

# Smart Objects In Photoshop

## What is a Smart Object?

A Smart Object is a Photoshop layer that contains all the same image information of a normal layer but a Smart Object layer will allow non-destructive edits. For example, the image can be resized many times without causing any degradation. Demonstrated later in the article.

## Understand Smart Objects

Smart Objects are layers that contain image data from raster or vector images.

Smart Objects preserve an image's source content with all its original characteristics, enabling the user to perform non-destructive editing to the layer.

## Smart Object benefits

With Smart Objects the following is possible:

- Perform non-destructive transforms. Images can be scaled, rotated, skewed, distorted, perspective transformed, or layer can be warped without losing original image data or quality because the transforms do not affect the original data.
- Perform non-destructive filtering. Filters can be subsequently edited when applied to Smart Objects at any time.
- Edit one Smart Object and automatically update all its linked instances.
- Apply a layer mask that's either linked or unlinked to the Smart Object layer.

Operations that alter pixel data cannot be performed — such as painting, dodging, burning, or cloning — directly to a Smart Object layer, unless it is first converted into a regular layer, which will be rasterized.

## Creating Smart Objects

Embedded Smart Objects can be created using several methods.

Do any of the following:

- (Photoshop) Choose File → Place Embedded to import files as Smart Objects into an open Photoshop document.
- Choose File → Open As Smart Object, select a file, and click Open.

### Note:

Although JPEG files can be placed, it's better to place PSD, TIFF, or PSB files because layers can be added, pixels modified, and the file resaved without loss. (Saving a modified JPEG file requires flattening new layers and recompress the image, causing image quality degradation).

- Choose Layer → Smart Object → Convert to Smart Object to convert a selected layer into a Smart Object.
- In Bridge, choose File → Place → In Photoshop to import a file as a Smart Object into an open Photoshop document.
- Select one or more layers in Photoshop and choose Layer → Smart Objects → Convert To Smart Object. The layers are bundled into one Smart Object.
- Right click a layer in the layers palette choose Convert To Smart Object.

## Smart Objects In Photoshop

- Convert a layer to a smart object directly from Adobe Camera Raw. After opening a raw file in Adobe Camera Raw and the edits are finished, hold down the Shift key, the “Open” button at the bottom of Camera Raw changes to “Open Object.” Click it, and the image being been editing will open directly as a smart object for further editing in Photoshop.

### Resizing Smart Objects

One very good example of resizing two identical images a Raster Image and a Smart Object image, is to compare each of them after resizing, free transforming and rotating them. The first image is a smart object and the second image is a rasterised image. As can be seen, the Smart Object image has not suffered any degradation during the resizing, free transforming and rotating, whereas the second image has suffered major degradation. So if an image has to be resized, then convert it to a smart object before it is resized.



This Smart Object Image has been resized, free transformed and rotated with no degradation.

# Smart Objects In Photoshop



This Image has been resized, free transformed and rotated and is much degraded.

