A Sappi Guide to Designing for Print:
Tips, Techniques and Methods for
Achieving Optimum Printing Results
Issue three of The Standard examines ways that varnish and coatings can be used as a design technique. Filled with practical and informative tips, print demonstrations, and a glossary of important terms, The Standard serves as a bridge between the technical and the creative. It is intended to be used as an educational reference tool, surveying techniques from the simple to the complex. Examples are provided for visual comparison and as food for thought when considering design options. This edition of The Standard showcases the versatile finishes of McCoy, a premium coated sheet brought to you by Sappi. McCoy is part of the Sappi portfolio of environmentally responsive papers, which also includes Lustro Offset Environmental (LOE), Opus, Somerset, and Flo.
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Varnish and coatings do more than protect a printed sheet from smudges, scratches and fingerprints. They give designers the ability to do on paper what online media cannot – give tangible depth, dimensionality and texture to images and words. Creative use of varnish and coatings has the potential to transform the viewing experience by appealing to multiple senses. You can evoke a mood, convey an attitude, project energy or calm. You can simulate the feel of concrete and silk. You can raise images off the page or give the illusion of multiple layers. You can imitate the look of practically anything, from plastic and metal to leather. You can enhance reality by embedding scent into coatings and by changing color through simple touch.

Over the past five years, innovations in paper chemistry and printing technology have led to the introduction of varnish and coating effects that were not possible before. Most of these techniques can be printed inline on a conventional press. The availability of these amazing capabilities are prompting designers and marketing strategists to rethink the role of print in advertising and marketing communications. Creative professionals are asking themselves what can be done more memorably on paper than on a screen – TV, computer monitor or cell phone? One answer is to take advantage of the tactile quality and design possibilities of varnish and coatings. Print allows designers and corporate communicators to control how their message is seen and to transcend the “one click” longevity of digital communications.
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Performance Comparison

Whether using varnish and coatings for protection or as a design technique, keep in mind that each has advantages and limitations. For example, conventional varnish can be applied from a regular ink unit on press and hold tight registration, but it also dries more slowly than coating and yellows over time. UV offers unbeatable turnaround times and results in most categories, but typically costs more. UV also shows more fingerprinting, but fewer scratches. Pearlescent may cause undesirable color shifts. Gloss coating makes for denser blacks than dull coatings, which may or may not be a good thing. Consider the tradeoffs and what is most important for the job. This Performance Comparison is offered as a general guide when evaluating your choices.

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Sustainable and Recyclable

By now, industry professionals understand the importance of specifying FSC® and SFI® certified papers such as McCoy and using vegetable-based inks, but the environmental impact of processes such as varnish and coatings are less familiar. All of the techniques shown in this book are eco-friendly and non-toxic, and done using ingredients that are recyclable. This has long been true for varnish and aqueous coating. It is also true for current ultraviolet (UV) coating. UV coating is cured into a 100% solid by UV lamps, a process that releases no volatile organic compounds (VOC) and is nonflammable. Until recently, UV-coated print materials had to be separated from other materials when recycling, but now they can be recycled along with other mixed waste.
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Pertinent categories are compared on Varnish and Coatings demonstration pages. SCALE 1 = least 5 = most.

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Available in gloss, satin and dull finishes, varnish is essentially ink without pigment, so it can be run using a regular unit on the press and hold exact dot-for-dot registration. A gloss varnish deepens colors on a printed piece, while satin and dull finishes reduce contrast. For overall protection and sheen, varnish is flooded onto the entire sheet. One drawback of varnish is that it tends to yellow over time, becoming most evident in unprinted areas. Printers also have to use a spray powder to keep printed sheets from sticking together while the varnish is still wet. This may leave a faint residue. Still, varnish offers opportunities to elicit a variety of dramatic design effects at a relatively inexpensive cost.
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A drytrapped gloss varnish was used to heighten contrast and "raise" the hat away from the woman's face.

