Getting Started with Transparency

Using Adobe Creative Suite 2 Software

Adobe®

Introduction to transparency

This guide provides basic information for anyone who wants to get started using the transparency features in the Adobe® Creative Suite 2 components. If you would like additional information about creating and printing transparency, you can download the following documents from the Adobe website:

- A Designer's Guide to Transparency for Print Output Using Adobe Creative Suite 2 Software (studio.adobe.com/us/print/main.jsp). This document provides detailed information about creating transparency effects and exporting and printing files that contain transparency.

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

Transparency basics

For graphic artists, the ability to create a variety of effects using the transparency features available in the Adobe Creative Suite 2 components has both aesthetic and practical benefits. You can use transparency effects like soft drop shadows, blending modes, and feathered edges to create eye-catching designs, and the support of transparency across Adobe Creative Suite 2 enables you to use your favorite program to create transparent artwork and save the artwork in native format or export it as an Adobe Portable Document Format (PDF) file for use in other Adobe Creative Suite 2 components.

You can apply transparency effects to any object (bitmaps, vector artwork, and type)—including native objects created within an Adobe Creative Suite 2 component or placed artwork created with other Adobe Creative Suite 2 components. You don't have to use only Adobe Photoshop® CS2 to create transparency effects. You can also use Adobe Illustrator® CS2 or Adobe InDesign® CS2.

Illustrator CS2 and InDesign CS2 include four main transparency effects: soft drop shadows, feathered edges, blending modes, and opacity. You should also be aware of a process called "flattening," which is explained on the next page. Here are brief descriptions of the main transparency features you'll find in Illustrator CS2 and InDesign CS2:

Drop shadow

When you add a drop shadow to an object, a soft-edged duplicate shape of the object is displayed behind the object, making it appear that a shadow is being cast on the page background or any underlying objects. The effect can be a blending of the shadow with underlying objects.

Drop shadow.

Feathering

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

Feathering (12pt. sharp).

Blending mode

When you apply any of several blending modes, you can vary the way the colors of objects blend with the colors of underlying objects.

Blending mode (screen).

Opacity

You can vary the degree of transparency of an object or a group by adjusting its opacity. An object with an opacity of 100% is totally opaque (that is, you can't see anything behind it); an object with an opacity of 0% is totally transparent. As you decrease an object's opacity, the page background or any underlying objects become increasingly visible through the object.

Opacity (50%).

Flattening

If you're going to create transparency effects, you should also understand a little bit about flattening. All transparent objects in a file—as well as all linked graphic files that interact with transparency—must be flattened for print output, including Adobe PostScript®, Encapsulated PostScript (EPS), or when saving as PDF 1.3 and earlier.

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.

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.**
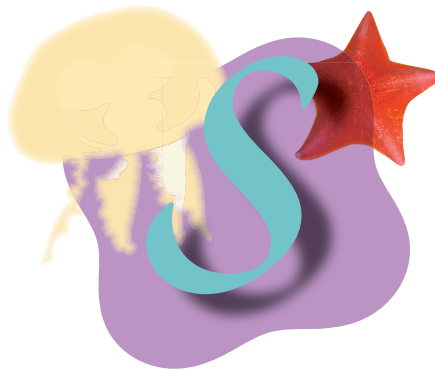
The Flattener Preview palette in InDesign, Illustrator, and Acrobat highlights transparent objects/images, as well as areas affected by transparency.
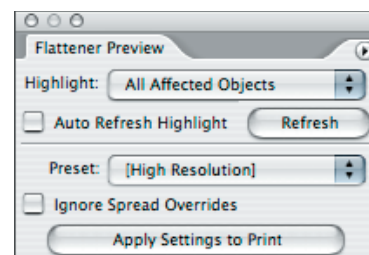
When Highlight: All Affected Objects is selected, areas that are affected by flattening are displayed in pink, while areas that are not affected by flattening are displayed in gray.

