Technical Specification Inks

Our inks are formulated in-house to ensure optimal compatibility with Hummink's proprietary technology. Designed for advanced microfabrication needs, they offer excellent printability, stability, and performance on both flexible and rigid substrates, ideal for applications such as printed electronics, sensors, and microfluidics.

Whether you're developing next-generation circuits or miniaturized devices, our inks are tailored to deliver reliable, high-resolution results.

Conductive Inks







	Ag70 | Silver Ink	Ag40 | Silver Ink	Au70 | Gold Ink
Metal Content (wt.%)	70 ±5	40 ±5	70 ±5
Particle size [nm] (TEM)	30–50	30–50	15–30
Electrical Resistivity [μΩ·cm]	5.4 ±1.1	-	7.7 ±1.6
Viscosity (cP, at 25° C) **Low Shear** **High Shear**	 200,000–550,000 (SR: 0.1 s^{-1}) 3,000–5,000(SR: 100 s^{-1})	 300–400 (SR: 1 s^{-1}) 100 – 200 (SR: 100 s^{-1})	 20,000-40,000 (SR: 0.1 s^{-1}) 400 – 600 (SR: 100 s^{-1})
Density (g/cm^3)	2.5 ± 0.4	1.74 ± 0.2	3.8 ± 0.5
Solvent	Glycols	Glycols	Glycols
Design Pattern	2D - Lines & Dots	3D - Bumps & Pillars	2D - Lines & Dots
Pipette Compatibility	Glass pipette	Glass pipette	Glass pipette

Storage & shelf life

Store between 4–8°C, do not freeze. Minimize exposure of an opened container to the atmosphere. Shelf life: 6 months from production date, unopened, under proper storage.

Process recommandation

Thermal sintering: 190 - 220°C

Tailor sintering parameters to the substrate properties and printed feature geometry to ensure optimal performance.

Polymer

UV Epoxy ink

Adhesion

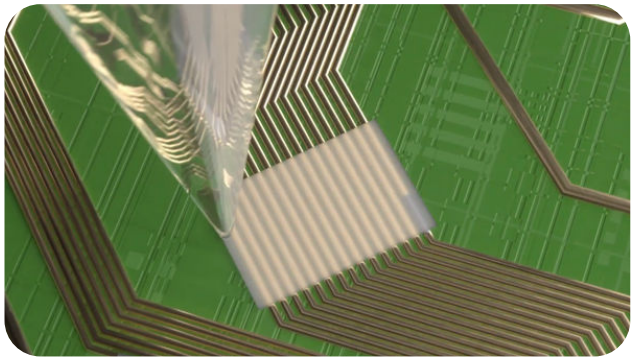
Strong, lasting bond to a wide range of flexible and rigid substrates, without pre-treatment in most applications.

Chemical resistance

Withstands exposure to solvents, cleaning agents and everyday chemicals without degrading the printed pattern.

Mechanical resistance

High resistance to abrasion, scratching and flexing, ensuring durability throughout the product's lifecycle.



UV Acrylate ink

Fast polymerization

Rapid UV curing supports high-speed production lines with minimal drying time and no solvent evaporation step.

High resolution

Sharp, well-defined fine features, enabling detailed patterns and small-scale functional designs.

Finish quality

Smooth, uniform surface finish with consistent gloss and appearance across the printed area.

Storage & shelf life

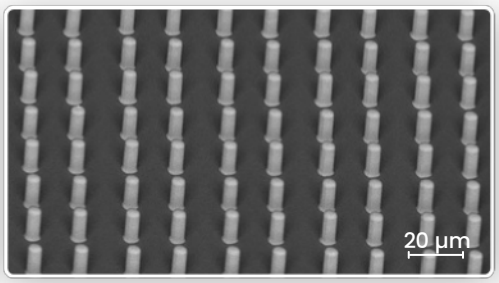
Store in a cool, dry place away from direct light and heat sources. Reseal the container promptly after each use to preserve viscosity and curing performance.

Process recommandation

UV curing is compatible with standard UV-LED or mercury lamp systems. Curing dose and line speed should be adjusted to substrate, ink film thickness and geometry.



Silver lines printed with Hummink's Ag70 | Silver Ink



Silver bumps printed with Hummink's Ag40 | Silver Ink



Gold lines printed with Hummink's Au70 | Gold Ink

About Hummink

Hummink is the exclusive developer and supplier of High Precision Capillary Printing (HPCaP), a patented technology enabling micron-scale material deposition for advanced electronics manufacturing. From R&D to industrial production, our integrated solution combines printing systems, intelligent software, and proprietary inks.

Already adopted by leading industrial and research organizations across Europe, Asia, and the US, HPCaP enables enables next-generation manufacturing and repair applications in displays, semiconductors, and advanced packaging. Learn more at www.hummink.com or follow us on LinkedIn.

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