WHITE PAPER

A Designer's Guide to Transparency for Print Output

with Adobe® Software

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Who It's For

A Designer's Guide to Transparency is for designers who use Adobe Illustrator® 10 and Adobe InDesign® 2.0 software.

Why It Was Created

This guide is an educational resource for Illustrator and InDesign users who create transparency effects when designing for print output. Its purpose is:

1. To identify and explain the transparency-related features in Illustrator and InDesign, including how to create, display, import, export, and print transparency effects.
2. To teach designers how to build pages with transparency effects that print correctly and produce the intended results.
3. To provide information about known issues and solutions relating to transparency.



How It's Organized

A Designer's Guide to Transparency contains six chapters, which are described below. Most chapters begin with an introduction and then present Illustrator-specific information followed by InDesign-specific information. While this guide focuses on Illustrator and InDesign, it also includes information about Adobe PDF (Portable Document Format) files and their use of transparency.

Chapter 1: Introduction to Transparency explains the transparency-related capabilities in Adobe graphics applications and how they have evolved over the past several years. It also includes an explanation of several key terms and concepts related to transparency and printing.

Chapter 2: Creating and Viewing Transparency lists and explains the transparency-creation and transparency-display features in Illustrator and InDesign.

Chapter 3: Importing Files That Contain Transparency lists importable file formats that can contain transparency and explains the capabilities of each file type.

Chapter 4: Building Pages with Transparency explains how to build pages with transparency effects so that they print correctly and produce the intended results.

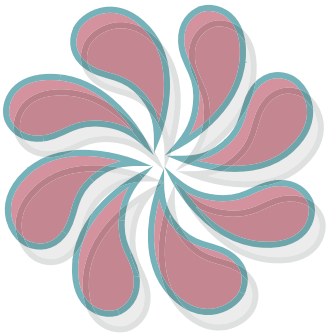
Chapter 5: Saving and Exporting Files with Transparency lists the file formats you can export using Illustrator and InDesign and explains the transparency capabilities of the various formats and their suitability for print output.

Chapter 6: Printing Files with Transparency explains how to prepare files for low-resolution proof printing and high-resolution output.

CHAPTER 1

Introduction to Transparency

Real-world Transparency vs. Digital Transparency



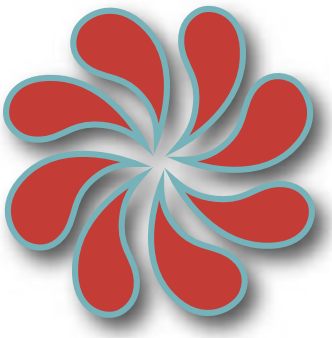
Create transparent overlays. The Multiply blending mode is applied to the top object; an opacity value of 30% is applied to the bottom object.

The real world is made up of objects that are either transparent, such as clear glass, semi-opaque (tinted glass), or opaque (not see-through, like granite). Things are similar in the digital world. Designers who use Adobe Illustrator 10 and Adobe InDesign 2.0 can create objects that are transparent, semi-opaque, or opaque, but they also have options that aren't possible in the real world. For example, digital designers can use Illustrator and InDesign to specify the opacity of virtually any object – from totally opaque to totally transparent – and change the appearance of objects by applying transparency effects such as blending, soft drop shadows, and feathered edges that fade smoothly into whatever lies behind.

In the context of this guide, the term "transparency" refers to a collection of features and capabilities in Adobe Illustrator 10 and Adobe InDesign 2.0 that lets you modify the appearance of objects, particularly the way objects affect the appearance of underlying objects.

Note: Adobe Photoshop® and Adobe Acrobat® software also include transparency-related capabilities, however, these applications are not covered in this guide.

Opaque Beginnings



Add soft drop shadows.

For many designers, creating see-through (that is, transparent) objects is a relatively new option. In the early days of desktop publishing, illustration and page layout programs let users create only opaque objects. Special effects such as transparent overlays and soft drop shadows required either a dedicated image-editing program like Adobe Photoshop, which at the time required page layout artists to flatten transparency and export files in non-native formats or manual prepress work that incurred added expense. Today, several Adobe graphics applications offer transparency features for print and Web publishing.

Clear Benefits

The transparency features that are now native in Adobe graphics and layout programs provide several benefits to designers and publishers, including:

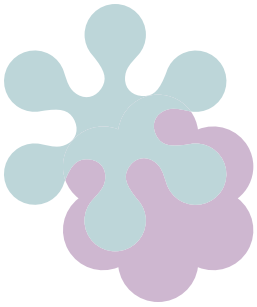
- **Better-looking publications.** The option to easily create transparency effects, such as soft drop shadows, feathered edges, and layered graphics that blend into one another, gives designers unprecedented creative freedom. Designers can use transparency effects to blend text with pictures, pictures with pictures, anything with anything. The possibilities are endless.
- **One-stop, one-step transparency.** Instead of having to create – and manage – a separate Photoshop file for every transparency effect, Illustrator and InDesign users can create a single document with as many transparency effects as they want. The "one-program, one-file" approach makes it easy for designers and their clients to make changes whenever they want. Because all design elements can be contained in a single file, even last-minute changes to transparency effects are quick and easy.
- **Flexible workflows.** The option to use any of several applications to create transparency effects opens up many workflow possibilities. Use Photoshop or Illustrator to create ready-for-press graphics with transparency effects, or import graphics generated by Photoshop or Illustrator that include live transparency into InDesign layouts. Then use the transparency features in InDesign to apply transparency effects to placed graphics, as well as to native InDesign objects.

Making Transparency Work for You

The early days of transparency were not problem-free, and pioneers occasionally endured the tribulations of a technology in its infancy. The good news is that Adobe has been listening to feedback and we've learned. One of the main purposes of this booklet is to let you know what we've learned and to show you how you can make transparency work for you.

Transparency-related Terms and Concepts

If you use Illustrator or InDesign, you may already know many of the basic terms related to transparency, such as opacity, feathering, and blending. (If not, refer to the glossary that follows.) However, to get the most out of the transparency features in Illustrator and InDesign and to help ensure you get the results you want when you print documents that contain transparency, you should be aware of several other transparency-related terms and concepts.



Opacity (50%)

Opacity

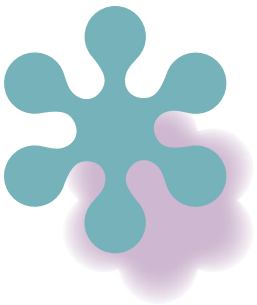
Both Illustrator and InDesign let you vary the degree of transparency of an object or a group of objects from 100% opacity (opaque) to 0% opacity (transparent). When you decrease an object's opacity, the underlying artwork becomes visible through the object.

Feathering

Feathering softens the edges of an object by fading from opaque to transparent over a user-definable distance. Feathering the edge of an object causes the object to fade smoothly into the page background or into any objects behind it.

Blending mode

Blending modes let you vary the way the colors of objects blend with the colors of underlying objects.



Feathering (9 pt. Diffused)

Flattening

All transparent objects in a file – as well as all linked graphic files that interact with transparency – must be flattened for print output. At its simplest, the process of flattening converts all overlapping areas in a stack of transparent objects into a collection of opaque objects that retains the appearance of the original transparent objects when printed. (For additional information about flattening, see Chapter 6, "Printing Files with Transparency.")

Live transparency

Transparent content in files can be either live or flattened (see "Flattened transparency" below). Files that contain live (that is, unflattened) transparency, such as native Illustrator, Illustrator 10 EPS, native InDesign, and PDF 1.4 and 1.5 files, can be opened and the transparent objects can be modified in the source application.

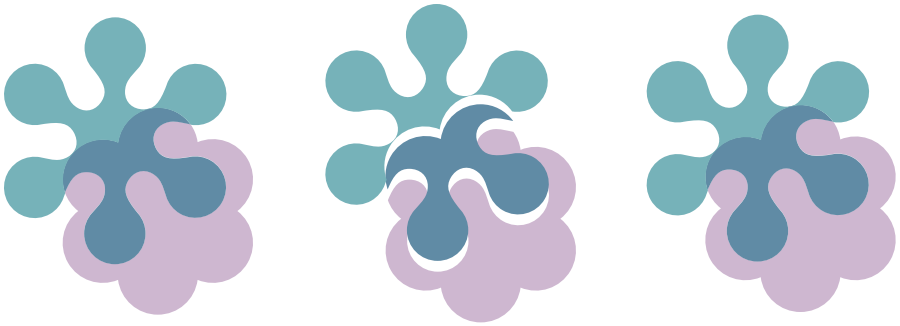


Blending mode (Overlay)

Flattened transparency

Flattened transparency results when you export a file in a non-native format. The transparency effects in flattened files cannot be modified using the source application and any application into which the file is imported. Flattened file formats include PostScript®, EPS, DCS, PDF 1.3 , GIF, JPEG, BMP, and TIFF images not created with Photoshop 6.0 . PDF 1.4 and 1.5 files can contain flattened transparency or live transparency.

Note: The Illustrator 10 EPS format is actually two concatenated files: one in native Illustrator format that only Illustrator can open; the other in EPS format that other applications can import.



In the example, the two overlapping objects result in three atomic regions after flattening.

Left (live transparency): Two objects overlap. The blue object is in front of the purple object, and the Multiply blending mode is applied to the blue object.

Center (flattened transparency, exploded view): Flattening the two objects produces three atomic regions.

Right (flattened transparency, non-exploded view): The printed results look the same as the original objects.

Rasterization

The process of changing vector graphics, vector fonts, gradients, and gradient meshes into bitmap images for display and printing is called rasterization. During flattening, Illustrator and InDesign look for areas where transparent objects overlap other objects and divide the artwork into a collection of regions. Each region is analyzed to determine if it can be represented in vector format or if it must be rasterized to achieve the expected transparency effect.

Atomic region

When overlapping transparent objects are flattened, each discrete shape that results from the overlapping objects is called an atomic region. The shape of atomic regions typically follow the natural lines, curves, and shapes of the objects involved.

