (minimal)         VISCOSITY @ 23°C(cPs)         GLASS TRANSITION TEMPERATURE (°C)         HARDNESS         INDEX OF REFRACTION Nd*           100mW/cm2 @ 240 - 365nm for > 30 sec         @ 100 rpm 200 - 450         131         86D         1.5256           100mW/cm2 @ 240 - 365nm for > 30 sec         @ 100 rpm 200 rpm         200 rpm         200 rpm         250 rpm         250 rpm	CURE CONDITIONS (minimal)         VISCOSITY @ 23°C(cPs)         GLASS TRANSITION TEMPERATURE (°C)         HARDNESS         INDEX OF REFRACTION REFRACTION Nd <sup>4</sup> SPECTRAL TRANSMISSION           100mW/cm2 @ 240 − 365nm for > 30 sec         @ 100 rpm 200 − 450         131         86D         1.5256         ≥97% @ 460 − 1680nm           100mW/cm2 @ 240 − 365nm         @ 100 rpm 200 − 450         250 − 250 − 250 nm         250 − 250 − 250 nm			

# **EPOXY-BASED** (Continued)

UV Cure Only									
EPO-TEK®	CURE CONDITIONS (minimal)	VISCOSITY @ 23°C(cPs)	GLASS TRANSITION TEMPERATURE (°C)	HARDNESS	INDEX OF REFRACTION Nd*	SPECTRAL TRANSMISSION	PERFORMANCE FEATURES		
OG133-7	100mW/cm2 @ 240-365nm for > 2 min	@ 100 rpm 150 – 450	≤10	81A	1.5060†	≥90% @ 440 - 580nm ≥96% @ 800 - 1600nm	Low viscosity, flexible, high flow version of OG133-8		
OG133-8	100mW/cm2 @ 240-365nm for > 90 secs	@ 100 rpm 1,000 – 1,500	≤10	65A	1.5244	≥90% @ 580 – 800nm ≥95% @ 820 – 1660nm	Thixotropic, low Tg & hardness, excellent flexibility		
OG142	100mW/cm2 @ 240 – 365nm for > 30 sec	@ 20 rpm 9,000 – 15,000	≥95	86D	1.5809	≥92% @ 440 – 620nm ≥97% @ 660 – 1640nm	Medium viscosity, high strength, moisture resistance		
OG154-1	100mW/cm2 @ 240 – 365nm for > 30 sec	@ 5 rpm 26,000 – 34,000	128	80D	1.5692	97% @ 500 – 1660nm	High viscosity, high Tg, low modulus		
* Cured index measured	at 589nm t Uncured			1					

# **ACRYLATE-BASED**

UV Cure Only													
EPO-TEK®	CURE CONDITIONS (minimal)	VISCOSITY @ 23°C(cPs)	GLASS TRANSITION TEMPERATURE (°C)	INDEX OF HARDNESS REFRACTION Nd*		SPECTRAL TRANSMISSION	PERFORMANCE FEATURES						
OG603	100mW/cm2 @ 240 – 365nm for > 5 sec	@ 100 rpm 150 – 250	≥70	84D	1.5037	≥98% @ 420 – 1600nm	Low viscosity, fast cure						
OG653	100mW/cm2 @ 240 – 365nm for > 1 sec	@ 100 rpm 650 – 850	65	76D	1.5106	≥83% @ 380nm ≥97% @ 440 - 2220nm	Low viscosity, green colored, light blocking properties very fast cure (1-3 sec @ 365nm)						
OG675	100mW/cm2 @ 240 – 365nm for > 2 sec	@ 100 rpm 2,000 – 5,000	≥-5	70A	1.4790†	≥98% @ 400 – 1660nm	Medium viscosity, fast cure, flexible adhesive						
* Cured index measured	at 589nm † Uncured												



Preferred Packaging for EPO-TEK  $^{\rm o}$  UV products is a single component syringe.

## **EPO-TEK®** syringes offer many advantages:



UV ADHESIVES www.epotek.com

# **UV HYBRID**

**Epoxy Technology** has developed a line of unique epoxy-based, UV Hybrid chemistry adhesives. These state-of-the-art formulations allow for improved handling and process control by utilizing both UV and thermal curing. Tacking can be done in seconds, followed up by heat; giving both speed and strength to the process.