The soft focus of this photograph gives this high heel shoe a luminous glow. The use of an overall gold-tinted varnish accentuated this quality and evoked a mood of sensual elegance.
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The soft focus of this photograph gives this high heel shoe a luminous glow. The use of an overall gold-tinted varnish accentuated this quality and evoked a mood of sensual elegance.
Two hits of gloss varnish were used to simulate the sparkle of glitter and chrome. An inline pass covered the entire belt, then a drytrap of gloss varnish hit only the buckle and bits of glitter on the strap.
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Inline Gloss & Dull Combination

Overprinted Satin Tint Combinations

Perfume Bottles

Inline spot tinted satin varnishes

No color was used for this image. The transparent perfume bottles were created using six different shades of inline varnishes.
Inline spot tinted satin varnishes

- Blue
- Green
- Red
- Purple
- Pink
- Yellow

Varnish Inline Gloss & Dull Combination

- Blue
- Green
- Red
- Purple

Varnish Overprinted Satin Tint Combinations

- Blue
- Green
- Red
- Purple

MCM COY SILK

12 | MCM GLOSS

SEE PAGE 4 FOR LEGEND

Bracelet

Perfume Bottles

An impression of two different metallics. This was produced by superimposing a dull over a gold ink.
Drytrapped spot gloss varnish on black reversed out of dull varnish

Conventional four-color process

Inline spot glossy varnish on black & background

Inline spot dull varnish on yellow tape

Drytrapped spot gloss varnish on black measurements reversed out of dull varnish

Inline spot dull varnish in background

Inline spot satin varnish on dress stripes

Metal black, process black & mat black layer

Running spots of dull and satin varnish inline helped to make this line of a striped dress look more elegant.

The selection of dull varnish on the seam of a flapper dress is intended to make the numbers look sharper, more prominent, and form a decorative pattern on the skirt.

Varnish can be used to subtly impart a surrealist story. In this case, a dull gloss varnish was used to create a faint wax pattern over the model in a striped fish dress.
Varnish: Inline Satin & Drytrapped Tinted Gloss Combination

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Varnish: Inline Gloss/Dull & Drytrapped Gloss Combination

Drytrapped spot gloss varnish on black

measurements reverses out of dull varnish

Varnish: Inline spot gloss varnish on body & background

Conventional four-color process

Inline spot dull varnish in background

Matte black, process black & match silver tritone

Inline spot satin varnish on dress stripes

Running spots of dull and satin varnish inline helped to make this X-ray of a striped dress look more skeletal.
Varnish | Inline Satin & Drytrapped Tinted Gloss Combination

Drytrapped tinte gloss varnish pattern

Conventional four-color process

Inline spot dull varnish on yellow tape

Matt black, process black & match silver tritone

Running spots of dull and satin varnish inline helped to make this X-ray of a striped dress look more skeletal.

Varnish can be used to subtly impart a second dimension to text. In this case, a tinted gloss varnish was used to create a faint wave pattern over the drafted lines of the fish.

Fish Dress

Varnish | Inline Gloss/Dull & Drytrapped Gloss Combination

Conventional four-color process

Inline spot gloss varnish on body & background

Drytrapped spot gloss varnish on black measurements reverses out of dull varnish

Matte black, process black & match silver tritone

SEE PAGE 4 FOR LEGEND

Conventional four-color process

Inline spot dull varnish on dress stripes

Inline spot satin varnish on dress stripes

Inline spot dull varnish & background

Inline spot satin varnish on body & background

SEE PAGE 4 FOR LEGEND

Inline spot dull varnish

Fish Dress

SEE PAGE 4 FOR LEGEND
Press coatings come in two types – aqueous and UV. Aqueous looks and performs much like varnish, but provides better rub protection and does not yellow over time. Its 60-70% water content makes flood coating the preferred use, although spot coating is possible using a Cyrel plate. Unlike varnish, aqueous dries quickly, allowing for faster back-ups, but it does require the use of heavier stock (60lb. text and up) to avoid paper curl when wet. On the other hand, UV coating is nearly all solids and cures instantly under ultraviolet light. More protective than aqueous, UV provides an exceptional gloss level, accepts a wider range of specialty techniques, and works well on any type of stock. UV also lends itself to spot applications. One caution: UV’s high-solids level is vulnerable to cracking, so special care must be taken during curing and in the bindery.
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Coatings | Inline Soft-touch Aqueous

Soft-touch coating uses a specially formulated polymer base that creates an ultra-fine textured surface that feels like suede, which is perfect for replicating the feel of a tarantula.