Complexity region

A complexity region is an area where many transparent objects with multiple transparency effects overlap. A complexity region is not retained in vector form except at the highest-fidelity (rightmost) Raster/Vector Balance flattener setting. (For more information about flattener settings, see Chapter 6, "Printing Files with Transparency.") As transparency effects become more complex, the time required to display and print them increases.

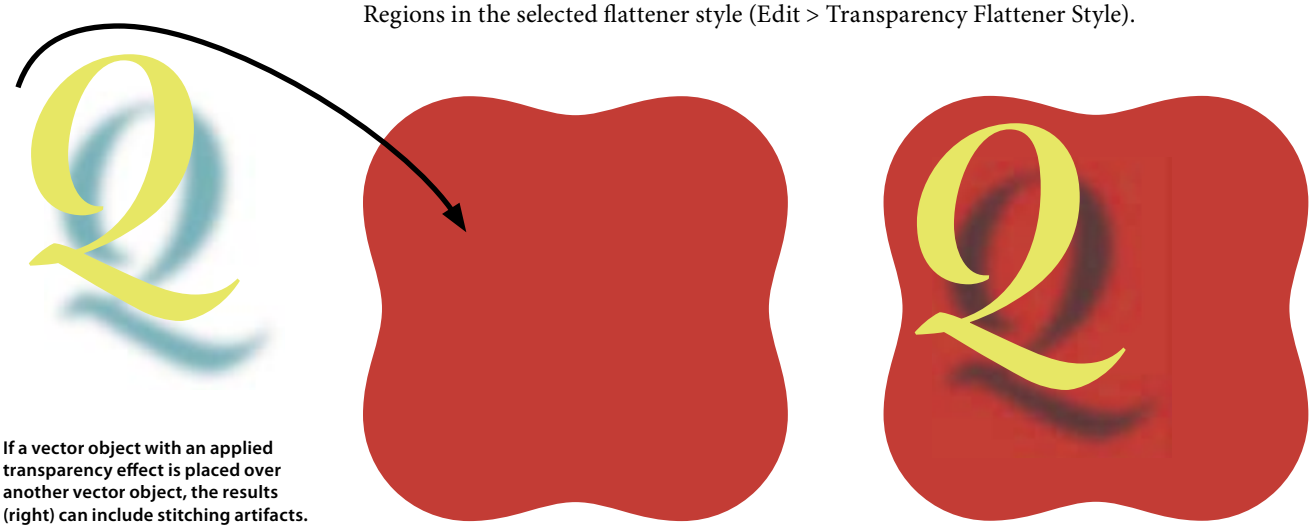
Artifact

An artifact is a visible defect in an image, usually caused by limitations in the RIP or the printer's ability to process the atomic regions generated through flattening. For example, a moiré is an undesirable printing artifact that can result when two halftone screen patterns interact. Flattener stitching (see below) is a display and printing artifact that can result from flattening.

Flattener stitching

Flattener stitching is the visible color transition between atomic regions whose coloring would otherwise be similar or identical. Stitching on low-resolution devices (such as your monitor and desktop color laser printers) results when different screening or antialiasing methods are applied to adjacent atomic regions. This artifact is especially noticeable when a single object contains both pixel and vector regions, as can occur during flattening.

To reduce the possibility stitching when printing an Illustrator document, check Clip Complex Regions in the Transparency pane of the Document Setup dialog box (File > Document Setup > Transparency). To prevent stitching when printing an InDesign document, check Clip Complex Regions in the selected flattener style (Edit > Transparency Flattener Style).



If a vector object with an applied transparency effect is placed over another vector object, the results (right) can include stitching artifacts.

CHAPTER 2

Creating and Viewing Transparency

Transparency is a single term, but it's much more than a single feature in Illustrator and InDesign. In fact, many transparency-related features have been integrated into both programs. In addition to commands and controls for creating and modifying a variety of transparency effects, you'll find display options that let you control how transparency effects look on-screen, and both programs let you set transparency display defaults (though the options are different). InDesign also lets you override global display settings on an object-by-object and spread-by-spread basis.

Transparency is essentially an object attribute, like a stroke or a fill. You can apply one or more transparency effects to native objects you create within Illustrator and InDesign and to imported graphics. For example, you can add a drop shadow to text you've created in Illustrator or InDesign, and you can add a feathered edge to an imported graphic. You can apply transparency effects to individual objects, multiple-selected objects, and groups.

In both Illustrator and InDesign, the Transparency palette (Window > Transparency) contains several commonly used transparency controls. You'll find additional transparency-related commands in the Illustrator Effect > Stylize menu and in the InDesign Object menu (Drop Shadow and Feather). Some of the commands in the bottom half of the Illustrator > Effect menu (e.g., Gaussian Blur and Pixelate) can also add transparency to objects.

The two charts in this chapter list the transparency-creation features in Illustrator and InDesign and include a brief description of each feature and examples where appropriate.

Note: For more information about using the transparency features in Illustrator and InDesign, refer to the product documentation.

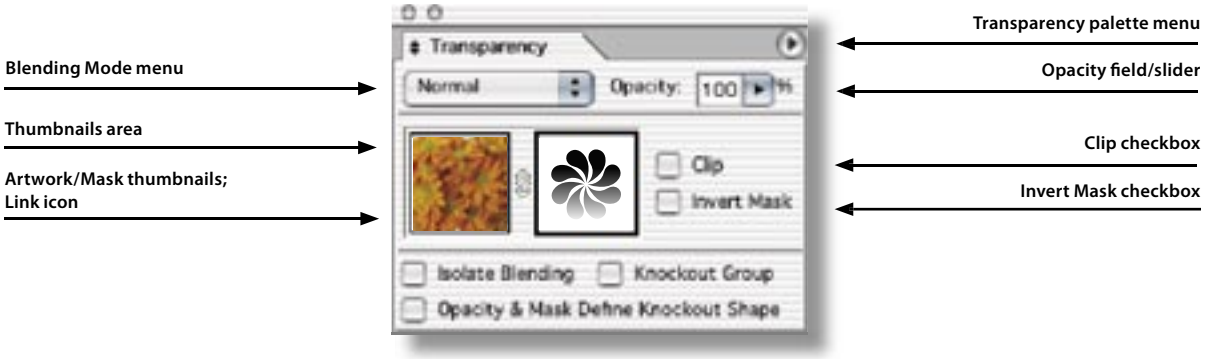
Setting up a Document for Transparency

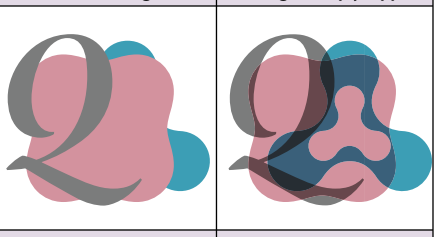
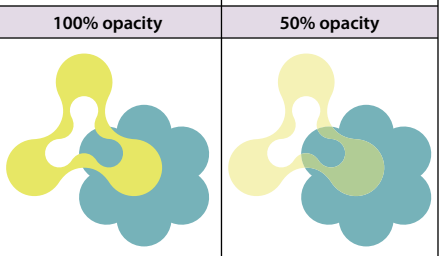
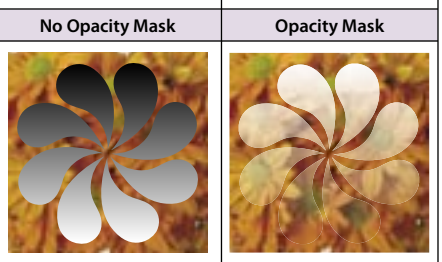
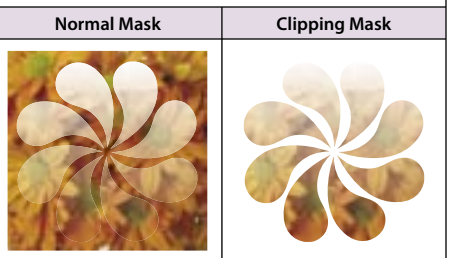
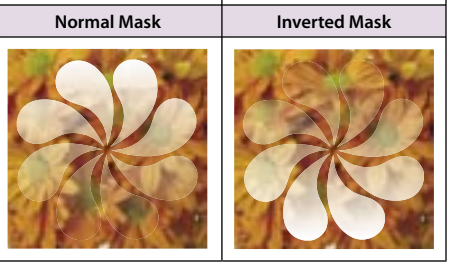
Before you use Illustrator to create transparency effects for print, you should make sure that you choose the CMYK color space (File > Document Color Mode >CMYK Color). In InDesign, choose Edit > Transparency Blend Space > Document CMYK. When you apply transparency effects in Illustrator and InDesign, colors are converted to the selected color space. You should also use the CMYK color space for placed graphics, if possible. (If you're creating graphics for the Web, use the RGB color space.)

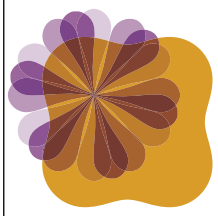
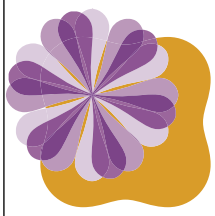
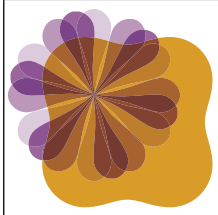
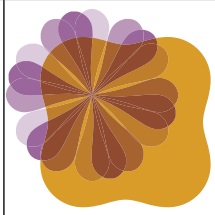
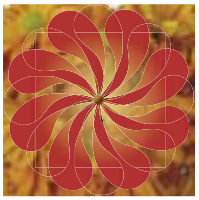
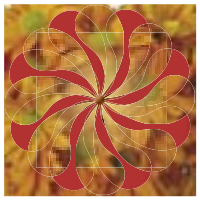
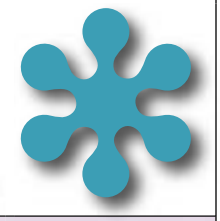
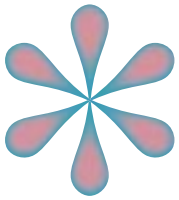
Transparency Creation Features in Illustrator 10

The illustration below shows the Illustrator Transparency palette and the name of each of the controls it contains. Additional transparency-creation features are found in the Effect > Stylize menu and are explained in the chart that begins on the next page.

