



## LED Curable Coatings and Litho OPV's

With LED curing system installations and retrofits on the rise, Kustom Group recognizes the need for a more diverse portfolio of LED curable coatings and overprints. With that in mind, we introduce our latest catalog of LED curable coatings and overprints divided into two categories based on press configuration we title “for Offset Gap” and “for Flexo Gap”. The idea of one particular LED coating curing across a wide variety of press configuration is no longer technically viable.

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

Kustom has determined that no one LED coating can work well for both offset and flexo applications. These differences create different curing parameters and require different products. A coating formulated for the flexo gap will likely never fully cure if applied at offset gaps while the risk of using a coating for the offset gap on the flexo gap process may result in over yellowing, limited press stability and brittleness of the cured film. Kustom Groups latest developments, outlined in the tables below, are a direct response to the need for better choices for the given process. Our “for Flexo Gap” coatings are suitable for close proximity arrays and our “for Offset Gap” coatings and overprints are intended for the greater offset gap employing eight (8) Watt or higher bulbs.

for Offset Gap		for Flexo Gap	
Code	Description	Code	Description
LED-003	Gloss LED Coating for Offset Gap	LED-012	Gloss LED Coating for Flexo Gap
LED-004	Satin LED Coating for Offset Gap	LED-010	Satin LED Coating for Flexo Gap
LED-018	Matte LED Coating for Offset Gap	LED-009	Matte LED Coating for Flexo Gap
LED-019	Gluable Gloss LED Coating for Offset Gap	LED-007	Imprintable Gloss LED Coating for Flexo Gap
LED-022	Gloss Litho LED OPV		
LED-023	Satin Litho LED OPV		
LED-025	Matte Litho LED OPV		
LED-028	Ultra Reticulation Strike-Thru Litho LED OPV	LED-702	LED Soft Feel Coating for Flexo Gap
LED-690	Sparkling Blue Angle Dependent LED Coating for Offset Gap	LED-681	Angle Dependent Sparkling Blue LED Coating for Flexo Gap
LED-703	Raised LED Coating for Offset Gap	LED-701	LED Emboss Coating for Flexo Gap
LED-705	Textured LED Coating for Offset Gap		
LED-737	Coarse Sandy LED Coating for Offset Gap	LED-734	Coarse Sandy LED Coating for Flexo Gap
		LED-725	Fine Sandy Matte LED Coating for Flexo Gap

August 7, 2017

## LED Coating and OPV Questionnaire

- 1) What substrate(s) is involved?
  - a. If plastic, what is the name of the manufacturer and what is the surface tension?
- 2) Is the recommendation for a flexo or offset press?
  - a. If offset press, what is the make and model of the press?
    - i. How many ink units on the press?
    - ii. Is this an AMS (Air Motion Systems) retrofit?
- 3) Are LED inks under the coating/OPV? If not, what?
- 4) How many LED lamps are there on the press?
- 5) Where are the LED lamps positioned on the press?
- 6) What is the distance (in millimeters) between the LED lamp and the substrate?
- 7) What is the LED lamp wattage?
- 8) What is the wavelength of light emitted by the LED lamps (385nm, 395nm or 405nm)?
- 9) In addition to the LED lamps, are there any other drying/curing devices on the press?
  - a. If so, what are they and where are they positioned on the press?
- 10) Is your need for a coating or a litho overprint?
  - a. If coating:
    - i. How is the coating applied (roller coater or anilox)?
      1. If anilox, what BCM is the anilox?
    - ii. Are they looking for gloss, satin, matte, pearl, strike thru or other?
      1. If other, please specify.
    - iii. Besides the visual appearance, what else does the coating have to do? (rub requirement, tape adhesion, foil stamp, glue, etc.)
  - b. If litho OPV:
    - i. Are they looking for gloss, satin, matte, primer, pearl, strike thru or other?
      1. If other, please specify.
    - ii. Besides the visual appearance, what else does the OPV have to do? (rub requirement, tape adhesion, foil stamp, glue, strike thru, etc.)

