A Designer's Guide to Transparency for Print Output

## Using Adobe® Creative Suite 2 Software

Adobe

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About This Guide

A Designer's Guide to Transparency for Print Output is for Adobe Creative Suite 2 users who create transparency effects using Adobe Photoshop® CS2, Adobe Illustrator® CS2, Adobe InDesign® CS2, and Adobe Acrobat® 7 Professional software.

The purpose of this guide is to:

- Identify and explain the transparency-related features in Illustrator CS2 and InDesign CS2, including how to create, display, import, export, and print transparency effects.

- Teach designers how to build pages with transparency effects that print correctly and produce the intended results.

- Provide information about known issues and solutions relating to transparency.

- Provide information about the implications of transparency on file formats and how to exchange files with transparency among Adobe Creative Suite 2 components.
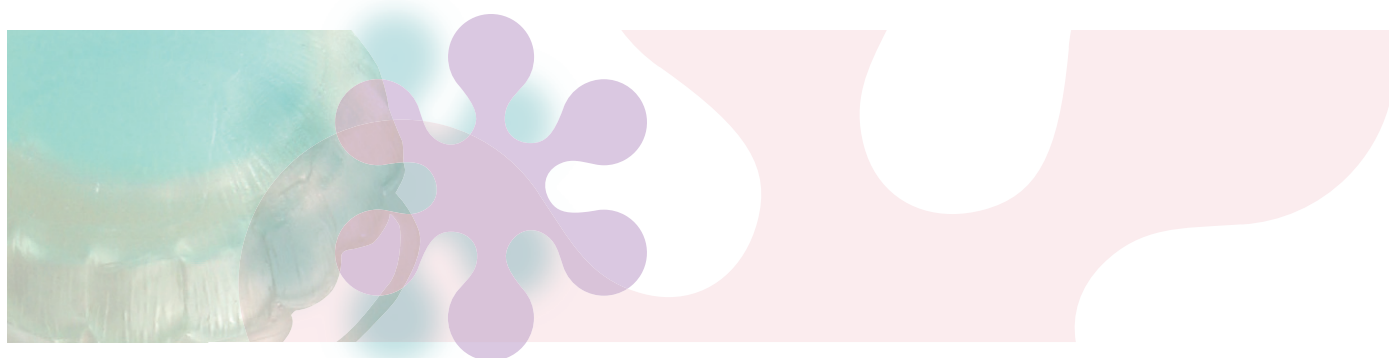
How it's organized

A Designer's Guide to Transparency for Print Output contains information on using transparency effects. It focuses primarily on Illustrator CS2 and InDesign CS2, however, it also includes information about transparency issues related to Adobe Photoshop CS2, Adobe Acrobat 7 Professional, and Adobe Portable Document Format (PDF) files. It contains the following chapters:

Chapter 1: Introduction to Transparency explains several key terms and concepts related to transparency and printing.

Chapter 2: Creating and Viewing Transparency explains the transparency-creation and transparency-display features in Illustrator CS2 and InDesign CS2.

Chapter 3: Importing Files That Contain Transparency lists importable file formats that can contain live 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 display and print correctly and produce the intended results.

Chapter 5: Saving and Exporting Files with Transparency lists the file formats in which you can save and export using Illustrator CS2 and InDesign CS2 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 7: Delivering Files with Transparency to Your Print Service Provider explains how to prepare files for handoff to your print service provider.

Chapter 8: Transparency-Related Resources includes several links to pages and documents on the Adobe website with information about working with transparency and printing documents that contain transparency.

CHAPTER 1

Introduction to Transparency

For many designers, creating transparent objects is not a new option. However, 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 Photoshop layers and transparency and export files to non-native formats (EPS and TIFF), or manual prepress work that incurred added expense. Today, Photoshop CS2, Illustrator CS2, InDesign CS2, and Acrobat 7 Professional natively offer transparency features and controls for print and web publishing.

The transparency features that are now native in Adobe graphics and layout programs provide several benefits to designers and publishers, including:
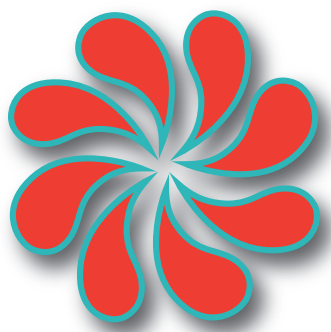
Creative freedom The ability to easily create transparency effects within Illustrator CS2 and InDesign CS2, such as soft drop shadows, feathered edges, and layered graphics that blend into one another, gives designers unprecedented creative freedom. Designers can use transparency effects to blend text with pictures or pictures with pictures.

Reuse across applications Instead of having to create and manage a separate Photoshop file for every transparency effect, Illustrator CS2 and InDesign CS2 users can create transparency effects using built-in transparency features. All three applications share several transparency capabilities.

Flexible workflows The ability to use any of several applications to create transparency effects opens up many workflow possibilities. You can use Photoshop CS2 or Illustrator CS2 to create ready-for-press graphics with transparency effects or import graphics generated by Photoshop CS2 or Illustrator CS2 that include live transparency into InDesign CS2 layouts. Then use the transparency features in InDesign CS2 to apply transparency effects to placed graphics, as well as to native InDesign CS2 objects and control the output of graphics, type, and transparency effects. For more information about importing graphics that contain transparency effects, see Chapter 3, "Importing Files that Contain Transparency."
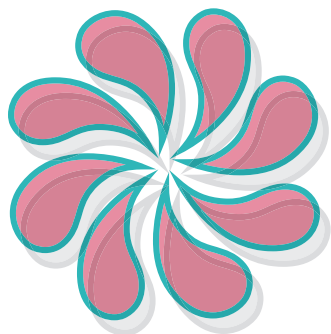
Create transparent overlays. A blending mode is applied to the top object and an opacity value of 30% is applied to the bottom object.

Add soft drop shadows.

Transparency terms and concepts

To maximize the transparency features in Adobe Creative Suite 2 software you should be familiar with the following terms and concepts:

Opacity

You can vary the degree of transparency 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.

50% opacity

Drop shadow

A drop shadow is an underlying soft-edged copy of the shape of an object (graphic or text) that adds a three-dimensional appearance. Shadows created with the drop shadow feature blend smoothly into the page or objects underneath. The drop shadow feature produces a better-looking shadow than the old method of duplicating a graphic or text, making the duplicate black, and offsetting it behind the original object.

Drop shadow

Feathering

Feathering softens the edges of an object by fading from opaque to transparent over a user-definable distance. It causes the object to fade smoothly into the page background or into any objects behind it. Feathering can also be used to create halo and backlighting effects.

Blending modes

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

Feathering, 12 point sharp

Flattening

All transparent objects in a file—as well as all text and graphics that interact with transparency—are flattened when you print the file or save it in a format that does not support live transparency, such as PDF 1.3, PostScript, and EPS. At its simplest, flattening converts all overlapping areas in a stack of transparent objects into opaque objects that retain the appearance of the original transparent objects. (For additional information about flattening, see Chapter 6, "Printing Files with Transparency.")

Live and flattened transparency

Transparent content in files can be either live or flattened. You can open files that contain live transparency, such as native Photoshop, native Illustrator, Illustrator EPS, native InDesign, and Adobe PDF 1.4, PDF 1.5, and PDF 1.6 files, and modify the transparent objects in the source application.

Blending mode (screen)

Flattened transparency occurs when you export a file into a non-native format. The transparency effects in flattened files cannot be modified using the source application nor any application into which the file is imported. Flattened file formats include PostScript®, EPS, DCS, Adobe PDF 1.3, GIF, JPEG, BMP, and TIFF images not created with Photoshop 6.0. PDF files created using Acrobat Distiller® do not contain live transparency regardless of the PDF version selected. Transparency is flattened when a PostScript file is generated.

Note: The Illustrator EPS format is actually two concatenated files: one in native Illustrator format that only Illustrator can open, and the other in an EPS format that other applications can import/place. If you open an Illustrator EPS file in Illustrator, all transparency remains live and editable. However, all other applications use the flattened artwork in a placed Illustrator EPS file.

Transparency flattener presets

If you regularly export or print Illustrator or InDesign documents that contain transparency, you can automate the flattening process by saving flattener settings in a transparency flattener preset (Edit > Transparency Flattener Presets). You can then apply these settings when you print or export to PDF 1.3 (Acrobat 4.0), SVG, or EPS formats.

Rasterization

Rasterization is the process of changing vector graphics, fonts, gradients, and gradient meshes into bitmap images for display and printing. During flattening, Illustrator CS2 and InDesign CS2 look for areas where transparent objects overlap other objects and then divide the artwork into a collection of regions referred to as atomic 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. You must set a resolution at the time of flattening. Adequate rasterization resolution is critical to the quality of the printed output.

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 an atomic region typically follows 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. Instead of being represented as many small atomic regions, the objects within a complexity region are "baked into" a single rasterized shape during flattening. The highest fidelity setting produces no complexity regions, which produces the best output but may slow performance.
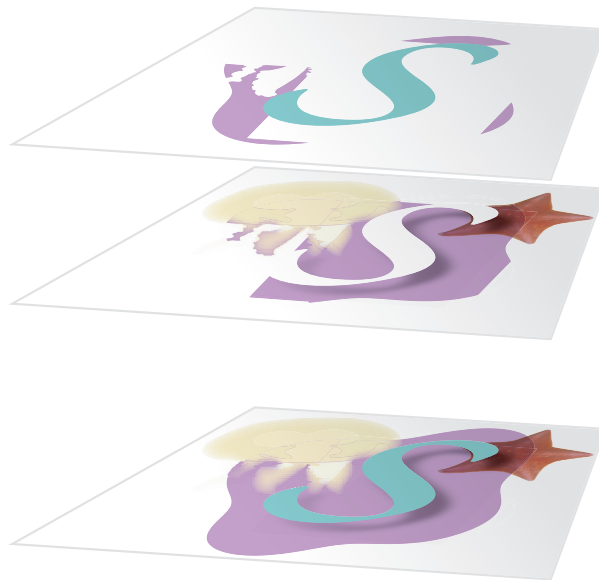
These illustrations show how flattening is performed on an InDesign page. (Flattening is the same on an Illustrator page.)