Illustrator 10 Transparency palette



Illustrator 10 Feature	Description
Transparency palette	Contains controls for applying transparency effects to selected objects and groups. The Transparency palette menu contains commands for showing and hiding thumbnails and other palette options, as well as commands for working with opacity masks.
Blending Mode menu	Provides 16 choices that let you vary the way the colors of objects blend with the colors of underlying objects. (See page 20 for information about using blending modes with spot colors.) 
Opacity field/slider	Controls the amount of opacity/transparency that's applied to the selection. An opacity value of 0% makes selected objects completely transparent (that is, invisible); an opacity value of 100% makes selected objects opaque. 
Thumbnails area	Displays controls for working with opacity masks. (An opacity mask lets you partially hide artwork using the mask's shape and luminosity.) 
Artwork Thumbnail	Displays a thumbnail view of the currently targeted objects or groups. If an opacity mask is present, the objects are displayed unmasked.
Link icon	Lets you unlink and relink opacity masks.
Mask Thumbnail	Displays a black-and-white thumbnail view of an opacity mask.
Clip checkbox	Makes an opacity mask double as a clipping mask, which causes the masked objects to be fully transparent (i.e., invisible) outside the boundaries of the masking artwork. 
Invert Mask checkbox	Reverses the luminosity values of the masking artwork, which reverses the opacity of the masked artwork. For example, areas that are 10% transparent become 90% transparent after inversion. 

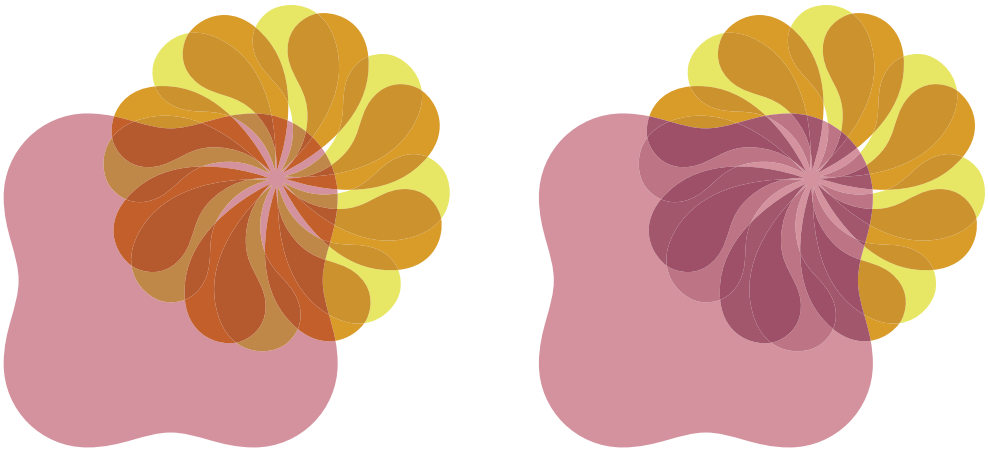
Illustrator 10 Feature	Description		
Isolate Blending checkbox	Prevents blending modes applied to objects within a group from being applied to objects beneath the group.	Isolate Blending Off 	Isolate Blending On 
Knockout Group checkbox	Makes every object of a group "knock out" – that is, visually block out – underlying objects that are part of the group. When you select Knockout Group, only objects within the selected group knock out. Objects beneath the selected group are still visible and are affected by the blending modes and opacity values applied to objects within the group.	Knockout Group Off 	Knockout Group On 
Opacity & Mask Define Knockout Shape checkbox	Keeps a knockout effect proportional to the masking object's opacity. The result is that the knockout effect is strongest in areas of the mask that are close to 100% opacity; the knockout effect is weakest in areas with lower opacity values.	Unshaped Knockout 	Shaped Knockout 
Transparency palette menu	Displays several commands for working with opacity masks, as well as commands for showing and hiding options displayed in the palette.		
Effect Menu Stylize commands (Effect > Stylize >)	The Blur effects (Effect > Blur > Gaussian Blur and Effect > Blur > Radial Blur) also introduce transparency into a document, as does the Rasterize effect (Effect > Rasterize) when used with the Transparent Background option.		
Drop Shadow	Adds a soft-edged shadow behind any object. You can place a drop shadow any distance from the original object along the x or y axis, and you have the option to apply a blending mode and specify the opacity, blur, and color of a drop shadow. (Note: if a drop shadow's opacity is set to 0, the result can be a bitmapped raster effect rather than a soft edge.)	Shadowed Text 	Shadowed Graphic 
Feather	Softens the edges of an object by fading them from opaque to transparent over the distance you specify. By feathering the edge of an object, you can make the object appear to fade smoothly into the page background or into any objects behind it. Behind the scenes, the Feather effect creates a raster image and applies it as an opacity mask to the original object.	Feathered Text 	Feathered Graphic 
Inner Glow and Outer Glow	Let you add glows that spread inside or outside the edges of the selection. When you add an inner glow, a colored and feathered version of the original object (which introduces a raster opacity mask) is created on top of the selection; when you add an outer glow, a transparent raster object is created behind the selection. *The resolution of drop shadows and feathered objects is controlled by the Gradient Resolution setting in the Transparency Flattener Styles dialog box. (Edit >Transparency Flattener Styles).*	Inner Glow 	Outer Glow 

Tips for Creating Transparency Effects in Illustrator

- In Illustrator, the flattener Rasterization Resolution (File > Document Setup > Transparency > Flattening Settings) is taken into consideration only during flattening, however, all effects that require rasterization in the Illustrator Effects menu are rasterized at the value specified in the Resolution field in the Document Raster Effects Settings dialog box (Effect > Document Raster Effects Settings). For performance reasons, the default Resolution setting in Illustrator is 72ppi. If you are printing to a high-resolution output device or exporting a file for eventual high-resolution output, you should increase the Resolution setting for each object (in the Document Raster Effects Settings dialog box) to a value that is appropriate for the printer.

  Because the Resolution setting (in the Document Raster Effects dialog box) is used each time you apply a raster effect, you should specify a resolution value that's appropriate for the printer before you apply a raster effect, such as a drop shadow. In general, you should use the same resolution for all raster effects in a document.

- When you apply transparency effects to a group in Illustrator, the group is treated like a single object relative to underlying objects; however, individual objects retain their applied transparency effects (if any) relative to other objects in the group. This capability lets graphic artists create nested transparency effects that would be difficult or impossible to create otherwise.



The two examples above show how you can create nested transparency effects in Illustrator using groups. In the example on the left, the Multiply blending mode is applied to the two flowerlike shapes. In the example on the right, the two flowerlike shapes are grouped and the Luminosity blending mode is applied.

- If you make changes to transparency settings in Illustrator when no objects are selected, the modified settings are applied to newly created objects unless New Art Has Basic Appearance is selected in the Appearance palette menu.

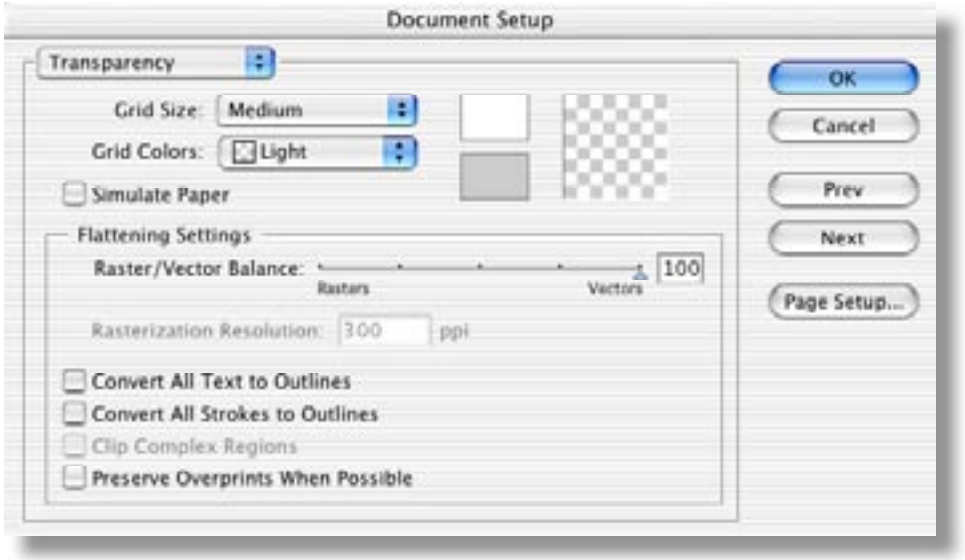
- To edit effects that you've applied in Illustrator, double-click on the effect in the Appearance palette. If you choose an already-applied effect from the Effect menu, a new effect is created and added to the selection. For example, it's possible to apply multiple drop shadows to a single object. This is different from InDesign, which requires you to choose the original command (Drop Shadow or Feather) to modify an applied effect.

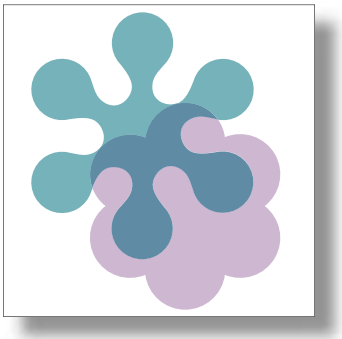
Displaying Transparency in Illustrator 10

Setting transparency-related display preferences

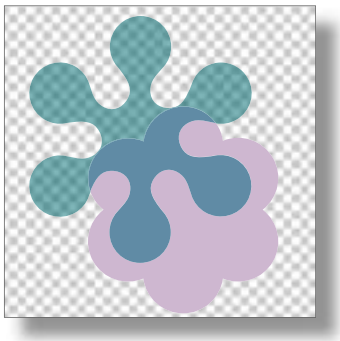
The Document Setup dialog box (File > Document Setup) lets you set transparency preferences that determine how the underlying transparency grid is displayed. By changing the Grid Size and Grid Color settings you can change the appearance of the transparency grid. You can show and hide the transparency grid via the Show/Hide Transparency Grid command (View menu).