**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.**
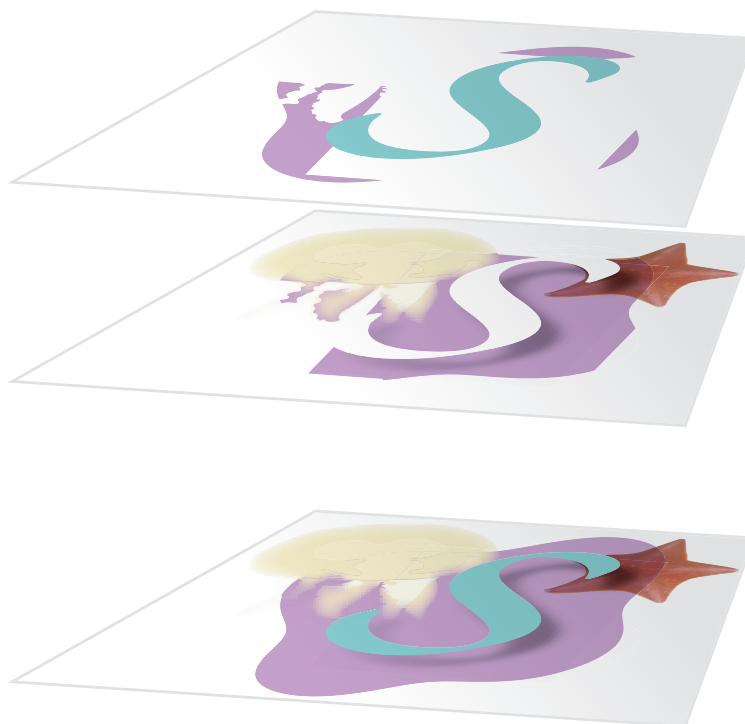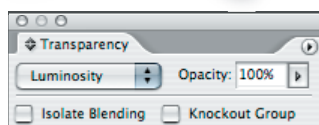
No transparency effects are applied to either object.
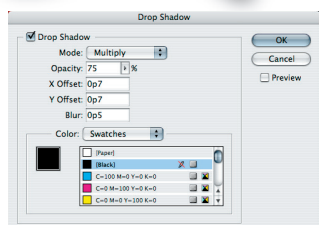
Drop shadows are applied to both objects.

The Luminosity blending mode is applied to the text frame.

Creating transparency effects

Transparency is an effect applied to an object, like a stroke or a fill applied to a piece of vector art. You can apply one or more transparency effects to any object—for example, a text frame, a placed graphic, or a shape created with any drawing tool can each have different transparency effects applied. You can also apply transparency effects to a group of objects. It's also possible to add transparency to a document by importing/placing transparent artwork created in another application. For example, you can place a native Photoshop CS2 file with a feathered edge into an Illustrator CS2 layout, or you can place an Illustrator CS2 file with a soft drop shadow into an InDesign CS2 layout.

Keep in mind when working with transparent objects that as the number of overlapping transparent objects increases, so does the complexity of the transparency effects. 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 transparency effect (the drop shadow) must be combined with the underlying graphic for display and printing. You are not likely to encounter problems if you apply transparency effects to isolated objects that do not overlap with other objects or colors.

When you're creating transparency effects, you should be careful not to create 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 or print. Use good judgement when designing with transparency.
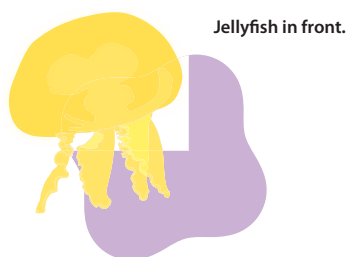
Object stacking order and transparency

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. The stacking order of objects is critical for correct display and printing of transparency.

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.

Jellyfish in front.

Purple object in front (with Overlay blending mode applied).

The two examples above show how stacking order can affect transparent objects. Both examples contain similar-looking purple and yellow objects. The yellow jellyfish is a placed Illustrator graphic; the purple shape is a native InDesign object. In both examples, the Overlay blending mode is applied to the purple object; no transparency is applied to the jellyfish. The only difference between the left pair of objects and the right pair is that the stacking order is reversed. On the left, the jellyfish is in front of the purple object; on the right, the purple object is in front of the jellyfish. 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.

Saving, exporting, and printing files with transparency

When you save or export a document with transparency as PDF 1.3 (Acrobat 4) or EPS, or print the document, you must specify the transparency flattener settings. These settings are saved in a flattener preset (a reusable collection of transparency flattener settings). The preset you choose determines how flattening is performed on objects that interact with transparency.

Where necessary, flattening converts vector artwork and text into bitmaps (this process is called *rasterization*). Other effects, like drop shadows and feathers, are raster effects themselves. To save, export, and print these effects properly, you must specify the appropriate rasterization resolution in the flattener setting you use.

Both Illustrator CS2 and InDesign CS2 software include three built-in transparency flattener presets: Low Resolution, Medium Resolution, and High Resolution. You can also create your own custom flattener presets. Adobe Acrobat® 7 also provides flattening controls in the Advanced Print Setup dialog box (File > Print > Advanced > Transparency Flattening) and the Flattener Preview window (Tools > Print Production > Transparency Flattening). (Note: You cannot create flattener presets with Acrobat 7.) Transparency flattener presets are available when you save PDF files with Illustrator CS2, export PDF files with InDesign CS2, and print files with transparency from these applications. Here are some basic guidelines for choosing a transparency flattener preset:

- Choose the Low or Medium Resolution flattener preset for desktop proofs printed on black-and-white desktop printers.