1) The jellyfish is a vector graphic created in Illustrator. A 5-point feathered edge was added in InDesign.

2) The S text character was created in InDesign. It has a 70% black drop shadow, and the Multiply blending mode is applied to the shadow.
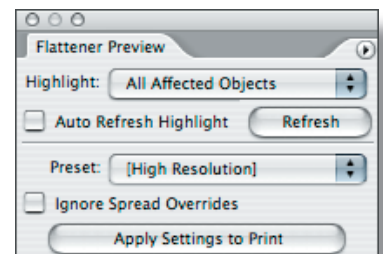
3) The starfish is a placed .tif image. The Multiply blending mode was applied in InDesign.

4) The purple background shape is an InDesign object.

The Flattener Preview palette in InDesign, Illustrator, and Acrobat highlights transparent objects/images, as well as areas affected by transparency.

When Highlight: All Affected Objects is selected, areas that are affected by flattening are displayed in pink, while areas that are not affected by flattening are displayed in gray.

This 3D representation shows what happens when the objects are flattened. The top layer shows the resulting vector shapes—the letter "S" and three pieces of the purple background object. The middle layer shows the rasterized areas, which include the jellyfish, the starfish, and portions of the purple background object. The bottom layer shows how the vector areas and raster areas are combined to produce the final artwork.
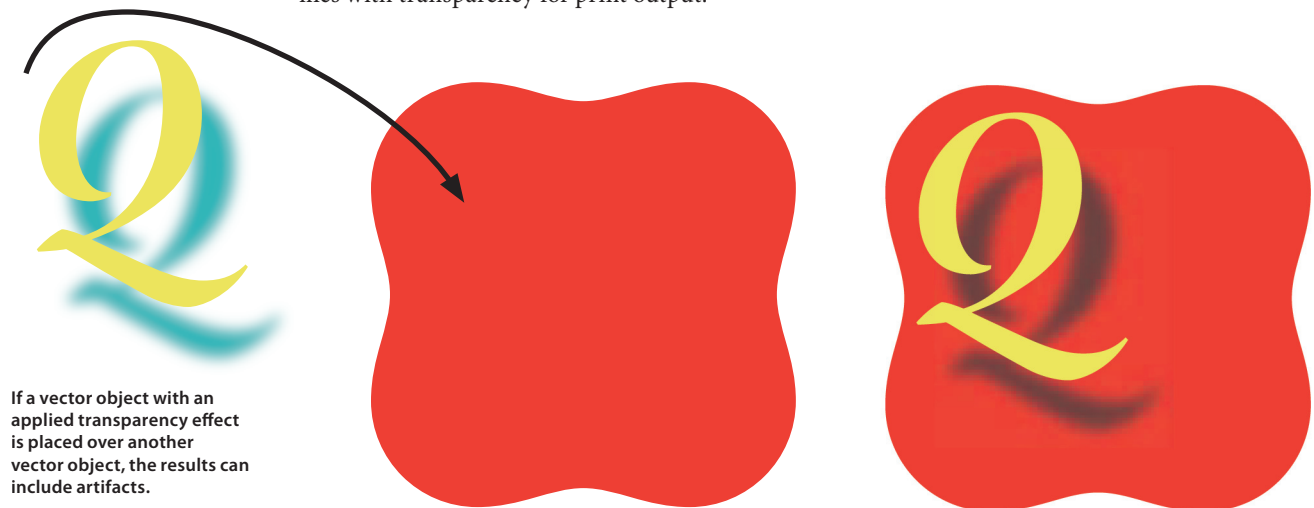
Artifacts

An artifact is a visible defect in an image, usually caused by limitations in the raster image processor (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.

Transparency flattening artifacts occur more often on-screen than in final printed output. Some artifacts, such as fine white or black lines around atomic regions, occur when an application attempts to antialias, or smooth, the edges of the atomic regions on-screen, which is 72 dots per inch (dpi), to give the best appearance. For printed output, you should watch for artifacts along the edges of atomic regions; however, artifacts do not typically appear in printed output (300 dpi or higher).

Another type of artifact is the visible color transition between atomic regions whose coloring would otherwise be similar or identical. Such artifacts on low-resolution devices (such as a monitor or a desktop color laser printer) result 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, which can occur during flattening.

To reduce the possibility of artifacts when printing Illustrator CS2 and InDesign CS2 documents, check Clip Complex Regions in the selected flattener preset (Edit > Transparency Flattener Presets). In Acrobat 6 and Acrobat 7, check Clip Complex Regions in the Flattening panel of the Print dialog box (Print > Advanced > Transparency Flattening). To reduce the possibility of artifacts when viewing Adobe PDF documents in Acrobat 5 and Acrobat 6, turn off smoothing for line art and images (Acrobat > Preferences > Smoothing). In Acrobat 7, turn off smoothing for line art and images in the Page Display panel of the Preferences dialog box.

If you or your printer experience artifact-related problems when printing files with transparency, refer to "Transparency in Adobe Applications: A Print Production Guide" (www.studio.adobe.com/us/print/main.jsp). This document provides additional technical information about preparing files with transparency for print output.

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

CHAPTER 2

Creating and Viewing Transparency Effects

Many transparency-related features have been integrated into Photoshop CS2, Illustrator CS2, InDesign CS2, and Acrobat 7 Professional. In addition to commands and controls for creating and modifying a variety of transparency effects, display options let you control how transparency effects look on-screen. Illustrator CS2 and InDesign CS2 let you set transparency display defaults. InDesign CS2 also lets you override global display settings for individual objects and spreads.

In Illustrator CS2 and InDesign CS2, transparency is essentially an object attribute, like a stroke or a fill. You can apply one or more transparency effects to native objects (text and graphic) created within Illustrator CS2 and InDesign CS2 or to imported graphics. For example, you can add a drop shadow to text you've created in Illustrator CS2 or InDesign CS2, and you can add a feathered edge to an imported graphic. You can apply transparency effects to individual objects, multiple objects, and groups.
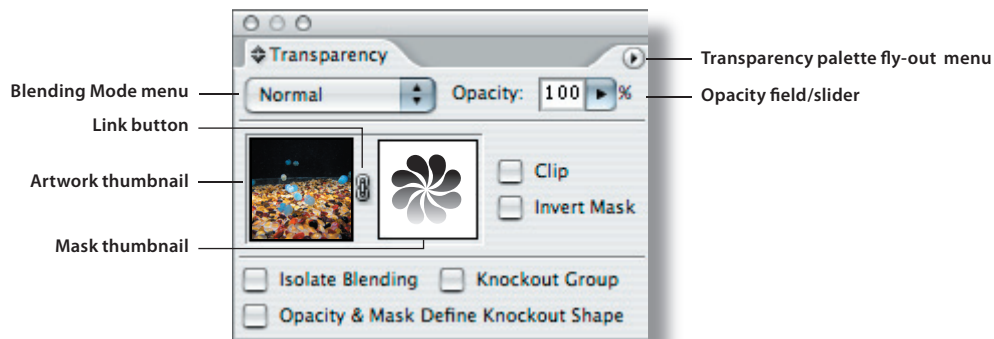
Setting up an Illustrator document for transparency

To create artwork with transparency effects for print in Illustrator CS2, select CMYK Color in the Color Mode area of the New Document dialog box. When you apply transparency effects in Illustrator CS2, colors are converted to the selected color space when flattening occurs. You should also use the same CMYK color space for placed graphics, if possible. (If you're creating a layout or graphics for the web, select RGB Color in the Color Mode area of the New Document dialog box.)
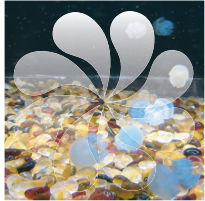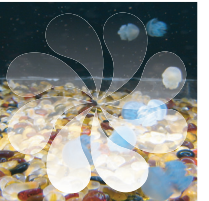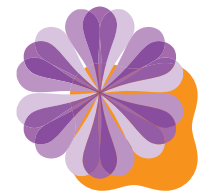
Note: In InDesign CS2, using a different output space (for print or PDF export) and transparency blend space can cause color shifts. For best results, use the Document CMYK transparency blend space for printed documents.
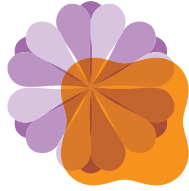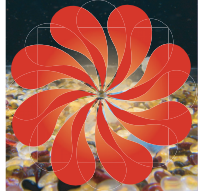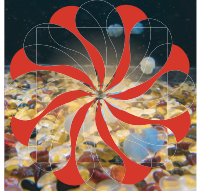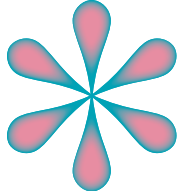
Transparency creation features in Illustrator CS2

The Transparency palette (Window > Transparency) contains several controls for creating transparency effects. The Effect > Stylize menu contains additional transparency-creation features. All of the transparency-creation features in Illustrator CS2 are explained in the following chart.

