

# Catalogue

- Liquid photoimageable solder mask (KSM-S6188)
- Liquid photoimageable solder mask (KSM-S6189)
- Liquid photoimageable plating-resist ink (KSM-P2188)
- Liquid photoimageable etching-resist ink (KSM-P2388)
- UV curable solder mask (KSM-180)
- UV curable marking ink (KSM-150)
- Thermal curable solder mask (KSM-386)
- Thermal curable marking ink (KSM-388)
- UV curable etching resist ink for acidic etching solution (KSM-UV201)

## Liquid photoimageable solder mask ( KSM-S6188)

KSM-S6188 is two-component , screen printing , high precision , lye-development solder mask ink. It is applicable to double-sided board and multi-layer board for making thin and intensive circuit. It has good screen printing adaptability and good surfacing. The post cured film provides excellent adhesion , resistance to chemicals and heat.

KSM-S6188G series has good screen printing adaptability , excellent adhesion , high resistance to chemicals and heat. It has extensive operating conditions . This liquid photoimageable solder mask possesses easy operation and is widely accepted.

Spray Tin	Fill with ink in the hole	Chemical plating Aurum	Chemical plating Tin	The smallest solder-dam
◎	△	○	△	4mil

KSM-S6188 KG series solder mask ink is dedicated to both tamponade also printing process , making Chemical-plating Aurum board , thin solder-dam board. It has good resistance to chemical-plating Aurum (electroless Aurum plating), good tamponade effect , full , flat ,no dehiscence , light transmission ,taphole break , good light sensitivity. This ink has small under-cut and can make 2mil solder-dam. It is applicable to double-sided board and multi-layer board , having high integrated performance.

Spray Tin	Fill with ink in the hole	Chemical plating Aurum	Chemical plating Tin	The smallest solder-dam
◎	◎	◎	△	2mil

KSM-S6188 HG series is KSM-S6188 KG series' upgrade product. It has outstanding performance of thermal shock, resistance to chemicals and solvent , tamponade effect and other physical and chemical properties.

Spray Tin	Fill with ink in the hole	Chemical plating Aurum	Chemical plating Tin	The smallest solder-dam
◎	◎	◎	○	2mil

KSM-S6188 E series is low halogen environmental protection solder mask ink. The halogen content is below 600ppm. The ink has bright and stable color, good screen printing adaptability and high resistance to chemicals and heat , easy operation and environmental protection.

Spray Tin	Fill with ink in the hole	Chemical plating Aurum	Chemical plating Tin	The smallest solder-dam
◎	◎	◎	○	3mil

KSM-S6188 tamponade series solder mask ink is dedicated to Aluminum slice , which has high solid content, good flow performance , low curing shrinkage and good compatibility with other series of solder mask ink. The ink in the hole is full, flat, no dehiscence , light transmission and taphole break.

Spray Tin	Fill with ink in the hole	OSP	Chemical plating Aurum	Chemical platingTin
◎	◎	◎	◎	○

P.S. : “◎”excellent , “○”good , “△”general

1. Type of ink

Type of Base	Color	Type of Base	Color
KSM-S6188 G series , Type of hardener: KSM-18/KSM-18 A1			
KSM-S6188 G2	Medium green (incline to yellow)	KSM-S6188 G3	Deep green (incline to blue)
KSM-S6188 G5	Deep green (incline to blue )	KSM-S6188 G6	Medium green (incline to yellow)
KSM-S6188 G9	Light green (incline to blue)	KSM-S6188 GA	Medium green and matt (incline to yellow)
KSM-S6188 GB	Deep green and matt (incline to blue)	KSM-S6188 GC	Medium green and matt (incline to blue)
KSM-S6188 KG series , Type of hardener: KSM-18 A6/KSM-18 HA30			
KSM-S6188 KG22	Medium green (incline to yellow)	KSM-S6188 KG24	Medium green (incline to blue)
KSM-S6188 KG25	Deep green (incline to blue)	KSM-S6188 KG26	Medium green (incline to yellow)
KSM-S6188 KG29	Light green (incline to blue)	KSM-S6188 KG31	Light green (incline to yellow )
KSM-S6188 HG series , Type of hardener: KSM-18 HA30			
KSM-S6188 HG12	Light green (incline to blue)	KSM-S6188 HG32	Medium green (incline to yellow)
KSM-S6188 HG36	Deep green (incline to blue)	KSM-S6188 HG39	Light green (incline to blue)
KSM-S6188 E low halogen series , Type of hardener: KSM-18 EA/KSM-18 EH1			
KSM-S6188 EHG1	halogen-free Light green (incline to yellow )	KSM-S6188 EHG2	halogen-free Medium green (incline to yellow)
KSM-S6188 EHG9	halogen-free Light green (incline to blue)	KSM-S6188 EG5	halogen-free Deep green (incline to blue)
KSM-S6188 tamponade series , Type of hardener: KSM-18 A1/KSM-18 EH1/KSM-18 S1			
KSM-S6188 GS	Light green (incline to blue)	KSM-S6188 GS1	Light green (incline to blue)
KSM-S6188 EHGS	halogen-free green (incline to blue)		