# Technical Data Sheet

## LED-003

### Gloss LED Coating for Offset Gap



#### Product Description

LED-003 is recommended for use as an LED curable gloss coating to be applied in-line over energy curable ink systems. Typical applications include offset printing on paper, paperboard, synthetics such as Polyart and Yupo and other select nonporous substrates. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

#### Performance Characteristics

- Excellent top cure
- Excellent scuff and rub resistance
- Not considered imprintable, foil-stampable, glueable, etc.

#### Physical Properties

- Viscosity 20 - 24 sec. #3 Zahn
- Specific Gravity 1.12
- Solids > 99%

#### End Use Considerations

LED-003 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, energy curable 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 to reduce the exposure of any light, especially fluorescent light, to LED coating, as prolonged exposure can cause uncontrollable polymerization of the product with generation of heat.**

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time. When in use, keep covered as much as possible. 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.

#### FOR YOUR PROTECTION:

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DATE REVISED: 08/07/2017

# Technical Data Sheet

## LED-004

### Satin LED Coating for Offset Gap

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#### Product Description

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LED-004 is recommended for use as an LED curable satin coating to be applied in-line over energy curable ink systems. Typical applications include offset printing on paper, paperboard, synthetics such as Polyart and Yupo and other select nonporous substrates. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

#### Performance Characteristics

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- Excellent top cure
- Excellent scuff and rub resistance
- Not considered imprintable, foil-stampable, glueable, etc.

#### Physical Properties

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- Viscosity 20 - 24 sec. #3 Zahn
- Specific Gravity 1.12
- Solids > 99%

#### End Use Considerations

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LED-004 should be evaluated in the laboratory using the actual ink system and substrate to ensure that leveling, intercoat adhesion, satin and other performance characteristics are acceptable. In general, energy curable 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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**\*\*Care should be taken to reduce the exposure of any light, especially fluorescent light, to LED coating, as prolonged exposure can cause uncontrollable polymerization of the product with generation of heat.**

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time. When in use, keep covered as much as possible. 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

## LED-018

### Matte LED Coating for Offset Gap



#### Product Description

LED-018 is recommended for use as an LED curable matte coating to be applied in-line over energy curable ink systems. Typical applications include offset printing on paper, paperboard, synthetics such as Polyart and Yupo and other select nonporous substrates. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

#### Performance Characteristics

- Excellent top cure
- Excellent scuff and rub resistance
- Not considered imprintable, foil-stampable, glueable, etc.

#### Physical Properties

- Viscosity 20 - 24 sec. #3 Zahn
- Specific Gravity 1.12
- Solids > 99%

#### End Use Considerations

LED-018 should be evaluated in the laboratory using the actual ink system and substrate to ensure that leveling, intercoat adhesion, matte and other performance characteristics are acceptable. In general, energy curable 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 to reduce the exposure of any light, especially fluorescent light, to LED coating, as prolonged exposure can cause uncontrollable polymerization of the product with generation of heat.**

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time. When in use, keep covered as much as possible. 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

## LED-019

### Gluable Gloss LED Coating for Offset Gap



#### Product Description

LED-019 is recommended for use as an LED curable gloss coating to be applied in-line over energy curable ink systems. Typical applications include offset printing on paper, paperboard, synthetics such as Polyart and Yupo and other select nonporous substrates. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

#### Performance Characteristics

- Excellent top cure
- Excellent scuff and rub resistance
- Imprintable, foil-stampable, glueable, etc.

#### Physical Properties

- Viscosity 18 - 22 sec. #3 Zahn
- Specific Gravity 1.12
- Solids > 99%

#### End Use Considerations

LED-019 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, energy curable 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 to reduce the exposure of any light, especially fluorescent light, to LED coating, as prolonged exposure can cause uncontrollable polymerization of the product with generation of heat.**

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time. When in use, keep covered as much as possible. 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

## LED-022

### Gloss Litho LED OPV



#### Product Description

LED-022 is recommended for use as an LED gloss litho overprint varnish where high performance, high gloss and fast cure response are desired. LED-022 is formulated at a higher tack and viscosity to help perform better with aggressive fountain solutions. Typical applications include sheet-fed offset printing where the OPV is applied in-line over energy-curable litho ink on paper, folding carton and select plastic stocks. For additional information, please contact your KUSTOM SERVICES, INC. representative.

