

Elecolit®
Electrically and thermally conductive adhesives

System properties

- TCA thermally conductive adhesives
- ICA isotropic adhesives
- ACA anisotropic adhesives
- Flame-retardant products
- 1-part and 2-part epoxies

Advantages

- Suitable for small- and large-series production
- Processing with dispenser, in screen printing and pin transfer
- UV-curing or curable at room and/or high temperature
- Simple processing

Elecolit® conductive adhesives – always the right bond...

Elecolit® is our range of electrically and thermally conductive adhesives.

The Elecolit® products are a progressive solution to current issues in many fields of application.

Elecolit® conductive adhesives are synthetic resins filled with metallic or inorganic filler materials.

- ICA isotropic adhesives
- TCA thermally conductive adhesives
- ACA anisotropic adhesives
- Flame-retardant products

1-part products for RT curing

Benefits: simple processing through dispenser, screen printing or needle transfer – no mixing needed.

2-part products

Benefits: long shelf life, curing at room temperature possible, very short curing times possible at higher temperatures, low-viscosity settings possible.

Electrically conductive

Electrically conductive products usually contain metallic fillers such as palladium, gold, silver, copper, nickel or graphite. The more filler the product contains, the higher is its conductivity.

Applications

- Die bonding
- Aerial contacting
- Flip-chips
- Anisotropic bonds
- HF screening
- 3D-MID

Advantages compared to other techniques:

- Lead- and solvent-free
- Curing at low temperatures < 200 °C
- No change to your process setup
- High flexibility at temperature shock
- High thermal stability
- No bleeding



Electrically conductive							
Elecolit®	3024	3012	3043	3653	3655	3025	3036
Typical applications	Heat-sensitive components	Chips & electrical/electronic components	Antenna printing, ceramic fuses	Flexible component bonds	Die-attach, semi conductor, part assembling	Suitable for heat sensitive parts	Suitable for heat sensitive parts
Base	2-part epoxy	1-part epoxy	1-part epoxy	1-part epoxy	1-part epoxy	2-part epoxy	2-part epoxy
Viscosity (mPas)	2800	Viscous	4000 - 5000	8000 - 10000	15000 - 45000	Pasty	Pasty
Curing	15 min at 120 °C	10 min at 150 °C	10 min at 150 °C	5 min at 150 °C	30 min at 150 °C 60 min at 120 °C	24 h at RT 15 min at 120 °C	24 h at RT 15 min at 120 °C
Temp. resist. (°C)	-40 to +150	-40 to +200	-40 to +180	-40 to +180	-40/+180	-40/+150	-40/+150
Contact resistance ohms x cm	0.0005	0.013	0.015	0.005	0.0003	0.05	0.01
Characteristics	Snap cure at high temperatures; pot life: 8 h, cures at as low as 80 °C	Dispenser, screen printing, good conductivity, good gap-filling capacity	Very low viscosity, good dispensability, small fillers Ag<10 µ, low ion content	Highly flexible, temperature-, vibration- and impact-resistant, good dispensability	dispensable, small filler grain size (<10µm), high thermal conductivity, high electrical conductivity	curing at RT possible, short production time at high temperatures, dispensable, screen printable	curing at RT possible, short production time at high temperatures, dispensable, screen printable, alternative to El 3025

Electrically conductive							
Elecolit®	323	325	336		327	342	414
Typical applications	Component bonding/ electronics	Heat-sensitive components	Heat-sensitive components		High-temperature range	Electrically conductive contacts, HF shielding	Flexible conductive paths on film
Base	2-part epoxy	2-part epoxy	2-part epoxy		1-part polyamide	1-part acrylate	1-part polyester
Viscosity (mPas)	45000	Viscous	Viscous		8500	1000 - 2000	20000 - 25000
Curing	4 min at 150 °C	5 min at 150 °C	5 min at 150 °C		1 h at 150 °C	10 min at 120 °C	5 min at 150 °C
Temp. resist. (°C)	-60 to +175	-40 to +150	-40 to +150		-40 to +275	-40 to +150	-55 to +200
Contact resistance ohms x cm	0.0002	0.0005	0.001		0.0001	0.001	0.0005
Characteristics	Pot life 96 hours, cures at low temperatures, suitable for semi-conductors, good dispensability	Short timers at high temper., dispensers, printing and screen printing, very good conductivity	Cures at room and low temper., dispenser, printing and screen printing, inexpensive		High electrical & thermal conductivity, good on gold, aluminium, tantalum, germanium and ceramics	Latex-like film, low mech. strength, good adhesion to many substrates, curing at room temp. possible	Extremely flexible, very good conductivity, can be kinked and crumpled, abrasion-proof

Thermally conductive

The best thermal conduction coefficients can be achieved with metallic fillers. They also make the adhesive electrically conductive, which is undesirable for some applications and should be verified before use.

Applications

Applications that release heat energy:

- Bonding of power modules
- Spacers for coating thickness testing
- Bonding of heat sinks

Advantages compared to other techniques:

- Simultaneous dissipation of the high thermal energy and fixing/mounting in contrast to pastes
- Solvent-free
- Fast curing
- High ion purity
- 1-part, simple processing

Processing

Elecolit® products are versatile and reliable, even under extreme conditions.

