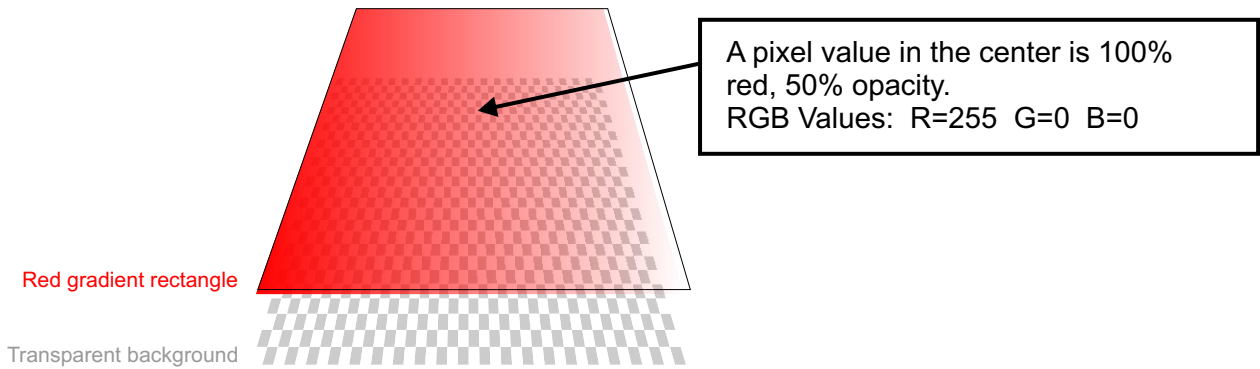
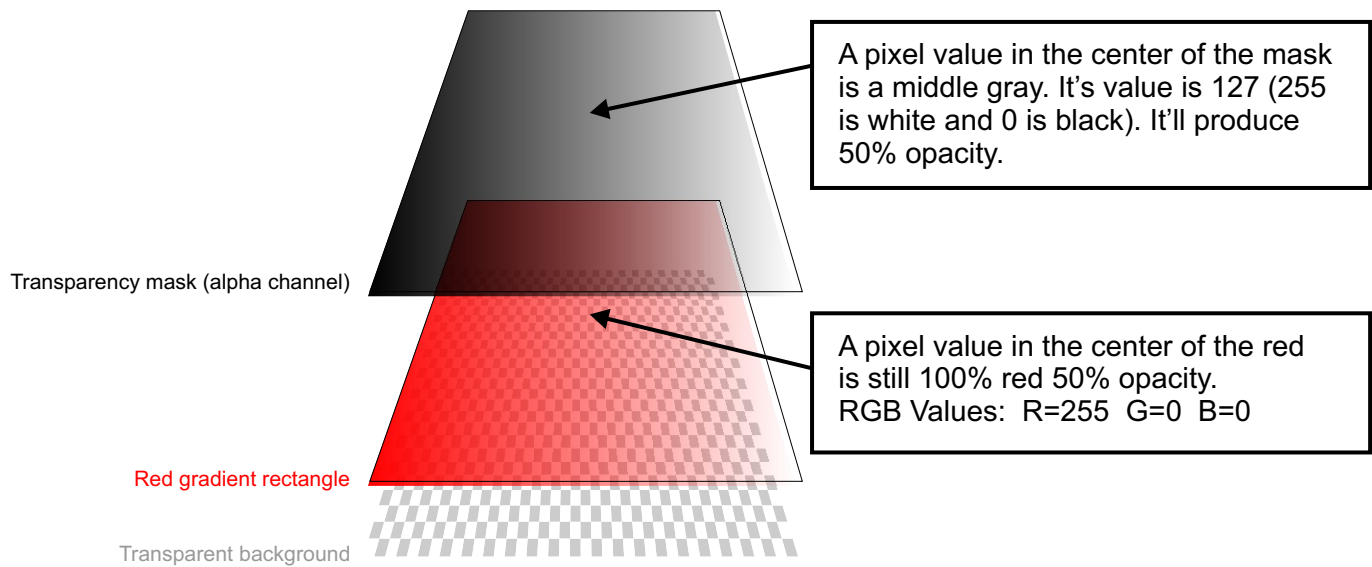