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

- Choose the High Resolution flattener preset for imagesetters and other high resolution output devices. If you're creating a PDF for a print service provider, ask them for their preferred transparency flattener preset or flattener settings. Generally, the best practice is to use the High Resolution preset or get a customized preset from your service provider. (You can also create your own customized flattener presets.) Specifying the correct flattener settings—especially resolution—is critical for achieving the intended high-quality output.

You should consult your print service provider before flattening any transparent artwork. Because flattening includes resolution settings, the printer typically needs to specify what settings to use.

Exporting files with transparency

If you're creating a standalone file 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 a native Photoshop CS2, native Illustrator CS2 (.AI), or native InDesign CS2 (.INDD) file by using the Save command (File menu). However, if you intend to use the design in another layout or application, you must decide whether to save the document as a native file or export the document in a different file format.

Whenever possible, you should use file formats that preserve live transparency—including native Photoshop CS2 and Illustrator CS2 file formats, or PDF 1.4 (Acrobat 5), PDF 1.5 (Acrobat 6), or PDF 1.6 (Acrobat 7) files—when you're creating graphic files for placement in other documents. These Adobe applications are built to work together, and they let you view and output native file formats and transparency effects.

When you create an Adobe PDF file using Acrobat Distiller®, PostScript must first be generated from the artwork. Because live transparency can not be represented in PostScript, flattening must occur. As a result, the PDF file contains no live transparency. When you save or export Adobe PDF documents directly from Illustrator or InDesign, Distiller is not used, and as a result, live transparency is retained in PDF 1.4 and later.

Saving files in native formats for placement into other Adobe applications provides several advantages over other file format options:

- **Greater control at print time.** Using native file formats with live transparency 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, and unflattened version of a graphic instead of multiple, exported TIFF or EPS files, you reduce the number of files you have to track. You also reduce the disk space required to store your graphics.

- **Easy editability.** InDesign CS2 lets you place native Photoshop CS2, native Illustrator CS2, and Illustrator CS2 PDF 1.4, PDF 1.5, and PDF 1.6 files, which in turn lets you preserve live transparency throughout the page layout workflow. Other formats can flatten Illustrator objects, making them uneditable. Flattened Illustrator objects force you to open the original file in Illustrator CS2, make the changes, export and flatten the file again (ensuring again that the rasterization resolution is set correctly), and finally relink the placed graphic in InDesign CS2. When placed into InDesign, an Illustrator object with live transparency interacts with objects below it on the InDesign page as though the transparency effects were created within InDesign.

If you need to make changes to a native Illustrator CS2 graphic, you can simply open the file in Illustrator CS2 and make the changes. (While working in InDesign, you can easily open an Illustrator file by selecting it in the Links palette and then choosing Edit Original from the palette menu.) When you modify a placed native Illustrator CS2 graphic that has live transparency, all instances of the graphic in InDesign CS2 documents are updated. When it's time to print the finished InDesign CS2 document, the print/prepress service provider can flatten all transparency at once directly from within InDesign CS2 by using the program's flattener controls. If you need to place transparent artwork into non-Adobe applications that don't support live transparency, you must save the artwork in a flattened format.
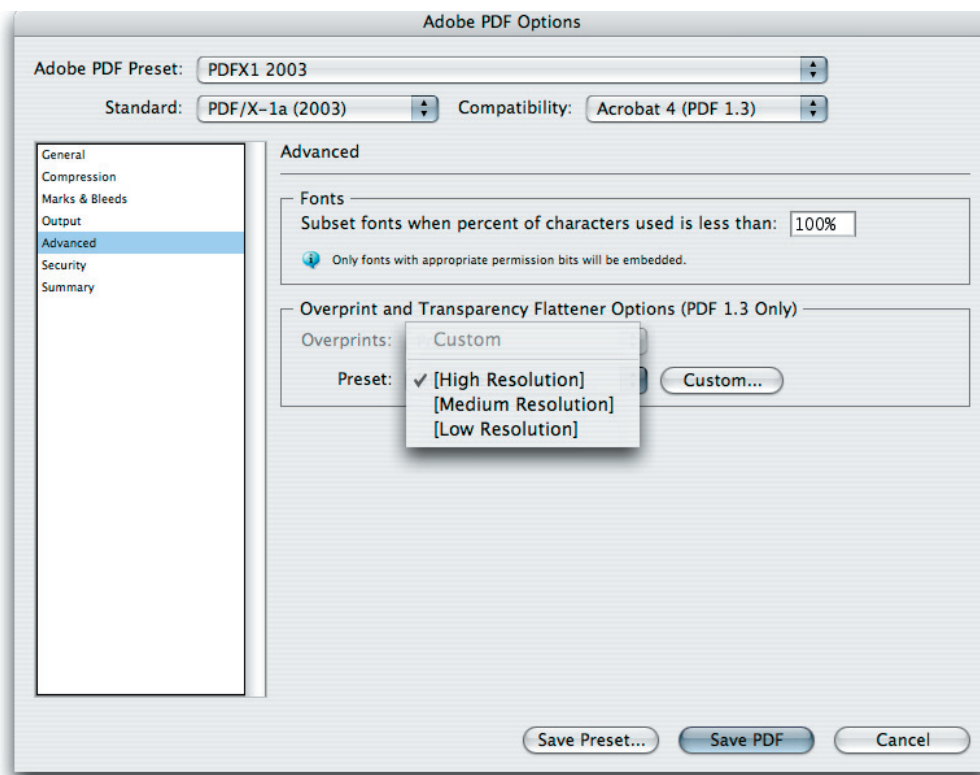

