

TECHNICAL DATA SHEET

Prexonics® SILVER INK D330

Product description

Particle-free silver ink for conductive coating or conductive trace applications.

Key benefits

Excellent processability. Pure liquid and particle-free material for slot die, spin coating or inkjet applications.

As part of the Prexonics® System Solution, the ink is optimized for best processing in the Prexonics® Equipment.

Main ingredients

Item	Before sintering (liquid)	After sintering (solid)
Silver	15 ± 5 wt. %	Pure silver
Vehicle (solvent base)	85 ± 5 wt. %	-



Typical properties of the ink material

Item	Specification			Condition	Method
	LSL	Target	USL		
Appearance	Clear and transparent liquid			at 23 ± 3°C	Visual
Viscosity (mPa.s)	13.0	14.0	15.0	at 25°C, 30 rpm	Brookfield DV3T, reading @ 2 min
Surface tension (mN/m)	27.5	28.5	29.5	at 23 ± 3°C	Bubble tensiometer, reading @ 15 s
Density (g/cm³)	1.00	1.05	1.10	at 23 ± 3°C	Pycnometer

Physical properties of the sintered coating material

Item	Representative value	Condition	Method
Appearance	Silver color	at 23 ± 3°C	Visual
Weight loss	85 ± 5 wt. %	RT to 250°C, 5 K/min	Thermogravimetry
Volume resistivity (Ω.cm)	8.36 x 10 ⁻⁶	750 nm coating at 25°C	4-point probe
Thermal conductivity (W/m.K)	82	750 nm coating at 25°C	Calculated
Thermal expansion (ppm/K)	19.7	-	Literature value for bulk Ag

Substrate types: FR4, EMC, copper, etc.

Thermal sintering conditions

Recommended thickness of wet layer: 15 - 25 μm
Recommended oven conditions: 180 - 280°C in air
Recommended sintering time: 5 - 60 min at peak temperature

The electrical conductivity of the coating increases with increasing sintering temperatures and times.
No cleaning step is required after sintering

Shelf life, work life and storage

Storage: Keep originally packed at room temperature ($23 \pm 3^\circ\text{C}$)
Shelf life: Min. 3 months from manufacturing date
(originally packed, at room temperature ($23 \pm 3^\circ\text{C}$))
Work life: 28 days in closed ink supply system at temperature $\leq 40^\circ\text{C}$

Further handling and ink cleaning guidelines are available upon request.

Safety and Health

Wear protective gloves and goggles. Refer to the material safety datasheet for more details on safety guidelines.



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