hönle group

panacol adhesives & more

Innovative Adhesives for Medical Applications

Panacol Vitralit®, Structalit® and Cyanolit® Adhesives

Hönle UV-Curing Systems - bluepoint LED eco, LED Powerline, LED Spot 100

Adhesives

- Certified USP Class VI and/or ISO 10993
- 100% solvent free
- Fast curing with UVA and visible light
- Convenient handling
- Compatible with common sterilization processes

UV-Curing Systems

- High UV-intensity
- Curable with UV-LED only, to eliminate heat
- Easily adaptable to existing production lines
- Optimum quality, efficiency, and value
- LED failure detection for a save process

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Advanced Adhesive Technologies for Medical Applications Certified USP Class VI and/or ISO 10993

Panacol develops and produces cutting-edge adhesives for medical applications within a wide range of chemistries. This includes UVA and visible light curable adhesives, coating materials, potting compounds, instant-cure adhesives, and 2-part epoxies. All products are formulated to meet the bio-compatibility standards of USP Class VI and/or ISO 10993 standards.

Complete Solutions for Your Assembly Process

Dr. Hönle Group offers compatible system technology: Panacol's high performance adhesives and complementing UV- and LED equipment manufactured by Dr. Hönle AG ensure rapid bonding at an optimum quality.

Hönle system solutions provide excellent technical competence and process reliability.

Typical Applications

- Joining stainless steel cannulae to transparent or translucent hubs and syringes
- Bonding/sealing of transparent polycarbonate or acrylic housing parts in blood oxygenators
- Bonding/sealing stainless steel cannulae into flexible PVC infusion lines
- Bonding soft PVC to rigid PVC in anaesthesia masks
- Bonding of subassemblies in blood pressure transducers, stopcocks, fittings, adapters and arterial filters
- Coating of PCBs in hearing aids

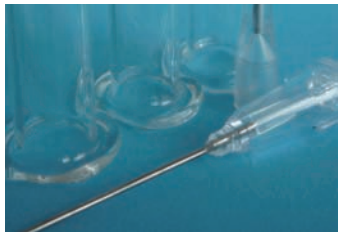
Key Benefits of Panacol High-Tech-Medical-Adhesives

- Certified USP Class VI and/or ISO 10993
- 100% solvent free
- High productivity due to fast curing within seconds
- Compatible with common sterilization processes
- Excellent adhesion to glass, plastics and metals

	Cyanolit 203 TX	Cyanolit 241 F	Cyanolit 732 F
Typical Applications	**Tube Bonding, Large Gap Bonding, Porous Material**	**Plastics - Metal Bonding**	**Bonding of Colored Plastics, Delicate Bonding**
Base	Cyanoacrylate	Cyanoacrylate	Cyanoacrylate
Viscosity, 25°C (cP/mPas)	5,000 – 10,000	30 – 50	250 – 350
Rockwell Hardn.	70 – 85	70 – 85	70 – 85
Certification	USP Class VI	USP Class VI	USP Class VI
Typical Substrates	**PA, PC, ABS, PVC, EPDM**	**PVC, PMMA, Copper, Al, Steel**	**PVC, PMMA, ABS, EPDM, Stainl. Steel**
Special Properties	**Gap Filling, Highly Viscous**	**Low Viscosity, Capillary Flow, Good Wetting Properties**	**Very Fast Setting Time, Wide Range of Applications**

- Bonding of difficult substrates possible
- Flexible usage for manual and automated production process
- Wide viscosity range from capillary flow to gap filling
- Optimum process control with our fluorescent adhesives

Needle Bonding



- Vitralit® 7041/7041 T and UV 4050 are an excellent choice for metal-plastic bonding
- Vitralit® 6108/6108 T achieve optimum adhesion properties on glass and metal
- Reliable bonded joints without material cracking
- High extraction force after autoclave sterilization EO- and Gamma-radiation treatment

Adhesion Properties on Different Substrates

Adhesive	Structalit	Vitralit													
	701	1655	7222	7311 FO	7044 VLV	UV 4050	7041/F/T	7090 VHS	7989	5140	1702	1703	6108/T	4731	7562
PMMA	△	△	●	✓	●	●	✓	●	●	●	●	●	△	✓	●
PC	●	△	●	✓	✓	✓	✓	✓	✓	●	✓	✓	●	✓	●
PVC-hard	✓	●	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	●
PET-A	●	△	●	●	●	●	✓	●	●	●	△	△	△	✓	●
PET-G	●	△	●	●	●	●	✓	●	●	●	●	●	△	✓	●
PUR	●	●	●	✓	✓	✓	✓	●	✓	●	●	●	△	●	△
PS	●	△	●	✓	✓	✓	✓	●	●	✓	●	●	△	●	●
PP	△	△	△	●	△	△	●	△	△	△	△	△	△	△	△
ABS	✓	✓	●	●	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	●
SAN	●	✓	●	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	●
Glass	✓	△	✓	✓	✓	✓	✓	△	●	●	●	●	✓	✓	✓
Steel	✓	●	✓	✓	△	✓	✓	△	●	●	△	△	✓	✓	✓
Stainl.Steel	✓	●	✓	✓	✓	✓	✓	△	●	●	△	△	✓	✓	✓
Aluminum	✓	△	✓	✓	●	●	●	△	●	●	△	△	✓	△	✓
Brass	✓	△	●	●	△	△	●	△	●	△	△	△	✓	●	●