## 2. Properties of Ink

Items	Features	Notes
Color	Green	
Fineness	$\leq 8\mu\text{m}$	0 ~25 $\mu\text{m}$ Fineness gauge
Mix ratio	Base/Hardener=3:1	Weight ratio
Solid content after mixing	75 $\pm$ 3%	Surface printing ink
	82 $\pm$ 3%	tamponade series
Viscosity after mixing (25℃)	200 $\pm$ 30 dPa · s	VT-04F
	300 $\pm$ 50 dPa · s	VT-04F, matt and tamponade series
Density after mixing (25℃)	1.30 ~1.50 g/ml	
Pot life after mixing	24 hour	Store below 25℃ in dark
Environment standard	In compliance with RoHS directives	SGS testing
Halogen content	$\leq 600\text{ppm}$	Only KSM-S6188 E series
Pre-baking limit	75℃ , 70 min	
Exposure energy	300 ~600 $\text{mJ}/\text{cm}^2$	The effective value through the polyester film
Package	Base :750g , Hardener :250 g	According to customer requirements
	Base :3kg , Hardener :1kg	
Shelf life	6 months since the date of manufacture	Store 10~25℃ in dark

## 3. Properties of the film (after post cured)

Items	Features	Notes
Pencil hardness	$\geq 6\text{H}$	Pencil harder
Solvent resistance	Good	25℃, $\text{C}_2\text{H}_5\text{OH}$ ,20min
Acid resistance	Good	25℃, 10vol% $\text{H}_2\text{SO}_4$ ,20min
Alkali resistance	Good	25℃, 10vol% $\text{NaOH}$ ,20min
Insulation resistance	$\geq 1.0 \times 10^8 \Omega$	IPC-SM-840D 3.8.2
Resistance to molten solder	288℃ $\times$ 10seconds $\times$ 3times OK	IPC-SM-840D 3.7.3
Resistance to flame	UL94V-0	Certified number:UL-E189612

Attention :

1. The base and hardener should be mixed according to the ratio and stirred thoroughly before using.
2. We will offer you special diluent or DPM if the ink need dilute.
3. The values above are based on experiments in our lab. Experiments need to be carried out in order to get proper using condition.

## Liquid photoimageable solder mask ( KSM-S6189)

KSM-S6189 is two-component , screen printing , high precision , lye-development solder mask ink. It is applicable to double-sided board and multi-layer board for making thin and intensive circuit. It has good screen printing adaptability and good surfacing. The post cured film provides excellent adhesion , resistance to chemicals and heat.

KSM-S6189 series of all the color ink has passed the safety certification of UL94 V-0.

KSM-S6189 series has a variety of colors to choose , good color stability , good screen printing adaptability and excellent adhesion , high resistance to chemicals and heat. It has extensive operating conditions . This liquid photoimageable solder mask possesses easy operation and is wildly accepted.

Surface Treatment	Spray Tin	Fill with ink in the hole	Chemical plating Aurum	OSP	Chemical plating Tin
Adaptability	◎	○	◎	◎	○
Time of pre-baked (75℃)	40 min	50 min	60 min	70 min	80 min
Adaptability	◎	◎	○	△	×
Production capacity of the smallest solder-dam			2mil		

KSM-S6189 E series is low halogen environmental protection solder mask ink. The halogen content is below 600ppm. The ink has bright and stable color, good screen printing adaptability and high resistance to chemicals and heat , easy operation and environmental protection.