In Illustrator, the settings you make in the Transparency pane of the Document Setup dialog box determine the appearance of the transparency grid that's displayed when you choose View > Show Transparency Grid.





Transparency grid hidden.



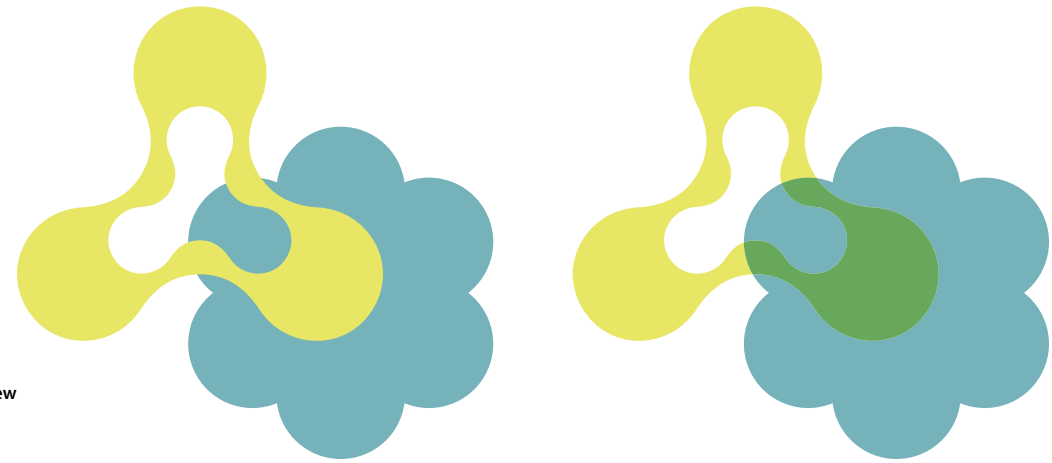
Transparency grid showing.

Note: The controls in the Flattener Settings area let you specify how transparency is printed. For information about modifying flattening settings, refer to "Achieving Reliable Print Output from Adobe Applications with Transparency" in the Customer Support area of adobe.com and the Illustrator 10 Flattening Guide (http://www.adobe.com/products/illustrator/indepth.html).

Overprint Preview

The Overprint Preview option (View > Overprint Preview) provides an on-screen "ink preview" that approximates how overprinting will look in color-separated output. However, it's important that you carefully check overprinted colors using integral or overlay proofs before you send a document to your service provider for final output.

You can also see overprinting effects when you output to a composite printing device. To print a composite proof using Illustrator, disable Ignore Overprinting in Composite Output in the Print dialog box.



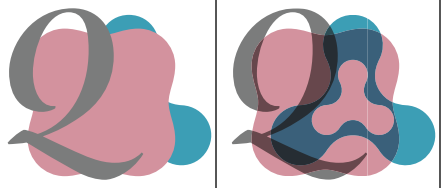
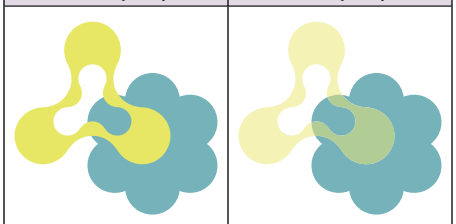
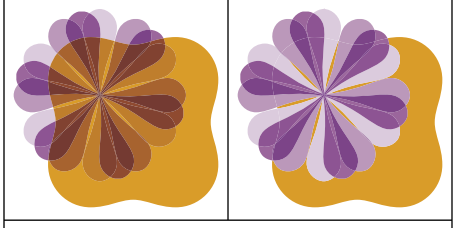
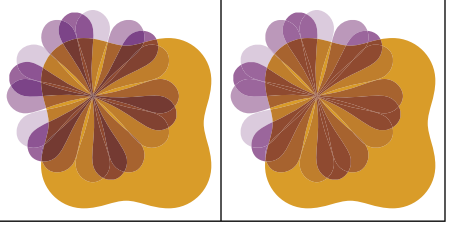
In both examples, the yellow (frontmost) object is set to overprint. Overprint Preview is disabled in the example on the left; it's enabled in the example on the right.

Transparency Creation Features in InDesign 2.0

As in Illustrator, many of the transparency controls in InDesign are located in the Transparency palette (Window > Transparency). The illustration below shows the InDesign Transparency palette and the name of each of the controls it contains. Additional transparency-creation features are found in the Object menu and are explained in the chart below.

InDesign 2 Transparency palette



InDesign 2.0 Feature	Description	
Transparency palette	Contains four controls for applying transparency effects to selected objects and groups. The Transparency palette menu has a Show/Hide Options command for displaying and hiding the Isolate Blending and Knockout Group checkboxes at the bottom of the palette.	
Blending Mode menu	Provides 16 choices that let you vary the way the colors of objects blend with the colors of underlying objects. (See page 20 for information about using blending modes with spot colors.)	No blending / Blending (Multiply) applied 
Opacity field/slider	Controls the amount of transparency that's applied to the selection. An opacity value of 0% makes the selected objects completely transparent (that is, invisible); an opacity value of 100% makes the selected objects opaque.	100% opacity / 50% opacity 
Isolate Blending checkbox	Prevents blending modes applied to objects within a group from being applied to objects beneath the group.	Isolate Blending Off / Isolate Blending On  Magenta/Yellow group in front of blue shape
Knockout Group checkbox	Makes every object of a group "knock out" – that is, visually block out – underlying objects that are part of the group. When you select Knockout Group, only objects within the selected group knock out. Objects beneath the selected group are still visible and are affected by the blending modes and opacity values applied to objects within the group.	Knockout Group Off / Knockout Group On 

InDesign 2 Feature	Description		
Drop Shadow command (Object > Drop Shadow)	Adds a soft-edged shadow behind any object. You can place a drop shadow any distance from the original object along the x or y axis, and you have the option to apply a blending mode and specify the opacity, blur, and color of a drop shadow. (Note: If you apply a blur value of 0, Illustrator creates a vector drop shadow, while InDesign creates a raster drop shadow.)	Shadowed Text 	Shadowed Graphic 
Feather command (Object > Feather)	Softens the edges of an object by fading them from opaque to transparent over the distance you specify. By feathering the edge of an object, you can make the object appear to fade smoothly into the page background or into any objects behind it. Behind the scenes, the Feather effect creates a raster image and applies it as an opacity mask to the original object. When you feather an InDesign object, you also have the option to apply any of three optional corner effects (see below). *The resolution of drop shadows and feathered objects is controlled by the Gradient Resolution setting in the Transparency Flattener Styles dialog box. (Edit >Transparency Flattener Styles).*	Feathered Text 	Feathered Graphic 



Feathered object diffused **Feathered object rounded** **Feathered object sharp**

Importing Transparency

In addition to creating transparent objects within Illustrator and InDesign, you can also add transparency to a layout by importing graphics that contain transparency, such as a transparent background (rather than a clipping path). Both Illustrator and InDesign can recognize transparency information in placed graphic files. For more information about importing graphics that contain transparency effects, see Chapter 3, “Importing Files with Transparency.”

Displaying Transparency in InDesign 2.0

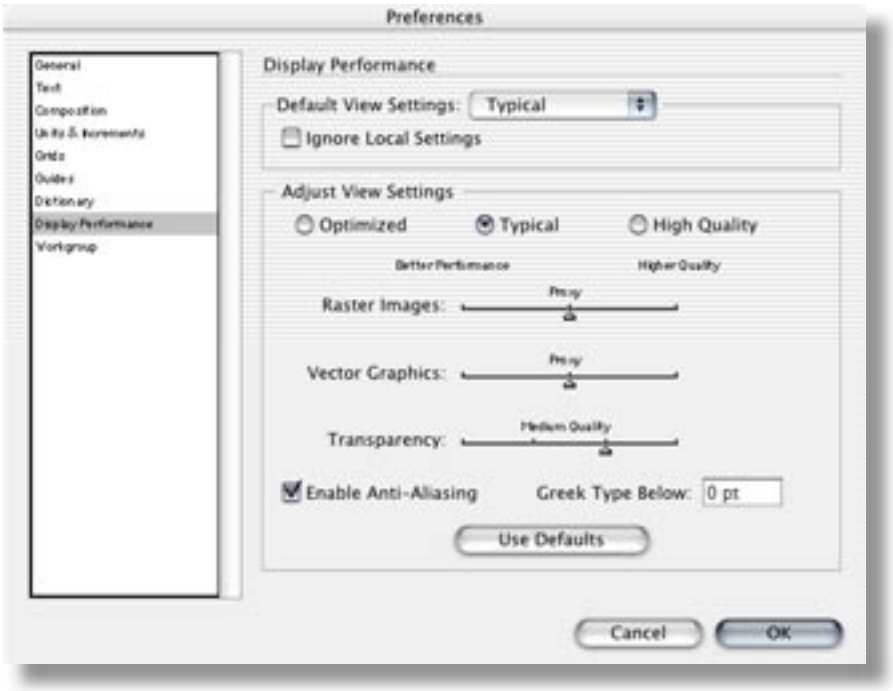
InDesign lets you set global defaults for displaying transparency in the Display Performance dialog box (Preferences > Display Performance). The display options in the View menu let you override the global display settings for individual document windows, and the Display Performance options in the Object menu let you control the display of individual objects.