Illustrator CS2 Transparency palette

Illustrator CS2 Feature	Description		
Transparency palette	Contains the following controls for applying transparency effects to selected objects and groups:		
Blending Mode menu	Lets you vary the way the colors of objects blend with the colors of underlying objects. (For information about using blending modes with spot colors, see "Spot colors and transparency" on page 20.)	**No blending**	**Multiply blending mode**
Opacity field/slider	Controls the amount of opacity/transparency 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.	**100% opacity**	**50% opacity**
Thumbnails area	Displays controls for working with opacity masks. (An opacity mask lets you partially hide artwork using the mask's shape and luminosity.)	**No opacity mask**	**Opacity mask**
Artwork thumbnail	Displays a thumbnail view of the currently selected objects or groups. If an opacity mask is present, the objects are displayed unmasked.		
Link button	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 invisible outside the boundaries of the masking artwork.	**Normal mask**	**Clipping mask**
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.	**Normal mask**	**Inverted mask**
Isolate Blending checkbox	Prevents blending modes applied to objects within a group from being applied to objects beneath the group. In this example, the flower shapes are grouped.	**Isolate blending off**	**Isolate blending on**

Illustrator CS2 Feature	Description		
Knockout Group checkbox	Makes every object of a group 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 are applied to objects within the group. In this example, the flower shapes are grouped.	**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 fly-out menu	The Show/Hide Thumbnails command in the Transparency palette fly-out menu lets you show and hide the artwork and mask thumbnails; the Show/Hide options command controls the display of the Isolate Blending, Knockout Group, and Opacity & Mask Define Knockout Shape checkboxes at the bottom of the palette. The fly-out menu also includes commands for working with opacity masks.		
Effect menu stylize commands (Effect > Stylize)	Displays the commands below for applying transparency effects to selected objects and groups. 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. The following commands are available in the Effect > Stylize menu. *Note:* The resolution of all effects in a document are applied with the Effect menu and are defined in the Document Raster Effects Resolution dialog box (Effect > Document Raster Effects Settings).		
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. You can apply a blending mode and specify the opacity, blur, and color of a drop shadow. If a drop shadow's blur value is set close 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.	**Feathered text** 	**Feathered graphic**
Inner glow and Outer glow	Adds 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.	**Inner glow** 	**Outer glow**

## Tips for creating transparency effects in Illustrator CS2

The selected flattener preset (File > Document Setup > Transparency > Preset) is taken into consideration only during flattening. However, all effects that require rasterization in the Effects menu are rasterized at the value specified for Resolution in the Document Raster Effects Settings dialog box (Effect > Document Raster Effects Settings).

The default Raster Effects Resolution setting is 72 points per inch (ppi). If you change this setting, it remains in effect for until you change it for the active document and new documents. If you are printing to a high-resolution output device or exporting a file for eventual high-resolution output, make sure that the resolution value is appropriate for the printer.

The Raster Effects Resolution setting is global. All effects in an Illustrator document are rasterized at this resolution. You cannot apply different resolution settings to different objects. Whenever you change the Raster Effect Resolution value, all effects that have already been applied in the document are updated.

Applying transparency effects to a group When you apply transparency effects to a group, the group is treated like a single object relative to underlying objects; however, individual objects retain their applied transparency effects relative to other objects in the group. This lets you create nested transparency effects that would be difficult or impossible to create otherwise.

To edit a transparency effect applied to an Illustrator CS2 object, double-click the effect in the Appearance palette.
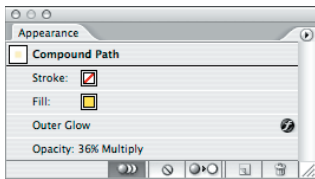
The Layers palette displays a shaded circle to the right of elements to which transparency is applied.
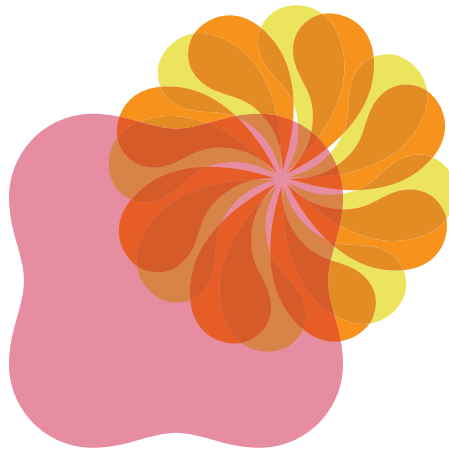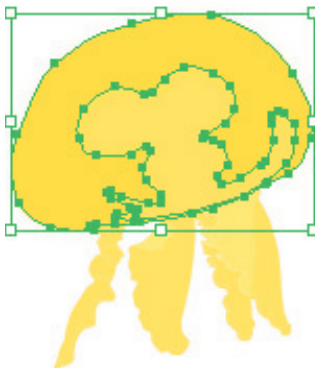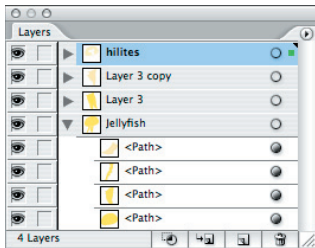
The Multiply blending mode is applied to the two flowerlike shapes.
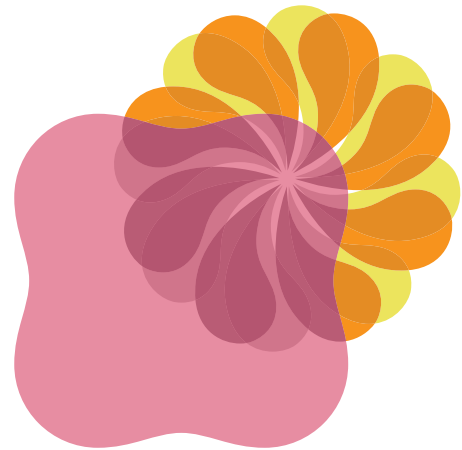
The two flowerlike shapes are grouped and the Luminosity blending mode is applied.

Specifying default settings for transparency features If you change transparency settings when no objects are selected, the new settings are applied only to newly created objects, unless New Art Has Basic Appearance is selected in the Appearance palette (this is the default setting). IF New Art Has Basic Appearance is selected, only a single fill and stroke is applied to new objects.

Editing transparency effects To edit a transparency effect applied to an Illustrator CS2 object, double-click the effect in the Appearance palette, and then make your changes in the dialog box that's displayed. If you choose an already-applied effect from the Effect menu, a new effect is created and added to the selection, which means it's possible to apply the same transparency effect multiple times to a single object.

Identifying transparency effects The Layers palette helps you keep track of how transparency is applied to objects and groups. A shaded circle displayed to the right of an object name indicates that transparency is applied to the object.

Displaying transparency in Illustrator CS2

The Document Setup dialog box (File > Document Setup) lets you set transparency preferences that determine how the underlying transparency grid is displayed. You can change the appearance of the transparency grid with the Grid Size and Grid Colors settings. You can show and hide the transparency grid using View > Show/Hide Transparency Grid.
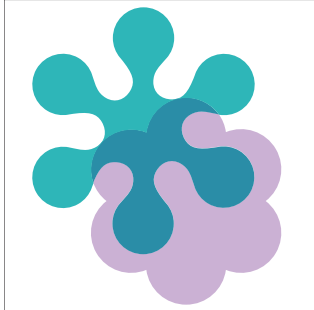
Transparency grid hidden
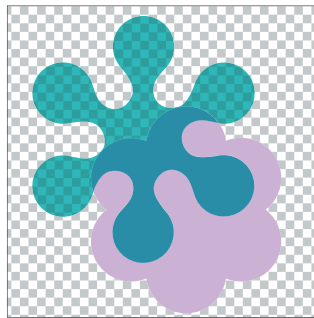
Transparency grid showing
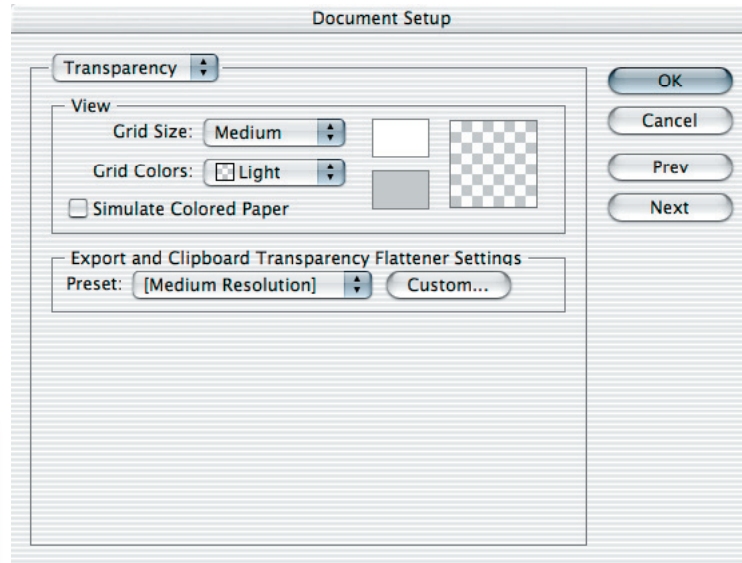
Note: The controls for Flattener Settings let you specify how transparency is printed. For information about modifying flattening settings, see "Transparency in Adobe Applications: A Print Production Guide" at studio.adobe.com/us/print/main.jsp.

Setting up an InDesign document for transparency

To create artwork with transparency effects for print in InDesign CS2, choose Edit > Transparency Blend Space > Document CMYK after you create a document (this is the default setting). When you apply transparency effects in InDesign CS2, colors are converted to the selected color space when flattening occurs. You should also use the same CMYK color space for placed graphics, if possible. (If you're creating a layout or graphics for the web, set the Transparency Blend Space to Document RGB.)