Surface Treatment	Spray Tin	Fill with ink in the hole	Chemical plating Aurum	OSP	Chemical plating Tin
Adaptability	◎	○	◎	◎	○
Time of pre-baked (75℃)	40 min	50 min	60 min	70 min	80 min
Adaptability	◎	◎	○	△	×
Production capacity of the smallest solder-dam			2mil		

KSM-S6189 tamponade series solder mask ink is dedicated to Aluminum slice , which has high solid content, good flow performance , low curing shrinkage and good compatibility with other series of Liquid photoimageable solder mask. The ink in the hole is full, flat, no dehiscence , light transmission and taphole break.

Surface Treatment	Spray Tin	Fill with ink in the hole	Chemical plating Aurum	OSP	Chemical plating Tin
Adaptability	◎	○	◎	◎	○
Time of pre-baked (75℃)	40 min	50 min	60 min	70 min	80 min
Adaptability	◎	◎	○	△	×
Production capacity of the smallest solder-dam			2mil		

P.S. : “◎”excellent , “○”good , “△”general , “×”poor

1. Type of ink

Type of Base	Color	Type of Base	Color
KSM-S6189 Green series , Type of hardener: KSM-19H01			
KSM-S6189GL01	Light green	KSM-S6189GL02	Medium green
KSM-S6189GL05	Deep green	KSM-S6189GL06	Medium green
KSM-S6189GL08	Deep green	KSM-S6189GL10	Deep green
KSM-S6189GL12	Medium green	KSM-S6189GL13	Deep green
KSM-S6189GL16	Medium green	KSM-S6189GL17	Light green
KSM-S6189GL22	Light green	KSM-S6189GL23	Deep green
KSM-S6189GL30	Light green	KSM-S6189GL31	Light green
KSM-S6189GL33	Deep green	KSM-S6189GL35	Deep green
KSM-S6189GL39	Light green	KSM-S6189GM61	Green and matt
KSM-S6189GM62	Deep green and matt	KSM-S6189GM63	Medium green and matt
KSM-S6189 versicolor series , Type of hardener: KSM-19H01			
KSM-S6189BL04	Blue	KSM-S6189BL03	Deep blue
KSM-S6189R01	Red	KSM-S6189KM01	Black and matt
KSM-S6189YL01	Yellow	KSM-S6189BK31	Black
KSM-S6189WT21	White	KSM-S6189WT31	Deep white
KSM-S6189 E low halogen series , Type of hardener: KSM-19E01			
KSM-S6189EG01	halogen-free light green	KSM-S6189EG05	halogen-free deep green
KSM-S6189EG02	halogen-free medium green	KSM-S6189EBL1	halogen-free blue
KSM-S6189EGM1	halogen-free light green and matt	KSM-S6189EBK2	halogen-free black
KSM-S6189 tamponade series , Type of hardener: KSM-19H01			
KSM-S6189GLS1	Light green	KSM-S6189GLS2	Light green

## 2. Properties of Ink

Items	Features	Notes
Color	Green, Blue, Black, Yellow, White, Red	
Fineness	$\leq 8\mu\text{m}$	0 ~25 $\mu\text{m}$ Fineness gauge
Mix ratio	Base/Hardener=3:1	Weight ratio
Solid content after mixing	74 $\pm$ 3%	
	84 $\pm$ 3%	tamponade series
Viscosity after mixing (25°C)	200 $\pm$ 30 dPa · s	VT-04F, Bright surface ink
	300 $\pm$ 50 dPa · s	VT-04F, matt and tamponade series
Density after mixing (25°C)	1.30 ~1.50 g/ml	
Pot life after mixing	24 hour	Store below 25°C in dark
Environment standard	In compliance with RoHS directives	SGS testing
Halogen content	$\leq 600\text{ppm}$	Only KSM-S6189 E series
Pre-baking limit	75°C , 70 min	
Exposure energy	300 ~600 mJ/cm <sup>2</sup>	The effective value through the polyester film
Package	Base :750g , Hardener :250 g	According to customer requirements
	Base :3kg , Hardener :1kg	
Shelf life	6 months since the date of manufacture	Store below 25°C in dark

