

Catalogue

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- Liquid photoimageable solder mask (KSM-S6189)
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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 | ≤8μm | 0 ~25μm Fineness gauge |
| Mix ratio | Base/Hardener=3:1 | Weight ratio |
| Solid content after mixing | 75±3% | Surface printing ink |
| | 82±3% | tamponade series |
| Viscosity after mixing (25℃) | 200±30 dPa · s | VT-04F |
| | 300±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 | ≤600ppm | Only KSM-S6188 E series |
| Pre-baking limit | 75℃ , 70 min | |
| Exposure energy | 300 ~600 mJ/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 | ≥6H | Pencil harder |
| Solvent resistance | Good | 25℃ ,C ₂ H ₅ OH ,20min |
| Acid resistance | Good | 25℃ ,10vol%H ₂ SO ₄ ,20min |
| Alkali resistance | Good | 25℃ ,10vol%NaOH ,20min |
| Insulation resistance | ≥1.0×10 ⁸ Ω | IPC-SM-840D 3.8.2 |
| Resistance to molten solder | 288℃×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 (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 widely accepted.

| Surface Treatment | Spray Tin | Fill with ink in the hole | Chemical plating Aurum | OSP | Chemical plating Tin |
|--|-----------|---------------------------|------------------------|--------|----------------------|
| Adaptability | ◎ | ○ | ◎ | ◎ | ○ |
| Time of pre-baked (75°C) | 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°C) | 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°C) | 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 | ≤8μm | 0 ~25μm Fineness gauge |
| Mix ratio | Base/Hardener=3:1 | Weight ratio |
| Solid content after mixing | 74±3% | |
| | 84±3% | tamponade series |
| Viscosity after mixing (25°C) | 200±30 dPa · s | VT-04F, Bright surface ink |
| | 300±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 | ≤600ppm | Only KSM-S6189 E series |
| Pre-baking limit | 75°C , 70 min | |
| Exposure energy | 300 ~600 mJ/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 below 25°C in dark |

3. Properties of the film (after post cured)

| Items | Features | Notes |
|-----------------------------|------------------------------|---|
| Pencil hardness | ≥6H | Pencil harder |
| Solvent resistance | Good | 25°C, C ₂ H ₅ OH ,20min |
| Acid resistance | Good | 25°C, 10vol%H ₂ SO ₄ ,20min |
| Alkali resistance | Good | 25°C, 10vol%NaOH ,20min |
| Insulation resistance | ≥1.0×10 ⁸ Ω | 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°C. 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°C ,15 ~18min Second side : 72 ~76°C , 30 ~35min 2. Double sides printing simultaneously : 72 ~76°C , 30 ~50min |
| (5) Exposure | 300 ~500 mJ/cm ² , Black ink :600 ~750 mJ/cm ² (the effective value through the polyester film) |
| (6) Developing | Developing solution :0.8 ~1.2wt%Na ₂ CO ₃ or K ₂ CO ₃ aqueous solution Developing solution temperature :28 ~32°C Spray pressure :1.5 ~2.5 kg/cm ² Developing time :40~90 seconds |
| (7) Post cure | Spray Tin board :150°C×(60 ~120) min Chemical-plating Aurum board:150°C×(45 ~55) min Thick copper plate , boards printed with black ink should be post-baked in subsection:75°C×(60 ~120) min+100°C×30 min+150°C×(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°C) | 60±10 dPa · s | VT-04F |
| Fineness | ≤5μm | 0 ~25μm Fineness gauge |
| Solid content | 60±5% | |
| Density (25°C) | 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°C, 60min | |
| Package | 5.0kg/bucket , 20kg/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 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°C) | 10±2dPa · s | VT-04F |
| Fineness | ≤5μm | 0 ~25μm Fineness gauge |
| Solid content | 50±5% | |
| Density (25°C) | 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°C, 60min | |
| Package | 5.0kg/bucket , 20kg/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 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 $40\pm 3^\circ\text{C}$, $\text{H}_2\text{O}_2/\text{H}_2\text{SO}_4/\text{Cu}^{2+}$ →microetching depth $30 \sim 50 \mu$ 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 : $85\pm 5^\circ\text{C}$ → no water trace →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 Na_2CO_3 :0.8 ~1.2% | |
| | Temperature of developing solution :30 ~32°C | |
| | Developing pressure: $1.2 \sim 2.0 \text{ kg/cm}^2$ | |
| | Developing time:40 ~60 seconds | |
| | Spray pressure after developing : $1.6 \sim 2.0 \text{ kg/cm}^2$ | |
| | 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°C | |
| | Conveyer speed :4.0 ~4.5 m/min | |
| | Spray pressure of etching : $1.5 \sim 2.5 \text{ kg/cm}^2$ | |
| | 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: $1.5 \sim 2.0 \text{ kg/cm}^2$ | |

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 μm Fineness gauge |
| Viscosity (25°C) | 120±20dPa · s | VT-04F |
| Density (25°C) | 1.20 ~1.40 g/ml | |
| Screen mesh | 90 ~120T | |
| Film thickness | 12 ~16 μm | |
| Curing energy | 1000 ~1800 mJ/cm ² | 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°C×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°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.

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 μm 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 μm | |
| Curing energy | 1500 ~2000 mJ/cm ² | 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 \times 10seconds \times 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 | ≤8μm | 0 ~25μm Fineness gauge |
| Mixing ratio | Base/Hardener=23/2 | Weight ratio |
| Viscosity after mixing (25°C) | 250±50 dPa · s | VT-04F |
| Density after mixing (25°C) | 1.20 ~1.40 g/ml | |
| Screen mesh | 36 ~51T | |
| Film thickness | 18 ~22μm | After curing |
| Curing energy | 150°C , 30 ~60min | Hot air circulation oven |
| Pot time after mixing | 24 hours | Store below 25°C |
| Pencil hardness | ≥6H | Pencil hardness test |
| Adhesion | 100/100 | Laceration experiment |
| Resistance to molten Tin | 288°C×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°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 | ≤8μm | 0 ~25μm 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 ~16μm | After curing |
| Curing energy | 150℃ , 30 ~60min | Hot air circulation oven |
| Pot time after mixing | 24 hours | Store below 25℃ |
| Pencil hardness | ≥6H | Pencil hardness test |
| Adhesion | 100/100 | Laceration experiment |
| Insulation resistance | ≥1.0×10 ⁸ Ω | 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 μm 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 μm | |
| Curing energy | 1200 ~2000 mJ/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 | FeCl_3 or 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.