

Coatings and Overprints for Digital Printing

UV Coatings

KS-427	Gloss UV coating for application over various toner based inks such as HP Indigo and iGen on offset paper for anilox coaters
KS-427HV	High viscosity gloss UV coating for application over various toner based inks such as HP Indigo and iGen on paper. Best for absorbent papers, high volume anilox or roller coaters.
KS-439	Gloss UV coating for use over Ink Jet ink on Ink Jet paper.
KS-439LV	Lower viscosity version of KS-439 for smoother lay when a primer is employed.
KS-450	Gloss UV coating for application over Ink Jet Inks on untreated offset paper and light weight paper board
KS-451LV	Matte UV coating for use over various toner based inks such as HP Indigo inks.
KS-472	Satin UV coating for use over HP Indigo inks.
KS-473HV	IR Assisted Gloss UV Coating for Cannon and Ricoh inks. Formulated for off-line UV coaters with IR capabilities.
KS-486	Gloss UV Coating for challenging inks, such as MGI and Konica. Faster curing than KS-473.
KS-507	Highest Gloss UV coating for application over Ink Jet Inks on Ink Jet Paper or other very absorbent paper substrates. Must have very high anilox volume of 25+ BCM or a heated coating reservoir.
KS-21009	Gloss UV Screen coating for toner-based ink

Aqueous Coatings

KS-9851	AQ Primer coating for application over HP Indigo (sizing dependent) digital ink and aqueous ink jet inks printed on paper and paperboard substrates.
KS-9852	Gloss AQ coating for application over HP Indigo (sizing dependent) digital ink printed on paper and paperboard substrates.
KS-9853	Satin AQ coating for application over HP Indigo (sizing dependent) digital ink printed on paper and paperboard substrates.
KS-9855	Matte AQ coating specifically formulated for application over Xerox iGen printed material.
KS-9856	Matte AQ coating specifically formulated for application over Ricoh printed material and HP Indigo (sizing dependent) digital ink on paper and paperboard.

Oil-Based Overprint Varnishes

KB-3164	Gloss Litho Sheetfed Overprint for HP Indigo
KB-3179	Satin Litho Sheetfed Overprint for HP Indigo
KB-3187	Matte Litho Sheetfed Overprint for HP Indigo

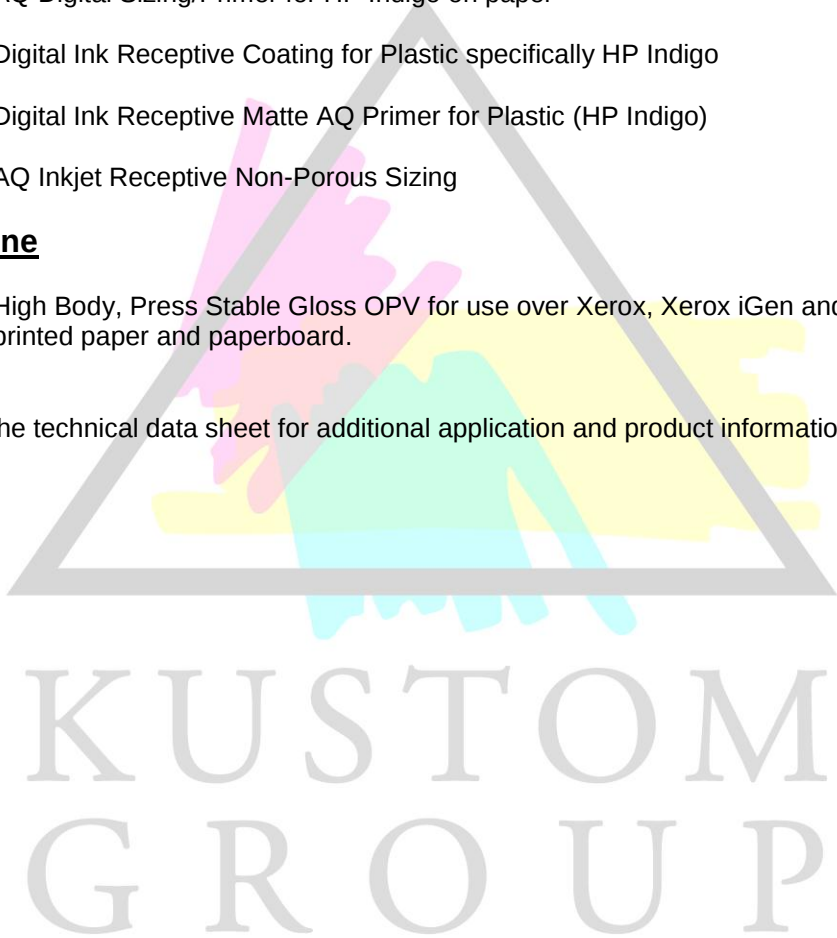
Digital Ink Receptive

KS-517HV	LED Inkjet Receptive Matte Litho UV OPV for Plastic
KS-487	Thermal Transfer Receptive UV Coating
KS-9845	AQ Digital Sizing/Primer for HP Indigo on paper
KS-9846	Digital Ink Receptive Coating for Plastic specifically HP Indigo
KS-9861	Digital Ink Receptive Matte AQ Primer for Plastic (HP Indigo)
KS-9847	AQ Inkjet Receptive Non-Porous Sizing

Kentucky Shine

KS-190	High Body, Press Stable Gloss OPV for use over Xerox, Xerox iGen and HP Indigo printed paper and paperboard.
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*Please refer to the technical data sheet for additional application and product information.