## **CURRENT PRODUCT LISTING FOR EPO-TEK® UV HYBRID ADHESIVES**

EPO-TEK®	DESCRIPTION	VISCOSITY	POT LIFE	Tg (°C)	CURE CONDITION +	DEGRADATION TEMP (°C)	WEIGHT LOSS @ 200°C	DIE SHEAR	SPECTRAL TRANSMISSION	*INDEX OF REFRACTION
HYB-353ND-LV	Low viscosity, fast tack	800 - 2,000 cPs @100 rpm	<20 hrs	≥80	UV 10 sec @ 100mW/cm2 +150°C/30min	400	0.08%	≥15kg / 5,334psi	≥95% @ 1100 –1600nm ≥98% @ 800 –1000nm	1.5215
HYB-353ND	Viscosity match of 353ND	3,000 - 7,000 cPs @10 rpm	<2 hrs	≥100	UV 20 sec @ 100mW/cm2 @ + 150°C/30 min	400	0.06%	≥20kg / 7,112psi	≥95% @ 1100 -1600nm ≥98% @ 800 -1000nm	1.5259
HYB-353ND-HV	Higher viscosity version	9,000 - 20,0000 cPs @10 rpm	2 hrs	≥100	UV 10 sec @ 100mW/cm2 @ + 150°C/30 min	388	0.03%	≥25kg / 8,890psi	≥95% @ 1100 –1600nm ≥98% @ 800 –1000nm	1.5545
HYB-353ND-TX2	Thixo version TI = 1.7	17,000 - 35,000 cPs @10 rpm	<2 days	≥90	UV 10 sec @ 100mW/cm2 +150°C/30min	410	0.05%	≥15kg / 5,334psi	≥95% @ 1100 -1600nm ≥98% @ 800 -1000nm	N/A†
HYB-353ND-TX3	Thixo version TI = 1.3	25,000 - 41,000 cPs @10 rpm	<3 days	≥80	UV 10 sec @ 100mW/cm2 +150°C/30min	399	0.19%	≥15kg / 5,334psi	≥95% @ 1100 -1600nm ≥98% @ 800 -1000nm	N/A†

## **Benefits of a UV Hybrid**

- Ø Overall process improvement
- Easier handling
- lc
- ✓ Tack free in seconds
- $\ensuremath{\bigcirc}$  Increased thru-put on expensive alignment machines
- ⊗ 85°C/85%RH resistance, comparable to 353ND



## **UV HYBRID DEVELOPMENT**

Additional UV Hybrid products are in development and testing; these include room temperature cure, thermally, and electrically conductive hybrids.

Contact our Adhesives Experts at techserv@epotek.com for more information on our latest product offerings.



EPO-TEK®'S SPECIALTY ADHESIVE PRODUCTS + ADVANCED PACKAGING TECHNIQUES =

# PREMIUM ADHESIVE PERFORMANCE

**Epoxy Technology, A Meridian Adhesives Group Company**, is a global leader in formulating, manufacturing and packaging specialty adhesives. We have packaging facilities in North America, Europe and Asia.

Our specialty formulated adhesives are packaged with meticulous attention to specifications in the following packaging options:

Premixed and Frozen (PMF) Syringes Room Temperature Stabilized Syringes (UV Products Only)



# Why Use EPO-TEK® Packaged Adhesives?

## Increased Reliability/Consistency/Uniformity

⊘ Precise Mix Ratio, Lot to Lot

#### **Cost Effective**

 $\odot$  Time Saving in Preparation of Material, Increased Productivity

#### Ease of Use

O Convenient, No Measuring, No Mixing, Ready to Use, Stress Free





A Meridian Adhesives Group Company



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Established in 1966, Epoxy Technology is a global leader of adhesives including Specialty Optical, Thermally Conductive (TCA), Electrically Conductive (ECA) and UV/UV Hybrids. Additionally, we offer an extensive line of tested and certified biocompatible/medical device grade adhesives, known as our "MED" LINE.

In 2018, ETI became part of the Meridian Adhesives Group, a full-service global adhesive solutions provider. As part of Meridian's Electronics Division, Epoxy Technology works closely with Epoxy Technology Europe, Epoxies, Etc., and Pacific Adhesives Systems. Together, the Electronics Division offers high-impact products to a wide range of markets globally, such as Optoelectronics, Medical Electronics, Consumer Electronics, and Automotive Electronics, including the rapidly emerging Electric Vehicle sector. Our high-performance materials are used in some of the most demanding and increasingly difficult applications. We are trusted partners of organizations throughout the world.

Epoxy Technology is an ISO 9001: 2015 Certified Company







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