Setting transparency-related display preferences

The Display Performance dialog box (Preferences > Display Performance) lets you to control the way graphics and transparency effects are displayed on-screen. Display Performance settings have no effect on transparency when it is printed. A slider lets you control the appearance of transparency in four gradations (Off, Low, Medium, and High) of quality, from fully simulated (High) to completely disabled (Off). The High setting allows you, for example, to accurately position objects with drop shadows, while the Off setting lets you quickly move objects and navigate spreads in a very large document.

The settings you make in the Display Performance dialog box are global unless you override them for specific objects or windows. By default, transparency display is enabled and should remain so unless you have specific reasons for disabling it. (For more information about the controls in this dialog box, refer to the InDesign User Guide.)

If transparency preview is completely disabled, you won't be able to tell by looking at them if objects on a page or spread have transparency or transparency-based effects applied to them. You can use the Pages palette for this purpose (see next page).



The Transparency slider in the Display Performance dialog box (Preferences > Display Performance) lets you control the display of transparency effects for each of the three display options (Optimized, Typical, and High Quality).



InDesign pages that contain objects to which transparency effects are applied are displayed with a checkerboard pattern.

Determining if transparency effects are present on an InDesign spread

The Pages palette (left) displays pages that contain transparency effects with a checkerboard pattern. In this example, pages 2-5 contain transparency effects (page 1 does not). Notice that the A-Master page spread also contains transparency effects.

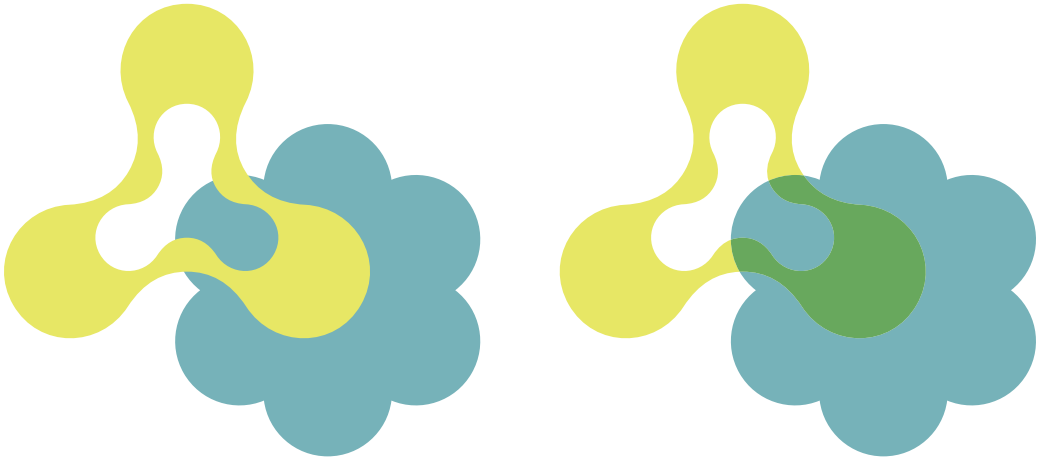
If the Pages palette indicates that a page or spread contains objects to which transparency effects are applied and you can't tell which objects use transparency, you can manually check the objects to identify the ones that use transparency effects. For example, if you add a white drop shadow to an object, the shadow will not be visible if the object is surrounded by a white background. To determine if transparency is applied to an object, select the object, then check to see if a drop shadow, feathering, a blending mode (other than Normal), or an opacity value is applied.

Overprint Preview

The Overprint Preview option (View > Overprint Preview) provides an on-screen "ink preview" that approximates how blending, transparency, and overprinting will appear in color-separated output. However, it's important that you carefully check overprinted colors on color-separated documents using integral or overlay proofs before you send a document to your service provider for final output.

You can also see overprinting effects when you output to a composite printing device. To print a composite proof using InDesign, enable Simulate Overprint in the Output panel of the Print dialog box.

Note: In InDesign, turning on Overprint Preview and High Quality Display provides the closest screen representation of the final printed output that's possible with current technology, however, enabling both of these options may slow screen redraw.



In both examples above, the yellow (frontmost) object is set to overprint. Overprint Preview is disabled in the example on the left; it's enabled in the example on the right.

CHAPTER 3

Importing Files That Contain Transparency

In addition to creating transparency effects within Illustrator and InDesign, you can also import graphics that contain transparency into Illustrator and InDesign layouts. Transparency effects in imported graphics are retained by Illustrator and InDesign. However, if changes to the original graphic are required, they must be made in the originating application.

After you place a transparent graphic into a layout, you can use the graphic-manipulation features in Illustrator and InDesign (scale, flip, opacity, etc.) to modify the appearance of the graphic, and you can combine imported graphics with native objects to create new transparency effects. For example, you can import a native Illustrator graphic file (that is, an .AI file) that contains transparency into an InDesign layout, and InDesign will retain the transparency (that is, the graphic is displayed exactly as it's displayed in Illustrator). Within InDesign you can then apply additional transparency effects – perhaps a drop shadow or a feathered edge – to the imported graphic and then place it above or below other imported graphics and InDesign-native objects to which transparency effects are applied.



This illustration shows an InDesign page with three objects: 1) The "Quality" text frame is the frontmost object. It was created in InDesign and has a drop shadow. 2) The placed Illustrator graphic (the two flowerlike shapes and the rounded square shape) is the middle object in the stacking order. Blending modes are applied to all three shapes. 3) The light blue rectangle, created in InDesign, is the bottom object. Notice how the transparency effects interact among the three layers.

Placing Graphics that Contain Transparency into Illustrator and InDesign

The Place command (File menu) in Illustrator and InDesign lets you import graphics in a variety of formats into a layout. The process of placing a graphic that contains live transparency is the same as placing any other graphic. That is, by using the Place command. However, not all graphic file formats support live transparency. The chart below lists the file formats that support live transparency and can be imported into Illustrator and InDesign. The designers who create transparent graphics for use in Illustrator and InDesign layouts should save the files in a format that supports transparency. (For information about exporting Illustrator and InDesign files that contain transparency, see Chapter 5, "Saving and Exporting Files with Transparency ," on page 25.)

Using file formats that preserve live transparency gives you control over the flattener and resolution settings right up to the time you print or save the job in a non-native file format (such as PostScript) with one exception: Raster-based live effects are no longer live once they leave their native application. While transparency attributes remain live in PDF 1.4, the resolution of raster elements – including vector objects to which raster-based live effects have been applied – cannot be changed after conversion to PDF. Also, InDesign 2.0 allows you to link directly to Illustrator 10 and PDF 1.4 files, enabling you to preserve live transparency throughout the page layout workflow. Your print provider can then flatten all transparency in a job at once, directly from within InDesign.

Note: Typically, flattening for high-resolution output is done by the print provider rather than the designer.

Illustrator and InDesign Import File Formats and Transparency

Import Formats (Place or Open)		Transparency Embedded As
Illustrator Native (.AI) (Illustrator 9 and 10)		Live or flattened within Illustrator
Photoshop Native (.PSD)		Live and, optionally, layered
PDF 1.3 (Acrobat 4)		Flattened
PDF 1.4 (Acrobat 5)		Live
EPS (from Illustrator and Photoshop)		Flattened*
Other Formats (EPS not from Illustrator, TIFF, etc.)		Flattened**

** Illustrator can open EPS files created with Illustrator, and the transparency can be edited. Illustrator 9 EPS and Illustrator 10 EPS files contain a native, non-flattened Illustrator portion that can be read only by Illustrator and a flattened EPS portion that can be read by all EPS-compatible applications. The transparency in an Illustrator EPS file is considered flattened if the file is placed into InDesign and other programs.*

*** Some graphic file formats (EPS not from Illustrator, TIFF, etc.) can not handle live transparency.*

Whenever possible, you should use file formats that preserve live transparency – including native formats for Adobe applications (i.e., Illustrator 9, Illustrator 10, and InDesign 2.0) or PDF 1.4 – as hand-off files or source files for placement in layouts or other documents and for delivery to your print provider.

Because InDesign lets you import native Photoshop and Illustrator files, you don't have to save two versions of your graphic files, as you do if you use QuarkXPress for page layout. QuarkXPress cannot import native Photoshop and Illustrator files. Also, when you place transparent graphics into InDesign, the placed graphics can blend with other objects in the layout. This isn't possible if placed graphics have been flattened into opaque artwork.



Placing EPS graphics into Illustrator

You should place-embed (by unchecking the Link checkbox in the Place dialog box) EPS images that are part of an Illustrator 10 document if they interact with transparency. The flattener in Illustrator 10 cannot read the data inside a place-linked file. Therefore, place-linked files involved in transparency print first, beneath everything else on the page, as if they are in the background. Place-embedding the file in Illustrator 10 enables the flattener to correctly process the file's contents for transparency-based effects.

In Illustrator 9, a yellow warning icon is displayed next to the names of any linked files that, because of their interaction with transparency, need to be embedded to flatten correctly. To improve performance in Illustrator 10, this feature is disabled by default, but you can reenable it by choosing Palette Options from the Links palette menu and selecting Show Transparency Interactions.

Note: The colors in place-embedded files automatically convert to match the selected color model in the Illustrator 10 document into which they are placed if they don't already match. Monotones and duotones are converted to process colors. When spot colors in monotones and duotones must be preserved, the files must be place-linked. In addition, you should ensure that the placed files do not interact with transparency.



Placing Illustrator-generated transparent graphics into InDesign

Illustrator 9 and 10 let you save graphics with transparency in the following file formats: native Illustrator (.AI), EPS created with Illustrator (.EPS), and PDF 1.4 created with Illustrator (.PDF). If you place .AI or PDF 1.4 files (PDF 1.3 files are flattened) created with Illustrator that contain live transparency into InDesign layouts, the transparency effects are maintained within the graphic and relative to native InDesign objects. If you place an EPS file created with Illustrator, the transparency is already flattened as far as InDesign is concerned (though the transparency effects are still live if the file is reopened in Illustrator), and the graphic is flattened/opaque relative to InDesign objects.