Tarantula

Conventional four-color process

Molch gray half tone shadow

Inline spot soft-touch aqueous coating on tarantula

Butterfly

Coatings | Inline Tinted Glitter Aqueous

Glitter and pearlescent are two ways to create iridescence. To retain the wild colors of the butterfly wing, blue glitter was used because pearlescent has a slight milky cast.
Coatings | Inline Soft-touch Aqueous

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Conventional four-color process

Match grey half tone shadow

Inline spot soft-touch aqueous coating on tarantula

Coatings | Inline Tinted Glitter Aqueous

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Coatings | Drytrapped Glass UV

Drytrapped spot glass UV coating

Liquid silver ink

Two hits drytrapped UV finish +

precise near liquid silver pets

A glass UV coating was drytrapped over liquid silver ink to make the chair's wire structure look more shiny and metallic.

Coatings | Inline Glass & Drytrapped Sandpaper UV Combination

The table's drytrapped UV coating resembles the surface sheen of plastic cutlery.

Coatings | Inline: Dull & Drytrapped Satin UV Combination

The table's drytrapped UV coating resembles the surface sheen of plastic cutlery.

Acrylic Chair
This spread shows four different ways to use UV coatings to make this alligator look more realistic. Above, to heighten contrast, the eye has a UV gloss coating, the tongue a UV gloss varnish and the skin a UV dull varnish. Spot gloss UV varnish on tongue. Reticulating dull conventional varnish and gloss UV coating on alligator scales. An anilox roller with unevenly dimpled micro-cells is used to apply UV coating for a textured look.
This spread shows four different ways to coat a 3-D alligator look more realistic. Above, to heighten contrast, the eye has a UV gloss coating, the tongue a UV gloss varnish and the skin a UV dull varnish.

Spot gloss UV varnish on tongue

Reticulating dull conventional varnish and gloss UV coating on alligator scales

An anilox roller with unevenly dimpled microcells is used to apply UV coating for a textured look.

UV coating creates a factory-engineered finish. To this end, one can reticulate the alligator’s scales with the chosen behavior come out.

An artistic roller suitably adapted to mimic the animal’s palate is used to apply UV coating for a natural look.
This spread shows how different ways to use UV coatings can make this alligator look more realistic. Above, to heighten contrast, the eye has a UV gloss coating, the tongue a UV gloss varnish, and the skin a UV dull varnish. An anilox roller with unevenly dimpled micro-cells is used to apply UV coating for a textured look.
The chess pieces are visually lifted away from the board with an application of soft-touch aqueous coating, which gives the pieces a slight tactile quality.
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Coatings | Inline Scented UV

Presenting an image that is so tantalizing that readers can smell it is made possible by encapsulating scented cells in UV coating. In this case, rubbing the coating releases the scent of cinnamon.

Coatings | Strike-through UV

A strike-through technique combines dull varnish and gloss coatings, causing the fruit to look glazed and the custard to appear more matte.
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Coatings | Inline Scented UV
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UV four-color process
Inline spot scented UV coating on cinnamon bun
Inline spot dull UV varnish on napkin

RUB CINNAMON BUN

Coatings | Strike-through UV
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A strike-through technique combines dull varnish and glass coating, causing the fruit to look glazed and the custard to appear more matte.

UV four-color process
Dull conventional varnish with strike-through glass UV coating on fruit
A single pass of UV coating containing heat-sensitive pigmented dye was applied only to the center coil. When touched, the finger's body heat will cause the coil to change color.

To make this snowflake evoke a dimensional, icy look, a spot raised gloss UV coating was applied over the snowflake and contrasted against a background of cull UV varnish.
This hairbrush was made more intriguing by applying a pearlescent aqueous coating on the tips of the bristles and a gloss varnish on the shafts, with the amount of varnish receding with the diffusion of the photograph.

