

Vitralit®
UV and Light-Curing Adhesives

The Vitralit® System

- UV acrylates
- Light-curing acrylates
- UV epoxies
- Light-curing epoxies
- UV polyester

System Properties

- Single-component systems
- Short production times
- Solvent-free
- Low energy costs
- Excellent electrical properties
- Outstanding temperature and chemical resistance

The Vitralit® System – a Comprehensive Product Range for Numerous Applications...

Our comprehensive range of Vitralit® systems covers a multitude of applications and offers many advantages: Vitralit® systems are used in many fields in both trade and industry. Vitralit® adhesives and sealants are single-component systems that cure within a few seconds, only.

The Main Advantages of the Vitralit® Systems are:

- Simple dosing, immersion, spray, roller application, etc; No mixing of several components and no pot life
- Depending on the application, curing times of 0.5 to 60 seconds can be achieved by exposure to high-energy UV light. Thus permitting shorter cycle times also in mass production
- Solvent-free, therefore environmentally safe

- Low energy costs due to short curing times
- Excellent electrical properties
- Outstanding temperature and chemical resistance
- Low heating

The short UV exposure time allows bonding of temperature-sensitive materials. With their low space requirement, the Vitralit® systems are ideal even for complex fully-automated high-volume production lines and can be well integrated in existing plants.

Please feel free to contact us for support.

We help you chose the ideal Vitralit® product for your particular application, complete with all technical specification.

| Electrical Engineering/Electronics | | | | | | | |
|------------------------------------|---|---|---|---|---|---|--|
| Vitralit® | 2009 F | 4451 | 1691 | 1657 | 6104 VT | 4732 VT | 6137 |
| Typical Applications | Conformal Coating | Conformal Coating, Foil bonding | Glob-Top | Glob-Top Sealant for Large/High Parts | Corner Bonding, Mounting Large Parts on PCB | Corner Bonding, Potting, Mounting Large Parts on PCB | Die-Attach, Heat Sink Bonding, Thermally Conductive |
| Viscosity (mPas) | 100 – 200 | 600 – 800 | 280,000 – 310,000 | 120,000 – 130,000 | 75,000 – 90,000 | 30,000 – 40,000 | 150,000 – 170,000 |
| Temperat. Resist. (°C) | -40 to +180 | -40 to +130 | -40 to +180 | -50 to +150 | -40 to +200 | -40 to +120 | -40 to +180 |
| Curing | UV / Thermal | UV | UV / Thermal | UV | UV / Thermal | UV / VL | UV / Thermal |
| Color | Transparent | Transparent | Black | Light Grey | Translucent | White | White |
| Characteristics | Flexible, Excellent Chemical Resistance | Quick Curing, Low Shrinkage, Very Elastic | High Ion Pureness, Excellent Temperature Resistance | Low Ion Content, Quartz-Filled, Thixotropic, Flexible | High Temperature Resistance, Good Adhesion on Metals and Sintered Materials | High Viscose Flexible Gel, LED Optimized Curing, Good Adhesion to Many Substrates | High Chemical Resistance, Good Adhesion to Glass, Aluminium and Ceramics, Good Heat Conduction |

| Potting | | | | | | | |
|------------------------|--|---|--|---|--|---|---|
| Vitralit® | 2655 | 2665 | 1722 | 6104 | UD 5134 | 6128 | UD 8559 LV |
| Typical Applications | Flip-Chip Underfiller | Flip-Chip Underfiller | Sealing of Plugs, Switches and Relays, Parts on FR4 | Sealing Rotors and Sensors | Bonding, Sealing, Encapsulating Electrical Parts | Adhesive/Sealant for Switches, Plugs, Relays | Plugs, Relays and Connector Sealing and Potting |
| Viscosity (mPas) | 200 – 400 | 3,000 – 5,000 | 5,000 – 8,000 | 3,500 – 6,000 | 15,000 – 25,000 | 800 – 1,200 | 700 – 1,000 |
| Temperat. Resist. (°C) | -50 to +150 | -55 to +175 | -40 to +120 | -40 to +200 | -40 to +150 | -40 to +150 | -20 to +120 |
| Curing | UV / Thermal | UV / Thermal | UV | UV / Thermal | UV / Thermal | UV / Therm. + Activ. | UV/VL + Humidity |
| Color | Transparent | Transparent | Pink Transparent | Translucent | Grey-Yellow, Viscous | Translucent | Translucent |
| Characteristics | Low Shrinkage and Small CTE, Good Capillary Behaviour, High Ion Purity | Cationic, Extremely Reliable in Aerospace Applications, Low CTE | Good Adhesion to Thermoplastic Synthetics, Low Shrinkage | High Temperature Resistance, Good Adhesion on Metals and Sintered Materials | UV- and Thermally Curing | Good Adhesion to Many Materials, Various Viscosities Possible | Good Adhesion to Thermoplastics, Proper Flow Characteristic, Fast Curing under UV Irradiation |