Transparency creation features in InDesign CS2

Many of the transparency controls in InDesign CS2 are located in the Transparency palette (Window > Transparency). The Transparency palette (Window > Transparency) contains several controls for creating transparency effects. In addition, Drop Shadow and Feather effects are in the Object menu. All of the transparency-creation features in InDesign CS2 are explained in the following chart.
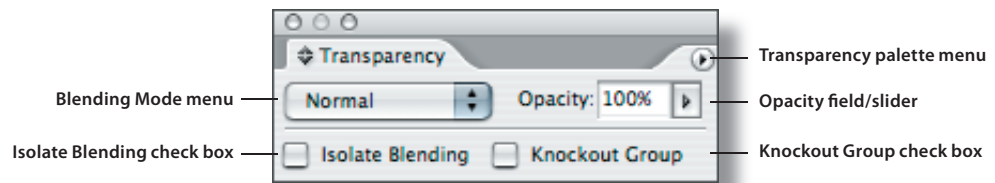
InDesign CS2 Transparency palette

InDesign CS2 Feature	Description		
Transparency palette	Contains the following controls for applying transparency effects to selected objects and groups. The Transparency palette fly-out 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	Lets you vary the way the colors of objects blend with the colors of underlying objects. (For information about using blending modes with spot colors, see "Spot colors and transparency" on page 20 .)	No blending	Blending applied (Multiply)
Opacity field/slider	Controls the amount of transparency 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 group in front of yellow shape	

Knockout Group checkbox	Makes every object of a group 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
Transparency palette fly-out menu	The Show/Hide Options command in the Transparency Palette fly-out menu controls the display of the Isolate Blending and Knockout Group checkboxes at the bottom of the palette.		
Object menu transparency commands	The commands below let you apply transparency effects to selected objects and groups.		
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, noise, spread, and color of a drop shadow.	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. Feathering creates a raster image and applies it as an opacity mask to the original object. When you feather an InDesign object, you can also choose to diffuse, round, or sharpen the edges and add noise. *Note:* The resolution of drop shadows and feathered objects is controlled by the Gradient Resolution setting in the Transparency Flattener Presets dialog box. (Edit > Transparency Flattener Presets).	Feathered text	Feathered graphic

Feathered object diffused   **Feathered object rounded**   **Feathered object sharpened**

Displaying transparency in InDesign CS2

InDesign CS2 lets you set global defaults for displaying transparency in the Display Performance panel of the Preferences 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 display preferences

The controls in the Display Performance panel let you control the way graphics and transparency effects are displayed on-screen. The Default View menu in the Options area provides three choices for controlling overall display speed and quality:

- **Fast** draws a raster image or vector graphic as a gray box (default). Use this option when you want to quickly page through spreads that have lots of images or transparency effects.

- **Typical** draws a low-resolution proxy image (default) appropriate for identifying and positioning an image or vector graphic. Typical is the default option and is the fastest way to display an identifiable image.

- **High Quality** draws a raster image or vector graphic at High Resolution (default). This option provides the highest quality but the slowest performance. Use this option when you want to fine-tune an image.

The controls in the Adjust View Settings area let you adjust the display settings for the three default view options. You can control the appearance of transparency by using the Transparency slider. For example, moving the slider all the way to the right selects the High Quality setting, which allows you to accurately position objects with drop shadows. Moving the slider all the way to the left selects the Off setting, which lets you quickly move objects and navigate spreads in a very large document but disables display of transparency effects. By default, transparency display is enabled and should remain so unless you have specific reasons for disabling it. If transparency preview is completely disabled, you cannot see whether objects on a page or spread have transparency or transparency-based effects applied to them. (For more information about the controls in this dialog box, refer to the InDesign CS2 User Guide or the InDesign CS2 Help file.)

Display Performance settings have no effect on transparency when it is printed.
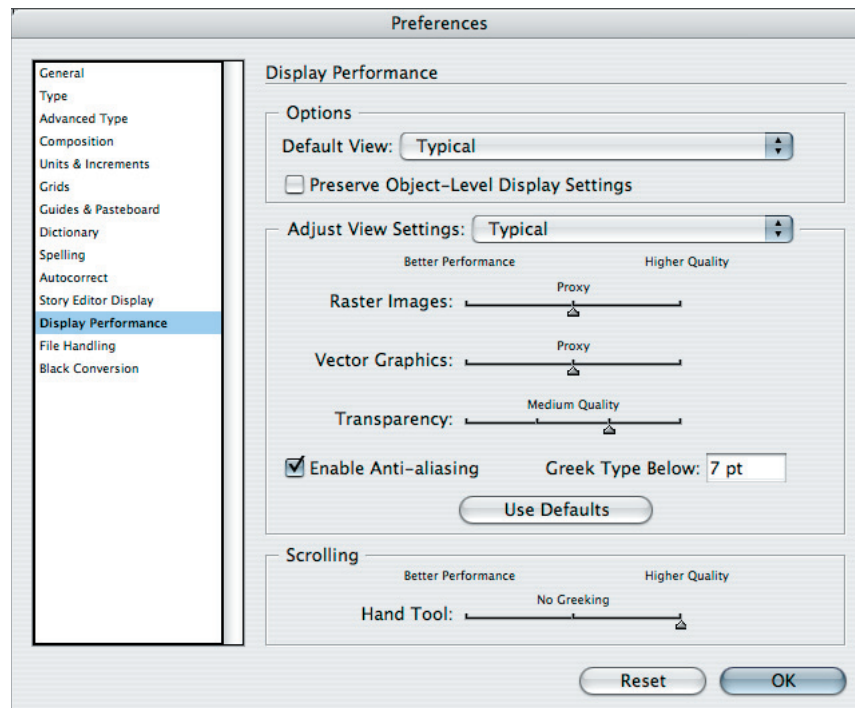
The Transparency slider lets you control the display of transparency effects for each of the three display settings (Fast, Typical, and High Quality).

Determining if transparency effects are present

The Pages palette displays a checkerboard pattern on pages that contain objects with transparency. If you cannot tell which objects use transparency, you can use the Flattener Preview palette (Window > Output Preview > Flattener) to determine which objects have transparency effects, as well as objects that are affected by transparency. (For additional information about the Flattener Preview palette, see Chapter 6, "Printing Files with Transparency.")
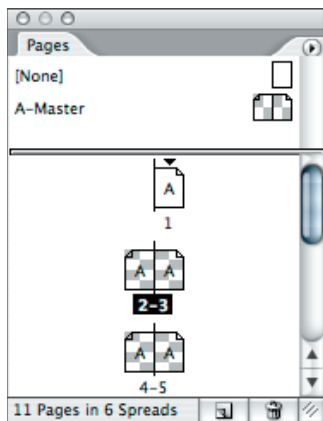
Pages that contain objects with transparency are displayed with a checkerboard pattern in the Pages palette. Pages 2 to 5 contain transparency effects.

Importing Files that Contain Transparency

You can add transparency to a layout by importing graphics that contain transparency, such as a transparent background (rather than a clipping path) in a native Photoshop file. You don't have to flatten a Photoshop file with transparency. Simply place the native Photoshop file into Illustrator CS2 or InDesign CS2, both of which can recognize transparency information in placed graphic files. However, if you need to change the original graphic, it must be done in the originating application. Other examples of graphic files that contain live transparency are native Illustrator files and PDF 1.4, PDF 1.5, and PDF 1.6 files.

After you place a transparent graphic into a layout, you can use the graphic-manipulation features in Illustrator CS2 and InDesign CS2 to modify the appearance of the graphic. For example, you can crop, scale, rotate, shear, and flip imported graphics.

If transparency is live when you place a graphic into Illustrator CS2 or InDesign CS2, the graphic will interact with other objects on the page. For example, an object with the multiply blending mode will interact with native InDesign objects or other placed images on an InDesign page. Additionally, you can apply transparency to placed graphics (whether they contain transparency or not). You can also combine imported graphics with native objects to create new transparency effects. For example, you can import a native Illustrator CS2 graphic file (an .AI file) that contains transparency into InDesign CS2. You can then apply additional transparency effects—perhaps a drop shadow or a feathered edge—to the imported graphic and place it above or below other imported graphics and InDesign CS2-native objects to which transparency effects are applied.

Notice how the transparency effects interact among the three sets of objects in this InDesign CS2 page: (1) The Quality text frame is the frontmost object. It was created in InDesign CS2 and has a drop shadow. (2) The placed Illustrator CS2 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 CS2, is the next object down in the stacking order. (4) The yellow rectangle is at the bottom of the stacking order.

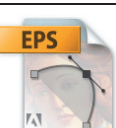## Placing graphics with transparency into Illustrator CS2 and InDesign CS2

You can import graphics in a variety of formats into Illustrator CS2 and InDesign CS2 using File > Place. The chart below lists the file formats that support importing graphics with live transparency. Designers who create transparent graphics for use in Illustrator CS2 and InDesign CS2 layouts should save the files in one of these formats. (For information about exporting Illustrator CS2 and InDesign CS2 files, see Chapter 5, "Saving and Exporting Files with Transparency.")

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, such as drop shadows and feathered edges, are no longer live once they are converted from their native application. This is why you should specify a Raster Effects Resolution for Illustrator CS2 artwork that's appropriate for the resolution of the printer before flattening or converting.

While transparency attributes remain live in Adobe PDF 1.4, PDF 1.5, and PDF 1.6 files, the resolution of raster elements—including vector objects to which raster-based live effects have been applied—cannot be changed after conversion to PDF unless the PDF was saved from Illustrator and the Preserve Illustrator Editing Capabilities option was selected in the Save Adobe PDF dialog box. Also, InDesign CS2 allows you to link directly to native Illustrator CS2 and Adobe PDF 1.4, PDF 1.5, and PDF 1.6 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 InDesign CS2.

Note: Typically, flattening for high-resolution output is done by the print provider rather than the designer. If you need to flatten artwork, consult with your printer to determine the best flattener settings.

Illustrator CS2 and InDesign CS2 import file formats

Import formats		Transparency embedded as
Illustrator Native (.AI) (Illustrator 9, 10, CS, and CS2)		Live or flattened within Illustrator
Photoshop Native (.PSD)		Live and, optionally, layered
Adobe PDF 1.3 (Acrobat 4), including PDF/X standards		Flattened
Adobe PDF 1.4 (Acrobat 5), PDF 1.5 (Acrobat 6), and PDF 1.6 (Acrobat 7)		Live if saved from Illustrator or Photoshop or exported from InDesign; flattened if created using Distiller
EPS (from Illustrator and Photoshop)		Flattened*
Other formats (EPS not from Illustrator and TIFF)		Flattened**

* Illustrator CS2 can open EPS files created with Illustrator, and you can edit the transparency. Illustrator 9, 10, CS, and CS2 files contain a native, non-flattened Illustrator portion that can only be read only Illustrator and a flattened EPS portion that can be placed into all EPS-compatible applications. The transparency in an Illustrator EPS file is considered flattened if the file is placed into InDesign CS2 and other programs.

** Some graphic file formats cannot handle live transparency. Artwork must be flattened before converting to these formats.