How PNG transparency works in Corel Photo-Paint

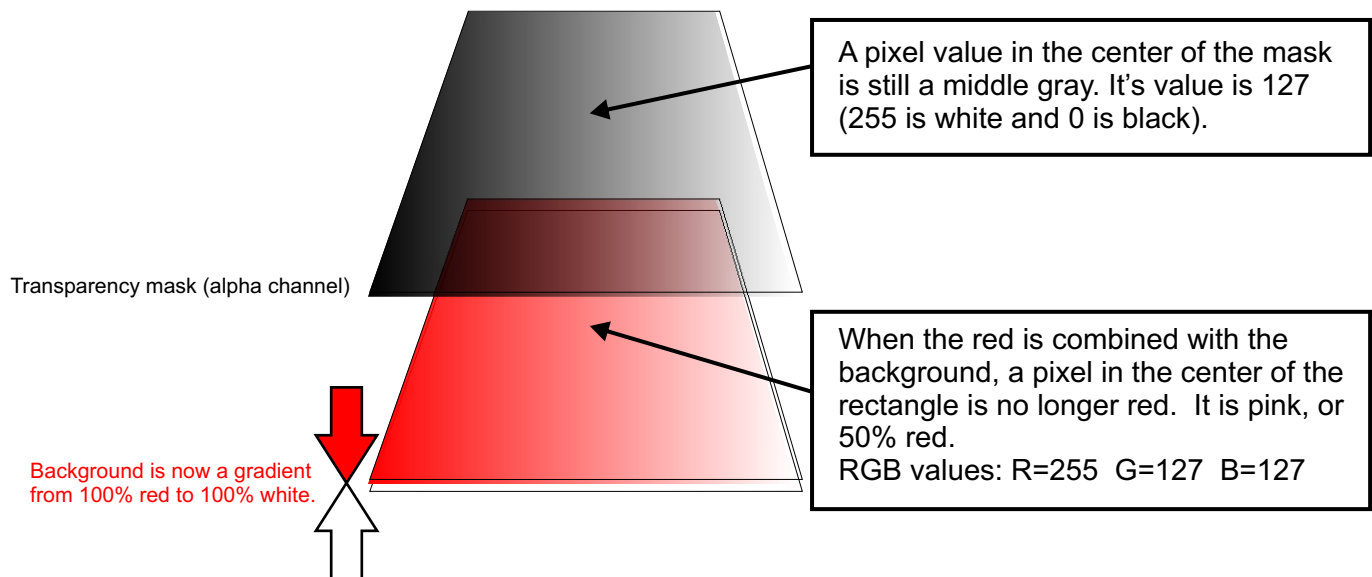
Say you have a red rectangle on a transparent background in Corel Photo-Paint. The rectangle is a gradient from 100% opacity on the left to 0% opacity on the right.



If you create a mask from object, the mask would be depicted like this:



When Corel Photo-Paint saves to PNG, it combines object with background. The background is white in this illustration.



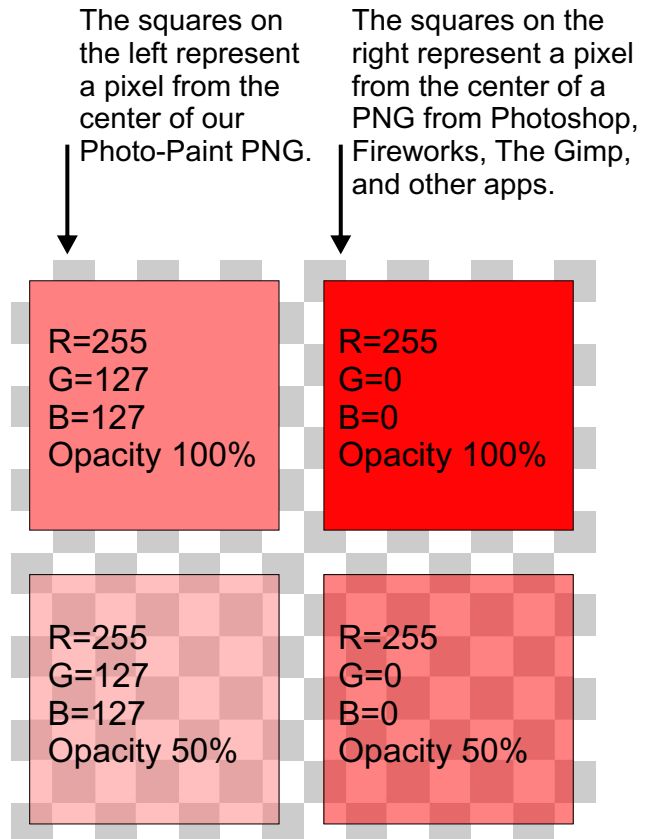
The result:

The gray center pixel of the mask, which produces 50% opacity, makes the pink center pixel in our gradient 50% opaque.. That center pixel is pink because Photo-Paint merged the red gradient with the white background.

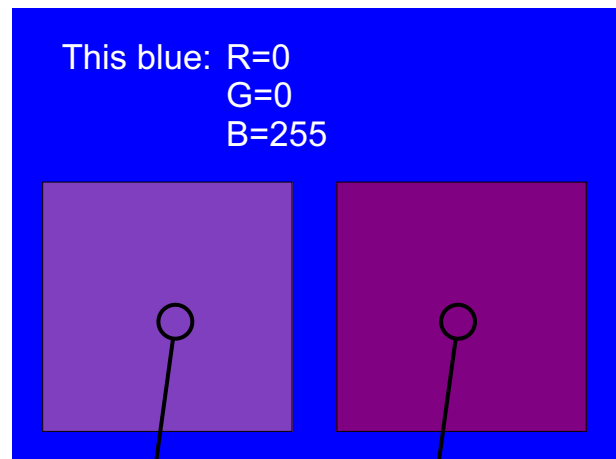
That's problematic. The value of the center pixel should remain 100% red. The gray center pixel of the mask should be applied to the 100% red not to the pink.