This porcupine photograph was made more tactile by using raised UV coating on the quills and a tinted gloss UV varnish for the reflection.
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This guide is designed to give you a direct comparison of how different varnish and coatings look on the three paper finishes of McCoy. Each combination causes subtle or sometimes very pronounced shifts in overall colors and intensity of shadows and highlights. For instance, running a gloss varnish over McCoy Gloss results in a different effect than, say, a dull varnish on McCoy Matte. The right choice depends on the priorities of your particular job – the style and subject of the imagery, the kind of mood you are trying to create, and the way you want the paper to feel when readers hold it in their hands. It is important to tell printers your paper choice early on, so they can take that into account when beginning prepress work.
No Varnish & inline conventional four-color process

Dull Varnish & inline conventional four-color process

Gloss Varnish & inline conventional four-color process

Dull Aqueous Coating & inline conventional four-color process

No Coating & inline conventional four-color process

Gloss Aqueous Coating & inline conventional four-color process

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Glossary of Varnish & Coating Terms

Anilox coating process
A hard roller made of steel or aluminum coated with industrial ceramic is etched on the surface with a predetermined number of cells that act as carriers of exact quantities of coating to the printing plate. During the printing process, the anilox roller is immersed in coating, then a sharp “doctor blade” scrapes excess coating off the surface, leaving an exactly measured amount in each cell. The roller then makes contact with the flexographic printing plate, which transfers the coating onto paper. Anilox is used for special UV and aqueous coating applications, including pearlescent, metallics and spot coating.

Aqueous coating
Aqueous is a fast-drying, water-based protective coating that can be applied inline on press from a coating tower. It is particularly noted for providing excellent smudge resistance. It also does not yellow with age. Aqueous coating comes in gloss, satin, dull and many custom finishes (pearlescent, metallics, touch coatings). It can be flooded onto the entire sheet or spot coated.

BCM per Square Inch
BCM stands for “billion cubic microns,” which is the volume measurement for each pocket, or cell, on an anilox roller. BCM expresses the amount of ink or solids that each cell holds. In commercial printing, BCMs per square inch typically range from 9 to 40 BCMs.

Coatings
Press coatings (aqueous and UV) are applied to protect the printed sheet from fingerprinting, scratches and smudges as well as exposure to moisture and temperature extremes. They are also better than varnish at protecting against long-term color fading. Choice of coating finish can improve the look of the printed piece and can be used as a technique to achieve different visual effects.

Color Shift
In four-color printing, image colors change to some degree depending on ink densities, dot gain, paper choice and coating finish. Generally speaking, a gloss-finish coating tends to result in more saturated colors, particularly intensifying blacks and darker shades. Satin coating tends to be the most color neutral. Dull coating tends to minimize the contrast between darks and lights, resulting in a softer look.

Cyrel® plate
This is the photopolymer plate used in the flexographic printing process. It develops thermally, without any need for solvents or drying time, and is suitable for fine screen, live and solids work. Spot aqueous and UV coatings require the use of a Cyrel plate or peelable coating blanket.

Drytrap
Printing over dry ink, as opposed to wet trap. This requires the printed piece to go through the press a second time. It offers more creative flexibility and greater ink/coating holdout, but costs more and takes more time than inline processes.

Dull finish
Dull finish varnish and coatings do not add sheen to the printed sheet. Their non-glare surface is known for enhancing readability.

Flood coating
This process involves applying a finishing coating (aqueous, UV or varnish) to an entire press sheet as one flat coating.

Gloss finish
Available in varnish and aqueous and UV coatings, gloss has a high reflective finish that gives the sheet a shiny appearance.
Glossary of Varnish & Coating Terms

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Gloss finish
Available in varnish and aqueous and UV coatings, gloss has a high reflective finish that gives the sheet a shiny appearance.
In-line
This includes any process done on a printed piece while it is on the press. The ability to do everything in one operation saves time and money.

Offline
This is a process done after a printed piece has come off press.