Whenever possible, you should use file formats that preserve live transparency as hand-off files or source files for placement in layouts or other documents and for delivery to your print service provider. Some applications, such as Microsoft Word and QuarkXPress 6.x and earlier, cannot understand live transparency and cannot flatten properly. You should use flattened artwork when placing files in applications that do not support live transparency. Adobe software is recommended for placement of transparent content. It is always best to use the latest versions of Adobe software and output formats to ensure the best possible output.

Placing EPS graphics into Illustrator CS2

With Illustrator CS2 you can place-link (rather than embed) and correctly print EPS files (including duotones), even if they interact with transparency. (Previous versions of Illustrator do not offer this capability.) When you place EPS files that are duotones, do not embed them. If you embed an EPS file, it is converted to the document color space (CMYK or RGB).

Placing Illustrator-generated transparent graphics into InDesign CS2

If you place .AI or Adobe PDF 1.4, PDF 1.5, or PDF 1.6 files created with Illustrator CS2 that contain live transparency into InDesign CS2 layouts, the transparency effects are maintained within the graphic and relative to native InDesign CS2 objects.

If you place an EPS file created with Illustrator CS2, the transparency is already flattened as far as InDesign CS2 is concerned (though the transparency effects are still live if the file is reopened in Illustrator CS2), and the graphic is flattened relative to InDesign CS2 objects. Likewise, if you open an Illustrator EPS file in Photoshop CS2 or distill it with Distiller, the transparency is already flattened. Illustrator EPS files are useful for placement into page layout programs that do not support native transparency. You can always edit the original Illustrator file and change the Raster Effects Resolution, either by opening the file within Illustrator or by selecting the graphic in InDesign and choosing Edit Original from the Links palette fly-out menu.

Dragging and dropping or copying and pasting Illustrator CS2-generated transparent graphics into InDesign CS2

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 CS2 document and the Illustrator CS2 file. If you change the original objects in Illustrator CS2 after dragging and dropping or copying and pasting the objects into InDesign CS2, the changes do not affect the objects in InDesign CS2.

On Mac OS, before you drag and drop or copy and paste Illustrator CS2 objects that contain gradients, patterns, blends, or transparency into InDesign CS2 layouts, make sure that the Illustrator CS2 File Handling & Clipboard preferences (Preferences > File Handling & Clipboard) are set to Copy as PDF (to Clipboard) and that AICB is unchecked. By default, InDesign CS2 does not accept PDF data when you copy and paste an Illustrator CS2 graphic if Adobe Illustrator Clipboard format (AICB) information is also present on the clipboard (that is, if you check both PDF and AICB in the Illustrator CS2 File Handling & Clipboard preferences). To paste PDF data into InDesign CS2, choose Prefer PDF When Pasting in the InDesign CS2 File Handling preferences pane (InDesign > Preferences > File Handling).

Note: In general, AICB is editable within InDesign CS2, however, not all native Illustrator objects are editable (gradient meshes, for example). These objects become embedded graphics and are listed in the Links palette. 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 CS2 and does not have a link reference in the Links palette.
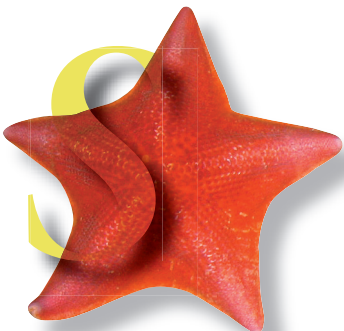
No transparency effects are applied to either object.

Drop shadows are applied to both objects.

 Multiply blending mode is applied to the text frame.

CHAPTER 4

Building Pages with Transparency

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 the latter case, the drop shadow must be combined with the underlying graphic for display and printing.

When you're creating transparency effects, try to build them as efficiently as possible to minimize display and printing problems. Use good judgement when designing with transparency. For example, it's possible to feather the edge of small type with fine serifs, but the resulting text might be difficult or impossible to read.

Object stacking order and transparency

Every time you create a new object, it's placed on top of all existing objects. (For layouts with multiple layers, new objects are placed at the top of the selected layer.) You create a stack of objects, one on top of the other called the stacking order. Stacking order becomes more complicated when you're working with a group or a layer, each of which has its own stacking order and can have transparency applied differently to an object, a group of objects, or a layer of objects. You can adjust the stacking order of an object by moving it forward or backward relative to other objects on the layer or page. Layers (and the objects in layers) are also organized in a stacking order—the layers at the top of the list in the Layers palette (Window > Layers) are in front of the layers at the bottom of the list.

Transparency effects don't have to involve overlapping objects, but they often do. 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 a lower 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, remember 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 produces the intended results.

Generally, type should be on top of all other objects unless it needs to interact with transparency. Placing text frames and spot colors on the top of the stacking order will help keep them from being involved in transparency flattening.

Yellow object in front
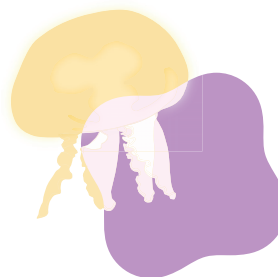
Purple object in front with Overlay blend mode applied

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

InDesign CS2 properly handles spot color and transparency in most situations. However, if the Difference, Exclusion, Hue, Color, Saturation, or Luminosity blending modes are used with transparent objects that interact with spot colors, use the Separations Preview palette to monitor the results more accurately, or achieve the effect using other blending modes or techniques. Using these blend modes with spot colors won't convert them to process colors, but the nature of these blending modes makes them harder to use with spot colors.

In Illustrator CS2 and InDesign CS2, and Acrobat 7, enabling Overprint Preview provides the most accurate representation of what the final output will look like. You can use the Separations Preview palette in InDesign CS2 and Acrobat 7 Professional to determine what color plates result from combining blending modes with spot colors.

No transparency

100% cyan (process)

100% Pantone 530 (spot)
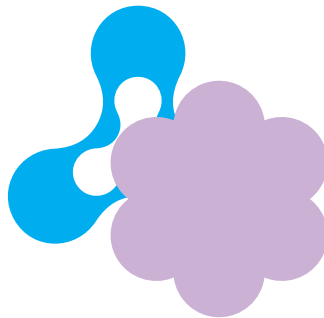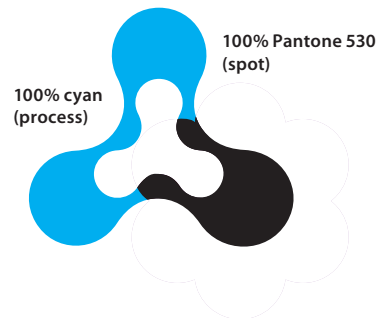
The Difference blending mode is applied to the Pantone 530 object, which introduces a dark region where it overlaps the underlying cyan object when the object is flattened and printed.

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 color plates because flattening requires conversion of the spot into process colors to properly blend the colors.

Spot colors and transparency

Since Illustrator 9, spot colors that interact with transparency are preserved in native Illustrator files, EPS files, and PDF files. Spot colors are not preserved in file formats, such as SVG, that do not support spot colors. InDesign CS2 preserves spot colors and duotones—including spot colors that interact with transparency and that are set to overprint. Spot colors are preserved when they interact with transparency because the flattener adds overprint instructions to appropriate spot-colored atomic regions, so it is not necessary for a designer to assign an overprint to objects with spot colors. For example, a spot-colored object with the Multiply blend mode applied that's placed on top of another spot- or process-colored object automatically attains an overprint instruction (via the flattener) in the atomic regions where the objects overlap.

You can display overprinted colors by selecting Overprint Preview. You can also simulate overprinted colors on your desktop proofer by selecting Simulate Overprint in the Print or Export dialog boxes. (The output approximates 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 CS2 correctly separates spot colors and overprinting when you output separations.

Transparent artwork must be processed by an application that can handle flattening, such as Illustrator CS2, InDesign CS2, and Acrobat 7. Exporting an Illustrator file to EPS and placing it into QuarkXPress is not a good option when transparency is present in the illustration. (QuarkXPress will see only the flattened part of the Illustrator EPS file.) All controls for printing Illustrator graphics are available in Illustrator CS2. If you need to place Illustrator artwork into a page layout program, it is best to use InDesign CS2, especially if the artwork includes transparency.

If it is necessary to save an Illustrator CS2 file as EPS and place it into a layout application, it's highly recommended that your service provider not convert spot colors to process by using the layout application's ink management controls. As a designer, it's important that you incorporate spot colors into your artwork only when you know they will be used on press.

Note: Simulate Overprint should be enabled only for desktop proofing because it attempts to simulate the appearance at the expense of preserving spot colors. Final output should always be done with Simulate Overprint disabled.

Overprinting and transparency

Transparency can affect overprinting. Illustrator CS2 lets you either preserve, discard, or simulate overprints (in the Advanced pane of the Print dialog box). Overprinting is preserved in InDesign CS2 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 areas where both overprinting and transparency are applied.

If an overprinted object is involved in transparency, the overprinted object is divided into atomic regions and their color is flattened. Flattening of overprinting maintains the visual appearance of the objects involved, and it separates correctly. Flattening an overprint does not necessarily mean that overprint is removed. This is true if two objects to which process colors are applied are involved. In this case, the intersection is a single process object. However, if spot colors are involved, overprint is required to separate the colors correctly.

In other scenarios, overprint instructions can be generated as a result of flattening, even if no overprint is set manually. This scenario can occur when spot colors that are involved in transparency are flattened. Illustrator CS2 and InDesign CS2 handle the flattening and correctly manage the spot colors. When opening or placing flattened Adobe PDF 1.3 files, you might need to enable Overprint Preview to accurately preview the file.

Overprinting instructions are preprocessed by the flattener under the following conditions:

- Overprinting objects have transparency applied directly to them (for example, objects that are less than 100% opaque).

- Overprinting objects are part of a group to which transparency is applied.

- Overprinting objects are overlapped by or are within approximately 1/72" of transparent objects or groups.

- A placed graphic contains overprinted objects and transparency is then applied to the placed graphic.

- Overprinting objects are part of a complex region of transparency that must be rasterized during flattening.

- Simulate Overprinting is selected in the Output pane of the Export Adobe PDF dialog box (InDesign CS2 only).