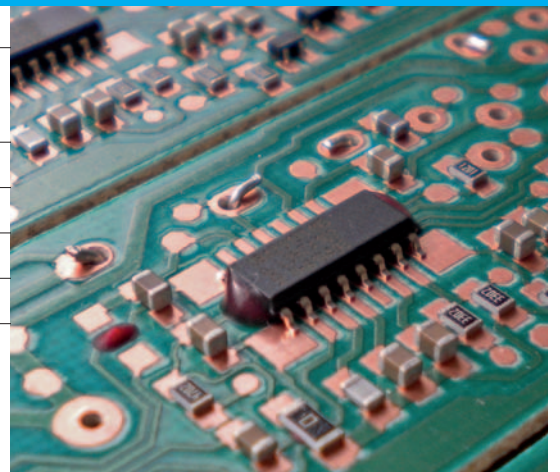
| Smart Cards | | | | | | | SMD |
|------------------------|---|---|---|--|---|---|---|
| Vitralit® | UC 2017 | 1600 LV | 1650 | 1680 | 1688 | 1671 | 5607 |
| Typical Applications | Sealing of Plugs, Switches and Relays, Fixing Parts | Glob-Top Sealant for Larger Chips | Glob-Top, Covering of Small Dies | Glob-Top, Covering of Small Dies | Glob-Top, Covering of Small Dies | Dam Compound | UV Fixation of SMD Parts |
| Viscosity (mPas) | 14,000 – 22,000 | 5,000 – 6,000 | 6,000 – 9,000 | 6,000 – 9,000 | 3,000 – 4,000 | 250,000 – 300,000 | 1,000,000 – 2,000,000 |
| Temperat. Resist. (°C) | -40 to +150 | -40 to +180 | -40 to +150 | -40 to +150 | -40 to +150 | -40 to +180 | -40 to +150 |
| Curing | UV | UV / Thermal | UV | UV | UV | UV / Thermal | UV / Thermal + Activ. |
| Color | Transluc./Reddish | Grey | Grey | Grey | Grey | Grey | Red |
| Characteristics | Thixotropic, Gap-Filling, Low Heat Expansion | High Chemicals Resistance, High Tg, High Strength | Flexible, Low Water Absorption, Grain Size up to 150 µm | Flexible, Low Water Uptake, High Ion Purity, Small Grain Size of max. 12µm | Flexible, Low Water Uptake, High Ion Purity, Small Grain Size of max. 12µm, Good Flow Characteristics | Stable, Wet-on-Wet Application with Filler Material, Ion-Free | High Viscose Material, Fast Pre-Fixation of SMD Parts, Thermal Curing During Re-Flow Process Possible |

| Dome Coating | | | | Wire Tacking | | Metal Bonding | |
|------------------------|---|---|---|---------------------------------|---|---|---|
| Vitralit® | 2020 | 2008 | UV 3675 | UV 2113 | 9181 | 4282 mod2 | 6125 |
| Typical Applications | Dome Coating Epoxy Based | Decorative Anti Scratch Coating, Dome Coating | Dome Coating Epoxy Based | Thermoplastics | Wire tacking, Bonding and Sealing Electric. Compon. | Ferrite Bonding, Screw and Thread-locking Adhesive | First Fixation of Metal |
| Viscosity (mPas) | 200 – 400 | 200 – 300 | 150 – 250 | 19,000 – 32,000 | 4,000 – 7,000 | 500 – 600 | 4,000 – 6,000 |
| Temperat. Resist. (°C) | -40 to +160 | -40 to +180 | -40 to +120 | -40 to +150 | -40 to +150 | -40 to +170 | -40 to +150 |
| Curing | UV | UV / Thermal | UV / VL | UV / VL | UV / VL | UV / Activator | UV / Therm./ Aktivator |
| Color | Clear, Colorless | Clear, Colorless | Clear, Colorless | Grey-Yellow | Yellowish | Light Green | Translucent |
| Characteristics | High Glossy, Scratch Resistance Surface | Slightly Flexible, Scratch Resistance Coating, Polishable | High Strength, Scratch Resistance, High-Gloss Surface | Good Adhesion to Many Materials | Good Adhesion to Many Plastics Like PC, PMMA and PVC and Coil Coatings, Fast Curing | Anaerobic Curing in Shadow Zones, Good Adhesion to Metals | Good Adhesion to Metals, First Fixation Via UV, Thermal or Activator Based Second Curing Step |