Overprinting
Also called surprise printing, this is a technique where one ink, varnish or coating is printed directly over another, without knocking out the image behind it.

Pearlescent finish
This specialty pigment, made from crushed mother-of-pearl particles, is used to add iridescent highlight and depth to defined printed areas.

Raised UV Coating
An anilox cylinder is required to create a raised surface. The deeper the BCM cell depth on the anilox cylinder, the higher the raised surface.

Reliculation effect
A wrinkled look created by increasing the viscosity of the coating to a point where it cannot be spread evenly onto the paper. The surface semi-rejects the coating film, causing it to bead and leaving a snakeskin look.

Sandpaper finish
Grainy particles are suspended in coating to create a tactile sandpaper texture.

Satin finish
This smooth finish is not as shiny as gloss finish and not as matte as dull finish.

Scented finish
Scents microencapsulated in pigments are added to coating and applied to the sheet. When rubbed the microcapsules break, releasing the fragrance.

Soft-touch coating
This special-effects coating imparts a unique rubbery, leather-like feel with a matte appearance. It can be applied inline through the coating tower and does not require any secondary or offline treatment.

Spot coating
This is the use of coating only on specifically designated areas on a sheet.

Strike through (Also known as Contrast Varnish)
This is a method of simulating a perfect-image trap by taking advantage of a chemical reaction between varnish and coatings. A dull varnish is first put down in the areas intended to stay matte, then an overall flood gloss coating is applied. The gloss coating is "neutralized" in the varnished areas, which remain dull while the rest of the image goes glossy.

Textured finish
This coating creates a surface that looks like it was texturized by a ball-peen hammer. Also known as hammertone finish.

Thermochromatic coating
This is a reaction caused by dyes that are heat sensitive. The heat from a finger will cause the color to change.

UV (Ultraviolet) coating
UV coating is a clear liquid coating that can be cured instantly with an ultraviolet light, leaving a gloss, satin or dull finish. Since UV coating is cured by light not heat, the application process emits no solvents into the atmosphere.

Varnish
A liquid coating applied to a sheet via an ink unit, either inline or offline. Varnishes can be gloss, satin or dull. They can also be tinted with pigment for interesting effects. Although varnish protects the sheet from scuffing, it tends to yellow over time.

Wet-trap
When varnish or ink is printed over wet ink.

Specifying the Right Paper
Paper choice plays a critical role when specifying varnish and coatings, which first and foremost seal a sheet against scratches and smudges and enhance ink holdout. For design techniques, however, it goes without saying that rough and porous paper surfaces, as well as lighter weight sheets, limit the kinds of varnish and coatings processes possible. Coated papers are better suited for special techniques than uncoated stock, and premium coated papers such as McCoy offer the greatest opportunity to explore the full range of visual effects with confidence. With Sappi papers, designers have the assurance of excellent surface uniformity and smoothness, and a choice of finishes that can be mixed and matched with different varnish and coating finishes and specialty options. The result is a level of visual excitement that creates a new genre of print communications.
Inline
This includes any process done on a printed piece while it is on the press. The ability to do everything in one operation saves time and money.

Offline
This is a process done after a printed piece has come off press.

Overprinting
Also called surprining, this is a technique where one ink, varnish or coating is printed directly over another, without knocking out the image behind it.

Pearlescent finish
This specialty pigment, made from crushed mother-of-pearl particles, is used to add iridescent highlight and depth to defined printed areas.

Raised UV Coating
An anilox cylinder is required to create a raised surface. The deeper the BCM cell depth on the anilox cylinder, the higher the raised surface.

Reliculation effect
A wrinkled look created by increasing the viscosity of the coating to a point where it cannot be spread evenly onto the paper. The surface semi-rejects the coating film, causing it to bead and leaving a snakeskin look.

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Grainy particles are suspended in coating to create a tactile sandpaper texture.

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This is the use of coating only on specifically designated areas on a sheet.