  Note: By default, this option is not selected and it should not be selected for high-end printing workflows. It should be selected only when printing proofs to low-end composite devices that cannot otherwise output overprinting or when creating proof [low resolution] PDF files that simulate overprinting as seen on-screen.

- If you choose to simulate overprints in the Illustrator CS2 Print dialog box (File > Print > Advanced > Overprints > Simulate).

  Note: By default, this option is not selected and should not be for high-end printing workflows. It should be selected only when printing proofs to low-end composite devices that cannot other-wise output overprinting.

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

Note: With Illustrator CS2, you can preserve overprinting instructions by checking Overprints > Preserve in the Advanced panel of 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.

- Move all text objects that don't interact with transparency to the top layer of the document.

- Proof documents on-screen by enabling Overprint Preview or by displaying the Separations Preview palette to ensure the output appears how you intend. You can also use the Flattener Preview palette to display which transparent objects are affected by flattening.

- Install and use the latest PostScript Printer Definitions (PPDs)/printer drivers.

- Inform your print provider if and how you have used transparency.

- Your printer should disable any preprocessing of images in the print driver, such as vivid color or intelligent color. Many print drivers have software that enhances the appearance of photographs; however, such software cannot distinguish between photographs and rasterized atomic regions and changes the color of all rasters and causes stitching problems.

- 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.

- If possible, save native copies of your Illustrator CS2 files.

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 or the way the flattener settings were 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. 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 CS2, native Illustrator CS2, or Adobe PDF files that include live transparency.

2. Transparency flattening can include the process of executing the overprint attribute manually assigned to spot objects. When this occurs, overprinting instructions are not preserved after flattening; however, the objects look correct when printed because the overprint is taken into consideration when transparency is flattened. The person responsible for printing needs to be aware that changing overprinting instructions at the RIP can affect not only objects set to overprint, but flattened transparency as well. You should never use a RIP's "discard overprint" option when dealing with transparency.

3. Vector objects may get rasterized at a resolution that's too low for the output device. It's best for the person responsible for printing to handle flattening. Your printer will use flattener and resolution settings that are appropriate for the output device.

4. Artifacts may appear along the edges of atomic regions. If possible, let your service provider do the flattening to avoid these problems.

5. Hairlines and strokes may fatten. Generally, this problem only occurs on low-resolution output devices.

6. Type may be converted to filled strokes. That is, the characters may thicken. This problem can occur on low-resolution devices. It is less of a problem on high-resolution devices.

Transparency and OPI

Open Prepress Interface (OPI) is not compatible with transparency. Low-resolution images must be replaced with high-resolution images before flattening (that is, fatten before you flatten). If low-resolution images are flattened, the results will be low resolution.

CHAPTER 5

Saving and Exporting Files with Transparency

If you're creating a stand-alone Illustrator CS2 or InDesign CS2 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 in its native format using the Save command. However, if you intend to use an Illustrator CS2 or InDesign CS2 layout in another layout or application, you must decide whether to save it in a different file format.

Note: You can place native Illustrator (.AI), native Photoshop (.PSD), Adobe PDF 1.4, PDF 1.5, and PDF 1.6 files into InDesign CS2 layouts. Because these file formats can contain live transparency, using them for artwork that is placed into InDesign CS2 layouts is both convenient—because you don't have to save artwork in multiple file formats—and effective—because InDesign CS2 can handle files that contain live transparency.

Choosing a file format when saving or exporting

Whenever possible, you should use file formats that preserve live transparency—including native formats for Illustrator CS2 and InDesign CS2 documents or Adobe PDF 1.4, PDF 1.5, or PDF 1.6— when you're creating graphic files for placement in documents created with other Adobe Creative Suite 2 components.

Note: If you use Illustrator CS2 or Photoshop CS2 to create transparent artwork for placement into a page layout program, Adobe strongly recommends that you use InDesign CS2 to create your page layouts. InDesign CS2 supports transparency in native Photoshop CS2 and Illustrator CS2 files, and also includes built-in transparency features that you can use as you lay out pages and build documents. InDesign CS2 can also import, display, and print Adobe PDF 1.4, PDF 1.5, and PDF 1.6 files that contain live transparency.

Saving files in native formats provides several advantages over 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 CS2 allows you to directly link to native Photoshop files, native Illustrator files, and Adobe PDF files, which allows you to preserve live transparency throughout the page layout workflow. If you need to make changes to a native Illustrator graphic that's been placed into an InDesign CS2 layout, you can simply open the file in Illustrator CS2 and make the changes. (You can easily open the original Illustrator file in Illustrator from within InDesign CS2 by selecting it in the Links palette and then choosing Edit Original from the palette menu or by holding down Alt/Option and double-clicking the graphic.) Other formats flatten Illustrator objects, making them uneditable. Flattened files force you to open the file in Illustrator CS2, make the changes, export and flatten the file again, and finally relink the placed graphic in InDesign CS2. When you modify a placed native Illustrator graphic, all instances of the graphic in InDesign CS2 documents are updated. When it's time to print the finished InDesign CS2 document, the printer can flatten all transparency at once directly from within InDesign using the flattener controls in InDesign CS2.

Remember, when you export a document (including Photoshop CS2, Illustrator CS2, and InDesign CS2 documents) in any file format that flattens transparency, the document is flattened in the same way that it's rasterized when printed, and you lose the ability to edit the original objects, except for Illustrator CS2 EPS files—and only if the file is reopened in Illustrator CS2.

Exporting EPS files

Illustrator CS2 can save files in its own EPS format, as well as export files in EPS formats that are compatible with earlier versions of Illustrator. Illustrator CS2 EPS files are well suited for a high-end print workflow because of the management of spot colors and transparency. Only Illustrator CS2 is able to read the transparent portion of an Illustrator EPS file. Photoshop CS2, InDesign CS2, Distiller, and non-Adobe software use only the flattened portion of the file.

Transparency is always flattened when a file is saved as EPS. An Illustrator CS2 EPS file, however, retains transparency information (unless resaved in another application), so live transparency is restored if the file is reopened in Illustrator CS2.

You can export two kinds of EPS files using InDesign CS2, however, only one is generally suitable for high-end printing workflows. By default, InDesign CS2 exports EPS files in which overprinting instructions are preserved wherever possible. In some limited cases, the flattening process preprocesses these instructions and incorporates 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 CS2 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 files are suitable for desktop printing and proofing. As a rule, you shouldn't use the Simulate Overprint option for high-end printing workflows.

Exporting Adobe PDF files

Adobe PDF 1.4 (also known as Acrobat 5 PDF), PDF 1.5 (Acrobat 6 PDF), and PDF 1.6 (Acrobat 7 PDF) can accurately display live transparency created by any Adobe transparency-savvy authoring and layout application. Illustrator CS2, InDesign CS2, and Photoshop CS2 can import and export live transparency as Adobe PDF 1.4, PDF 1.5, and PDF 1.6. Among other benefits, this format preserves spot colors and overprinting without flattening.

For detailed information about new PDF integration features in Adobe Creative Suite 2, see "PDF Integration Guide for Adobe Creative Suite 2" at studio.adobe.com/us/print/main.jsp.

Note: When you create PDF documents using any of the components of Adobe Creative Suite 2 (with the exception of Distiller 7), the default settings produce a PDF file with live transparency. The default Compatibility setting for exported PDF documents is Acrobat 5 (PDF 1.4). This setting, as well as the Acrobat 6 (PDF 1.5) and Acrobat 7 (PDF 1.6) settings, produce PDF files with live transparency. However, the Acrobat 4 (PDF 1.3) and PDF/X options produce PDF files with flattened transparency. It is often best to let your printer/prepress provider flatten transparency because final output is based on their settings. If you need to perform flattening, consider using PDF/X-1a.

Note: Adobe PDF 1.4, PDF 1.5, and PDF 1.6 files created using Distiller do not contain live transparency because Distiller operates on PostScript, which can only contain flattened transparency.

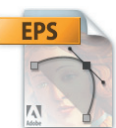## Exporting Illustrator CS2 files with transparency

If you intend to use an Illustrator CS2 graphic in another Illustrator CS2 document or in another Adobe graphics application, such as InDesign CS2 or Photoshop CS2, you have the option to save the Illustrator CS2 graphic as a native Illustrator (.AI), EPS, or Adobe PDF file, or you can export a native Photoshop (.PSD) or TIFF file. The following chart shows the save/export file format options available in Illustrator CS2 and how transparency is saved for each format. Choose File > Save or File > Save As to save an Illustrator CS2 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 CS2 User Guide.

If you use QuarkXPress for page layout, you must save Illustrator graphics as EPS or Adobe PDF 1.3 files. You cannot place native Illustrator files or graphics with live transparency into QuarkXPress layouts.

Illustrator CS2 users who have been placing EPS files created with previous versions of Illustrator into QuarkXPress documents for the sole purpose of printing the artwork should directly print from Illustrator CS2 or place EPS files into InDesign CS2 for the most compatible printing experience.

Illustrator CS2 export file formats

Output formats		Transparency embedded as
Native Illustrator CS2 (.AI)		Live or flattened
PostScript (for RIP or Distiller)		Flattened
Adobe PDF 1.3 (Acrobat 4), including PDF/X standards		Flattened
Adobe PDF 1.4 (Acrobat 5), PDF 1.5 (Acrobat 6), and PDF 1.6 (Acrobat 7)		Live; flattened if created using Distiller
EPS		Flattened*
Other formats (non-Illustrator EPS and TIFF)		Flattened**

* Illustrator CS2 can open AI EPS files, and you can edit the transparency. All other products can place and use the flattened portion of the EPS file. The file might need to be place-embedded.

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

Exporting Illustrator CS2 graphics for use in programs that can't handle transparency

If you use Illustrator CS2 graphics in page layout programs that can't handle transparency, you should specify flattening settings and save transparent artwork in Illustrator CS2 EPS format, especially if spot colors are involved and you intend to print separations.

