ILLUSTRATOR FOR PATTERN DESIGN – EXAMPLES

Quite simple and graphic sketches suite for converting into vector format.

For example sketches drawn with felt tip pen or painted in ink, or sketches cut out of paper...
Simple geometrics are also good to make in vector format.

Temmeltäjät for Luhta Home

Kukka for Lauritzon´s

Koivu for Lauritzon´s

Designs for SOK and various US customers

Examples by Maija Fagerlund.

ILLUSTRATOR FOR PATTERN DESIGN – TRACING AND EDITING VECTOR ELEMENTS

Tracing – converting a sketch into a vector drawing

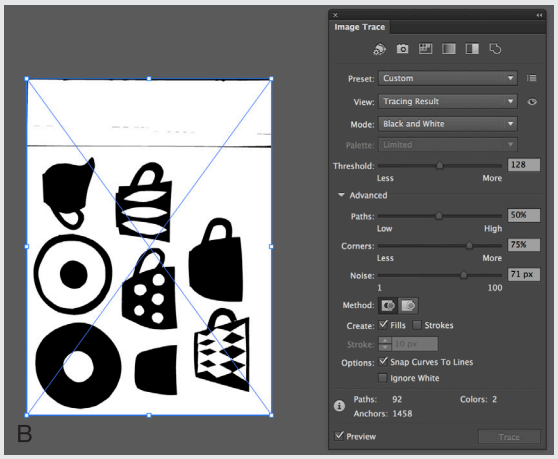
Tracing can be done for both black and white and multicolored sketches. Multicolored tracings can create quite big file sizes. Colors could be reduced in advanced in Photoshop before tracing in Illustrator, but it is not necessary.

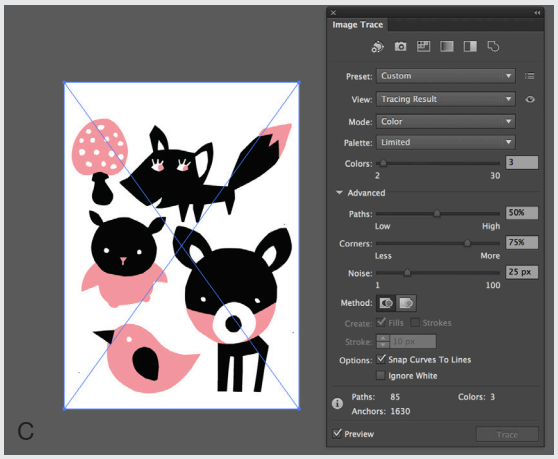
Bring the sketch to Illustrator file using Place-command, **File –> Place** (A)

To trace using default settings, select image and do: Object –> Image Trace –> Make and Expand

OR rather, to adjust the settings by yourself, do **Window –> Image Trace** (B, C)

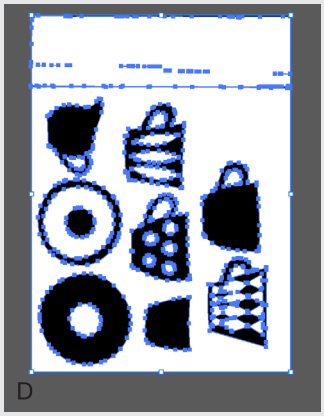
- **Tick Preview** to see how changing the settings affects the sketch (this slows down the computer!
- In Preset there are readymade settings e.g. photo or sketch, but they do not usually suite for all designs
- In View, select usually Tracing Result
- **In Mode, select Black & White** (B) **or Color** (C). When selecting Color, specify the number of colors (2–30). When selecting Black and White, adjust Threshold to tone the sketch more black or white
- Most important settings can be found in **Advanced**:
- **Paths controls, how evenly the tracing follows the original drawing.** High value in Paths makes a detailed drawing (and bigger file size). Really high value can trace even unwanted details in the drawing, like the structure from the paper used. Smaller values create smoother results.
- High value in **Corners** makes a drawing with more corners. Smaller values create smoother results
- **Noise controls how small details will still be traced** from the sketch. Small values in Noise will create a detailed drawing (and bigger file size). Bigger values create smoother results.
- **Method** controls how the vector elements will be constructed: With Black and White images, **Abutting** will make simply black and white vector elements on top of each other. **Stacking** would also make white elements' shaped holes into black elements. With Color images, Abutting will make vector elements in different colors with no overlapping. Stacking instead would make slightly overlapping vector elements. With both of the settings the result will look the same, so try out both of the settings to understand the difference!
- If you want all white in the sketch to be transparent, **tick Ignore White** (works only with Abutting)