KUSTOM
GROUP

Technical Data Sheet

KS-427

High Gloss UV Coating for Digital



Product Description

KS-427 is specifically formulated as a high gloss UV coating for application over various toner based inks such as HP Indigo and iGen. Coating problems with these inks can be solved most of the time with the right UV coating. **KS-427** has an excellent track record over these types of digital inks. We also have a higher viscosity version, **KS-427HV**, which gives ultimate hold-out over absorbent stock. A blanket coater or slightly higher BCM anilox may be needed for best performance with **KS-427HV**. Different digital inks may require different type UV coatings. Contact your KUSTOM Group representative for other potential UV coating options for digital ink.

Performance Characteristics

- Excellent gloss, clarity, and cure response
- Good adhesion to digital inks (and hard to adhere to conventional inks).
- Not considered imprintable, foil-stampable, glueable, etc.
- Produces a very smooth finish when applied by a roller or flexo coating unit.

Physical Properties

- | | |
|--------------------|----------------------|
| • Solids | > 99% |
| • Specific Gravity | 1.08 |
| • Viscosity | 18 – 22 sec. #3 Zahn |

End Use Considerations

KS-427 should be evaluated under production conditions using the actual digital ink system and substrate to ensure that leveling, adhesion, gloss and other performance characteristics are acceptable. In general, UV coatings may not exhibit complete adhesion over some digital inks and/or substrates.

Storage and Handling Information

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time or to direct sunlight. Storage must be in a cool, shaded, well-ventilated and dry area. To do otherwise might cause uncontrollable polymerization of the product with generation of heat. Do not store this material under an oxygen-free atmosphere. This material should not be stored for more than six (6) months.

Certain precautions should be taken when handling this product. Please refer to the Data Safety Sheet (SDS) for further details. This product contains materials that may cause moderate skin injury (reddening and swelling) and/or sensitization. Since irritation may not occur immediately, contact can go unnoticed. Consult the SDS for appropriate equipment prior to using this or any other materials referred to in this Technical Data Sheet.

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DATE REVISED: 01/16/2017

Technical Data Sheet

KS-427HV

High Viscosity, High Gloss
UV Coating for Digital



Product Description

KS-427HV is specifically formulated as a high gloss UV coating for application over various toner based inks such as HP Indigo and iGen. Coating problems with these inks can be solved most of the time with the right UV coating. **KS-427HV** has an excellent track record over these types of digital inks. **KS-427HV is high viscosity to give ultimate hold-out over absorbent stock. A blanket coater or slightly higher BCM anilox may be needed for best performance with KS-427HV.** Different digital inks may require different UV coatings. Contact your Kustom Group representative for other potential UV coating options for digital ink.

Performance Characteristics

- Minimizes substrate and ink build highs and lows, to improve gloss consistency across the sheet.
- Excellent gloss, clarity, and cure response
- Good adhesion to digital inks (and hard to adhere to conventional inks).
- Not considered imprintable, foil-stampable, glueable, etc.
- Produces a very smooth finish when applied by a roller or flexo coating unit.

Physical Properties

- Viscosity 37 – 40 sec. #3 Zahn
- Solids > 99%
- Specific Gravity 1.08

End Use Considerations

KS-427HV should be evaluated under production conditions using the actual digital ink system and substrate to ensure that leveling, adhesion, gloss and other performance characteristics are acceptable. In general, UV coatings may not exhibit complete adhesion over some digital inks and/or substrates.

Storage and Handling Information

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time or to direct sunlight. Storage must be in a cool, shaded, well-ventilated and dry area. To do otherwise might cause uncontrollable polymerization of the product with generation of heat. Do not store this material under an oxygen-free atmosphere. This material should not be stored for more than six (6) months. Certain precautions should be taken when handling this product. Please refer to the Safety Data Sheet (SDS) for further details. This product contains materials that may cause moderate skin injury (reddening and swelling) and/or sensitization. Since irritation may not occur immediately, contact can go unnoticed. Consult the SDS for appropriate equipment prior to using this or any other materials referred to in this Technical Data Sheet.

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Technical Data Sheet

KS-439

Gloss UV Coating for
Ink Jet Ink on Ink Jet Paper



Product Description

KS-439 is formulated for use over ink jet paper and gives excellent hold-out over blotchy, absorbent stock. **A slightly higher BCM anilox (14+ bcm) may be needed for best performance with KS-439.** For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

Performance Characteristics

- Excellent gloss
- Excellent cure response
- Minimizes substrate and ink build highs and lows, to improve gloss consistency across the sheet.
- Not imprintable, foil-stampable, or glueable, etc.

Physical Properties

- Viscosity 6 – 9 Poise (TA Rheometer)
- Specific Gravity 1.11
- Solids > 99%

End Use Considerations

KS-439 should be evaluated in the laboratory using the actual ink system and substrate to ensure that leveling, intercoat adhesion, gloss and other performance characteristics are acceptable. In general, UV coatings may not exhibit complete intercoat adhesion over some ink systems. A primer may be considered for use if this property needs to be improved.

Storage and Handling Information

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time or to direct sunlight. Storage must be in a cool, shaded, well-ventilated and dry area. To do otherwise might cause uncontrollable polymerization of the product with generation of heat. Do not store this material under an oxygen-free atmosphere. This material should not be stored for more than six (6) months.

