



LED Offset Ink Materials

LED Vehicles and Extenders

LED-258 Photoinitiated LED Extender for Paper: LED-258 is an “all-in-one” extender vehicle for LED-curable lithographic inks. LED-258 exhibits high performance, excellent litho properties and fast cure. LED-258 is formulated with a unique, very potent, LED specific P.I. package. Depending on the press setup, additional P.I. maybe needed. Variables such as lamp wattage, press speed, the distance of the gap between lamp and substrate, all can affect LED cure. If needed use LED-256 or LED-257 LED Photoinitiators. Typical applications include paper and paperboard substrates.

- Tack: 14.5 – 16.5 @400rpm/1'
- Viscosity: 1000 – 1400 Poise

LED-259 LED Extender for Paper: LED-258 without photoinitiator.

- 22.0-24.0 @400rpm/1'
- Viscosity: 1700 – 2100 Poise

KS-386 UV/LED Fast Cure Litho Gel Vehicle: **KS-386** is recommended as a gel letback vehicle for UV-curable lithographic inks where high performance and sharp printing are desired. Typical applications include commercial sheetfed and folding carton work on paper, paperboard and other substrates.

- Tack: 23.0 – 26.0 @ 400 rpm/1'
- Viscosity: 600 – 800 Poise
- Yield Value: 6000 – 8000 dynes/cm²

KS-357 Highly Functional Urethane Vehicle: **KS-357** is recommended as an additive to increase cure speed and hardness without additional photoinitiator. **KS-357** has an excellent combination of cure and flexibility.

- Tack: 13 – 15 @ 400 rpm/1'
- Viscosity: 400 – 600 Poise
- Yield: 4200 – 5200 dynes/cm²

Liquid LED Photoinitiators

LED-256 LED Liquid Photoinitiator Blend: **LED-256** is a unique liquid LED photoinitiator easily incorporated into flexo or offset ink formulas for maximum top and through cure for various lamp settings. Recommended dosage of 6-12% is typical but may vary depending on the ink.

LED-257 LED Gelled Liquid Photoinitiator Blend: **LED-257** is unique gelled LED photoinitiator ideal for LED and H-UV offset litho inks. It is easily incorporated into offset or flexo ink formulas, and gives maximum top and through cure at various lamp settings. Recommended dosage of 6-12% is typical but may vary depending on the ink.

LED-252 LED Liquid Photoinitiator for White Inks: **LED-252** is a unique liquid LED photoinitiator easily incorporated into flexo or offset ink formulas including LED white ink, as well as overprints and coatings for maximum through cure for various lamp settings. Recommended dosage of 6 -12% is typical but may vary depending on ink or coating.

Kustom Kure LED Litho Ink Starting Formula



Raw Materials		
UV/LED Dispersion	35-45%	
Additives	0-3%	
LED-259 LED Litho Extender	40-50%	
*If using LED-258 photoinitiator you may or may not need additional P.I., depending on the strength and color.		
Do not exceed 120F once P.I. is added		
LED-257 Gelled LED Photoinitiator for Litho Inks	4-10%	
Check tack, then add as needed to desired tack		
KS-244 Monomer	2-6%	
	100%	

- 1). To improve rheology and litho properties use KS-386 Gel Vehicle.
- 2). For better cure and added film hardness try 3-6% KS-297
- 3). Additives such as wax/slip agents should be added as needed.



LED Lamp Distance to Substrate: “Gap Configuration”

The biggest challenge to LED curing continues to be surface cure which is drastically impacted by the gap between the array (lamp) and the substrate. The location of the array is dictated by the equipment it is attached to and how the standard printing processes operate. In offset printing, the location of the array is impacted by the grippers used to move the individual sheets through the press. While in flexo there isn't the same issue when running a web. The gap between the array and the substrate is very different, in offset applications it is 5.0 – 6.5 centimeters while in flexo applications it is 3.0 – 5.0 millimeters, a factor of 10+.

These differences create different curing parameters and will require consideration when formulating offset versus flexo products. It is likely a product formulated for the flexo gap may never fully cure if applied at offset gaps, while the risk of using a product for the offset gap on the flexo gap process may result in over yellowing (coatings and OPV's), limited press stability and brittleness of the cured film.