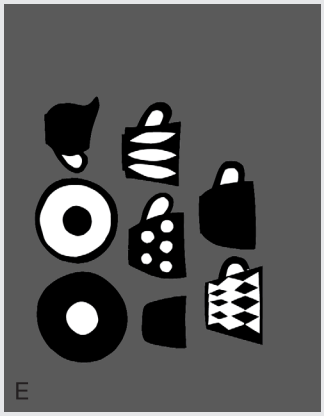




When you are happy with the settings, do: **Object –> Image Trace –> Expand** (D) OR click **Expand button on top on the application bar**

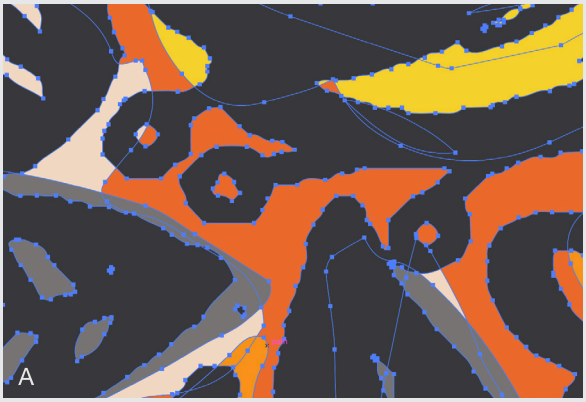
All elements from one image are now grouped together. Select the image with Selection Tool (V, black arrow) and do: **Object –> Ungroup** (Ctrl + Shift + G). If there is white background element (if Ignore White was not ticked) usually delete it: Deselect the image by clicking somewhere on the page. Then select the white background and do: **Edit –> Clear** (OR Backspace) (E). Group elements: Select all the elements you want to have in same group (e.g. all element of one flower) and do: **Object –> Group** (Ctrl + G). You can also use lasso for selecting. Repeat for all elements.





Editing vector elements

Vector elements have no resolution, so in theory they can be scaled as big as wanted. Anyway, some images can look quite bad when scaled very big, because it reveals all the details of vector drawing (especially in painted designs, designs made with crayons etc.). If there´s too much ”hills and valleys” in vector drawing (A), **the tracing process could be made again with different settings.**



Instead of it, a simplify function could be used: **Object –> Path –> Simplify**. Drag sliders left to simplify the drawing.

For more detailed smoothing: Try the **Smooth Tool**, you can add it to Toolbar from All Tools. With Smooth Tool, you can simply ”draw” the vectors smoother (just quickly draw on top of the fixed area several times, the tool will slowly decrease the anchor points). For still more detailed working, use Pen Tool and Direct Selection Tool (white arrow). Delete single vector points using Pen Tool. Fix the curves by selecting anchor points with white arrow, and turning vector handles. To turn only one handle, Alt click while turning.

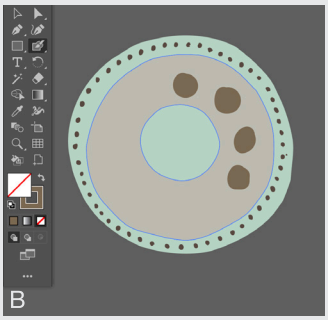
Drawing

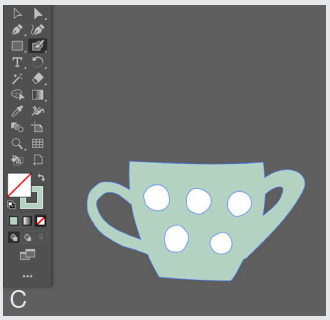
You can also edit vector elements with other drawing tools, such as Pencil, Eraser, Blob Brush and Paintbrush. You could also of course draw the whole vector element in Illustrator, and not use tracing at all.

Pen is the most simple of the tools. You can draw straight or curved lines (for drawing lines, select None for Fill and a color for Stroke)

With **Pencil** or **Paintbrush** you can draw vector elements a bit more freely. You can define how evenly the drawing tools draw. Double click a tool in toolbox. Fidelity slider controls, how evenly the result will follow your drawing. Accurate means it will follow it quite exactly (also shaking of hand etc.) and Smooth makes naturally smoother results.