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Technical Data Sheet

KS-439LV

Lower Viscosity Gloss UV Coating
for over Ink Jet Ink on Ink Jet Paper



Product Description

The unique chemistry of waterbased ink jet and toner based inks makes the ability to top coat a challenge for UV coatings. KS-439LV is formulated for use over ink jet paper and primed Konica Minolta printing (primed with KS-9845) yielding a smooth consistent look. **A slightly higher BCM anilox (14+ bcm) may be needed for best performance with KS-439LV.** For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

Performance Characteristics

- Excellent gloss
- Excellent cure response
- Minimizes substrate and ink build highs and lows, to improve gloss consistency across the ink jet sheet.
- Can be used in combination with KS-9845 primer over Konica Minolta to achieve a desirable outcome
- Not imprintable, foil-stampable, or glueable, etc.

Physical Properties

- | | |
|--------------------|----------------------------|
| • Viscosity | 2 - 4 Poise (TA Rheometer) |
| • Specific Gravity | 1.11 |
| • Solids | > 99% |

End Use Considerations

KS-439LV should be evaluated in the laboratory using the actual ink system and substrate to ensure that leveling, intercoat adhesion, gloss and other performance characteristics are acceptable. In general, UV coatings may not exhibit complete intercoat adhesion over some ink systems. A primer may be considered for use if this property needs to be improved.

Storage and Handling Information

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time or to direct sunlight. Storage must be in a cool, shaded, well-ventilated and dry area. To do otherwise might cause uncontrollable polymerization of the product with generation of heat. Do not store this material under an oxygen-free atmosphere. This material should not be stored for more than six (6) months.

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Technical Data Sheet

KS-450

High Gloss UV Coating



Product Description

KS-450 was formulated for application over Ink Jet Inks on untreated paper and light weight paper board. Today, **KS-450** has a broader use in the pressroom also as a general purpose, high gloss UV coating with great clarity, adhesion and slip characteristics. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

Performance Characteristics

- Excellent slip, gloss and clarity
- Excellent cure response
- Good adhesion to Ink Jet Inks and various substrates
- Not considered imprintable, foil-stampable, glueable, etc.
- Produces a smooth finish when applied by anilox coating unit

Physical Properties

- | | |
|--------------------|----------------------|
| • Solids | > 99% |
| • Specific Gravity | 1.11 |
| • Viscosity | 13 – 15 sec. #3 Zahn |

End Use Considerations

KS-450 should be evaluated under production conditions using the actual ink jet ink system and substrate to ensure that leveling, adhesion, gloss and other performance characteristics are acceptable. In general, UV coatings may not exhibit complete adhesion over some digital inks and/or substrates.

Storage and Handling Information

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time or to direct sunlight. Storage must be in a cool, shaded, well-ventilated and dry area. To do otherwise might cause uncontrollable polymerization of the product with generation of heat. Do not store this material under an oxygen-free atmosphere. This material should not be stored for more than six (6) months.

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Technical Data Sheet

KS-451LV

Matte UV Coating



Product Description

KS-451LV is a general purpose matte UV coating specifically formulated for use over select toner based inks and energy cure inks to be applied in-line or off-line via anilox coaters. Typical applications include commercial sheetfed printing on paper or paperboard substrates where matte gloss is desired. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

Performance Characteristics

- Exhibits matte appearance with non-burnishing characteristics. Typical gloss reading is 5-15 points with a 60° gloss meter. This is dependant on the substrate and application method.
- Can be used over UV offset inks as well offering excellent rub resistance.
- Low thixotropy
- Excellent cure response
- Not considered imprintable, foil-stampable, glueable, etc.

Physical Properties

- | | |
|--------------------|----------------------|
| • Viscosity | 14 - 16 sec. #3 Zahn |
| • Specific Gravity | 1.06 |
| • Solids | > 99% |

End Use Considerations

KS-451LV should be evaluated under production conditions using the actual ink system and substrate to ensure that leveling, intercoat adhesion, gloss and other performance characteristics are acceptable. In general, UV coatings may not exhibit complete intercoat adhesion over some substrates. A primer may be considered for use if this property needs to be improved.

Storage and Handling Information

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time or to direct sunlight. Storage must be in a cool, shaded, well-ventilated and dry area. To do otherwise might cause uncontrollable polymerization of the product with generation of heat. Do not store this material under an oxygen-free atmosphere. This material should not be stored for more than six (6) months.

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Technical Data Sheet

KS-472

Satin UV Coating for HP Indigo



Product Description

KS-472 is formulated for use over HP Indigo inks as a satin UV coating to be applied in-line or off-line via anilox coaters. **KS-472 is high viscosity to give ultimate hold-out over absorbent stock. A blanket coater or slightly higher BCM anilox may be needed for best performance with KS-472.** Typical applications include commercial sheetfed printing on paper or paperboard substrates where matte gloss is desired. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

Performance Characteristics

- Smooth satin appearance with non-burnishing characteristics. Typical gloss reading is 40-60 points with a 60° gloss meter. This is dependant on the substrate and application method.
- Low thixotropy
- Excellent cure response
- Not considered imprintable, foil-stampable, glueable, etc.