Strike through (Also known as Contrast Varnish)
This is a method of simulating a perfect-image trap by taking advantage of a chemical reaction between varnish and coatings. A dull varnish is first put down in the areas intended to stay matte, then an overall flood gloss coating is applied. The gloss coating is “neutralized” in the varnished areas, which remain dull while the rest of the image goes glossy.

Textured finish
This coating creates a surface that looks like it was textured by a ball-peen hammer. Also known as hammertone finish.

Thermochromatic coating
This is a reaction caused by dyes that are heat sensitive. The heat from a finger will cause the color to change.

UV (Ultraviolet) coating
UV coating is a clear liquid coating that can be cured instantly with an ultraviolet light, leaving a gloss, satin or dull finish. Since UV coating is cured by light not heat, the application process emits no solvents into the atmosphere.

Varnish
A liquid coating applied to a sheet via an ink unit, either inline or offline. Varnishes can be gloss, satin or dull. They can also be tinted with pigment for interesting effects. Although varnish protects the sheet from scuffing, it tends to yellow over time.

Wet-trap
When varnish or ink is printed over wet ink.

Specifying the Right Paper

Paper choice plays a critical role when specifying varnish and coatings, which first and foremost seal a sheet against scratches and smudges and enhance ink holdout. For design techniques, however, it goes without saying that rough and porous paper surfaces, as well as lighter weight sheets, limit the kinds of varnish and coatings processes possible. Coated papers are better suited for special techniques than uncoated stock, and premium coated papers such as McCoy offer the greatest opportunity to explore the full range of visual effects with confidence. With Sappi papers, designers have the assurance of excellent surface uniformity and smoothness, and a choice of finishes that can be mixed and matched with different varnish and coating finishes and specialty options. The result is a level of visual excitement that creates a new genre of print communications.
Sappi Portfolio of Papers

At Sappi, we try to give you choices to satisfy every design need, from high-profile marketing pieces to postage-friendly direct mailers to cost-driven, no-frill jobs. In addition to offering you a selection of grades, finishes and weights, we make sustainability a part of everything we do, as evident by the SFI®, FSC® and Green-e® certifications and post-consumer waste content shown on the chart. You can also count on us for personalized service. Swatchbooks, paper dummies and printed samples for any Sappi brand are available from Sappi representatives and your local paper merchant. A call to 1.877.Sappi.Help will connect you to our technical experts for answers to print-related questions. Or you can log onto sappi.com for more information.

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>BASE WEIGHT RANGE</th>
<th>PEW</th>
<th>CERTIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCoy Premium</td>
<td>Gloss, Silk, Matte</td>
<td>80# T-130# C</td>
<td>@10%</td>
</tr>
<tr>
<td>Buzz</td>
<td>Gloss, Dull, Dull Cream</td>
<td>80# T-120# C</td>
<td>@10%</td>
</tr>
<tr>
<td>Lustro (LOE)</td>
<td>Gloss, Dull, Dull Cream</td>
<td>80# T-120# C</td>
<td>@10%</td>
</tr>
<tr>
<td>Performace</td>
<td>Gloss</td>
<td>60# T-120# C</td>
<td>N/A</td>
</tr>
<tr>
<td>Opus</td>
<td>Gloss, Dull, Matte, Satin</td>
<td>45# T-80# 9/pt C</td>
<td>N/A</td>
</tr>
<tr>
<td>Somerset</td>
<td>Gloss, Matte, QFG</td>
<td>60# T-120# C</td>
<td>N/A</td>
</tr>
<tr>
<td>Aero</td>
<td>Gloss</td>
<td>60# T-120# C</td>
<td>N/A</td>
</tr>
<tr>
<td>Magna</td>
<td>Gloss (Etch), Dull</td>
<td>60# T-120# C</td>
<td>N/A</td>
</tr>
<tr>
<td>HanmaArt</td>
<td>Gloss, Silk</td>
<td>60# T-120# C</td>
<td>N/A</td>
</tr>
<tr>
<td>Fia</td>
<td>Gloss, Dull, Matte</td>
<td>40# T-100# C</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Products are not available in all finishes and basis weights. Please consult with your sales or customer service representatives.