## 3. Properties of the film (after post cured)

Items	Features	Notes
Pencil hardness	$\geq 6\text{H}$	Pencil harder
Solvent resistance	Good	25°C ,C <sub>2</sub> H <sub>5</sub> OH ,20min
Acid resistance	Good	25°C ,10vol%H <sub>2</sub> SO <sub>4</sub> ,20min
Alkali resistance	Good	25°C ,10vol%NaOH ,20min
Insulation resistance	$\geq 1.0 \times 10^8 \Omega$	IPC-SM-840D 3.8.2
Resistance to molten solder	288°C×10seconds×3times OK	IPC-SM-840D 3.7.3
Resistance to flame	UL94V-0	Certified number:UL-E189612

Attention :

1. The base and hardener should be mixed according to the ratio and stirred thoroughly before using.
2. We will offer you special diluent or DPM if the ink need dilute.
3. The values above are based on experiments in our lab. Experiments need to be carried out in order to get proper using condition.

# Liquid photoimageable solder mask

## Directions of use

### 1. Working procedure

Procedure	Content
(1) Mixing	Mixing a small amount main agent with hardener and stirring thoroughly, then mixing the mixture above with the remanent main agent, add appropriate diluent and stirring 5 ~10 minutes. The viscosity of ink is adjusted to 120±20 PS if printed by hand. And it is adjusted to 180±20PS if printed by machine. it is adjusted to 200±40PS if it is aluminum tamponade .The viscosity of ink mixed above is measured at 25℃. Please use the special diluent of our company if the viscosity of ink needs to adjust.
(2) Remain time	10 ~15 minutes after stirring uniformly
(3) Screen mesh	Ordinary boards:43T ; Chemical-plating Aurum or Tin boards:36T
(4) Pre-baking	1. Single side printing separately First side :72 ~76℃ ,15 ~18min Second side : 72 ~76℃ , 30 ~35min 2. Double sides printing simultaneously : 72 ~76℃ , 30 ~50min
(5) Exposure	300 ~500 mJ/cm <sup>2</sup> , Black ink :600 ~750 mJ/cm <sup>2</sup> (the effective value through the polyester film)
(6) Developing	Developing solution :0.8 ~1.2wt%Na <sub>2</sub> CO <sub>3</sub> or K <sub>2</sub> CO <sub>3</sub> aqueous solution Developing solution temperature :28 ~32℃ Spray pressure :1.5 ~2.5 kg/cm <sup>2</sup> Developing time :40~90 seconds
(7) Post cure	Spray Tin board :150℃×(60 ~120) min Chemical-plating Aurum board:150℃×(45 ~55) min Thick copper plate , boards printed with black ink should be post-baked in subsection:75℃×(60 ~120) min+100℃×30 min+150℃×(60 ~90) min



# Liquid photoimageable plating-resist ink

(KSM-P2188)

KSM-P2188 is single component liquid photoimageable plating and etching resist ink , which is screen-printing type. The cured film can provide such performance as high resolution ,excellent adhesion and good resistance to plating and etching. The boards can be plated copper , tin , nickel and aurum without high temperature post-baking after developing. The ink is fit to make double-surface and multiple-layer circuit boards.

## Properties of Ink

Items	Technical features	Notes
Color	Blue	According to customer requirements
Viscosity (25℃)	60±10 dPa · s	VT-04F
Fineness	≤5μm	0 ~25μm Fineness gauge
Solid content	60±5%	
Density (25℃)	1.10 ~1.20 g/ml	
Resolution	50μm (2.0mil)	
Adhesion	100/100	Laceration experiment
Plating resistance	Copper ,Tin ,Nickle and Aurum	Normal plating technics
Hardness	≥2H	Pencil harder
Etching	Acidic/Alkaline etching solution	
Environment-protection standard	In compliance with RoHS directives	SGS testing
Pre-baking limit	75℃, 60min	
Package	5.0kg/bucket , 20kg/box	According to customer requirements
Shelf time	6 months since the date of manufacture	Store below 25℃ in dark

## Attention :

1. Mixing the ink fully before using.
2. We will offer you special diluent or DPM if the ink need dilute.
3. The values above are based on experiments in our lab. Experiments need to be carried out in order to get proper using condition.