Note: If you want to place an Illustrator-generated PDF 1.3 file into an InDesign layout, do not use the Illustrator Save As command (File menu). Instead, you should flatten the file in Illustrator using appropriate flattener settings, save an Illustrator EPS file or create a PostScript file, and then use Acrobat Distiller® to create a PDF 1.3 file from the EPS or PostScript file.

Dragging and dropping or copying and pasting Illustrator-generated transparent graphics into InDesign

In addition to using the Place command (File menu) to import Illustrator graphics into InDesign layouts, you can drag and drop or copy and paste objects from an Illustrator document into an InDesign layout. If you use either of these methods, no link is created between the InDesign document and the Illustrator file. If you change the original objects in Illustrator after dragging and dropping or copying and pasting the objects into InDesign, the changes do not affect the objects in InDesign.

On the Mac OS, before you drag and drop or copy and paste Illustrator 10 objects that contain gradients, patterns, blends, or transparency into InDesign layouts, you should make sure that Illustrator's Files & Clipboard preferences (Preferences > Files & Clipboard) are set to Copy as PDF (to Clipboard). (This is the default setting.) By default, InDesign does not accept PDF data when you copy and paste an Illustrator graphic if AICB is also present on the clipboard (that is, if you check both PDF and AICB in the Illustrator Files & Clipboard preferences). To paste PDF data into InDesign, choose Prefer PDF when Pasting in the InDesign General preferences pane (InDesign > Preferences > General).

When you drag and drop or copy and paste a PDF graphic, the graphic is added as a single object that is not editable within InDesign and does not have a link reference in the Links palette. If the graphic is simple (that is, if it doesn't contain transparency, gradients, etc.), you can edit the objects just as if you had created the graphic in InDesign.

The three examples below show how complexity grows when you combine transparency effects and overlapping objects. All three examples use a native InDesign text frame and a placed graphic.



No transparency effects are applied to either object.



Drop shadows are applied to both objects.



The Luminosity blending mode is applied to the text frame.

CHAPTER 4

Building Pages with Transparency

You are not likely to encounter problems if you apply transparency effects to isolated objects that do not overlap with other objects or colors. However, if you create more complicated effects using multiple, overlapping objects, you should be aware of several issues covered in this section that can lead to unexpected results when printing.

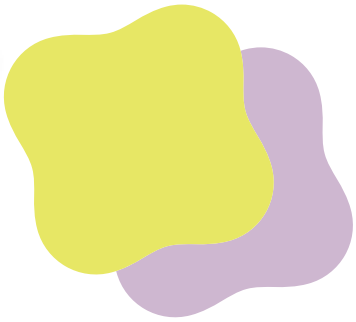
Keep in mind when working with transparent objects that as the number of overlapping transparent objects increases, so does the complexity of the transparency information. For example, placing shadowed text in front of only the page background is simpler than placing shadowed text in front of an imported graphic – in which case the transparency effect (the drop shadow) must be combined with the underlying graphic for display and printing. When you're creating transparency effects, you should try to build them as efficiently as possible to minimize the possibility of display and printing problems, and you should be careful not to apply transparency effects that produce undesirable results. For example, it's possible to feather the edge of small type with fine serifs, but if you do, the resulting text might be difficult or impossible to read. Use good judgement when designing with transparency.

Object Stacking Order and Transparency

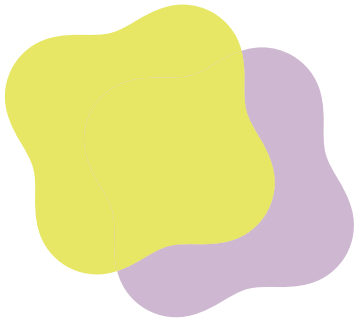
Every time you create a new object in Illustrator and InDesign, it's placed in front of all existing objects. (Note: Stacking order becomes a bit more complicated when you're working with a group or a layer, each of which has its own stacking order.) The layering of objects on a page is referred to as the *stacking order.* You can adjust the stacking order of an object by moving it forward or backward relative to other objects on the page. The stacking order of objects is critical for correct display and printing of transparency. (To change the stacking order of a selected object, choose Object > Arrange and then choose one of the options from the submenu – Bring to Front, Bring Forward, Send to Back, or Send Backward – or change the stacking order of layers).

Transparency effects don't have to involve overlapping objects, but this is often the case. For example, you can apply an opacity value that's less than 100% to lighten any object regardless of whether the object is in front of other objects. However, by applying an opacity value, you not only make an object lighter, you also make it semi-opaque, which causes it to blend with any underlying objects it overlaps.

When you're working with transparent objects that overlap, you should keep in mind that changing the stacking order can change the appearance of overlapping areas. When you create transparency effects that involve overlapping objects, make sure the stacking order is producing the intended results.



Yellow object in front.



Purple object in front (with Darken blend mode applied).

The two examples on the left show how stacking order can affect transparent objects. Both examples contain similar-looking purple and yellow objects. In both examples the Darken blending mode is applied to the purple object; no blending mode is applied to the yellow object. The only difference between the left pair of objects and the right pair is that the stacking order is reversed. On the left, the yellow object is in front of the purple object; on the right, the purple object is in front of the yellow object. In general, you should apply transparency to objects that are in front of other objects so that the objects in front blend with the objects behind.

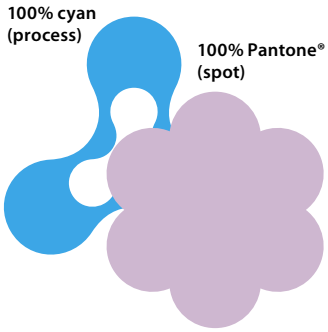
Blending Modes and Transparency

You need to know two important things about blending modes. First, when a blending mode is applied to a spot color object, what you see onscreen or in a composite proof may not match what the press reproduces. Second, certain blending modes – specifically, Difference, Exclusion, Hue, Saturation, Color, and Luminosity – can introduce additional color on the process plates when a blend involving spot colors is flattened, and unexpected results can occur when separations are created.

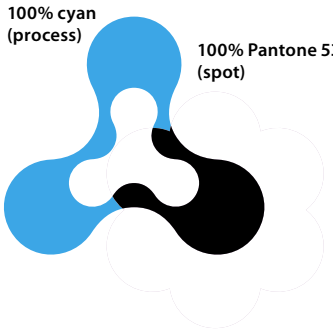
Note: In general, mixing transparency and spot colors, including blending spot colors with process colors, should be done with caution. It is possible to get the results you want, however, conversion of spot colors to process colors can occur.



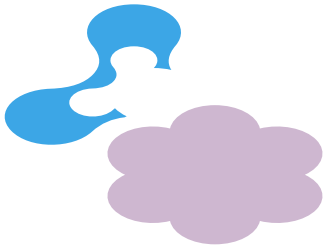
In this example, the Difference blending mode applied to the Pantone 530-filled object (right) produces a dark region where it overlaps the underlying cyan object. Printing separations produces five color plates.



No transparency.



The Difference blending mode is applied to the Pantone 530 object. Applying some blending modes (Difference, Exclusion, Hue, Saturation, Color, and Luminosity) to an object with a spot color fill or stroke can introduce process colors when the object is flattened and printed.



Without transparency effects, two separation plates are produced: one for the cyan object and one for the Pantone 530 object.



Applying the Difference blending mode produces five separation plates.

Spot Colors and Transparency

With Illustrator 10, correct spot color separations are possible only if you export a file in Illustrator 10 EPS format (in which transparency is flattened), native Illustrator format, or as PDF 1.4 (in which transparency remains live). For other formats, such as Illustrator 8 EPS and PDF 1.3, spot colors are converted to process equivalents.

Note: If you want to place a PDF 1.3 file created with Illustrator into an InDesign layout, do not use the Illustrator Save As command (File menu). Instead, you should flatten the file in Illustrator using appropriate flattener settings, save an Illustrator EPS file or create a PostScript file, and then use Acrobat Distiller to create a PDF 1.3 file from the EPS or PostScript file.

InDesign 2.0 preserves spot colors – including spot colors that interact with transparency and that are set to overprint. You can display overprinted colors by turning on Overprint Preview (View menu). You can also simulate overprinted colors on your desktop proofer by selecting Simulate Overprint in the Print or Export dialog boxes. (The output will approximate what you see on screen with Overprint Preview turned on.) The overprinting color information is simulated by your composite printer and provides a more complete proof. You should select Simulate Overprint only for composite output. InDesign will correctly separate spot colors and overprinting when you output separations.

In general, it is best to place Illustrator artwork into InDesign for later processing, flattening, etc., especially artwork with spot colors and transparency.

Overprinting and Transparency





The Attributes palette (Window> Attributes) in InDesign (above) and Illustrator (below) let you apply overprinting to fills and strokes.

For the most part overprinting and transparency are different animals. Both Illustrator and InDesign give you the option to overprint (rather than knockout) overlapping objects, and they both include several features for creating transparency effects. But while overprint is not transparency, transparency can affect overprint.

Overprinting is preserved in InDesign documents that don't contain transparency (including non-normal blending modes). However, if overprinting is mixed with transparency, flattening can cause overprinting to be preprocessed. In some cases, flattening may not produce the intended results on press, especially when spot colors are involved. The following paragraph summarizes how Illustrator and InDesign handle overprinting.

With Illustrator 10 it is not possible to preserve native overprint instructions when printing composite output – overprint can either be ignored or flattened. When printing to a composite printer, checking Ignore Overprinting in Composite Output in the Print dialog box causes overprint information to be ignored (i.e., the overprint instructions are removed) when the document is printed. If Ignore Overprinting in Composite Output is unchecked, instances of overprinting are flattened (i.e. the visual appearance of overprinting is preserved). The results in InDesign are similar if you check Simulate Overprint in the Output pane of Print dialog box.