1. 100# and 120# cover weights contain a minimum of 25% PEW.
2. Available in web only only.
3. SBS sheets only. Inquire about web-recovered content up to 30% PEW available.
4. SBS sheet and 44pt only. 30% PEW only available.
5. Limited quantities available. Consult with your Sappi representative.
6. BS sheets only. 30% PEW available upon request.
7. BS sheets only. BS sheets only.
Sappi Portfolio of Papers

At Sappi, we try to give you choices to satisfy every design need, from high-profile marketing pieces to postage-friendly direct mailers to cost-driven, no-frill jobs. In addition to offering you a selection of grades, finishes and weights, we make sustainability a part of everything we do, as evident by the SFI®, FSC® and Green-e® certifications and post-consumer waste content shown on the chart. You can also count on us for personalized service. Swatchbooks, paper dummies and printed samples for any Sappi brand are available from Sappi representatives and your local paper merchant. A call to 1.877.Sappi.Help will connect you to our technical experts for answers to print-related questions. Or you can log onto sappi.com for more information.

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>FINISH</th>
<th>BASE WEIGHT RANGE</th>
<th>PWT</th>
<th>CERTIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>McCoy</td>
<td>Gloss, Silk, Matte</td>
<td>80lb T - 120lb C</td>
<td>@10%</td>
<td>SFI®, FSC® and Green-e® certified</td>
</tr>
<tr>
<td>Buzz</td>
<td>Gloss, Dull, Dull Cream</td>
<td>80lb T - 120lb C</td>
<td>@30%</td>
<td>SFI®, FSC® and Green-e® certified</td>
</tr>
<tr>
<td>Luvo</td>
<td>Gloss, Dull, Matte, Satin</td>
<td>60lb T - 120lb C</td>
<td>@10%</td>
<td>SFI®, FSC® and Green-e® certified</td>
</tr>
<tr>
<td>Somerset</td>
<td>Gloss, Satin, QFG, Matte</td>
<td>46lb T - 80lb 9pt C</td>
<td>Upon request</td>
<td>SFI®, FSC®</td>
</tr>
<tr>
<td>Aero</td>
<td>Gloss</td>
<td>90lb T - 83lb 9pt C</td>
<td>Upon request</td>
<td>SFI®, FSC®</td>
</tr>
<tr>
<td>Magno</td>
<td>Gloss (Ellar), Dull</td>
<td>60lb T - 120lb C</td>
<td>N/A</td>
<td>FSC®</td>
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<tr>
<td>HammsArt</td>
<td>Gloss</td>
<td>60lb T - 120lb C</td>
<td>N/A</td>
<td>FSC®</td>
</tr>
<tr>
<td>Flo</td>
<td>Gloss, Dull, Matte</td>
<td>40lb T - 100lb C</td>
<td>@10%</td>
<td>SFI®, FSC®</td>
</tr>
</tbody>
</table>

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1. 100% and 120% cover weights contain a minimum of 25% PWT.
2. Available in web only.
3. 80% sheets only. Inquire about web-recycled content up to 80% PWT available.

Design
Pentagram
Text
Delphine Hiramasu
Printing
Five, six and eight unit 40" conventional presses with anilox coating systems. Six and eight unit 40" UV presses with anilox coating systems. All images are 175-line screen.
Binding
Wire-O

Cover
Paper: McCoy Silk Cover 120 lb/325 gsm UV four-color process + UV match blue + spot dull UV coating in background, black mathead box and ghosted logo box. Satin UV varnish on ghosted four-color mathead box. Spot gloss UV varnish on mathead type; numeral three and logo. Drytrapped spot raised glass UV coating on water drops. Raised coating applied with 20 BCM roller.

Inside Covers
Two hits solid UV black + reticulating dull UV varnish with strike-through gloss UV coating. Drytrapped spot custom blend satin and spot dull UV varnishes. Selected type prints 60% black over solid black, or reverses out of a single hit of solid black.

