

USER GUIDE · MARKER NESTING

Marker Nesting — User Guide

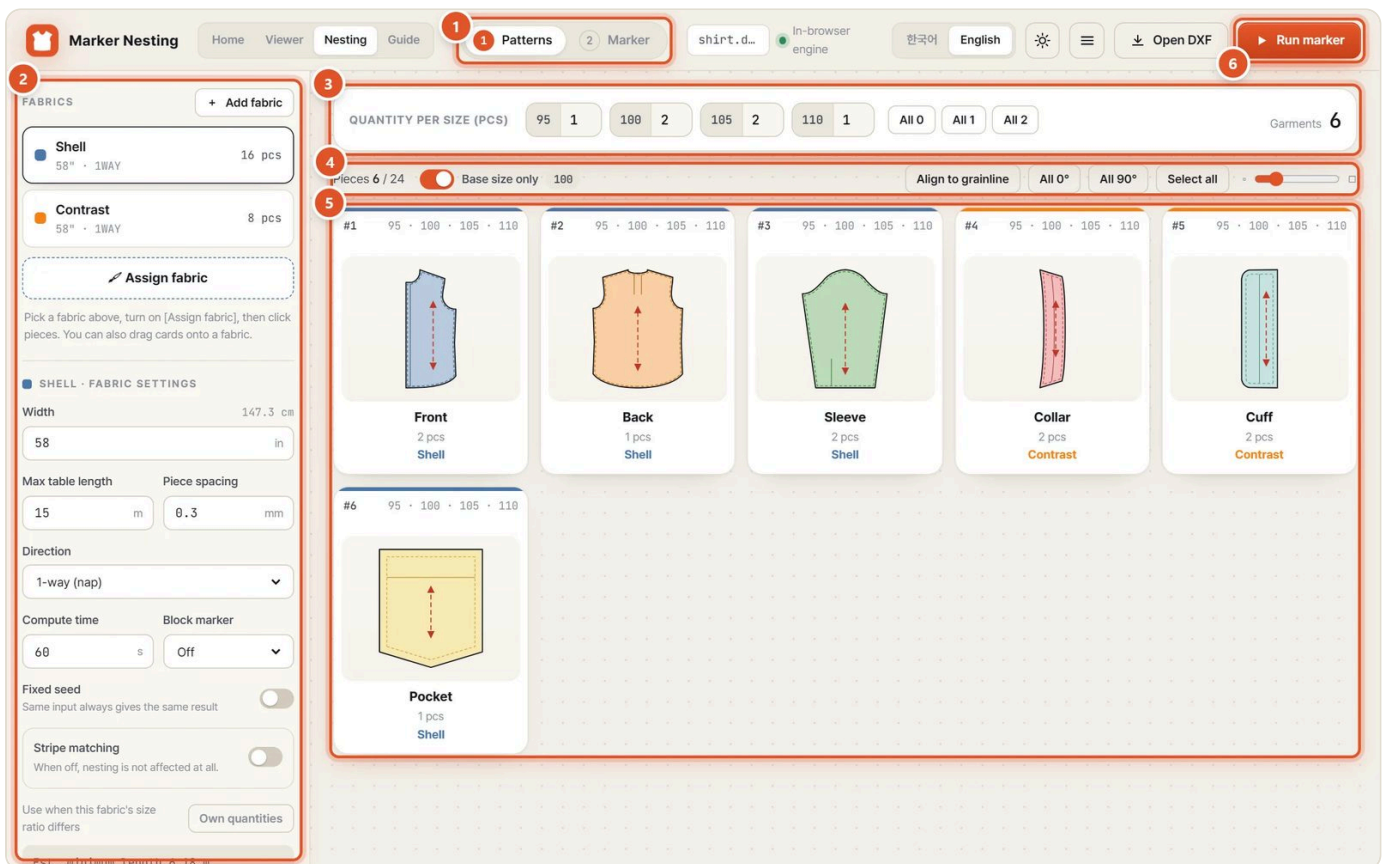
A free web tool that takes your DXF patterns, builds a marker for each fabric automatically, and gives you marker length, efficiency and yardage per garment. Nothing to install — it runs in your PC browser.

Before you start

- ☒ A DXF file exported from your pattern CAD (AAMA/ASTM format works best). To practise, you can use the built-in sample on the start screen.
- ☒ A PC with an up-to-date browser such as Chrome or Edge, and a mouse with right-click and a scroll wheel.
- ☒ An internet connection — the DXF reader is downloaded when the page first opens. Your file itself is never uploaded.
- ☒ The fabric width (in inches) and how many garments to cut in each size.

01 Screen layout

Once a DXF is open you are on the **Patterns** screen. Set up fabrics and quantities here, then press **Run marker** to build the marker.