Physical Properties

- Viscosity 37 – 40 sec. #3 Zahn
- Specific Gravity 1.13
- Solids > 99%

End Use Considerations

KS-472 should be evaluated under production conditions using the actual ink system and substrate to ensure that leveling, intercoat adhesion, gloss and other performance characteristics are acceptable. In general, UV coatings may not exhibit complete intercoat adhesion over some substrates. A primer may be considered for use if this property needs to be improved.

Storage and Handling Information

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time or to direct sunlight. Storage must be in a cool, shaded, well-ventilated and dry area. To do otherwise might cause uncontrollable polymerization of the product with generation of heat. Do not store this material under an oxygen-free atmosphere. This material should not be stored for more than six (6) months.

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Technical Data Sheet

KS-473HV

High Viscosity Gloss Digital UV Coating



Product Description

KS-473HV is specifically formulated as a high gloss UV coating for application with roller coaters and anilox coating units to Ricoh and Cannon inks. Adhesion and performance are greatly improved by preheating the inks with IR lamps prior to UV coating and curing. Contact your KUSTOM Group representative for other potential UV coating options for digital ink.

Performance Characteristics

- Excellent gloss, clarity, and cure response
- Higher viscosity for better roller coater application
- Good adhesion
- Not considered imprintable, foil-stampable, glueable, etc.
- Produces a very smooth finish

Physical Properties

- Solids > 99%
- Specific Gravity 1.05
- Viscosity 18 – 22 sec. #3 Zahn

End Use Considerations

KS-473HV should be evaluated under production conditions using the actual digital ink system and substrate to ensure that leveling, adhesion, gloss and other performance characteristics are acceptable. In general, UV coatings may not exhibit complete adhesion over some digital inks and/or substrates.

Storage and Handling Information

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time or to direct sunlight. Storage must be in a cool, shaded, well-ventilated and dry area. To do otherwise might cause uncontrollable polymerization of the product with generation of heat. Do not store this material under an oxygen-free atmosphere. This material should not be stored for more than six (6) months.

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Technical Data Sheet

KS-486

Challenging Digital Inks
Gloss UV Coating



Product Description

KS-486 is specifically formulated as a high gloss UV coating for application over challenging inks like MGI and Konica Minolta. Adhesion and performance can be greatly improved by coating immediately after printing or by preheating aged; 48-72 hours, inks with IR lamps prior to UV coating and curing. Different digital inks may require different type UV coatings. Contact your KUSTOM Group representative for other potential UV coating options for digital ink.

Performance Characteristics

- Excellent gloss, clarity, and cure response
- Good adhesion to newly printed digital inks (especially hard to adhere to conventional inks).
- Not considered imprintable, foil-stampable, glueable, etc.
- Produces a very smooth finish when applied by a roller or flexo coating unit.

Physical Properties

- | | |
|--------------------|----------------------|
| • Solids | > 99% |
| • Specific Gravity | 1.03 |
| • Viscosity | 15 - 17 sec. #3 Zahn |

End Use Considerations

KS-486 should be evaluated under production conditions using the actual digital ink system and substrate to ensure that leveling, adhesion, gloss and other performance characteristics are acceptable. In general, UV coatings may not exhibit complete adhesion over some digital inks and/or substrates.

Storage and Handling Information

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time or to direct sunlight. Storage must be in a cool, shaded, well-ventilated and dry area. To do otherwise might cause uncontrollable polymerization of the product with generation of heat. Do not store this material under an oxygen-free atmosphere. This material should not be stored for more than six (6) months.

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Technical Data Sheet

KS-507

High Viscosity Gloss UV Coating for
Inkjet Ink on Inkjet Paper



Product Description

KS-507 is formulated as a high gloss UV coating for application over Inkjet Inks on Inkjet Paper or other very absorbent paper substrates. Applying **KS-507** using a blanket coater, slightly higher BCM anilox, or coating units with a heated coating reservoir are ideal for taking advantage of its high viscosity properties. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

Performance Characteristics

- Excellent gloss and clarity
- Excellent cure response
- Excellent hold-out
- Not considered imprintable, foil-stampable, glueable, etc.

Physical Properties

- | | |
|--------------------|---------------|
| • Solids | > 99% |
| • Specific Gravity | 1.14 |
| • Viscosity | 14 – 16 Poise |

End Use Considerations

KS-507 should be evaluated in the laboratory using the actual ink system and substrate to ensure that leveling, intercoat adhesion, gloss and other performance characteristics are acceptable. In general, UV coatings may not exhibit complete intercoat adhesion over some ink systems. A primer may be considered for use if this property needs to be improved.

Storage and Handling Information

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Technical Data Sheet

KS-21009

Gloss UV Screen Coating for Toner-Based Ink



Product Description

KS-21009 is formulated as a high gloss UV coating for use in the screen area over toner-based inks. Typical applications include paper, paperboard and select plastic stocks where very high gloss and superior leveling are desired. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

Performance Characteristics

- Excellent gloss and clarity
- Produces a glass-like finish when applied through a screen (recommend 180-320 mesh)
- Good cure response
- Very good adhesion to toner-based ink
- Not considered imprintable, foil-stampable, glueable, etc.

Physical Properties

- | | |
|--------------------|----------------------|
| • Viscosity | 21 - 24 sec. #3 Zahn |
| • Specific Gravity | 1.10 |
| • Solids | > 99% |

End Use Considerations

KS-21009 should be evaluated under production conditions using the actual ink system and substrate to ensure that leveling, intercoat adhesion, gloss and other performance characteristics are acceptable. In general, UV coatings may not exhibit complete intercoat adhesion over some substrates. A primer may be considered for use if this property needs to be improved.