## Liquid photoimageable etching-resist ink

(KSM-P2388)

KSM-P2388 is single component liquid photoimageable plating and etching resist ink , which is roller coating type. The cured film can provide high resolution , excellent adhesion and good resistance to plating and etching. The boards can be plated copper , tin ,nickel and aurum without high temperature post-baking after developing. The ink is fit to make double-surface and multiple-layer dense circuit boards.

### Properties of Ink

Items	Technical features	Notes
Color	Blue	
Viscosity (25℃)	10±2dPa · s	VT-04F
Fineness	≤5μm	0 ~25μm Fineness gauge
Solid content	50±5%	
Density (25℃)	1.10 ~1.20 g/ml	
Resolution	50μm (2.0mil)	
Adhesion	100/100	Laceration experiment
Plating resistance	Copper ,Tin ,Nickle and Aurum	Normal plating technics
Hardness	≥2H	Pencil harder
Etching	Acidic/Alkaline etching solution	
Pre-baking limit	75℃ , 60min	
Package	5.0kg/bucket , 20kg/box	According to customer requirements
Shelf time	6 months since the date of manufacture	Store below 25℃ in dark

### Attention :

1. Mixing the ink fully before using.
2. We will offer you special diluent or PMA if the ink need dilute.
3. The values above are based on experiments in our lab. Experiments need to be carried out in order to get proper using condition.

# Introduction to

## Photoimageable plating-resist ink

Working procedure :

Procedure	Content	
(1) Pre-treatment	Rinsing and polishing :controlled electric current	
	Washing :upper pressure $3\pm 0.5 \text{ kg/cm}^2$ , nether pressure $2\pm 0.5 \text{ kg/cm}^2$	
	Microetching :temperature $40\pm 3^\circ\text{C}$ , $\text{H}_2\text{O}_2/\text{H}_2\text{SO}_4/\text{Cu}^{2+}\rightarrow$ microetching depth $30 \sim 50 \mu \text{ inch}$	
	Washing :upper pressure $3\pm 0.5 \text{ kg/cm}^2$ , nether pressure $2\pm 0.5 \text{ kg/cm}^2$	
	Water-absorbing roller :wetting , no distortion , no impurity	
	Drying : $85\pm 5^\circ\text{C}\rightarrow$ no water trace $\rightarrow$ water film testing over 30 seconds	
	Dust-moving roller :change once every 2 ~4 hours	
(2) Printing	A. Screen printing screen mesh 68 ~100T B. Roller coating producing speed 2.5 ~ 4.0 m/min	
(3) Pre-drying	KSM-P2188	First side: $75^\circ\text{C}\times 10 \sim 12\text{min}$ ; second side: $75^\circ\text{C}\times 15 \sim 18\text{min}$
	KSM-P2388	First side: $75^\circ\text{C}\times 3 \sim 5\text{min}$ ; second side: $75^\circ\text{C}\times 5 \sim 8\text{min}$
(4) Exposure	$100 \sim 180 \text{ mJ/cm}^2$ (the effective value through the polyester film), exposure step:7~9 step (standard in the remained film)	
(5) Developing	Concentration of aqueous $\text{Na}_2\text{CO}_3$ :0.8 ~1.2%	
	Temperature of developing solution :30 ~32 $^\circ\text{C}$	
	Developing pressure:1.2 ~2.0 $\text{kg/cm}^2$	
	Developing time:40 ~60 seconds	
	Spray pressure after developing :1.6 ~2.0 $\text{kg/cm}^2$	
	Washing time:20 ~30 seconds	
(6) Plating	Resist to plating Copper ,Tin , Nichel , Aurum	
(7) Etching	Etching of copper chloride , etching time:40 ~60 seconds	
	Temperature of etching trough :48 ~52 $^\circ\text{C}$	
	Conveyer speed :4.0 ~4.5 m/min	
	Spray pressure of etching :1.5 ~2.5 $\text{kg/cm}^2$	
	Change once a week of the cloth used for absorbing the oil	
(8) Coating-move	Concentration of removing coating solution NaOH:3% ~5%	
	Temperature of moving coating:45 $\pm 5^\circ\text{C}$	
	Time of moving coating:1~2min	
	Spray pressure of chemical solution:1.5 ~2.0 $\text{kg/cm}^2$	

## UV curable solder mask

### (KSM-180)

KSM-180 is UV curable solder mask, which has such performance as good printing adaptability and fast curing rate. The cured film provides good adhesion , high hardness and good resistance to chemical and heat.