#### Performance Characteristics

- Excellent litho properties; formulated to perform better with aggressive fount
- Adhesion to select plastic stocks
- Considered imprintable, foil-stampable, glueable, etc. (recommend testing first)

#### Physical Properties

- Viscosity 400 – 600 Poise (TA Rheometer)
- Tack 13 – 15 @ 800 rpm/1 minute
- Specific Gravity 1.04
- Solids > 99%

#### End Use Considerations

LED-022 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 overprint varnishes 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 to reduce the exposure of any light, especially fluorescent light, to LED coating, as prolonged exposure can cause uncontrollable polymerization of the product with generation of heat.**

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time. When in use, keep covered as much as possible. 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

## LED-023

### Satin Litho LED OPV



### Product Description

LED-023 is recommended for use as an LED litho overprint varnish where high performance, a satin finish and fast cure response are desired. Typical applications include sheet-fed offset printing where the OPV is applied in-line over energy-curable litho ink on paper, folding carton and select plastic stocks. For additional information, please contact your KUSTOM SERVICES, INC. representative.

### Performance Characteristics

- Excellent cure response
- Excellent litho properties
- 60° gloss reading <40 (ink and substrate dependant)
- Adhesion to select plastic stocks
- Excellent scuff and rub resistance
- Considered imprintable, foil-stampable, glueable, etc. (recommend testing first)

### Physical Properties

- Viscosity 300 – 500 Poise (TA Rheometer)
- Tack 14 – 16 @ 800 rpm/1 minute
- Specific Gravity 1.11
- Solids > 99%

### End Use Considerations

LED-023 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 overprint varnishes 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 to reduce the exposure of any light, especially fluorescent light, to LED coating, as prolonged exposure can cause uncontrollable polymerization of the product with generation of heat.**

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time. When in use, keep covered as much as possible. 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

## LED-025

### Matte Litho LED OPV



### Product Description

LED-025 is recommended for use as an LED litho overprint varnish where high performance, matte finish and fast cure response are desired. Typical applications include sheet-fed offset printing where the OPV is applied in-line over energy-curable litho ink on paper, folding carton and select plastic stocks. For additional information, please contact your KUSTOM SERVICES, INC. representative.

### Performance Characteristics

- Excellent cure response
- Excellent litho properties
- 60° gloss reading <15 (ink and substrate dependant)
- Adhesion to select plastic stocks
- Considered imprintable, foil-stampable, glueable, etc. (recommend testing first)

### Physical Properties

- |                    |                                |
|--------------------|--------------------------------|
| • Viscosity        | 550 – 750 Poise (TA Rheometer) |
| • Tack             | 10 – 12 @ 800 rpm/1 minute     |
| • Specific Gravity | 1.11                           |
| • Solids           | > 99%                          |

### End Use Considerations

LED-025 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 overprint varnishes 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 to reduce the exposure of any light, especially fluorescent light, to LED coating, as prolonged exposure can cause uncontrollable polymerization of the product with generation of heat.**

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time. When in use, keep covered as much as possible. 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

## LED-028

Ultra Reticulation Strike-Thru  
Gloss Litho LED OPV



### Product Description

LED-028 is a gloss LED overprint varnish specifically formulated for spot application under LED-019 to provide reticulation or beading in specific areas of the LED overcoat. When wet trapped under LED-019, LED-028 causes the LED coating to reticulate or bead up like rain on a windshield and provide a pattern different from the normal overall lay of the flood coating. Typical applications include sheet-fed offset printing where the OPV is applied in-line over LED or hybrid LED litho ink on paper, folding carton and select plastic stocks. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

### Performance Characteristics

- Excellent cure response
- Excellent litho properties
- Adhesion to select plastic stocks
- NOT considered imprintable, foil-stampable, glueable, etc.

### Physical Properties

- Viscosity 450 – 550 Poise (TA Rheometer)
- Specific Gravity 1.14
- Solids > 99%

### End Use Considerations

LED-028 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, LED overprint varnishes 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

## LED-690

### Sparkling Blue Angle Dependent LED Coating for Offset Gap



#### Product Description

LED-690 is an LED curable gloss coating formulated with an effect pigment that displays a different color depending on the angle viewed. LED-690 is recommended for use in-line over energy curable ink systems. Typical applications include offset and flexo printing on paper and select non-porous substrates. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

#### Performance Characteristics

- Color changes from Turquoise to Blue to Violet depending on the angle
- Excellent cure response
- Not considered imprintable, foil-stampable, glueable, etc.