Storage and Handling Information

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TECHNICAL DATA SHEET

KS-9851



AQ Primer for HP Indigo and AQ Ink Jet

PRODUCT DESCRIPTION

KS-9851 is an acrylic-based aqueous coating for application **over** HP Indigo digital ink (sizing dependent) printed on paper and paperboard substrates. KS-9851 can be evaluated **over** waterbased ink jet inks. KS-9851 may be applied with in-line or off-line coater/dampeners and blanket coaters.

PERFORMANCE CHARACTERISTICS

- Great wetting and adhesion
- May be evaluated over other toner, wax or AQ ink jet based digital printing
- Anilox volume of 10+ BCM is recommended
- **"MAY BE SUITABLE"** for foil stamping, imprinting, UV coating and gluing applications. Before doing so, KS-9851 should be completely evaluated under production conditions using the actual substrate and ink, as materials for foil stamping, imprinting, UV coating and gluing vary from supplier-to-supplier. Feel free to contact Kustom Group for additional information.

PHYSICAL PROPERTIES

Viscosity: 25 - 27" #3 Zahn (Signature) @ 77° F

pH: 8.5 - 9.0 @ 77° F

Specific Gravity: 1.04

Shelf Life: One year (unopened container)

PIGMENT SELECTION

Most aqueous coatings are alkaline in pH because of the presence of ammonia and/or amines. Kustom Group recommends avoiding the use of inks containing pigments that may bleed or change color when being exposed to an aqueous coating. Pigments that typically exhibit this alkali sensitivity include YS Rhodamine, BS Rhodamine, Methyl Violet, Fluorescent, Red Lake C, Alkali Blue (Reflex Blue) and possibly other pigments. Many pigments normally considered safe may prove to be problematic in low color strength color matches. The safest option is to use inks formulated to resist this burn potential. As a precaution, we strongly recommend that new pigments and ink formulations be evaluated with this coating.

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DATE REVISED 01/16/2017

TECHNICAL DATA SHEET

KS-9852

Gloss AQ Coating for Digital Ink



PRODUCT DESCRIPTION

KS-9852 is an acrylic-based aqueous coating for application over HP Indigo (sizing dependent) digital ink printed on paper and paperboard substrates. KS-9852 may be applied with in-line or off-line coater/dampeners.

PERFORMANCE CHARACTERISTICS

- Good rub and scuff resistance.
- Great wetting and adhesion.
- May be evaluated over other toner and wax based digital printing
- **"MAY BE SUITABLE"** for some hot foil stamping, imprinting, UV coating and gluing applications. Before doing so, KS-9852 should be completely evaluated under production conditions using the actual substrate and ink, as materials for foil stamping, imprinting, UV coating and gluing vary from supplier to supplier. Feel free to contact Kustom Group for additional information.

PHYSICAL PROPERTIES

- **Viscosity:** 19 - 21" #3 Zahn (Signature) @ 77° F
- **pH:** 8.0 - 8.5 @ 77° F
- **Specific Gravity:** 1.05
- **Shelf Life:** One year (unopened container)

PIGMENT SELECTION

Most aqueous coatings are alkaline in pH because of the presence of ammonia and/or amines. Kustom Group recommends avoiding the use of inks containing pigments that may bleed or change color when being exposed to an aqueous coating. Pigments that typically exhibit this alkali sensitivity include YS Rhodamine, BS Rhodamine, Methyl Violet, Fluorescent, Red Lake C, Alkali Blue (Reflex Blue) and possibly other pigments. Many pigments normally considered safe may prove to be problematic in low color strength color matches. The safest option is to use inks formulated to resist this burn potential. As a precaution, we strongly recommend that new pigments and ink formulations be evaluated with this coating.

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DATE REVISED 01/16/2017

TECHNICAL DATA SHEET



KS-9853

Satin AQ Coating for Digital Ink

PRODUCT DESCRIPTION

KS-9853 is an acrylic-based aqueous coating for application over HP Indigo (sizing dependent) digital ink printed on paper and paperboard substrates. KS-9853 may be applied with in-line or off-line coater/dampeners.

PERFORMANCE CHARACTERISTICS

- Excellent satin appearance and non-burnishing characteristics. A typical gloss reading is 25-35% with a 60° gloss meter dependent on ink, substrate and application method.
- Great wetting and adhesion.
- May be evaluated over other toner and wax based digital printing.
- **"MAY BE SUITABLE"** for some hot foil stamping, imprinting, UV coating and gluing applications. Before doing so, KS-9853 should be completely evaluated under production conditions using the actual substrate and ink, as materials for foil stamping, imprinting, UV coating and gluing vary from supplier-to-supplier. Feel free to contact Kustom Group for additional information.

PHYSICAL PROPERTIES

- **Viscosity:** 16 - 18" #3 Zahn (Signature) @ 77° F
- **pH:** 8.0 - 8.5 @ 77° F
- **Specific Gravity:** 1.04
- **Shelf Life:** One year (unopened container)

PIGMENT SELECTION

Most aqueous coatings are alkaline in pH because of the presence of ammonia and/or amines. Kustom Group recommends avoiding the use of inks containing pigments that may bleed or change color when being exposed to an aqueous coating. Pigments that typically exhibit this alkali sensitivity include YS Rhodamine, BS Rhodamine, Methyl Violet, Fluorescent, Red Lake C, Alkali Blue (Reflex Blue) and possibly other pigments. Many pigments normally considered safe may prove to be problematic in low color strength color matches. The safest option is to use inks formulated to resist this burn potential. As a precaution, we strongly recommend that new pigments and ink formulations be evaluated with this coating.