| Glass Bonding | | | | | | | |
|------------------------|---|---|--|--|--|--|---|
| Vitralit® | 6128 o.A. | 6128 | 6133 | 7561 | 7562 | UV 2725 | VBB-N |
| Typical Applications | Glass-Metal/Stone/Marble, Thermoplastic Materials | Glass-Metal/Stone/Marble, Thermoplastic Materials | Glass-Metal/Stone, Lamin./Temp. Glass-Metal, Hard Mat. | Humidity Resistant Glass Bonder, Solar Modules | Glass/PC, Glass/Laminated Glass/Tempered Glass | Large-Surface Glass-Glass/Metal/Stone | Bevelbonder, Optical Filter, Suitable for Bonding Large Glass Areas |
| Viscosity (mPas) | 100 – 300 | 550 – 1,000 | 600 – 1,000 | 500 – 850 | 500 – 800 | 200 – 400 | 50 – 150 |
| Temperat. Resist. (°C) | -40 to +150 | -40 to +150 | -20 to +130 | -50 to +150 | -40 to +150 | -20 to +140 | -40 to +140 |
| Curing | UV / Thermal + Activ. | UV / Thermal | UV / VL | UV | UV / VL | UV | UV / VL |
| Color | Transparent | Transparent | Clear, Colorless | Clear, Colorless | Clear, Colorless | Clear, Colorless | Clear, Colorless |
| Characteristics | Also Combination Curing (UV/Heat), High Strength and Impact Resistant | Also Combination Curing (UV/Heat), High Strength and Impact Resistant | LED-Optimised Curing, High Strength and Impact Resistant | Water Resistant and Dish Washer Proofed | Flexible, for Large-Area Bonds, Very Low Moisture Absorption | High Elongation at Break, Very Elastic, Good Resistance to Peeling | Particularity Humidity Resistance, UV Resistant, No Yellowing |

| Medical Equipment | | | | Plastic Bonder | | | |
|------------------------|---|--|---|---|--|---|--|
| Vitralit® | 7041 F | 1702 | 6108 T | 7641 | 4731 | 4731 VT | VBB-1 |
| Typical Applications | Needle Bonder, Connect. of Tubes, Fitting and Housings Made of Plastics | Medical Plastics Bonding, USP Class VI | For Glass/Metal, USP Class VI, ISO 10993 | PMMA and PC Edge-to-Edge Bonding | PMMA, PC and Glass Surface Bonding | PMMA, PC and Glass Surface Bonding | Glass Bevel Bonds, Elast. Edge-to-Edge Bonding, Plastics/Glass |
| Viscosity (mPas) | 50 – 90 | 45 – 80 | 4,000 – 6,000 | 50 – 100 | 900 – 1,500 | 22,000 – 28,000 | 1,000 – 1,500 |
| Temperat. Resist. (°C) | -40 to +120 | -55 to +135 | -40 to +160 | -30 to +120 | -40 to +120 | -40 to +120 | -50 to +150 |
| Curing | UV / VL | UV | UV/VL/Therm. + Activ. | UV / VL | UV / VL | UV / VL | UV / VL |
| Color | Slightly Yellow | Amber | Transparent | Clear, Colorless | Clear, Colorless | Clear, Colorless | Clear, Colorless |
| Characteristics | Capillary Flow, Good Adhesion when Bonding PC to Glass, Metal and Many Other Plastics | Good Adhesion to Plastics, Gas and Irradiation Sterilisation | Multifunctional, Excellent Adhesion, Resistant to Yellowing | LED-Optimised Curing, Excellent Capillary Action, High Strength | LED-Optimised Curing, Elastic, Surface Bonding PC and PMMA | LED-Optimised Curing, Elastic, Surface Bonding PC and PMMA, High Viskose Thixotr. Gel | LED-Optimised Curing, High Flexibility, Good Resistance to Peeling |