#### Physical Properties

- Viscosity 25 - 30 sec. #4 Zahn
- Specific Gravity 1.07
- Solids > 99%

#### End Use Considerations

**LED-690 contains an effect pigment that will settle. Care needs to be taken to ensure the pigment stays in suspension by mixing thoroughly before and during press runs.** LED-690 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 to reduce the exposure of any light, especially fluorescent light, to LED coating, as prolonged exposure can cause uncontrollable polymerization of the product with generation of heat.**

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

## LED-703

### Raised LED Coating for Offset Gap



#### Product Description

LED-703 is a high viscosity LED coating for use with high volume anilox to create an embossed or raised effect. Typical applications include offset and flexo printing on paper and select non-porous substrates.. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

#### Performance Characteristics

- High gloss and good clarity
- Optimized cure for 8W and higher LED bulbs
- Excellent scuff and rub resistance
- Not considered imprintable, foil-stampable, glueable, etc.

#### Physical Properties

- Viscosity 40 - 45 sec. #3 Zahn
- Specific Gravity 1.06
- Solids > 99%

#### End Use Considerations

LED-703 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, energy curable 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 to reduce the exposure of any light, especially fluorescent light, to LED coating, as prolonged exposure can cause uncontrollable polymerization of the product with generation of heat.**

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time. When in use, keep covered as much as possible. 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

## LED-705

### Textured LED Coating for Offset Gap



#### Product Description

LED-705 is formulated as a high viscosity LED coating that exhibits an unsmooth film for a texture-like feel. LED-705 is for application over LED sheet-fed inks on paper or paperboard substrates. The effect may be improved with a higher volume anilox. LED-705 can also be applied through a silk screen. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

#### Performance Characteristics

- Textured Coating with Reticulation appearance
- Excellent Cure Response
- Not considered imprintable, foil-stampable, glueable, etc.

#### Physical Properties

- Solids > 99%
- Specific Gravity 1.13
- Viscosity 20 – 30 Poise (TA Rheometer)

#### End Use Considerations

LED-705 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, LED 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 this in this Technical Data Sheet.

#### FOR YOUR PROTECTION:

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DATE REVISED: 08/07/2017

# Technical Data Sheet

## LED-737

### Coarse Sandy LED Coating for Offset Gap



#### Product Description

LED-737 is an LED coating that provides a coarse sandpaper feel when applied with a standard volume anilox over multiple types of ink on paper, paperboard and select plastic substrates. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

#### Performance Characteristics

- Recommended for 8 – 20 BCM anilox
- Coarse Sandy Feel
- Excellent cure response
- Multiple application methods for desired effect
- Not considered imprintable, foil-stampable, glueable, etc.
- MUST BE MIXED PRIOR TO and WHILE USING

#### Physical Properties

- Viscosity 20 – 25" #5 Zahn
- Specific Gravity 1.15
- Solids > 99%

#### End Use Considerations

\*\*\* LED-737 contains a dry material at a small micron size that could cause increased wear of printing application materials; such as doctor blades, anilox rollers, pumps, etc., or cause other performance issues typically associated with coatings containing dry/abrasive types of material. For this reason, [Kustom Group accepts no liability](#) for the use of LED-737 and recommends extensive testing and care be used when running LED-737 to minimize these conditions. LED-737 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, LED 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: 08/07/2017

# Technical Data Sheet

## LED-012

### Gloss LED Coating for Flexo Gap



#### Product Description

LED-012 is recommended for use as an LED curable gloss coating to be applied in-line over energy curable ink systems. Typical applications include flexo printing on paper and select non-porous substrates. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

#### Performance Characteristics

- High gloss and good clarity
- Good top cure
- Excellent scuff and rub resistance
- Not considered imprintable, foil-stampable, glueable, etc.