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DATE REVISED 01/16/2017

TECHNICAL DATA SHEET

KS-9855

Matte AQ Coating for iGen



PRODUCT DESCRIPTION

KS-9855 is a matte acrylic-based aqueous coating specifically formulated for application over Xerox iGen and select other toner based digitally printed material. Typical application is with in-line or off-line anilox coater.

PERFORMANCE CHARACTERISTICS

- Matte appearance, 0-15, 60 degree gloss meter Leneta form 3NT-31
- Good rub and scuff resistance.
- May be used for some hot foil stamping, imprinting, UV coating and gluing applications. Before doing so, KS-9855 should be completely evaluated under production conditions using the actual substrate and ink, as materials for foil stamping, imprinting, UV coating and gluing vary from supplier-to-supplier. Feel free to contact Kustom Group for additional information.

PHYSICAL PROPERTIES

- **Viscosity:** 30 - 34" #3 Zahn (Signature) @ 77° F
- **pH:** 8.0 - 8.5 @ 77° F
- **Specific Gravity:** 1.06
- **Shelf Life:** One year (unopened container)

PIGMENT SELECTION

Most aqueous coatings are alkaline in pH because of the presence of ammonia and/or amines. Kustom Group recommends avoiding the use of inks containing pigments that may bleed or change color when being exposed to an aqueous coating. Pigments that typically exhibit this alkali sensitivity include YS Rhodamine, BS Rhodamine, Methyl Violet, Fluorescent, Red Lake C, Alkali Blue (Reflex Blue) and possibly other pigments. Many pigments normally considered safe may prove to be problematic in low color strength color matches. The safest option is to use inks formulated to resist this burn potential. As a precaution, we strongly recommend that new pigments and ink formulations be evaluated with this coating.

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DATE REVISED 01/16/2017

TECHNICAL DATA SHEET

KS-9856

Matte AQ Coating for Digital Ink



PRODUCT DESCRIPTION

KS-9856 is a matte acrylic-based aqueous coating specifically formulated for application over Ricoh printed material and HP Indigo (sizing dependent) digital ink on paper and paperboard with in-line or off-line anilox coaters.

PERFORMANCE CHARACTERISTICS

- Exhibits matte appearance with non-burnishing characteristics. Typical gloss reading is 0-20 points with a 60° gloss meter dependant on substrate and application method.
- Exhibits good rub and scuff resistance.
- **"MAY BE SUITABLE"** for some hot foil stamping, imprinting and gluing applications. Before doing so, KS-9856 should be completely evaluated under production conditions using the actual substrate and ink, as materials for foil stamping, imprinting and gluing vary from supplier to supplier. Feel free to contact Kustom Group for additional information.
- Suitable for use as a single-sided and work and turn coating.

PHYSICAL PROPERTIES

Viscosity: 20 - 22" #3 Zahn (Signature) @ 77° F

pH: 8.0 - 8.5 @ 77° F

Shelf Life: One year (unopened container)

PIGMENT SELECTION

Most aqueous coatings are alkaline in pH because of the presence of ammonia and/or amines. Kustom Group recommends avoiding the use of inks containing pigments that may bleed or change color when being exposed to an aqueous coating. Pigments that typically exhibit this alkali sensitivity include YS Rhodamine, BS Rhodamine, Methyl Violet, Fluorescent, Red Lake C, Alkali Blue (Reflex Blue) and possibly other pigments. Many pigments normally considered safe may prove to be problematic in low color strength color matches. The safest option is to use inks formulated to resist this burn potential. As a precaution, we strongly recommend that new pigments and ink formulations be evaluated with this coating.

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DATE REVISED 01/16/2017



Technical Data Sheet

KB-3164

Gloss SF OPV for Digital Ink

Product Description

KB-3164 is formulated to achieve the proper lay and adhesion specifically needed to be successfully applied over digital printing*.

Performance Characteristics

- Good lay and adhesion over most digital inks*
- High gloss
- Good litho properties
- Non imprintable

Physical Properties

Tack:	9.0 – 10.0 @ 90°F / 1200 rpm / 1minute
Inkometer Stability:	0.3 – 0.8 typical tack rise per minute for 5 minutes
Oxidative Dry:	2.0 - 3.0 hrs. / 0.5 mils on glass with film applicator
Solids:	93 – 95%

* Special Instructions

This is a high degree of difficulty application and there are many different types of digital inks being used today. For this reason, it is essential to test over the specific digital ink being used prior to any production run.

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DATE REVISED: 01/16/2017



Technical Data Sheet

KB-3179

Satin SF OPV for Digital Ink

Product Description

KB-3179 is formulated specifically to achieve the proper lay and adhesion necessary over digital printing.*

Performance Characteristics

- Good lay and adhesion over most digital inks*.
- Satin finish
- Good litho properties
- Non imprintable

Physical Properties

Tack:	6.0 – 8.0 @ 90°F / 1200 rpm / 1 minute
Inkometer Stability:	0.6 – 1.1 typical tack rise per minute for 5 minutes
Oxidative Dry:	<3.5 hrs. / 0.5 mils on glass with film applicator
Solids:	74 – 76%

* Special Instructions

This is a high degree of difficulty application and there are many different types of digital inks being used today. For this reason, it is essential to test over the specific digital ink being used prior to any production run.