## Benefits Of Smart Objects In Photography

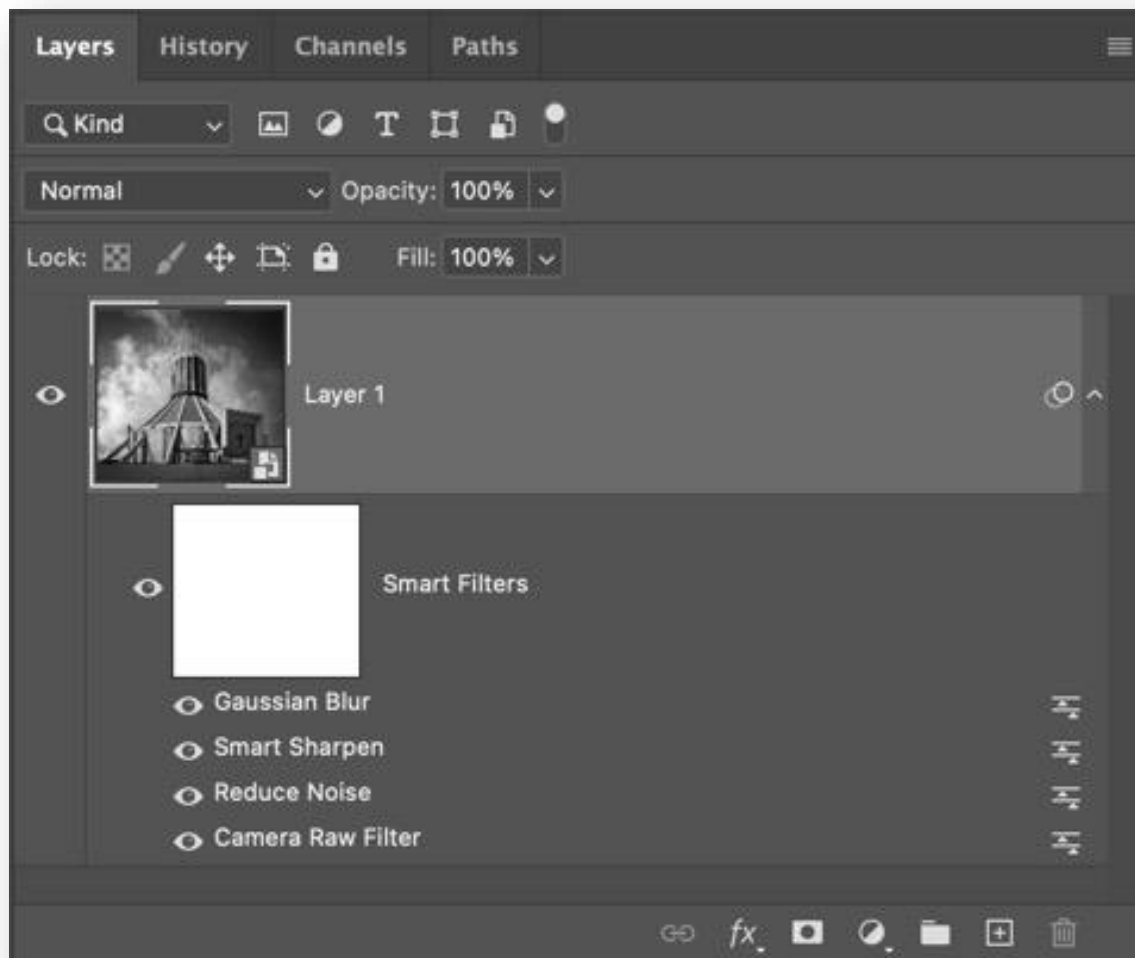
### 1. Non-destructive Filters


Photoshop's filter tools are a huge help for photography, especially now that the Camera Raw dialog has been added as a filter option in the latest versions of Photoshop. The Camera Raw filter can be used to make global adjustments in Photoshop, and also using filters like sharpening, noise reduction, and Gaussian blur on occasion.

But what happens if a filter is applied and only realise later that it went a too far? The layer may have to be deleted and edit started from scratch, which can be a serious problem if a number of other edits have been carried out to that layer in the meantime.

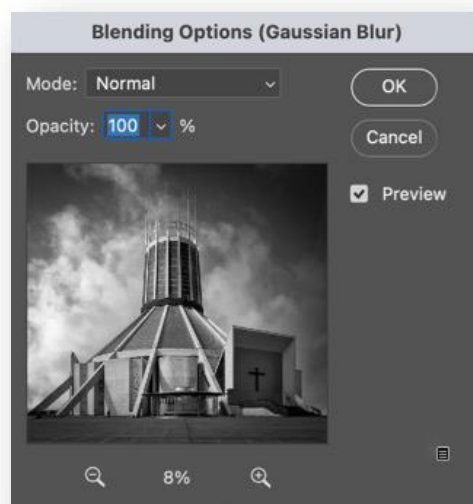
Instead, if a layer is converted to a smart object *before* applying any filters, they become "smart filters" instead. A list of all the smart filters appears under the smart object in Photoshop, and double clicking any of their names will re-open that filter's dialog.

# Smart Objects In Photoshop



Double click any of the bottom right icons  to change the filter's blend mode between the filters.

Doing so will pop up a dialog that looks like this below, allowing a change to the opacity and blend mode just like any other layer:



# Smart Objects In Photoshop

Overall, being able to re-do any filter edits is the largest reason to convert a layer to a smart object in Photoshop, at least for photography. Once used, never look back.

## 2. Non-destructive Transform

Another helpful reason to use smart objects is to transform or resize the layer without permanently making the transformation permanent into the layer. This was shown earlier “Resizing Smart Objects” in this worksheet, and hopefully it can be seen how it would be useful to have such an option for resizing different layers without destroying pixels in the process.

However, this only really applies if creating some kind of composite photography, whether surrealistic or something like product photography. Not all photographers need to composite images together, but if so, it is better to convert the layers to smart objects before resizing them.

## Shortcomings of Smart Objects

The biggest issue with smart object layers is that they take up more space than standard layers. Photoshop may slow down if file has too many smart objects (or many smart filters). It will also make file sizes much larger if saving a file with layers, such as a PSD or PSB format.

However, if the file is exported as a JPEG or otherwise if the smart object layers are flattened, then the file size issue goes away. In other words, these drawbacks only apply when there are active smart object layers in the document.

It should be kept in mind that some edits are not possible on smart object layers, such as using the brush tool, paint bucket tool, dodge, burn, blur/sharpen/smudge tools, and similar. These aren't possible because a smart object is the ultimate non-destructive layer. Photoshop doesn't have a way to revisit these sorts of edits, so it just prevents users from trying them on a smart object in the first place.

If it is decided to do one of these edits, the layer needs to be rasterized first. Rasterizing a layer turns it from a smart object to a regular layer, allowing edits to take place. Right click on the layer and select “Rasterize Layer” from the drop down. The layer can also be rasterized by attempting to do the edit (say, trying to paint on the layer) and selecting “OK” to rasterize the smart object when Photoshop pops up this warning message.