- Suitable for small- and large-series production
- Processing with dispenser, screen printing and pin transfer

System solutions

Panacol-Elosol also supplies suitable processing equipment for your applications, such as heat-sealing presses.

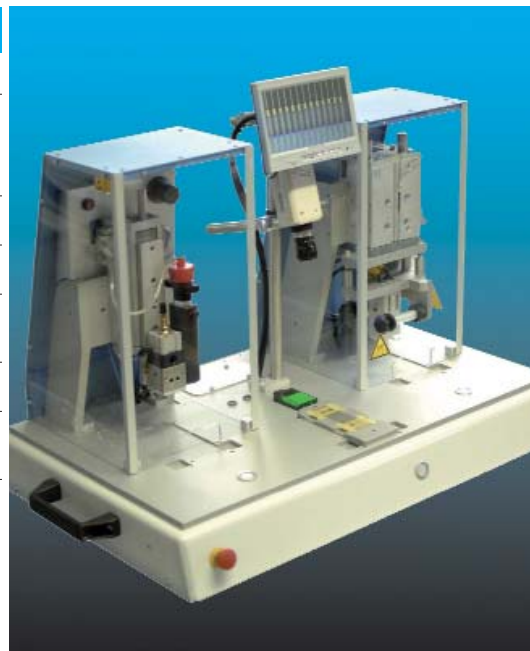
Leading the field through innovation and research:

We continually develop and improve our proven Elecolit® range.

Working both in our own laboratories and on ongoing research projects in close cooperation with renowned institutes and leading partners in industry. We are continually developing progressive solutions for new applications.

Thermally conductive						
Elecolit®	6601	6603	6604		6616	6207
Typical applications	Heat sinks, sensors	Bonding magnets and heat sinks	Sensors for measuring instruments		Sealant for hardening at room temp	Capsule and sealant
Base	1-part epoxy	1-part epoxy	1-part epoxy		2-part epoxy	2-part epoxy
Viscosity (mPas)	12000 - 20000	95000 - 115000	110000 - 140000		Viscous	9000 - 12000
Curing	20 min at 150 °C	20 min at 150 °C	10 min at 150 °C		2 h at 80 °C	2 h at 65 °C
Temp. resist. (°C)	-40 to +200	-40 to +200	-40 to +200		-50 to +150	-55 to +110
Heat conductivity (W/mK)	1.05	1.3	1.05		1.01	0.9
Characteristics	Very good adhesion to metals, good flow behaviour, high strength, good dispensability	Somewhat flexible, impact- and temperature-resistant, high viscosity	Low heat expansion, good measured value transmission, high viscosity		Pot life 45 min, flexible at low temperatures, vibration- and impact resistant, visco-plastic	Low viscosity, flame-retardant, low shrinkage, pot life 2 hours, UL 94 Vo

Anisotropically conductive				
Elecolit®	3061		3063	3064
Typical applications	LCD, flexible circuits		Flexible circuits	Flexible circuits
Base	1-part epoxy		1-part UV acrylate	1-part UV acrylate
Viscosity (mPas)	35000 - 45000		Thixotropic	Thixotropic
Curing	10 s at 150 °C		1 min at 200 mW/cm ² + 40 N	1 min at 200 mW/cm ² + 40 N
Temp. resist. (°C)	-40 to +180		-40 to +150	-40 to +150
Heat conductivity (W/mK)	0.0001		0.001	0.001
Characteristics	Anisotropic electrically conductive, ion purity < 10 ppm		Anisotropic, UV-curing, for transparent film with printed conductive paths, highly flexible	Anisotropic, UV-curing, for transparent film with printed conductive paths, highly flexible, alternative to El 3063



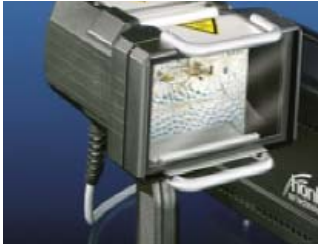
UV lamps and UV LEDs

Hönle UV lamps

are the ideal addition to, for example, our UV products and are ideally suited for curing adhesives, coatings, sealants and paints.

- UV hand lamps
- UV point sources
- UV flood lamps
- UV conveyors

Handy and compact, suitable for mobile and stationary systems, with a homogeneous intensity distribution.



Hönle UV LED lamps

UV LED point source and LED Powerline: the innovative UV technology that cures without heat generation! Ideal in combination with the specially developed Panacol UV LED adhesives.

Application and dispensing



Liquidyn Jet Dispenser

Dispensing equipment

We can supply the suitable dispensing equipment for your application, from standard devices to custom-made machines. Ideal for precisely metered application of various low- and high-viscosity materials.



And we also have the suitable accessories.

You can find further information about our product groups in our special product data sheets. For our comprehensive range of accessories for each product series, please ask for our detailed information sheets.

hönle group		Dispensing	Curing	UV-adhesives	Conductive adhesives	Potting
aladin	eleco-efd	eltosch	hönle	mitronic	panacol	printconcept
					uv-technik speziallampen	



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