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DATE REVISED: 01/16/2017



Technical Data Sheet

KB-3187

Matte SF OPV for Digital Ink

Product Description

KB-3187 is formulated specifically to achieve the proper lay and adhesion necessary over digital printing.*

Performance Characteristics

- Good lay and adhesion over most digital inks*.
- Matte finish
- Good litho properties
- Non imprintable

Physical Properties

Tack:	4.0 – 6.0 @ 90°F / 1200 rpm / 1minute
Inkometer Stability:	0.7 – 1.2 typical tack rise per minute for 5 minutes
Oxidative Dry:	2.0 - 3.0 hrs. / 0.5 mils on glass with film applicator
Solids:	74 - 76%

* Special Instructions

This is a high degree of difficulty application and there are many different types of digital inks being used today. For this reason, it is essential to test over the specific digital ink being used prior to any production run.

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DATE REVISED: 01/16/2017

Technical Data Sheet

KS-517HV

High Viscosity LED Ink Jet Receptive
Matte Litho UV OPV for Plastic



Product Description

KS-517HV is recommended for use as an ink jet receptive UV overprint varnish where high performance, low gloss and fast cure response are desired. Typical applications include sheetfed offset printing where the OPV is applied in-line over UV-curable litho ink on various plastic substrates. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

Performance Characteristics

- Excellent cure response
- Excellent litho properties
- LED and UV Ink Jet receptive

Physical Properties

- Solids > 99 %
- Specific Gravity 1.12
- Viscosity 150 - 250 Poise (TA Rheometer)

End Use Considerations

KS-517HV should be evaluated under production conditions, using the actual ink system and substrate to ensure that leveling, intercoat adhesion, gloss and other performance characteristics are acceptable. In general, UV overprints may not exhibit complete intercoat adhesion over some ink systems. A primer may be considered for use if this property needs to be improved.

Storage and Handling Information

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time or to direct sunlight. Storage must be in a cool, shaded, well-ventilated and dry area. To do otherwise might cause uncontrollable polymerization of the product with generation of heat. Do not store this material under an oxygen-free atmosphere. This material should not be stored for more than six (6) months.

Certain precautions should be taken when handling this product. Please refer to the Safety Data Sheet (SDS) for further details. This product contains materials that may cause moderate skin injury (reddening and swelling) and/or sensitization. Since irritation may not occur immediately, contact can go unnoticed. Consult the SDS for appropriate equipment prior to using this or any other materials referred to in this Technical Data Sheet.

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DATE REVISED: 01/16/2017

Technical Data Sheet

KS-487

Thermal Transfer Receptive UV Coating



Product Description

KS-487 is a benzophenone free, high gloss UV coating with superior receptivity properties like thermal transfer, foil stamping and other finishing applications. KS-487 is typically applied over hybrid or UV inks on various paper and nonporous substrates. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

Performance Characteristics

- BZP (Benzophenone) free
- Excellent adhesion to a wide variety of select plastics
- Excellent rub and chemical resistance
- Good clarity and lay
- Low odor and low yellowing
- Thermal transfer receptive, imprintable, foil-stampable, glueable, etc.
- Writable; ball point pen and other permanent marking utensils

Physical Properties

- | | |
|--------------------|----------------------|
| • Viscosity | 18 - 22 sec. #3 Zahn |
| • Specific Gravity | 1.11 |
| • Solids | > 99% |

End Use Considerations

KS-487 should be evaluated in the laboratory using the actual ink system and substrate to ensure that leveling, intercoat adhesion, gloss and other performance characteristics are acceptable. In general, UV coatings may not exhibit complete intercoat adhesion over some ink systems. A primer may be considered for use if this property needs to be improved.

Storage and Handling Information

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time or to direct sunlight. Storage must be in a cool, shaded, well-ventilated and dry area. To do otherwise might cause uncontrollable polymerization of the product with generation of heat. Do not store this material under an oxygen-free atmosphere. This material should not be stored for more than six (6) months.

Certain precautions should be taken when handling this product. Please refer to the Safety Data Sheet (SDS) for further details. This product contains materials that may cause moderate skin injury (reddening and swelling) and/or sensitization. Since irritation may not occur immediately, contact can go unnoticed. Consult the SDS for appropriate equipment prior to using this or any other materials referred to in this Technical Data Sheet.

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DATE REVISED: 01/16/2017

TECHNICAL DATA SHEET

KS-9845

AQ Digital Sizing /Primer



PRODUCT DESCRIPTION

KS-9845 is an aqueous sizing similar to Sapphire and DigiPrime specifically formulated for application to various paper substrates making them HP Indigo ink receptive. Typical application is with an anilox coater. KS-9845 may be evaluated as a primer over toner based or ink jet inks.

PERFORMANCE CHARACTERISTICS

- Improves adhesion of HP Indigo inks to the resulting substrate
- Adhesion to multiple paper substrates
- Low viscosity allows for easy application with most standard anilox systems. (Not recommended for roll coater, tower coaters or higher volume anilox)

PHYSICAL PROPERTIES

- **Viscosity:** 10 - 12" #3 Zahn (Signature) @ 77° F
- **pH:** 10.0 – 11.0 @ 77° F
- **VOC's:** 0 – 2% Method 24
- **Specific Gravity:** 1.01
- **Shelf Life:** One year (unopened container)

END USE CONSIDERATIONS

Due to the variabilities present, KS-9845 should be evaluated under production conditions for proper HP Indigo ink adhesion.