✓ very good ● application related △ surface pretreatment required

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	Structalit 701	Structalit 5893	Vitralit 1655	Vitralit 7222	Vitralit 7311 FO	Vitralit 7044 VLV
Typical Applications	**Surgical Instruments, Endoscopes, Optical Fibers**	**Encapsulation, Potting, Glob Top**	**Bonding and Coating of Plastics**	**Electronic Component Assembly for Medical Equipment**	**Needle Bonding, Bonding Plastics**	**Perfect Solution to Bond Elastomeric Substrates**
Base	2-part Epoxy	1-part Epoxy	1-part Epoxy	1-part Epoxy	Acrylate	Acrylate
Viscosity, 25°C [cP/mPas]	3,000 – 5,000	6,000 – 10,000	150 – 300	200 – 500	40 – 70	10 – 100
Tg (DSC) [°C]	110 – 120	110 – 130	30 – 40	50 – 56	30 – 40	20 – 30
Curing	2 K, Thermal Cure at 80°C - 200°C	Thermal Cure	UVA-Curing, Thermal Cure at 105°C	UVA-Curing, LED 365	UVA- and Light Curing LED 365, 405	UVA- and Light Curing LED 365, 405
Color	Brown	Black	Transparent	Transp., Slightly Yellowish	Transparent	Transparent
Shore Hardness	80 – 90 D	75 – 90 D	70 – 80 A	77 – 82 D	40 – 65 D	50 – 60 A
Certification	USP Class VI ISO 10993–5	ISO 10993–5	USP Class VI ISO 10993–5	USP Class VI	USP Class VI	USP Class VI
Special Properties	**Very Good Temperature Stability, Excellent Adhesion to Steel and Plastics**	**Specially Formulated for Applications in Electronics**	**Flexible, High Strength Adhesion to Plastics and Metal, UV- and Thermal Curing (Dual Cure)**	**Superior Adhesion to Glass, Metal and Various Plastics**	**Excellent Adhesion to Many Plastics, Various Viscosity Versions Available**	**Very Good Adhesion to Rubbers/Elastomers**

	Vitralit UV 4050	Vitralit 7041/F	Vitralit 7041 T	Vitralit 7090 VHS	Vitralit 7989	Vitralit 5140
Typical Applications	**Needle Bonding, Plastics**	**Needle Bonding, Connector and Tube Fittings, Housing Bonding, Dialysis Filter**	**Needle Bonding, Tattoo Needles, Connector and Tube Fittings, Housing Bonding, Dialysis Filter**	**Catheters, Needle Bonding, Endoscopes**	**PC-Container and Cover Bonding, Smear Brush**	**Coating of Electrical Components, Instruments, and Respiratory Mask Assembly**
Base	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate
Viscosity, 25°C [cP/mPas]	140 – 500	50 – 90	2,000 – 4,000	40 – 100	3,000 – 5,000	250 – 500
Tg (DSC) [°C]	35 – 45	32 – 42	38 – 47	60 – 80	37 – 47	1 – 10
Curing	UVA- and Light Curing LED 365, 405	UVA- and Light Curing LED 365, 405	UVA- and Light Curing LED 365, 405	UVA- and Light Curing LED 365, 405	UVA-Curing, LED 365	UVA- and Light Curing LED 365, 405
Color	Transparent, Yellowish	Transp., Slightly Yellowish	Transp., Slightly Yellowish	Transparent	Transp., Slightly Yellowish	Transparent
Shore Hardness	60 – 70 D	70 – 80 D	70 – 80 D	80 – 90 D	45 – 55 D	45 – 65 A
Certification	ISO 10993–5	USP Class VI ISO 10993–4 / –5	USP Class VI ISO 10993–4 / –5	USP Class VI	USP Class VI	USP Class VI
Special Properties	**Excellent Adhesion to Plastics, Glass and Metal**	**Capillary Flow, Fluorescent under Black Light, Excellent Adhesion to Plastics, PP and POM**	**Excellent Gap Bonding, Very Good Adhesion to Plastics**	**Capillary Flow, Fluorescent under Black Light, Excellent Adhesion to Plastics, Fast Curing at Low Intensity**	**Flexible, Excellent Adhesion to Plastics**	**Highly Elastic**