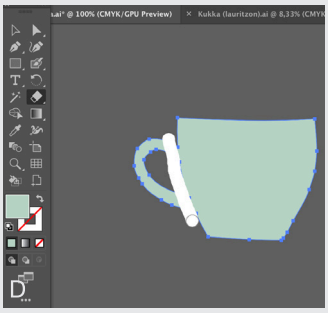
Blob Brush (B, C) automatically expands the brush stroke into a fill shape. Double click on the icon for adjusting also the size and shape.

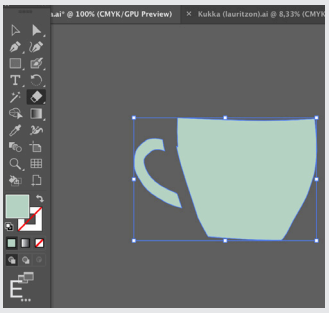




Eraser Tool: If nothing is selected, eraser will work on everything. If an element in selected, eraser will work only on that element. Change the size or eraser by double clicking the icon.

- With Eraser it’s quick to e.g. separate large one-colored elements into several smaller elements. **(D, E)**





Align and Pathfinder

Open Window –> Align. With Align tools, you can e.g. arrange elements on the same line horizontally or vertically

Open Window –> Pathfinder. With Pathfinder tools you can combine and divide overlapping vector elements.

Add combines overlapping vector shapes into a single, one colored path.

Divide will cut the elements with each other

Merge merges overlapping objects filled with the same color. It removes the parts of objects that are hidden behind other elements. You could use Merge for example to get filling back to areas, where there´s only holes left: Make a rectangle, arrange it behind the element, select both and click Merge. Delete the rests of the rectangle outside the element.

With crop, you can use (quite simple) vector element to crop one or more vector elements. Arrange the element you want to crop with on front, and elements you want to get cropped behind it. Select all and do crop.

ILLUSTRATOR FOR SURFACE DESIGN – COLORS

Color Settings can be changed in **Edit –> Color Settings**

You can create custom color swatches e.g. in Color panel or by modifying the color swatch in Tool box. To save a color, drag it in to the Swatches panel from tool box, or click the lines in upper right corner of the Color OR Swatches panel, and select Create New Swatch.

There are two color types: process colors and spot colors. A process color is printed using a combination of the four standard process inks: cyan, magenta, yellow, and black. By default, Illustrator defines new swatches as process colors. A spot color is a premixed ink that is used instead of, or in addition to, CMYK process inks. Create usually process colors.

Saving a library of custom swatches: click the arrow in upper right corner of the **Swatches panel and select Save Swatch Library.** From here you can also open previously saved Swatch Libraries (if you want to open a swatch library done in Photoshop, it needs to be first saved as Save Swatches for Exchange in Swatches window in Photoshop)

In Swatches panel it is possible to create color groups by clicking the folder icon (New Color Group)

Changing the colors

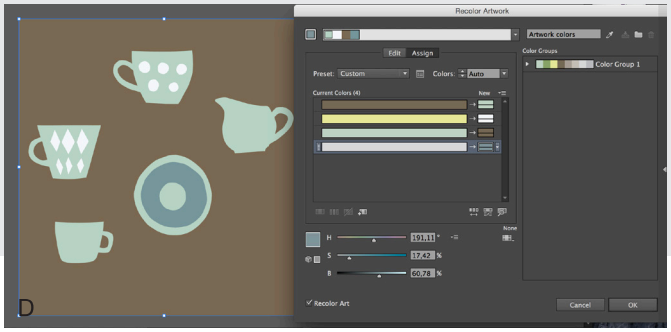
Vector element can have a fill color or a stroke color, or both of them. E.g. in the tool box you can see the color of currently selected element. If there´s a question mark in tool box instead of a color, you have selected more than one color (C). **When changing colors, use always Direct Selection** (the white arrow) (A) **or Magic Wand** (B) to select, so you can be sure to take just one color. Double click on Magic Wand icon to check that Tolerance is 0, otherwise it will select several similar colors.

You can change a color by selecting an element from the design (with white arrow) and then clicking a new color in swatches menu. If you want to change a fill color of the element, the symbol of fill has to be on top of the stroke symbol in the tool box (A, B).