#### Properties of Ink

Items	Technical features	Notes
Color	Green , Blue	
Fineness	$\leq 8\mu\text{m}$	0 ~25 $\mu\text{m}$ Fineness gauge
Viscosity (25℃)	120±20dPa · s	VT-04F
Density (25℃)	1.20 ~1.40 g/ml	
Screen mesh	90 ~120T	
Film thickness	12 ~16 $\mu\text{m}$	
Curing energy	1000 ~1800 mJ/cm <sup>2</sup>	The effective value through the polyester film
Pencil hardness	$\geq 4\text{H}$	Pencil hardness test
Adhesion	100/100	Laceration experiment
Insulation resistance	$\geq 1.0 \times 10^8 \Omega$	IPC-SM-840D 3.8.2
Resistance to molten Tin	260±5℃×10seconds×3times OK	IPC-SM-840D 3.7.2
Environment standard	In compliance with RoHS directives	SGS testing
Flammability	UL94V-0	Certified number:UL-E189612
Package	5.0kg/bucket , 20kg/box	
Shelf time	6 months since the date of manufacture	Store below 25℃ in dark

#### Attention :

1. Mixing the ink fully before using.
2. We will offer you special diluent or HEMA if the ink need dilute.
3. The values above are based on experiments in our lab. Experiments need to be carried out in order to get proper using condition.

## UV curable marking ink

### (KSM-150)

KSM-150 is UV curable marking ink , which has such performance as good printing adaptability and fast curing rate. The cured film can provide excellent adhesion , chemical resistance and insulation resistance. It is designed for marking the substrates of single and double surface board and solder mask.

#### Properties of Ink

Items	Technical features	Notes
Color	White , Black	
Fineness	$\leq 8\mu\text{m}$	0 ~25 $\mu\text{m}$ Fineness gauge
Viscosity (25°C)	280 $\pm$ 20dPa · s	VT-04F
Density (25°C)	1.20 ~1.40 g/ml	
Screen mesh	90 ~120T	
Film thickness	12 ~16 $\mu\text{m}$	
Curing energy	1500 ~2000 mJ/cm <sup>2</sup>	The effective value through the polyester film
Pencil hardness	$\geq 4\text{H}$	Pencil hardness test
Adhesion	100/100	Laceration experiment
Resistance to molten Tin	260 $\pm$ 5°C×10seconds×3times OK	IPC-SM-840D 3.7.2
Environment standard	In compliance with RoHS directives	SGS testing
Package	1.0kg/bucket , 10kg/box	According to customer requirements
Shelf time	6 months since the date of manufacture	Store below 25°C in dark

#### Attention :

1. Mixing the ink fully before using.
2. We will offer you special diluent or HEMA if the ink need dilute.
3. The values above are based on experiments in our lab. Experiments need to be carried out in order to get proper using condition.

## Thermal curable solder mask

### (KSM-386)

KSM-386 is two component liquid thermal curable solder mask, which has such performance as good printing adaptability and fast curing rate. The cured film can provide good adhesion, heat and chemical.