#### Physical Properties

- Viscosity 21 - 24 sec. #3 Zahn
- Specific Gravity 1.11
- Solids > 99%

#### End Use Considerations

LED-012 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, energy curable 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 to reduce the exposure of any light, especially fluorescent light, to LED coating, as prolonged exposure can cause uncontrollable polymerization of the product with generation of heat.**

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time. When in use, keep covered as much as possible. 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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DATE REVISED: 08/07/2017

# Technical Data Sheet

## LED-010

### Satin LED Coating for Flexo Gap



#### Product Description

LED-010 is recommended for use as an LED curable satin coating to be applied in-line over energy curable ink systems. Typical application is flexo printing on paper and select non-porous substrates. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

#### Performance Characteristics

- 60 degree gloss reading less than 40
- Excellent cure response
- Excellent scuff and rub resistance
- Not considered imprintable, foil-stampable, glueable, etc.

#### Physical Properties

- Viscosity 21 - 24 sec. #3 Zahn
- Specific Gravity 1.12
- Solids > 99%

#### End Use Considerations

LED-010 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, energy curable 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 to reduce the exposure of any light, especially fluorescent light, to LED coating, as prolonged exposure can cause uncontrollable polymerization of the product with generation of heat.**

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time. When in use, keep covered as much as possible. 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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DATE REVISED: 08/07/2017



# Technical Data Sheet

## LED-009

### Matte LED Coating for Flexo Gap



#### Product Description

LED-009 is recommended for use as an LED curable matte coating to be applied in-line over energy curable ink systems. Typical applications include flexo printing on paper and select non-porous substrates. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

#### Performance Characteristics

- 60 degree gloss reading less than 15
- Excellent top cure
- Excellent scuff and rub resistance
- Not considered imprintable, foil-stampable, glueable, etc.

#### Physical Properties

- Viscosity 21 - 24 sec. #3 Zahn
- Specific Gravity 1.12
- Solids > 99%

#### End Use Considerations

LED-009 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, energy curable 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 to reduce the exposure of any light, especially fluorescent light, to LED coating, as prolonged exposure can cause uncontrollable polymerization of the product with generation of heat.**

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time. When in use, keep covered as much as possible. 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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DATE REVISED: 08/07/2017

# Technical Data Sheet

## LED-007

### Imprintable Gloss LED Coating for Flexo Gap

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#### Product Description

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LED-007 is recommended for use as an LED curable imprintable gloss coating to be applied in-line over energy curable ink systems. Typical applications include flexo printing on paper and select non-porous substrates. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

#### Performance Characteristics

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- High gloss and good clarity
- Excellent cure response
- Recommended for imprintable, foil-stampable, glueable and other finishing applications

#### Physical Properties

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- Viscosity 10-12 sec. #3 Zahn
- Specific Gravity 1.05
- Solids > 99%

#### End Use Considerations

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LED-007 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, energy curable 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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**\*\*Care should be taken to reduce the exposure of any light, especially fluorescent light, to LED coating, as prolonged exposure can cause uncontrollable polymerization of the product with generation of heat.**

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time. When in use, keep covered as much as possible. 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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DATE REVISED: 08/07/2017

# Technical Data Sheet

## LED-702

### LED Soft Feel Coating for Flexo Gap



#### Product Description

LED-702 is recommended for use as an LED curable tactile coating to be applied in-line over LED-curable ink systems where a soft feel effect is desired. Typical applications include flexo printing on paper and select non-porous stocks. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

#### Performance Characteristics

- Matte gloss
- Low thixotropy
- Excellent cure response
- MAY BE imprintable, foil-stampable, glueable, etc., but proper testing is recommended

#### Physical Properties

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

#### End Use Considerations

LED-702 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, energy curable 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 to reduce the exposure of any light, especially fluorescent light, to LED coating, as prolonged exposure can cause uncontrollable polymerization of the product with generation of heat.**

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time. When in use, keep covered as much as possible. 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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DATE REVISED: 08/07/2017

# Technical Data Sheet

## LED-681

Angle Dependent Sparkling Blue  
LED Coating for Flexo Gap



### Product Description

LED-681 is an LED curable gloss coating formulated with an effect pigment that displays a different color depending on the angle viewed. LED-681 is recommended for use in-line over energy curable ink systems. Typical applications include offset and flexo printing on paper and select non-porous substrates. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

### Performance Characteristics

- Color changes from Turquoise to Blue to Violet depending on the angle
- Excellent cure response
- Not considered imprintable, foil-stampable, glueable, etc.