If you want to change same color from the whole document, select the color with Magic Wand (B). (or select it with white arrow and do: Select –> Same –> Fill color)

If you want to change a color from a whole object (e.g. a flower) but not from the entire design, with Selection Tool used double click the object to isolate it. In **Isolation Mode**, select the color with Magic Wand. (To exit the Isolation Mode, press esc)

Colors in one selection can be also changed in Recolor Artwork (D). Make a selection and do: **Edit –> Edit Colors –> Recolor Artwork**. You can change the colors of the selection in the appearing window. To use only certain swatches, they need to first be saved as a swatch library. In Recolor Artwork it's possible to restrict color selection to a specific swatch library by clicking the grid icon (Limits the color group to colors in a swatch library). There select the used swatch library and double-click the changed color from New and the selected swatch library opens. When you are finished click Ok.



You can get a background color for the design by making a big rectangle and arranging it behind other objects: **Object –> Arrange –> Send to Back**. (E) It can be good to lock it: **Object –> Lock –> Selection**. You can unlock it by doing: **Object –> Unlock all**

Filling a pattern in element is done similarly as coloring – patterns are saved in Swathes panel, and applied to an element in exactly same way as colors.

Sketching multi-coloured designs

To achieve natural look, different colours in one design could be sketched, skanned and traced separately.

Coloring with Live Paint Bucket

With Live paint bucket you can for example color:

- ”holes” in compound paths
- an element that is formed by two overlapping vector elements
- areas that are not entirely closed, but have gaps in outline

Select the object you wish to color with Selection Tool (V black arrow). If you want to color an area formed by two overlapping objects, select both of the objects.

Select **Live Paint Bucket Tool** from toolbox. Select color from Swatches panel and fill the color of selected object.

When finished, select the object and do: **Object –> Live Paint –> Expand**. After this, the element is normal vector element. If you would not do this, element would stay in a special Live Paint Bucket mode. You could work in that mode too, but it could be difficult, if part of the design would be in Live Paint- mode and the rest of it in normal mode.

Define in Object –> Live Paint –> Gap Options, how big gaps Paint Bucket will still ignore

Transparency and Blending Mode

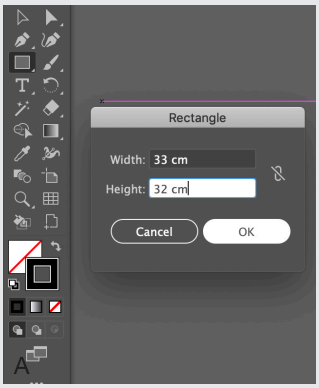
Have a look at the Transparency panel (Window –> Transparency). Here you can change the opacity and blending mode of an element, in a similar way as you can change opacity and blending mode of layers in Photoshop.

ILLUSTRATOR FOR SURFACE DESIGN – REPEAT

How to use Pattern Editor in making the repeat

Make a rectangle with black outline and no fill, size as the repeat you are going to make. Take the Rectangle Tool, click anywhere on the page, write the size in appearing window (A). **Lock the rectangle: Select it and do: Object –> Lock Selection**

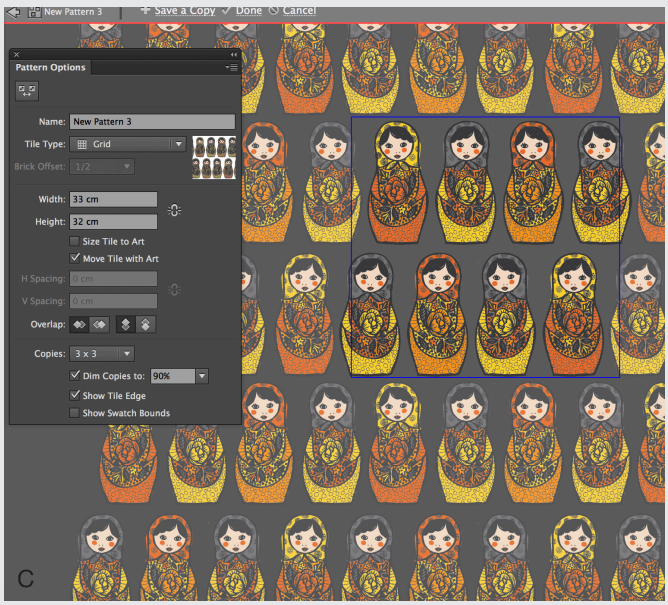
Arrange elements approx. into one repeat using the rectangle as guideline. (B) Unlock the rectangle and change also the stroke color to none. Make sure the rectangle is behind all other elements (select it and do: Object –> Arrange –> Send to back). **Select the rectangle and the elements in the repeat and do: Object –> Pattern –> Make**.