If an overprinted object is involved in transparency, overprint is flattened (i.e. the overprinted object is divided into atomic regions and their color is flattened, taking overprint into account). Flattening of overprinting maintains the visual appearance of the objects involved, and it does not increase the amount of ink per plate.

In other scenarios, overprint instructions can be generated as a result of flattening, even if no overprint is set manually. This can happen when spot colors that are involved in transparency are flattened. Illustrator and InDesign handle the flattening and correctly manage the spot colors.

It's important to note that flattening overprint does not affect the ink on the final plates, nor does it automatically convert spot colors to process (although both can occur together) or remove all overprint instructions. It simply means that all overprinted objects are broken down into atomic regions.

If overprinting instructions are applied to objects that also contain transparency, the flattener may be used to flatten these objects. The flattener, in effect, executes the overprinting instructions and renders the results in the flattened output stream, much the same as a PostScript RIP. Here's a list of conditions under which overprinting instructions are preprocessed by the flattener:

- When overprinting objects have transparency applied directly to them (for example, objects that are less than 100% opaque).
- When overprinting objects are part of a group to which transparency is applied.
- When overprinting objects are overlapped by or are within approximately 1/72" of transparent objects or groups.
- When a placed graphic contains overprinted objects and transparency is then applied to the placed graphic.
- When overprinting objects are part of a complex region of transparency that must be rasterized during flattening.
- When Simulate Overprinting is selected in the Advanced options of the Export dialog box (InDesign 2.0 only). (*Note: By default this checkbox is not selected and should remain so for high-end printing workflows. It should be selected only when printing proofs to low-end composite devices that cannot otherwise simulate overprinting.)*
- When the Preserve Overprinting When Possible checkbox is not checked in the Transparency pane of the Document Setup dialog box (Illustrator 10 only). *(Note: By default this checkbox is not selected, however, it should be selected for high-end printing workflows.)*

In many cases, the results of flattening overprinting instructions are identical to what happens when a PostScript RIP interprets the same overprinting instructions and may not cause a problem in your workflow.

Note: With Illustrator, overprinting instructions are not always preserved when a document is flattened, although the visual appearance of overprint is preserved. You can preserve overprinting for objects that aren't involved in transparency by checking Preserve Overprint When Possible in the Print dialog box.

Preventing Transparency Problems

To minimize the possibility of transparency-related problems, you should:

- Install and use the latest Adobe software updates.
- Install and use the latest PPDs/printer drivers.
- Dedicate sufficient RAM to all applications.
- Talk to your printer about your files, and let your printer know if and how you have used transparency.
- Make sure your service provider has and uses the latest RIP software updates.
- Read the ReadMe.PDF files that accompany the product installers for additional known issues, resolved issues, and production and troubleshooting tips.
- Be careful when you mix overprinting and spot colors with transparency. To view the printed results of overprinting on-screen, enable Overprint Preview (View menu).
- If possible, save native copies of Illustrator files. If you save files in Illustrator 8 EPS format, the files are flattened and you cannot edit transparency effects. If you need to save an Illustrator 8 EPS file, you should save a copy of the file as well as the native Illustrator file.

A Final Word of Caution



Despite your best efforts to avoid transparency problems, some may still arise. Below is a list of problems that can occur in order of likelihood. Generally, problems are the result of the way a file was created and the flattener settings used, as well as the methods and equipment your printer uses to process your files.

1. Spot colors may display colors on process plates or convert to process. Saving to an older file format, such as PDF 1.3 from Illustrator 10 may cause this. Some prepress software may inadvertently misinterpret flattened EPS files, which results in converting spot colors to process. In this case, do not use EPS; use native InDesign, native Illustrator, or PDF files.
2. Transparency flattening can include objects set to overprint. When this occurs, overprinting instructions are not preserved after flattening, however, the objects will look correct when printed because the overprint is taken into consideration when transparency is flattened. Printers need to be aware that changing overprinting instructions at the RIP can affect not only objects set to overprint, but flattened transparency, as well.
3. Vector objects may get rasterized at a resolution that's too low for the output device. This is why it's best for your printer to handle flattening. Your printer will use flattener settings that are appropriate for the output device.
4. Stitching or artifacts may appear along the edges atomic regions. If possible, let your service provider do the flattening to avoid these problems.
5. Hairlines and strokes may fatten. Generally this is a problem only on low-resolution output devices.
6. Type may be converted to filled strokes. That is, the characters may thicken. This can be a problem on low-resolution devices. It is less of a problem on high-resolution devices.

Additional transparency interactions currently have no workarounds for optimal printing. Future versions of Adobe applications will likely address some of these interactions. Until then, however, be alert for the following elements when they are mixed with transparency:

- Preseparated content (DCS files).
- Duotone, tritone, and quadtone images place-linked in Illustrator files (this is not a problem in InDesign).
- Images to be replaced after flattening occurs (for example, in workflows using an OPI server). If low-resolution images are flattened, the results will be low-resolution. For this reason, low-resolution images should not be flattened. Make sure you use high-resolution images when flattening or sending your documents to a service provider if transparency is involved.

CHAPTER 5

Saving and Exporting Files with Transparency

If you're creating a standalone Illustrator or InDesign layout that contains transparent objects – that is, a layout you don't intend to use in other layouts or other applications – you can save the document as you would save any other document, that is, as a native Illustrator (.AI) or native InDesign (.INDD) file using the Save command (File menu). However, if you intend to use an Illustrator or InDesign layout in another layout or application, you must decide whether to save a native file or export the layout in a different file format.

Note: You can place native Illustrator (.AI), native Photoshop (.PSD), and PDF 1.4 files into InDesign layouts. Because these file formats can contain live transparency, using them for artwork that is placed into InDesign layouts is both convenient – because you don't have to save artwork in multiple file formats – and effective – because InDesign can handle files that contain live transparency.

Choosing a File Format When Saving/Exporting

Whenever possible, you should use file formats that preserve live transparency – including native formats for Illustrator and InDesign documents or PDF 1.4 – when you're creating graphic files for placement in other documents.

Saving files in native formats provides several advantages over the other file format options:

- **Greater control at print time.** Using native file formats gives you control over the flattener and resolution settings up to the time you print, save, or export a job in a non-native file format (such as PostScript).
- **Reduce file overhead.** By saving a single, native version of a graphic instead of multiple, exported TIFF or EPS files, you reduce the number of files you have to track, and you also reduce the disk space required to store your graphics.
- **Easy editability.** InDesign 2.0 allows you to link directly to native Illustrator 10 files and PDF 1.4 files, which allows you to preserve live transparency throughout the page layout workflow. If you need to make changes to a native Illustrator graphic, you can simply open the file in Illustrator and make the changes. (You can easily open the original Illustrator file within InDesign by selecting it in the Links palette and then choosing Edit Original from the palette menu.) Other formats flatten Illustrator objects, making them uneditable. This forces you to open the file in Illustrator, make the changes, export and flatten the file again, and finally relink the placed graphic in InDesign. When you modify a placed native Illustrator graphic, all instances of the graphic in InDesign documents are updated. When it's time to print the finished InDesign document, the printer can flatten all transparency at once directly from within InDesign using the flattener controls in InDesign.

Remember, when you export a document (including Photoshop, Illustrator, and InDesign documents) in any file format that flattens transparency, the document is flattened in the same way it's rasterized when printed, and you lose the ability to edit the original objects, except for Illustrator 10 EPS files and only if the file is reopened in Illustrator 10.

Exporting EPS files



Illustrator 10 can save files in its own (Illustrator 10) EPS format, as well as in EPS formats that are compatible with earlier versions of Illustrator. Illustrator 10 EPS files are best suited for use in a high-end print workflow because of the management of spot colors and transparency.

Transparency is always flattened when a file is saved to EPS. An Illustrator 10 EPS file, however, (unless resaved in another application) retains transparency information, so live transparency is restored if the file is reopened in Illustrator 10.

Note: If you save an Illustrator file using a legacy format (e.g., Illustrator 8), type involved in transparency is converted to outlines, and spot colors are converted to process colors. You can open the file in Illustrator, but you won't be able to edit any text that's been converted to outlines. Adobe recommends using the latest version of all its applications to avoid such problems.

You can export two kinds of EPS files using InDesign 2.0, however, only one is generally suitable for high-end printing workflows. By default, InDesign 2.0 exports EPS files in which overprinting instructions are preserved wherever possible – in some limited cases, the flattening process will preprocess these and incorporate the overprinting with the transparency information. These default EPS files are suitable for output on printing presses. If you select Simulate Overprint in the Export dialog box, InDesign 2.0 can optionally export EPS files in which all overprinting instructions are preprocessed and the appearance of overprint is simulated for output on composite devices. These EPS files with Simulate Overprint enabled are suitable for desktop printing and proofing. As a rule, you shouldn't use this option for high-end printing workflows.

Exporting PDF files



PDF 1.4 (also known as Acrobat 5 PDF) can accurately display live transparency created by any Adobe transparency-savvy authoring and layout application. Illustrator 10 and InDesign 2.0 can both import and export live transparency as PDF 1.4. Among other benefits, this format preserves spot colors and overprinting without flattening.

If you work with PDF 1.3 (also known as Acrobat 4 PDF), you should be aware that any transparency in the native document from which the PDF was created will be flattened when the PDF 1.3 file is saved/exported. PDF 1.3 files created with already-flattened artwork may not be acceptable for high-end prepress workflows because overprinting and spot colors aren't always preserved and because the resolution used during flattening may not be appropriate for high-resolution output. Illustrator 10, for example, doesn't preserve overprinting and spot colors when it exports to PDF 1.3. InDesign 2.0, however, does preserve overprinting and spot colors.

Note: PDF 1.4 files created using Distiller 5 will not contain live transparency because Distiller operates on PostScript, which can contain only flattened transparency.