### Physical Properties

- Viscosity 25 - 30 sec. #4 Zahn
- Specific Gravity 1.07
- Solids > 99%

### End Use Considerations

**LED-681 contains an effect pigment that will settle. Care needs to be taken to ensure the pigment stays in suspension by mixing thoroughly before and during press runs.** LED-681 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 to reduce the exposure of any light, especially fluorescent light, to LED coating, as prolonged exposure can cause uncontrollable polymerization of the product with generation of heat.**

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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DATE REVISED: 08/07/2017

# Technical Data Sheet

## LED-701

### LED Emboss Coating for Flexo Gap



#### Product Description

LED-701 is a high viscosity LED coating for use with high volume anilox to create an embossed or raised effect. Typical applications include offset and flexo printing on paper and select non-porous substrates where high gloss and minimal gloss-back are desired. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

#### Performance Characteristics

- High gloss and good clarity
- Optimized cure for 8W and higher LED bulbs
- Excellent scuff and rub resistance
- Not considered imprintable, foil-stampable, glueable, etc.

#### Physical Properties

- Viscosity 40 - 45 sec. #3 Zahn
- Specific Gravity 1.06
- Solids > 99%

#### End Use Considerations

LED-701 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, energy curable 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 to reduce the exposure of any light, especially fluorescent light, to LED coating, as prolonged exposure can cause uncontrollable polymerization of the product with generation of heat.**

Care should be taken not to expose radiation curable products to temperatures exceeding 100°F for prolonged periods of time. When in use, keep covered as much as possible. 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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DATE REVISED: 08/07/2017

# Technical Data Sheet

## LED-734

### Coarse Sandy LED Coating for Flexo Gap



#### Product Description

LED-734 is an LED coating that provides a coarse sandpaper feel when applied with a standard volume anilox over multiple types of ink on paper, paperboard and select plastic substrates. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

#### Performance Characteristics

- Recommended for 8 – 20 BCM anilox
- Coarse Sandy Feel
- Excellent cure response
- Multiple application methods for desired effect
- Not considered imprintable, foil-stampable, glueable, etc.
- MUST BE MIXED PRIOR TO and WHILE USING

#### Physical Properties

- Viscosity 20 – 25" #5 Zahn
- Specific Gravity 1.15
- Solids > 99%

#### End Use Considerations

\*\*\* LED-734 contains a dry material at a small micron size that could cause increased wear of printing application materials; such as doctor blades, anilox rollers, pumps, etc., or cause other performance issues typically associated with coatings containing dry/abrasive types of material. For this reason, [Kustom Group accepts no liability](#) for the use of LED-734 and recommends extensive testing and care be used when running LED-734 to minimize these conditions. LED-734 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, LED 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

## LED-725

### Fine Sandy Matte LED Coating for Flexo Gap



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#### Product Description

LED-725 is a matte LED coating that provides a light sandpaper feel upon printing over multiple types of ink on paper, paperboard and select plastics and film substrates. LED-725's effect can be accentuated by increasing the amount of coating applied. For additional information regarding assistance and applications, please contact your KUSTOM SERVICES, INC. representative.

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#### Performance Characteristics

- Textured or Sandpaper feel
- Excellent cure response
- Multiple application methods for desired effect
- Not considered imprintable, foil-stampable, glueable, etc.
- MUST BE MIXED PRIOR TO AND WHILE USING

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#### Physical Properties

- Viscosity 15 - 20 sec. #4 Zahn
- Specific Gravity 1.13
- Solids > 99%

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#### End Use Considerations

\*\*\* LED-725 contains a dry material at a small micron size that could cause increased wear of printing application materials; such as doctor blades, anilox rollers, pumps, etc., or cause other performance issues typically associated with coatings containing dry/abrasive types of material. For this reason, [Kustom Group accepts no liability](#) for the use of LED-725 and recommends extensive testing and care be used when running LED-725 to minimize these conditions. LED-725 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, LED 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.

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#### 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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