Note, that the rectangle is used as a guide to define the size of the repeat, but it would be possible to work also without it, and define the size later in Pattern Editor.

You will now jump into Pattern Editor, a pattern creating tool inside Illustrator (C).

- **Tile Type:** Grid makes a straight repeat. Tile Type: Brick (by Row or by Column) make Half drop repeat. Making half drop in Pattern Editor is so easy, that please consider carefully before using it!
- **The size of the repeat** is defined by size of the rectangle used as a guide to make repeat. (if the rectangle would not be used, the size of the repeat would be defined by size of the selection.) You can change size of the repeat by writing new values in **Width** and **Height**.
- **Do not tick Size Tile to Art** (this would change the size f the repeat). **You can tick Move tile with Art**.
- With **Overlap** you can define, which repeat will come on top on the edges of repeat
- With **Copies** you can define, how many times the design is repeated
- **The modification made into the repeat can be immediately seen in all copies of repeat**. You can move the elements, color them and copy and paste them. (If you cannot move elements inside the repeat, you may need to ungroup them). You cannot use all tools, e.g. drawing tools, in Pattern Editor.
- You can **Dim** the copied repeats into e.g. 80–90% when working with the repeat. Use Dim 100% when you really want to see how the repeat works.
- **When you are happy with repeat, double click anywhere on the page, or click Done in Options panel**



Note, that the draft you see in the file now, is not the repeat you have modified in the Pattern Editor, but the first repeat sketch. You could even delete this draft if wanted.

The final pattern is only saved as a Pattern Preset and you can find it from the Swatches panel. To modify it again, double click the icon of it in Swatches panel.

To see the pattern outside Pattern Editor, you could make a new, big rectangle, and fill it with the pattern (D). You can use pattern swatches to fill just like color swatches.

To get the design out from Pattern Editor, drag it on the page from Swatches panel. Ungroup the design. After ungrouping you will have one complete repeat as a group, and remnants of other repeats. Usually delete the remnants of other repeats. You can now modify the one complete repeat, and possibly repeat it again either with Pattern editor, or by using a method described below.

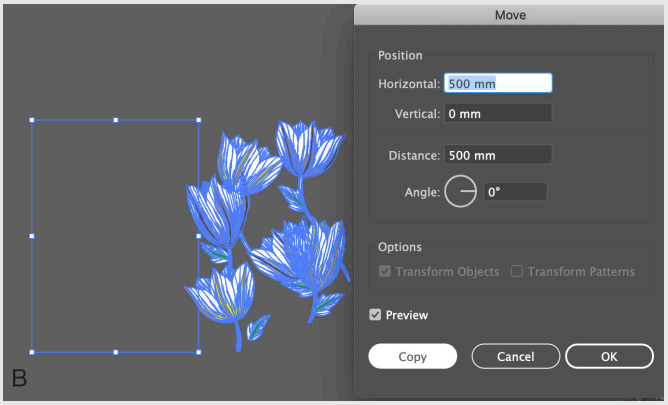
Note: You cannot do much image editing, drawing etc. In Pattern Editor. You cannot use linked images in Pattern Editor. If you use raster images (= anything else than vector elements) in Pattern Editor, you would need to embed them. This can slow down your computer, and result in big files sizes. To avoid these problems, you can use also the method described on below in making the repeat.

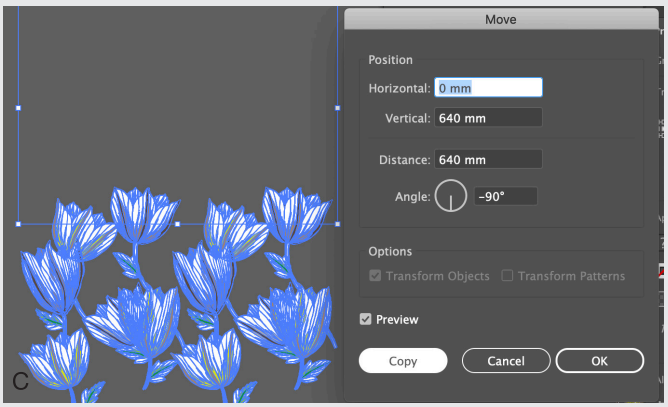
How to use “Object –> Transform –> Move” to build the repeat