When you use the Save or Save As command in Illustrator CS2 to export a file with transparency, you can choose a transparency flattener preset in the Advanced panel of the Adobe PDF Options dialog box. The same menu for choosing a transparency flattener preset is available when you export an InDesign CS2 document as PDF (File > Export).

Remember, when you export a document (including Photoshop CS2, Illustrator CS2, and InDesign CS2 documents) to 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. The exceptions are when you reopen Illustrator CS2 EPS files in Illustrator CS2 and when you reopen PDF 1.3 files for which Preserve Illustrator Editing Capabilities was selected in the Adobe PDF Options dialog box when the file was saved. EPS files are considered flattened when they are placed into any other application.

Printing files with transparency

When you want to print a document—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 appropriate flattener settings or a flattener preset.
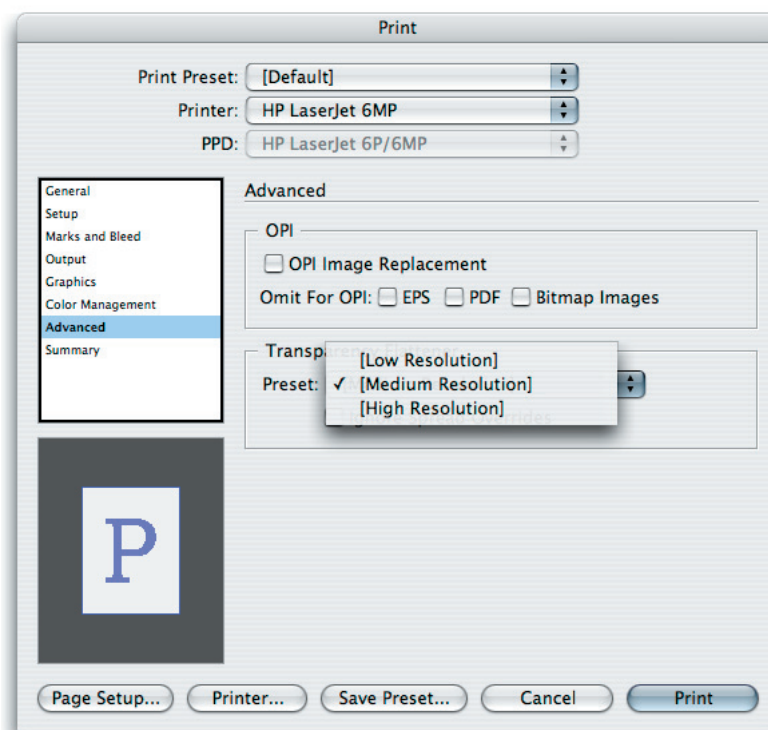
The transparency flattener preset you choose in the Advanced panel of the Print dialog box in both InDesign CS2 (shown) and Illustrator CS2 determines how transparency effects are flattened during printing.

Preparing and delivering files for high-resolution printing

If your documents contain complex, overlapping areas of transparency and you require high-resolution output, you should work closely with your print service provider. Your print service 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 printer will handle flattening, you should provide a native file 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 (these file formats must be flattened), consult with the person responsible for printing your documents about the recommended flattener and resolution settings. Acrobat 7 Professional has several PDF/X creation and validation features. (*Note: InDesign CS2 includes built-in PDF/X export capabilities.*)

Not all service providers support all file types. Make sure to check with your service provider, and ask them what file types they accept.

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.

Transparency-related resources

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

- A Designer's Guide to Transparency for Print Output Using Adobe Creative Suite 2 Software. This document contains detailed information about transparency and using the transparency features in Illustrator CS2 and InDesign CS2. (studio.adobe.com/us/print/main.jsp)

- 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)

- Adobe Systems and PDF/X. 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. This is a good place to start 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)

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