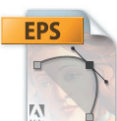Currently, InDesign CS2 is the only page layout program that can interpret unflattened, live transparency in native Illustrator files and Adobe PDF 1.4, PDF 1.5, and PDF 1.6 files. Illustrator EPS and Adobe PDF (1.3, 1.4, 1.5, and 1.6) preserve spot colors.

Exporting InDesign CS2 files with transparency

If you want to use an InDesign CS2 page in another InDesign CS2 layout or another program, such as Illustrator CS2 or Photoshop CS2, you can export Adobe PDF or EPS files. You can also use the Print dialog box to create PostScript files that can be converted to Adobe PDF with Acrobat. The chart below shows the save/export file format options available in InDesign CS2 and how transparency is saved for each format.

Note: Choose File > Export to save Adobe PDF or EPS files. Choose File > Print to create a PostScript file.

InDesign CS2 export file formats

Output formats		Transparency embedded as
InDesign CS2 Native (.INDD)		Live
PostScript (for RIP or Distiller)		Flattened
Adobe PDF 1.3 (Acrobat 4), including PDF/X standards		Flattened
Adobe PDF 1.4 (Acrobat 5), PDF 1.5 (Acrobat 6), and PDF 1.6 (Acrobat 7)		Live; flattened if created using Distiller
EPS		Flattened

Delivering Adobe PDF files for print

If your service provider uses prepress tools that can't interpret Adobe PDF 1.4, PDF 1.5, or PDF 1.6 files with transparency, you should deliver native InDesign CS2 files or save InDesign CS2 documents as PostScript files, Adobe PDF 1.3, or PDF/X files using the High Resolution flattener preset. Ask your service provider for the recommended PDF format, PDF settings, and flattener settings. PostScript and Adobe PDF 1.3 files provide high-quality results, preserve overprinting and spot colors where possible, and separate correctly. (For more information, see Chapter 7, "Delivering Files with Transparency to Your Print Service Provider.")

The people responsible for printing documents often prefer to receive files in certain formats. Let them know if transparency is involved. If they are not familiar with processing files with transparency, have them contact Adobe technical support or the ASN Print Service Provider Program (partners.adobe.com/public/asn/psp/detail.html) to receive free training materials and other useful resources.

CHAPTER 6

Printing Files with Transparency

When you want to print an Illustrator CS2 or InDesign CS2 layout—whether the output device is a relatively low-resolution proof printer or a high-resolution image setter—all transparent objects in the file, as well as any linked files that contain live transparency, must be flattened.

In most cases, flattening produces excellent results when you use an appropriate predefined flattener preset in InDesign CS2 and Illustrator CS2. (Acrobat 7 does not use flattener presets. Instead, specify flattener settings in the Transparency Flattening panel of the Advanced Print Setup dialog box (File > Print > Advanced). 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 "Transparency in Adobe Applications: A Print Production Guide" at studio.adobe.com/us/print/main.jsp.

Previewing transparency before you print with the Flattener Preview palette

Illustrator CS2 and InDesign CS2, as well as Acrobat 7 Professional software, have a Flattener Preview palette that lets you quickly see where transparency occurs on a page and can alert service providers to areas that contain transparency.

Illustrator CS2 Flattener Preview palette

You can use the preview options in the Flattener Preview palette to highlight the areas affected by flattening. You can use this information to adjust the flattening settings, and you can use the palette to save flattener presets.
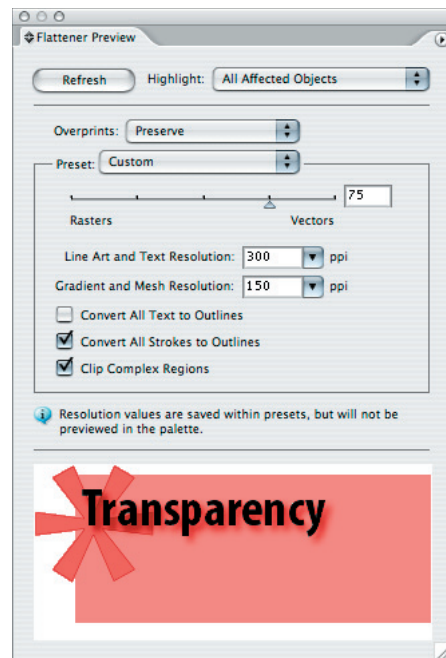
Illustrator CS2 Flattener Preview palette

The Highlight menu determines what's displayed in the preview area. To display all of the commands in the Highlight menu, choose Detailed Preview from the palette's fly-out menu.

- None (Color Preview) shows a color preview of the artwork without highlighting anything.

- Rasterized Complex Regions highlights the areas that are rasterized for performance reasons (as determined by the Rasters/Vectors slider).

- Transparent Objects highlights the objects that are sources of transparency, such as objects with partial opacity (including images with alpha channels), blending modes, and opacity masks. In addition, graphic styles and effects might contain transparency, and overprinted objects might be treated as sources of transparency if the overprint needs to be flattened.

- All Affected Objects highlights all objects that are involved in transparency, including transparent objects and objects that are overlapped by transparent objects.

- Affected Linked EPS Files highlights all linked EPS files that are affected by transparency.

- Expanded Patterns highlights all patterns that are expanded because they are involved in transparency.

- Outlined Strokes highlights all strokes that are converted to outlines because they are involved in transparency or because the Convert All Strokes to Outlines option is selected.

- Outlined Text highlights all text that is converted to outlines because it is involved in transparency or because the Convert All Text to Outlines option is selected.

- All Rasterized Regions highlights objects and intersections of objects that are rasterized because there is no other way of representing them in PostScript or because they are more complex than the threshold specified by the Rasters/Vectors slider.

InDesign CS2 Flattener Preview palette

You can use the preview options in the Flattener Preview palette to highlight the areas of a page affected by flattening. The areas of the artwork affected by transparency are highlighted in color in the document window, while the rest of the artwork appears in grayscale. You can adjust the flattening options and see which objects are affected. The Flattener Preview palette also includes controls for applying flattener presets to spreads and to ignore spread overrides.
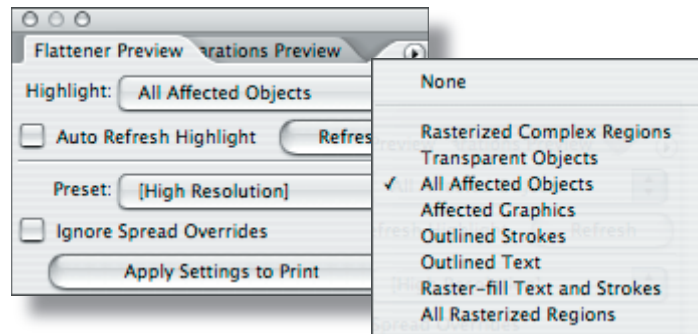
The Flattener Preview palette provides several options for displaying flattened objects.

Note: The Flattener Preview palette is not intended for precise previewing of spot colors, overprints, and blending modes. Use Overprint Preview mode to preview how spot colors, overprints, and blending modes will appear when output.

Printing proofs from the desktop

Printing a document that contains transparency is similar to printing any other document, with one important difference: You should choose a flattener preset in Illustrator CS2 or InDesign CS2 or specify flattener settings in Acrobat 7 that are appropriate for the printer.

Printing proofs with Illustrator CS2

Use the following checklist to help ensure reliable printing with Illustrator CS2 when printing proofs:

- Specify the CMYK color mode (File > Document Color Mode > CMYK Color) for files printed on a desktop proof printer.

- 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.
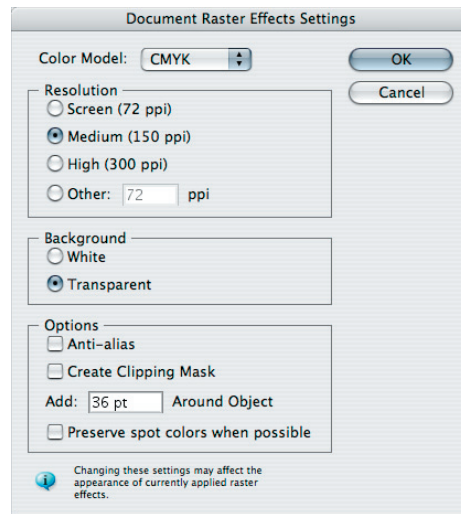
- Ensure that your resolution-dependent live effects (such as Guassian blur and mezzotint) still look the way you want them to after changing the ppi value in the Document Raster Effects Settings dialog box.

- Use the Overprint Preview display mode (View > Overprint Preview) to approximately display how the objects you've specified for overprinting appear.

- Preview your artwork in the Flattener Preview palette to determine which areas are affected by transparency flattening. Or, preview the areas of your artwork that are rasterized to ensure text will not be rasterized. Check with your service provider to ensure you have selected the proper settings.
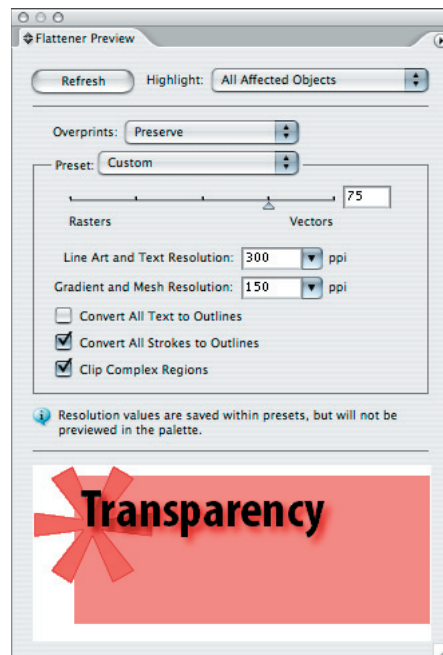
- Choose the appropriate flattener preset when you print a document. To do so, select a flattener preset from the (Transparency Flattener) Preset menu in the Advanced pane of the Print dialog box.

The (Transparency Flattener) Preset menu includes three default presets—Low Resolution, Medium Resolution, and High Resolution—as well as any custom flattener presets you've created. To create custom flattener presets, choose Edit > Transparency Flattener Presets. For information, refer to the *Illustrator CS2 User Guide*.