Begin as in previous technique: Make a rectangle size the repeat, lock it, and arrange elements approx. into one repeat using this rectangle as guideline. (After the first repeat sketch the rectangle can be deleted if wanted)

Group all the elements in one repeat (A): Select the elements and do: **Object –> Group**

Do **Object –> Transform –> Move**. In Horizontal, write width of the repeat, in Vertical, write 0. **Click copy (B)**. Select both repeats and do again: Object –> Transform –> Move. In Vertical, write the height of the repeat, in Horizontal, write 0. Click Copy **(C)**. Move tool can be repeated several times with **Object –> Transform –> Transform Again (Ctrl + D)**





Ungroup one of the repeats (Object –> Ungroup).

Work with the repeat, move the objects to go nicely also in the edges of the repeat.

Select all repeats, except the one you have worked with, and delete them.

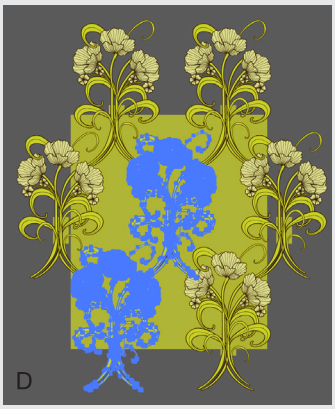
Group the fixed repeat, repeat it and work on it as above. Continue these steps until you are happy with the repeat. Repeat the design several times to see how it works as surface.

Instead of ungrouping and grouping the repeat, you could also work with the repeat in Isolation Mode.

Half Drop

Make a repeat using Object –> Transform –> Move. In Horizontal, write the width of repeat. In vertical, write approx. half height of the repeat. Click copy. This is now the one repeat of the design. Repeat it and work with it as usual. **(D)** Try also mirroring the half drop!

You can also just arrange some biggest elements approx. in half drop inside one repeat **(E)**.



All-over repeat

All-over repeat can build freely, but sometimes a grid can be helpful in making the composition (e.g. when using satin structure for building the repeat). Rectangular Grid Tool can be found in tool box (in All Tools). Select Grid and double click the icon –> define the size and grid lines. Fill the satin structure with Live Paint Bucket Tool. Stretch the structure into the size of your repeat and use it as a guide when making the composition **(F)**.

SAVING AND EXPORTING IN ILLUSTRATOR

Saving for your own design work

Save as Adobe Illustrator (ai)

Vectors: The more vector points you have, the bigger the file size will be. With detailed vector images, save only one repeat of the design, and nothing else.

If there are linked images in the file:

- Don't tick "Create PDF Compatible File" or "Include Linked Images"

Save the images and the Illustrator file in same folder

- The more images you have, more time it will take to open and save the file. If you have very many, save only one repeat of the design

Saving a low resolution pdf for tutoring etc.

Change the size of the Artboard to be the size of the print (50cm x 70cm or bigger if your design is bigger). Repeat the design so, that it entirely covers the Artboard. (You can change the size of the Artboard by first selecting Artboard-tool in Toolbox)

Save as pdf. Don´t tick Preserve Illustrator Editing Capabilities. You can downsample the resolution of linked images in Compression.

Also bigger repeat images (e.g. 150cm x 200 cm) can be saved this same way.

Combine the design pdfs into a single pdf file with multiple pages e.g. in Adobe Acrobat

Exporting for printing

Change the size of the Artboard to be the size of the print (50cm x 70cm or bigger if your design is bigger). Repeat the design so, that it entirely covers the Artboard.

Save as pdf. Don´t tick Preserve Illustrator Editing Capabilities. Do not downsample the resolution of linked images in Compression.

OR do File –> Export –> Export As. Tick Use Artboards, and save as TIFF. For resolution, select 150–300 dpi. You can use Anti-aliasing and LZV Compression

Exporting, when you want to continue working in Photoshop

Change the size of the Artboard to be the size of your repeat. Repeat the design so, that it entirely covers the Artboard.

Do File –> Export –> Export As. Tick Use Artboards, save as TIFF or Photoshop (psd). Use RGB colors. You can tick LZW Compression for TIFF. Anti–aliasing: None. For the psd, you can select Write Layers if you need them in Photoshop. Writing Layers is not possible with CMYK colors.