Exporting Illustrator Files with Transparency



If you intend to use an Illustrator graphic in another Illustrator document or in another Adobe graphics application, such as InDesign or Photoshop, you have the option to save the Illustrator graphic as a native Illustrator (.AI), EPS, or PDF file, or you can export a native Photoshop (.PSD) or TIFF file. The chart that follows shows the save/export file format options available in Illustrator and how transparency is saved for each format. Choose File > Save or File > Save As to save an Illustrator document in a native Illustrator format or as a PDF or EPS file; choose File > Export to save a native Photoshop (.PSD) or TIFF file.

Note: You can preserve live text, layers, masks, compound vector shapes, and more when you export Illustrator graphics in .PSD format. For more information see the Illustrator User Guide.

If you use QuarkXPress for page layout, you must save Illustrator graphics as EPS or PDF 1.3 files. You cannot place native Illustrator files nor graphics with live transparency into QuarkXPress layouts.

Illustrator Export File Formats and Transparency

Output Formats		Transparency Embedded As
Native Illustrator 10 (.AI)		Live or Flattened
PostScript (for RIP or Distiller)		Flattened
PDF 1.3 (Acrobat 4)		Flattened
PDF 1.4 (Acrobat 5)		Live or Flattened
EPS		Flattened*
Other Formats (non-Illustrator EPS, TIFF, etc.)		Flattened**

** Illustrator can open AI EPS files, and the transparency can be edited. All other products can place and use the flattened portion of the EPS file. The file may need to be place-embedded.*

*** Some graphic file formats (EPS not from Illustrator), TIFF, etc.) cannot handle live transparency.*

Exporting Illustrator graphics for use in programs that can't handle transparency

If you use Illustrator graphics in page layout programs that can't handle transparency, you should specify flattening settings and save transparent artwork in Illustrator 10 EPS format, especially if spot colors are involved and you intend to print separations. Currently, InDesign 2.0 is the only page layout program that can interpret unflattened, live transparency in native Illustrator files and PDF 1.4 files. Illustrator 10 EPS is the only flattened file format that can be exported from Illustrator 10 with spot color plates preserved. Because spot colors are converted to process colors if you export to AI 8 EPS or PDF 1.3, Illustrator 10 EPS is the only flattened format suitable for separations in page layout programs that can't handle transparency. More importantly, you can open Illustrator 10 EPS files in Illustrator 10 and adjust flattener and resolution settings to match output conditions in your workflow.

Exporting InDesign Files with Transparency

If you want to use an InDesign page in another InDesign layout or another program, such as Illustrator or Photoshop, you can export PDF or EPS files You can also use the Print dialog box to create PostScript files that can be converted to PDF with Acrobat. The chart below shows the save/export file format options available in InDesign and how transparency is saved for each format.

Note: Choose File > Save or File > Save As to save a native InDesign document (or template); choose File > Export to save PDF or EPS files; and choose File > Print to create a PostScript file.

InDesign Export File Formats and Transparency

Output Formats		Transparency Embedded As
InDesign Native (.INDD)		Live
PostScript (for RIP or Distiller)		Flattened
PDF 1.3 (Acrobat 4)		Flattened
PDF 1.4 (Acrobat 5)		Live
EPS		Flattened

If your service provider uses prepress tools that can't interpret PDF 1.4 files, you should save InDesign 2.0 documents that contain transparency as PostScript files or PDF 1.3 files using the High Resolution flattener style, or ask your printer for their recommended flattener settings. PostScript and PDF 1.3 files created in this manner in InDesign 2.0 provide high-quality results, preserve overprinting and spot colors where possible, and separate correctly.

Printers often prefer to receive files in certain formats. When you provide files to your printer for output, make sure you let them know if transparency is involved. If your printer does not have experience processing files with transparency, have them contact Adobe technical support or the Adobe Solutions Network (http://partners.adobe.com/asn/main.html) to receive free training materials and other useful resources.

CHAPTER 6

Printing Files with Transparency

When you want to print an Illustrator or InDesign layout – whether the output device is a relatively low-resolution proof printer or a high-resolution imagesetter – all transparent objects in the file, as well as any linked files that contain live transparency, must be flattened. That is, the transparency information in the file must be converted into a format the printer can understand.

In most cases, flattening produces excellent results when you use an appropriate predefined flattener style in InDesign or specify the appropriate flattener settings in Illustrator (File > Document Setup > Transparency). However, if your document contains complex, overlapping areas and you require high-resolution output, you can achieve more reliable print output by following a few basic guidelines.

For a complete reference and troubleshooting guide on how transparency affects output, see the document, "Achieving Reliable Print Output from Adobe Applications with Transparency" in the Customer Support area of adobe.com.

Printing Proofs from the Desktop

Printing a document that contains transparency is much the same as printing any other document – with one important difference: You should choose a flattener style (InDesign) or specify flattener settings (Illustrator) that are appropriate for the printer.

Printing Proofs with Illustrator

Here's a checklist for designers to help ensure reliable printing with Adobe Illustrator 10 when printing proofs:

1. Specify the CMYK color mode (File > Document Color Mode > CMYK Color) for files that will be printed on a desktop proof printer.
2. Specify the proper ppi for your document in the Document Raster Effects Settings dialog box. Medium (150 ppi) is the typical setting for proof printing.



3. Ensure that your resolution-dependent live effects (such as Guassian blur and mezzotint) still look the way you want them to after changing the ppi value in the Document Raster Effects Settings dialog box.
4. Use the Overprint Preview display mode (View > Overprint Preview) to display approximately how the objects you've specified for overprinting will appear in color-separated output.

5. Preview your artwork in the Flattening Preview palette to determine which areas will be affected by transparency. Or, preview the areas of your artwork that will be rasterized to ensure text will not be rasterized. Or, speak with your service provider to ensure you have selected the proper settings.



For detailed information about the Flattening Preview palette, see the Illustrator 10 Flattening Guide (http://www.adobe.com/products/illustrator/indepth.html).

6. When saving a file as a native Illustrator (AI) file, select Illustrator 10 in the Compatibility pull-down menu for faster file printing and for transparency support when placing the artwork into InDesign. When saving a file as an Illustrator EPS file (the proper format for placing the artwork into QuarkXPress), select Illustrator 10 in the Compatibility pull-down menu to preserve editable transparency.

Printing Proofs with InDesign

In InDesign, you can choose a flattener style when you print a document. To choose a flattener style, choose File > Print and click on Advanced in the list of print options on the left side of the Print dialog box. In the Transparency Flattener area of the Advanced panel of the Print dialog box, choose an appropriate flattener style from the Style menu.

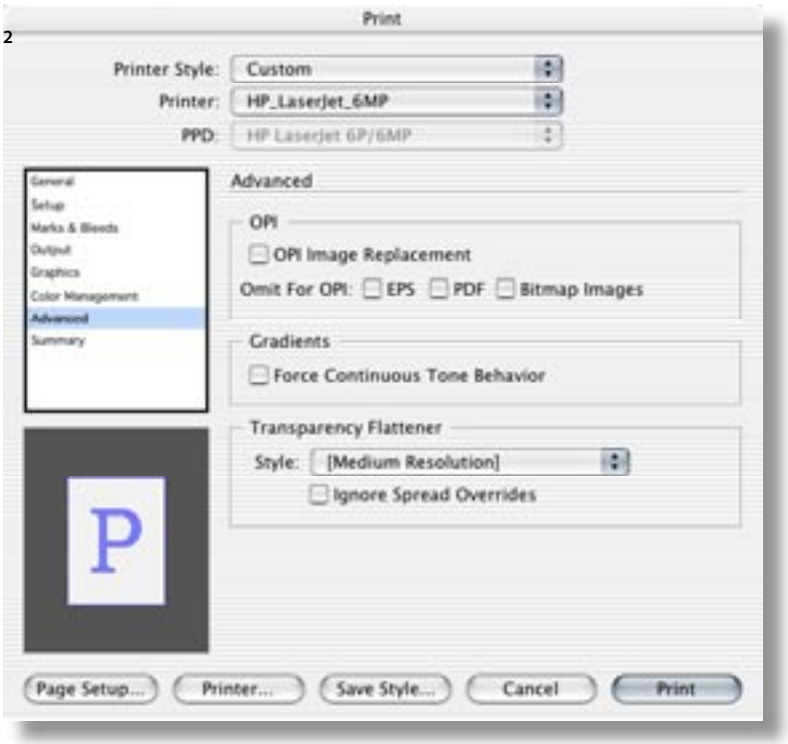
The Style menu includes three default styles – Low Resolution, Medium Resolution, and High Resolution – as well as any custom flattener styles you've created. (To create custom flattener styles, choose Edit > Transparency Flattener Styles. For information about creating flattener styles, refer to the InDesign User Guide.)

If you're printing a proof to a PostScript printer you should choose the Low Resolution or Medium Resolution flattener style.

- Choose the Medium Resolution flattener style for desktop proofs printed on black-and-white desktop printers.
- Choose the Medium Resolution style for desktop proofs and print-on-demand documents printed on PostScript color printers.

If you are printing to a printer that is not a PostScript printer, the Flattener Style menu is not available. In this case you should enable Simulate Overprint in the Output panel of the Print dialog box. When Simulate Overprint is enabled, the proof print will look the same as it's displayed on-screen with Overprint Preview (View menu) enabled.

2



The transparency flattener style you choose in the Advanced panel of the InDesign Print dialog box determines how transparency effects are flattened when the file is printed or exported in a file format that doesn't preserve live transparency.

Preparing and Delivering Files for High-resolution Printing

As you learned in the introduction to this guide, transparency must be flattened for print output. In most cases, flattening produces excellent results when you use an appropriate predefined flattener style or a custom flattening style with settings appropriate for your final output. However, flattening may alter colors and transparent objects in ways that can affect output quality. If your Illustrator and InDesign documents contain complex, overlapping areas and you require high-resolution output, you should work closely with your print service provider. Your print provider can specify optimal flattener settings based on the file formats used, the resolution of the final output device, and their workflow. Good communication between you and your service provider will help you achieve the results you expect.