Page 1
Paper: McCoy Silk Text 100 lb/148 gsm Conventional black + spot match grey tinted gloss varnish.
Page 34 Electric Coil
Paper: McCoy Silk Text 100 lb/148 gsm
Photography: John Blaustein
UV four-color process + spot dull UV varnish + spot gloss UV coating on red coil. Drytrapped spot thermochromatic UV coating on center coil. Thermochromatic coating applied with 40 BCM roller.

Page 35 Snowflake
Paper: McCoy Silk Text 100 lb/148 gsm
UV four-color process + spot modified dull UV varnish + spot gloss UV coating on snowflake. Raised coating applied with 40 BCM roller.

Page 36 Hairbrush
Paper: McCoy Silk Text 100 lb/148 gsm
Conventional four-color process + spot gloss and dull varnishes + spot pearlescent aqueous coating on bristle heads. Varnishes and aqueous coating are dot-for-dot as they recede into the background. Aqueous coating applied with 20 BCM roller.

Page 37 Porcupine
Paper: McCoy Silk Text 100 lb/148 gsm
UV four-color process + match gray tinted glass UV varnish half-tone reflection + spot raised UV coating. Raised coating applied with 30 BCM roller.

Pages 38-44 Varnish & Aqueous Comparisons
Paper: McCoy Matte, Silk and Gloss Text 100 lb/148 gsm
Conventional four-color process + spot dull and gloss varnishes + spot dull and gloss aqueous coatings.

Page 45-49 UV Comparison
Paper: McCoy Matte, Silk and Gloss Text 100 lb/148 gsm
UV four-color process + UV match black + spot dull and glossy UV coatings.

Page 50
Paper: McCoy Silk Text 100 lb/148 gsm
Spot match gray tinted conventional varnish.

Pages 51-58
Paper: McCoy Silk Text 100 lb/148 gsm
UV four-color process + UV match red. Spot gloss UV varnish on four-color.

Match red type on all demonstration pages.

Conventional or UV satin varnish on all four-color outside the designated demonstration areas.

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Mixed Sources
Product made from an assortment of raw materials and fibers.

FSC®
Produced from forests that are independently certified to meeting the FSC® standard for responsible Forestry.
Page 34 Electric Cell
Paper: McCoy Silk Text 100 lb/148 gsm
Photography: John Blaustein
UV four-color process + spot dull UV varnish + spot gloss UV coating on red cell. Drytrapped spot thermochromatic UV coating on center cell. Thermochromatic coating applied with 40 BCM roller.

Page 35 Porcupine
Paper: McCoy Silk Text 100 lb/148 gsm
UV four-color process + match gray tinted glass UV varnish half-tone reflection + spot raised UV coating. Raised coating applied with 30 BCM roller.

Page 36 Snowflake
Paper: McCoy Silk Text 100 lb/148 gsm
UV four-color process + spot modified dull UV varnish + spot raised gloss UV coating on snowflake. Raised coating applied with 40 BCM roller.

Page 37 Porcupine
Paper: McCoy Silk Text 100 lb/148 gsm
UV four-color process + match gray tinted glass UV varnish half-tone reflection + spot raised UV coating. Raised coating applied with 30 BCM roller.

Page 38 Paper/Finish Comparison
Paper: McCoy Silk Text 100 lb/148 gsm
Two hits match silver + dull varnish with strike-through gloss UV coating.

Pages 39 - 44 Varnish & Aqueous Comparisons
Paper: McCoy Matte, Silk and Glass Text 100 lb/148 gsm
Conventional four-color process + spot dull and gloss varnishes + spot dull and gloss aqueous coatings.

Page 45 - 49 UV Comparison
Paper: McCoy Matte, Silk and Glass Text 100 lb/148 gsm
UV four-color process + UV match black + spot dull and gloss UV coatings.

Page 50
Paper: McCoy Glass Text 100 lb/148 gsm
Spot match gray tinted conventional varnish.

Pages 51 - 58
Paper: McCoy Silk Text 100 lb/148 gsm
UV four-color process + UV match red. Spot gloss UV varnish on four-color.

Match red type on all demonstration pages.

Conventional or UV satin varnish on all four-color outside the designated demonstration areas.

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Thank you.