If you're printing a proof to a printer that is not a PostScript printer, choose Low Resolution or Medium Resolution. Choose Medium Resolution for desktop proofs printed on black-and-white desktop printers and print-on-demand documents printed on PostScript color printers.
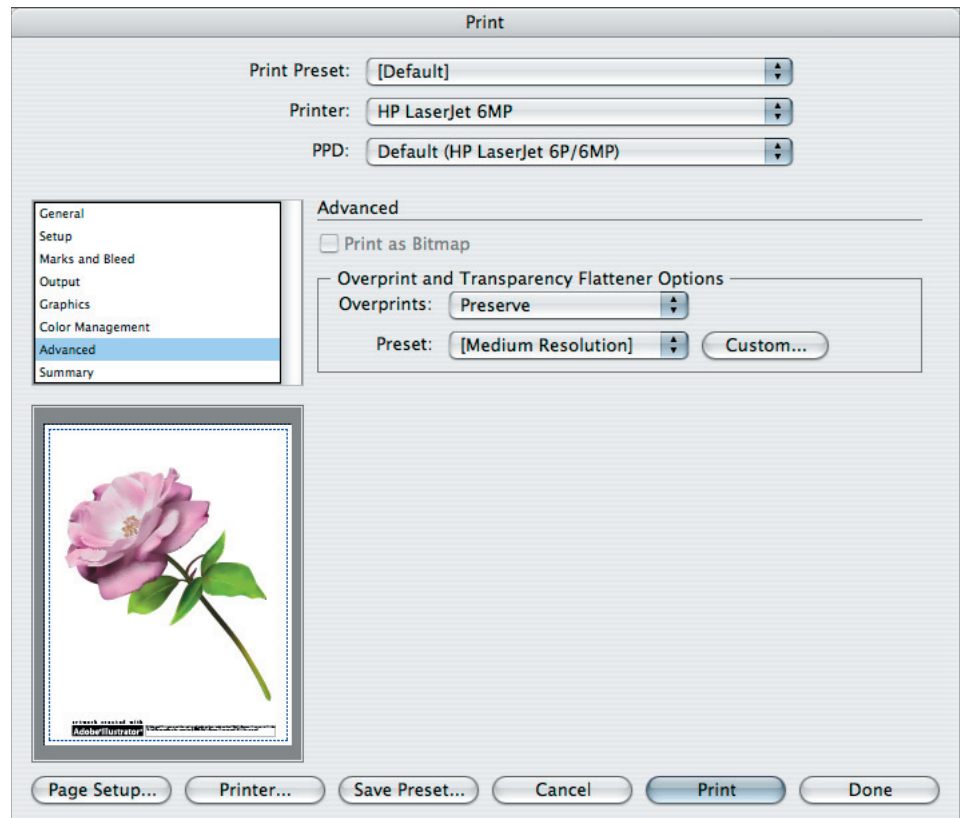
The Transparency Flattener preset you choose determines how transparency effects are flattened when the file is printed or exported in a file format that doesn't preserve live transparency.

Printing proofs with InDesign CS2

In InDesign CS2, you can choose a flattener preset when you print a document. To do so, choose File > Print and click Advanced in the list of print options on the left side of the Print dialog box. In the Transparency Flattener area of the Advanced pane of the Print dialog box, choose an appropriate flattener preset from the (Transparency Flattener) Preset menu.

The (Transparency Flattener) Preset menu includes three default presets—Low Resolution, Medium Resolution, and High Resolution—as well as any custom flattener presets you've created. To create custom flattener presets, choose Edit > Transparency Flattener Presets. For information, refer to the *InDesign CS2 User Guide.*

If you're printing a proof to a printer that is not a PostScript printer, choose Low Resolution or Medium Resolution. Choose Medium Resolution for desktop proofs printed on black-and-white desktop printers and print-on-demand documents printed on PostScript color printers.

In Mac OS X, if you are printing to a printer that is not a PostScript printer, the (Transparency Flattener) Preset is not available. In this case, you should enable Simulate Overprint in the Output pane of the Print dialog box. When Simulate Overprint is enabled, the proof print looks the same as on-screen with Overprint Preview (View menu) enabled.

The Transparency Flattener preset you choose determines how transparency effects are flattened when the file is printed or exported in a file format that doesn't preserve live transparency.
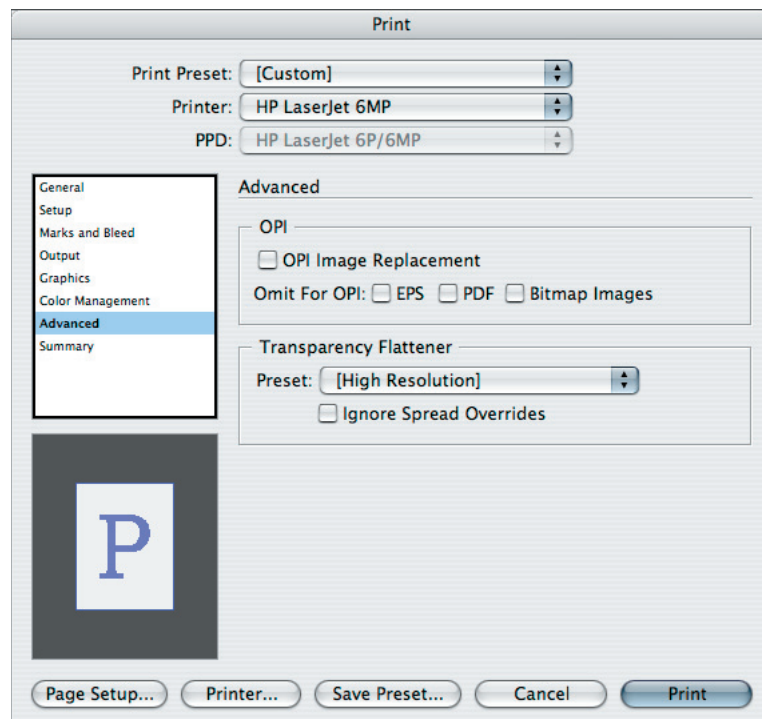
Delivering Files with Transparency to Your Print Service Provider

Transparency must be flattened for print output. In most cases, flattening produces excellent results when you use an appropriate predefined flattener preset or a custom flattening preset with settings appropriate for your final output. However, flattening can alter colors and transparent objects in ways that can affect output quality.

If your Illustrator CS2 and InDesign CS2 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.

If your print service provider would like more information about printing files with transparency, you can point them to the Adobe Print Resource Center page at studio.adobe.com/us/print/main.jsp.

What kind of file should you provide?

Most often, your print service provider handles flattening, so you should provide native Illustrator or InDesign files, or an Adobe PDF 1.4, PDF 1.5, or PDF 1.6 file. If Adobe PDF 1.3 or PDF/X files are requested, consult with your printer about their recommended flattener and resolution settings. InDesign CS2 and Acrobat 7 Professional have several PDF/X creation and validation features.

Not all service providers support all file types, so ask them what file types they accept.

If you intend to provide your service provider with Illustrator CS2 files, InDesign CS2 files, or Adobe PDF files that include live transparency, you have several options. Before you decide on the file format you'll use, you should be aware of some of the capabilities and limitations of the various formats.

Adobe PDF 1.3 and PDF/X files All transparency is flattened. The resolution of transparency effects is determined by the applied flattener preset and cannot be changed after the PDF file is saved, nor can transparency effects in flattened PDF files be modified. Adobe PDF 1.3 files can be output by PostScript Level 2 and 3 RIPs. One of the main benefits of delivering Adobe PDF files to your print service provider is that everything required to print—including fonts and graphics—is contained in a single file.

Adobe PDF 1.4, PDF 1.5, and PDF 1.6 files These files can include live transparency when saved in Illustrator CS2 or exported from InDesign CS2. Transparency is flattened if printed to PostScript and distilled to Adobe PDF 1.4, PDF 1.5, or PDF 1.6.

Native Illustrator CS2 (.AI) and native InDesign CS2 (.INDD) files These files have several benefits:

- You or your print service provider can easily make changes to native files up to the last minute.
- Flattening at the latest possible stage produces the best results.
- Your print service provider can change the output resolution and other print-related settings.
- Preflighting can be accomplished more effectively on live transparency than on flattened transparency.
- Spot colors can be fixed—for example, if a document contains too many spot colors—if the transparency is live. Once flattened, spot colors involved in transparency cannot be altered.

For detailed information about new PDF integration features in Adobe Creative Suite 2, see "PDF Integration Guide for Adobe Creative Suite 2" at studio.adobe.com/us/print/main.jsp.

CHAPTER 8

Transparency-Related Resources

If you would like additional information about working with transparency and printing documents that contain transparency, please refer to:

- Transparency in Adobe Applications: A Print Production Guide. This reference and troubleshooting guide for prepress providers contains detailed information about printing files with transparency. (studio.adobe.com/us/print/main.jsp)

- PDF/X Files and Adobe Creative Suite 2. This document contains information about the PDF/X format and the support of PDF/X in Adobe applications. (www.adobe.com/products/acrobat/pdfs/pdfx_faq.pdf)

- The Adobe Solutions Network Partner Find An ASN Print Service Provider Web page. You can use this web page to search for an Adobe Solutions Network print service provider. (partners.adobe.com/public/partnerfinder/psp/show_find.do)

- The Adobe Support Knowledgebase. Start here if you're looking for information about any Adobe product. The searchable database is helpful if you need information about known problems and solutions relating to Adobe products. (www.adobe.com/support/main.html)

- Adobe InDesign Support. This page includes links to several helpful InDesign resources, as well as several top InDesign issues. (www.adobe.com/support/products/indesign.html)

- Adobe Illustrator Support. This page includes links to several helpful Illustrator resources, as well as several top Illustrator issues. (www.adobe.com/support/products/illustrator.html)

- Adobe Acrobat Support. This page includes links to several helpful Acrobat resources, as well as several top Acrobat issues. (www.adobe.com/support/products/acrobat.html)