I chose the center pixel to simplify calculations. You could calculate the RGB values on any pixel with its corresponding luminance value of the mask. You'll see that the mask makes various shades of pinks transparent.

It is possible in the above example to use a red background so that the center pixel remains red instead of it becoming a pink when the red rectangle is merged with the red background. However, in the case of multicolored objects, it is far more difficult to control the background. There are convoluted solutions that are too time consuming. They require saving the mask, deleting the mask, working tediously to make the colors bleed beyond the mask, then re-importing the mask, and the result is hardly ever perfect.



When you place these transparent pixels over other colors, the results differ: →



Since this pixel is 50% opaque, then this color is half the value of the pink + half the value of the blue:

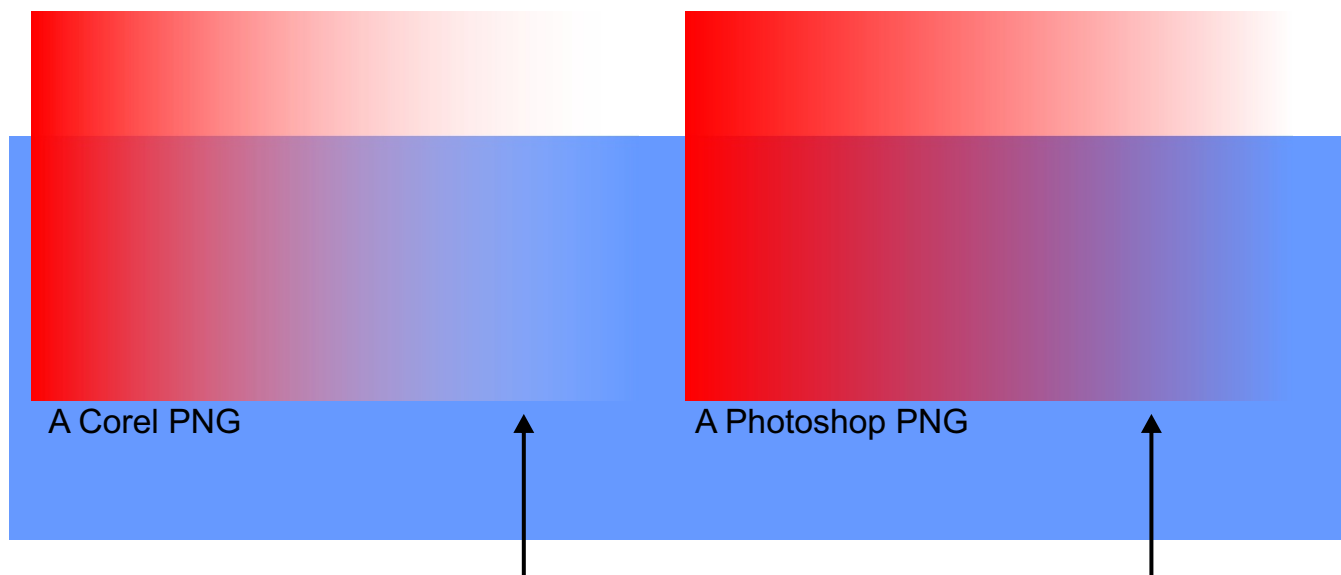
$$(R255,G127,B127)/2 + (R0, G0, B255)/2 = (R127, G61, B188)$$

Since this pixel is 50% opaque, then this color is half the value of the pink + half the value of the blue:

$$(R255,G0,B0)/2 + (R0, G0, B255)/2 = (R127, G0, B127)$$



The Corel PNG vs. the Photoshop PNG over a blue background:



A Corel PNG

A Photoshop PNG

Note the traces of light color coming from the pink which resulted from merging the red rectangle with the white background.

This is a clean transition.

In a Photoshop PNG, the object is never merged with the background, so each pixel retains its original value. Every pixel of the original red rectangle is 100% red, and none of that should change in the final PNG..

Another advantage of saving PNGs in Photoshop is that one doesn't have to create a mask before saving. The transparency is drawn from the object transparency that's already there.



Internet Explorer versions 6 for Windows does not support transparent PNGs while IE7 supports transparent PNGs. Mozilla-based Firefox, which is a very popular browser, already supports transparent PNGs. My web stats shows a fairly equal number of hits from IE nad Mozilla-based browsers. If IE supported this format (as Netscape 5 did earlier on), then PNG would have been a very popular format because it can save the designer a lot of hassle.

Transparency test link: <http://entropymine.com/jason/testbed/pngtrans/>

Here's how:

Below is simple web page design. The logo, buttons, and photo all have a soft drop shadow. I created all these graphics in Corel and saved them as PNG from Corel. When I saved them, the background was white.

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Let's say the client decides against a white background and chooses a blue background. A few simple clicks would allow the designer to change the background color. But note the white halo around the shadows which resulted from the Corel objects merging with a white background during the export to PNG. For these graphics to work, a designer would have to re-save all the graphics with the background set to this blue color. This is currently the problem with GIF transparency.

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If Corel allowed a transparent background in PNG, then a simple change in the background color would be all it takes to switch from white to blue, and the result would look clean like this example below. With a transparent background, all the shadows remain a soft black without the white halo.

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