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DATE REVISED 01/16/2017

TECHNICAL DATA SHEET

KS-9846



Digital Ink Receptive Coating for Plastic

PRODUCT DESCRIPTION

KS-9846 is an aqueous substrate primer similar to DigiPrime specifically formulated for application to plastic substrates making them HP Indigo ink receptive. Typical application is with an anilox coater. KS-9846 may be evaluated as a primer over toner based or ink jet inks.

PERFORMANCE CHARACTERISTICS

- Improves adhesion of HP Indigo inks to the resulting substrate
- Adhesion to multiple non-porous substrates
- Low viscosity allows for easy application with most standard anilox systems. (Not recommended for roll or tower coaters as well higher volume anilox)

PHYSICAL PROPERTIES

- **Viscosity:** 16 - 20" #3 Zahn (Signature) @ 77° F
- **pH:** 8.0 - 10.0 @ 77° F
- **Specific Gravity:** 1.02
- **Shelf Life:** One year (unopened container)

END USE CONSIDERATIONS

Due to the variability's present, KS-9846 should be evaluated under production conditions for proper HP Indigo ink adhesion.

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DATE REVISED 01/16/2017

TECHNICAL DATA SHEET

KS-9861



Digital Ink Receptive Matte AQ Primer for Plastic

PRODUCT DESCRIPTION

KS-9861 is an aqueous substrate primer or sizing specifically formulated for application to plastic substrates making them HP Indigo ink receptive. Typical application is with an anilox coater. KS-9861 may be evaluated as a primer over toner based or ink jet inks.

PERFORMANCE CHARACTERISTICS

- Improves adhesion of HP Indigo inks to the resulting substrate
- Matte appearance
- Adhesion to multiple non-porous substrates
- Low viscosity allows for easy application with most standard anilox systems. (Not recommended for roll or tower coaters as well higher volume anilox)

PHYSICAL PROPERTIES

- **Viscosity:** 20 - 25" #3 Zahn (Signature) @ 77° F
- **pH:** 8.0 - 10.0 @ 77° F
- **Specific Gravity:** 1.02
- **Shelf Life:** One year (unopened container)

END USE CONSIDERATIONS

Due to the variability's present, KS-9861 should be evaluated under production conditions for proper HP Indigo ink adhesion.

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DATE REVISED 10/13/2017

TECHNICAL DATA SHEET

KS-9847



AQ Inkjet Receptive Non-Porous Sizing

PRODUCT DESCRIPTION

KS-9847 is an aqueous sizing/primer for plastic and other non-porous substrates that improves AQ Inkjet receptivity and drying. Typical application is with an anilox coater.

PERFORMANCE CHARACTERISTICS

- Improves adhesion
- Matte appearance
- Adhesion to multiple substrates
- Viscosity allows for easy application with most standard and higher volume anilox systems

PHYSICAL PROPERTIES

- **Viscosity:** 20 - 30" #3 Zahn (Signature) @ 77° F
- **pH:** 8.0 - 10.0 @ 77° F
- **Specific Gravity:** 1.15
- **Shelf Life:** One year (unopened container)

END USE CONSIDERATIONS

Due to the many variables present, KS-9847 should be evaluated under production conditions for proper AQ Inkjet ink adhesion.

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DATE REVISED 01/16/2017

TECHNICAL DATA SHEET

KS-190

KY Shine High Body Press Stable Gloss OPV



Product Description:

KS-190 is an aqueous overprint varnish for application to paper and paperboard through the inking unit of a sheetfed offset press. Typical applications would be commercial printing. Please refer to the **Kentucky Shine Press Instructions** for press preparation and use. For any additional information please contact your KUSTOM GROUP, LLC representative.

Performance Characteristics:

- Enhanced press stability when compared to other products.
- Excellent clarity and gloss.
- Excellent set and dry speed
- Has improved rheology to prevent dripping thru ink fountain.
- Good rub and scuff resistance (test versus specifications prior to use).
- **Not** for two sided printing
- **Not** recommended as a UV coating primer, for foil stamping, gluing or imprinting and film laminating.

Physical Properties:

- **Tack:** 10 – 12 @ 400 RPM's, 1 minute, 90F
- **Viscosity:** 30 – 60 Poise
- **pH:** 7.5 – 8.0 @ 77°
- **Specific Gravity:** 1.07

Application Information:

- 1 **Drying Requirements:** For best results, aqueous overprints varnishes require a sufficient volume of warm air directed onto the varnished surface. The use of IR units (short of medium wavelength) can provide drying assistance in many applications. Exercise care to avoid load temperatures in excess of 90° F.
- 2 **Application Weight:** Apply about 20 to 25% more than oil base overprints.
- 3 **Ink Formulary:** Limit wax to typical polyethylene to ensure proper inter-coat adhesion. The use of PTFE, microcrystalline wax or silicone may contribute to application problems. Avoid the use of pigments that may bleed or change color when in contact with an alkaline product (refer to the **Kentucky Shine Press Instructions**). As a precaution, always evaluate new ink formulation and technologies with the aqueous overprint varnish.

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