	Vitralit 1702	Vitralit 1703	Vitralit 6108	Vitralit 6108 T	Vitralit 4731	Vitralit 7562
Typical Applications	**Tube Connectors, Back-Pressure Valves, Blood Filters**	**Tube Connectors, Back-Pressure Valves, Blood Filters**	**Needle Bonding, Glass Assembly**	**Needle Bonding, Glass Assembly**	**Tube Connectors, Housing Bonding**	**Glass Assembly**
Base	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate	Acrylate
Viscosity, 25°C [cP/mPas]	45 – 80	10,000 – 15,000	600 – 900	4,000 – 6,000	900–1,500	500 – 800
Tg (DSC) [°C]	75 – 85	80 – 90	45 – 70	45 – 70	20 – 40	–50 to –40
Curing	UVA- and Light Curing LED 365, 405	UVA- and Light Curing LED 365, 405	UVA- and Light Curing LED 365, 405 Thermal Cure at 150°C	UVA- and Light Curing LED 365, 405 Thermal Cure at 150°C	UVA- and Light Curing LED 365, 405	UVA- and Light Curing LED 365, 405
Color	Transparent Amber	Transparent	Transparent	Transparent	Transparent	Transparent
Shore Hardness	65 – 80 D	75 – 80 D	75 – 85 D	75 – 85 D	20 – 40 D	55 – 75 A
Certification	USP Class VI	USP Class VI	USP Class VI ISO 10993–5	USP Class VI	USP Class VI ISO 10993–5	USP Class VI ISO 10993–5
Special Properties	**Excellent Adhesion to Plastics, Capillary Flow, High E-Modulus**	**Very Good Adhesion to Plastics, Excellent Gap Filling, High E-Modulus**	**UV- and Thermal Curing (Dual Cure), Low Viscosity, Moisture Resistant, Very Good Adhesion to Glass and Metal**	**UV- and Thermal Curing (Dual Cure), Excellent Gap Filling, Damp-Proof**	**Flexible, Excellent Adhesion to Plastics and Glass**	**Flexible, Excellent Adhesion to Glass and Metal**

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Perfect Curing of Adhesives and Sealing Compounds with High Performance UV Equipment by Hönle

Dr. Hönle AG is one of the world's leading suppliers of industrial UV technology. Innovative Hönle UV-systems have been applied worldwide - as gas-discharge lamps and also as LED-versions.

Hönle and Panacol attach great importance to joint research and development. They have combined their knowledge and extensive experience which has led to comprehensive high-tech solutions in medical engineering.

Hönle UV-Technology for Medical Applications

bluepoint LED eco

bluepoint LED eco has been developed for all applications requiring a most intensive UV irradiation. Thanks to its high intensity and the capability to program complete process sequences, e.g. exposure series with different intensities and holding times, it is possible to realize very short cycle and machine throughput times, especially in fully automated production lines.

bluepoint LED eco

LED Powerline

LED Powerline is a high-performance array with all advantages of LED technology: LEDs have an extremely long lasting lifetime and do not require heating up or cooling phases.

LED Powerline is available in wavelengths of 365/385/395/405nm. This variety allows an exact adjustment of the wavelength to the respective application.

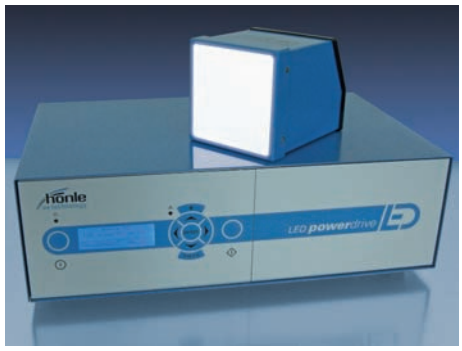
The LED array is available in different lengths from 80mm – in 40mm-steps variable – up to a length of > 1m.

New is a LED Powerline version with focusing lenses. They allow highest intensities, even if – due to the component architecture – only a larger distance between LED unit and component is possible. Thus the LED Powerline is perfect for applications like needle bonding.

LED Powerline

LED Spot 100

LED Spot 100 has been developed for all applications requiring a highly intensive UV irradiance over a large area, which can optionally be enlarged by connecting several LED Spots 100 without gaps. The arrangement of the LEDs as well as an electronic power control guarantees a homogenous irradiation.



LED Spot 100

The recognition of LED-malfunction and a comprehensive monitoring function provide very high process stability.

LED Spot 100 is applied for manufacturing hearing devices or for tube bonding.

hönle group
Engineered Adhesives UV Adhesives Conductive Adhesives Potting Curing

aladin eleco-efd eltosch grafix hönle panacol printconcept raesch uv-technik speziallampen

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