#### Properties of Ink

Items	Technical features	Notes
Color	Green	
Fineness	$\leq 8\mu\text{m}$	0 ~25 $\mu\text{m}$ Fineness gauge
Mixing ratio	Base/Hardener=23/2	Weight ratio
Viscosity after mixing (25°C)	250 $\pm$ 50 dPa · s	VT-04F
Density after mixing (25°C)	1.20 ~1.40 g/ml	
Screen mesh	36 ~51T	
Film thickness	18 ~22 $\mu\text{m}$	After curing
Curing energy	150°C , 30 ~60min	Hot air circulation oven
Pot time after mixing	24 hours	Store below 25°C
Pencil hardness	$\geq 6\text{H}$	Pencil hardness test
Adhesion	100/100	Laceration experiment
Resistance to molten Tin	288°C $\times$ 10seconds $\times$ 3times OK	IPC-SM-840D 3.7.3
Environment standard	In compliance with RoHS directives	SGS testing
Package	Base:920 g ; Hardener:80 g	According to customer requirements
	Base:4.6 kg; Hardener:0.4 kg	
Shelf time	6 months since the date of manufacture	Store below 25°C in dark

#### Attention :

1. The base and hardener should be mixed according to the ratio and stirred thoroughly before using.
2. We will offer you special diluent or DPM if the ink need dilute.
3. The values above are based on experiments in our lab. Experiments need to be carried out in order to get proper using condition.

# Thermal curable marking ink

(KSM-388)

KSM-388 is two component liquid thermal curable marking ink , which has such performance as good printing adaptability and fast curing rate. The cured film can provide excellent adhesion and resistance to heat and chemical.

## Properties of Ink

Items	Technical features	Notes
Color	White , Black	
Fineness	$\leq 8\mu\text{m}$	0 ~25 $\mu\text{m}$ Fineness gauge
Mixing ratio	Base/Hardener=23/2	Weight ratio
Viscosity after mixing (25℃)	250±50 dPa · s	VT-04F
Density after mixing (25℃)	1.20 ~1.40 g/ml	
Screen mesh	90 ~120T	
Film thickness	12 ~16 $\mu\text{m}$	After curing
Curing energy	150℃ , 30 ~60min	Hot air circulation oven
Pot time after mixing	24 hours	Store below 25℃
Pencil hardness	$\geq 6\text{H}$	Pencil hardness test
Adhesion	100/100	Laceration experiment
Insulation resistance	$\geq 1.0 \times 10^8 \Omega$	IPC-SM-840D 3.8.2
Resistance to molten Tin	288℃×10seconds×3times OK	IPC-SM-840D 3.7.3
Environment standard	In compliance with RoHS directives	SGS testing
Package	Base:920 g ; Hardener:80 g	According to customer requirements
	Base:4.6 kg; Hardener:0.4 kg	
Shelf time	6 months since the date of manufacture	Store below 25℃ in dark

## Attention :

1. The base and hardener should be mixed according to the ratio and stirred thoroughly before using.
2. We will offer you special diluent or DPM if the ink need dilute.
3. The values above are based on experiments in our lab. Experiments need to be carried out in order to get proper using condition.

## UV curing etching resist ink for acidic etching solution

### (KSM-UV 201)

KSM-UV 201 is UV curing etching resist ink for acidic etching solution, which is used for making patterns on copper-clad laminates by means of acidic etching. The cured film can provide good adhesion, clear printing line, high resolution, resistance to the etching of acidic  $\text{CuCl}_2/\text{FeCl}_3$  solution and fast removing coating.

#### Properties of Ink

Items	Technical features	Notes
Color	Blue	
Fineness	$\leq 8\mu\text{m}$	0 ~25 $\mu\text{m}$ Fineness gauge
Viscosity (25°C)	160±20dPa · s	VT-04F
Density (25°C)	1.10 ~1.30 g/ml	
Screen mesh	100 ~120T	
Film thickness	10 ~12 $\mu\text{m}$	
Curing energy	1200 ~2000 $\text{mJ}/\text{cm}^2$	The effective value through the polyester film
Pencil hardness	$\geq 2\text{H}$	Pencil hardness test
Adhesion	100/100	Laceration experiment
Etching resistance	$\text{FeCl}_3$ or $\text{CuCl}_2$ acidic solution	45±5°C
Moving coating	3~5% NaOH solution ,20~40s	25~35°C
Package	5.0 kg/bucket , 20 kg/box	
Shelf time	6 months since the date of manufacture	Store below 25°C in dark

#### Attention :

1. Mixing the ink fully before using.
2. We will offer you special diluent or HEMA if the ink need dilute.
3. The values above are based on experiments in our lab. Experiments need to be carried out in order to get proper using condition.