| Optics | | | | |
|------------------------|---|--|---|--|
| Vitralit® | UC 1608 | 1517 | 1507 | UC 6215 |
| Typical Applications | Fiber Optics, Lenses, Optical Application | Lens Fixation, Optical Application and Buildings | Chip Fibre Linking, FO Cable Bonding | Bonding, Sealing, Encapsulating Electrical Parts |
| Viscosity (mPas) | 700 – 1,250 | 90,000 – 120,000 | 750 – 1,250 | 600 – 1,500 |
| Temperat. Resist. (°C) | -40 to +175 | -40 to +180 | -40 to +175 | -40 to +180 |
| Curing | UV / Thermal | UV / Thermal | UV | UV |
| Color | Transparent | Grey | Transparent | Clear, Colorless |
| Characteristics | High Tg, Nano Size Fillers, High Optical Transparency | Ion Pure, High Tg, Low Shrinkage, Good Chemical Resistance, Good Adhesion to FR4, Glass and Metals | Low Insulation, High Tg, Nanostructured Fillers | Resistant to Intermediate High Temperatures up to 230 °C |



Hönle UV Lamps

The curing of Vitralit® products can be best optimized with Hönle UV equipment.

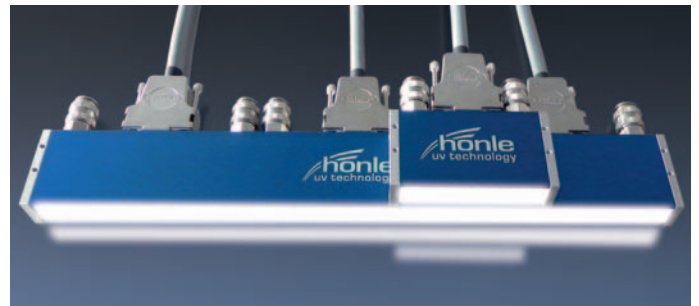
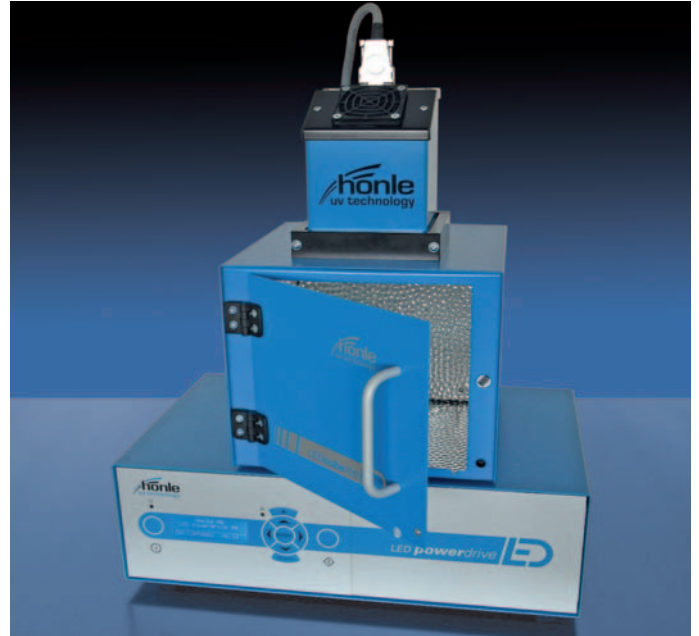
Hönle provides custom-made products adjusted to the individual requirements:

- UV point sources
- UV flood lamps
- UV curing chambers



Hönle UV LED Lamps

In addition to conventional UV curing technology with gas discharge lamps Hönle is also a leading supplier of UV-LED systems.



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 detailed information sheets.

| hönle group | | Engineered Adhesives | UV-adhesives | Conductive adhesives | Potting | Curing |
|--------------|-----------|----------------------|---------------|----------------------|----------|---------|
| | | | | | | |
| | | | | | | |
| aladin | eleco-efd | eltosch | grafix | hönle | mitronic | panacol |
| printconcept | raesch | uv-technik | speziallampen | | | |



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