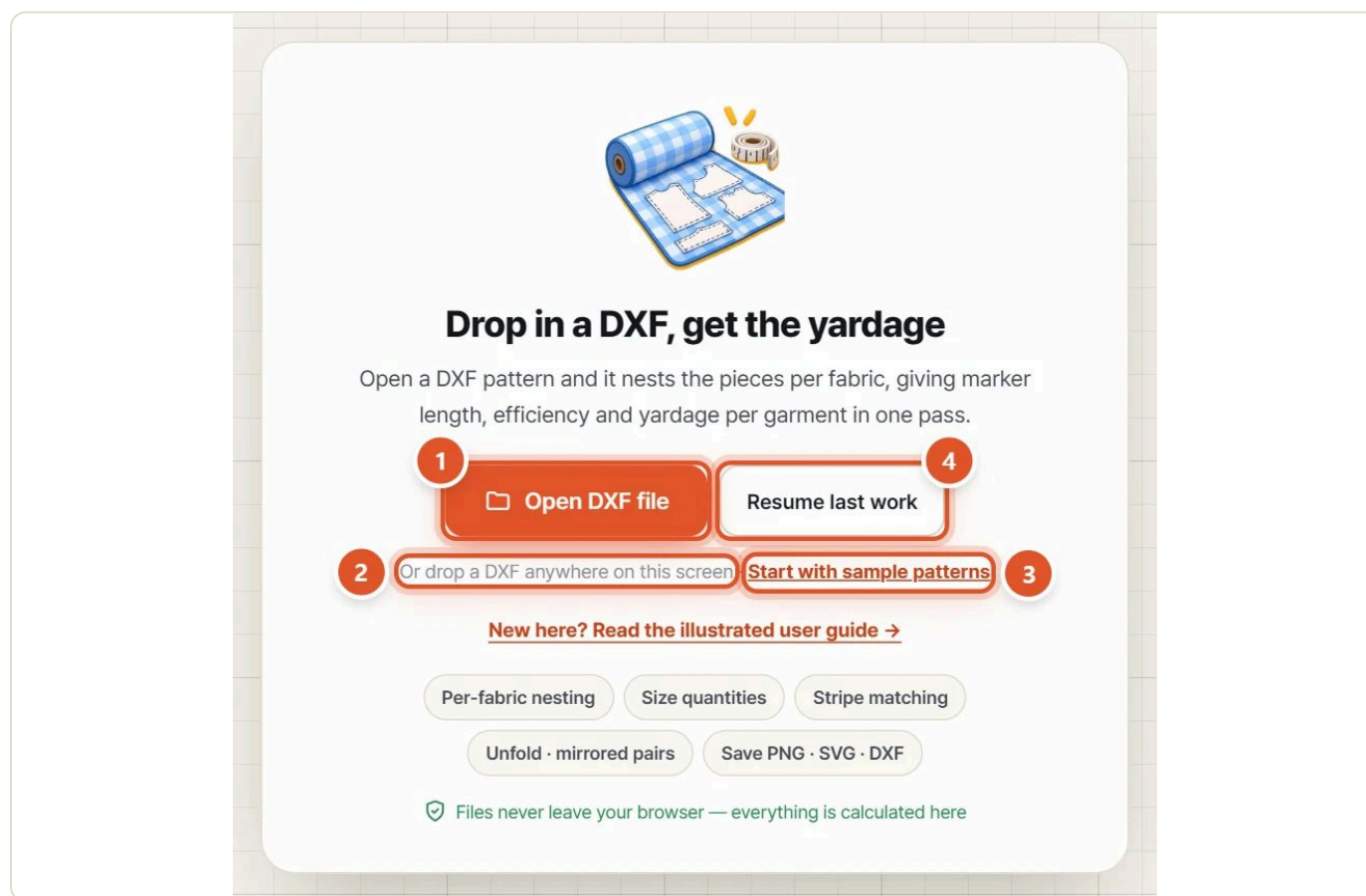
The Patterns screen (practice shirt pattern)

- 1 The two work steps: get ready on **Patterns**, see the result on **Marker**.
- 2 The fabric list and fabric settings. Each fabric has its own width, direction and compute time.
- 3 Quantity per size — how many garments to cut in each size.
- 4 The toolbar: piece count, the base-size view, and the align and select buttons.
- 5 Piece cards. One card per part, with the pieces per garment and the assigned fabric underneath.
- 6 **Run marker** — press it when everything is ready.

i Tip Use **Home**, **Pattern Viewer** and **Marker Nesting** at the top to switch between tools.

02 Open a DXF file

Open your file from the start screen. It is read only inside this browser.



The start screen

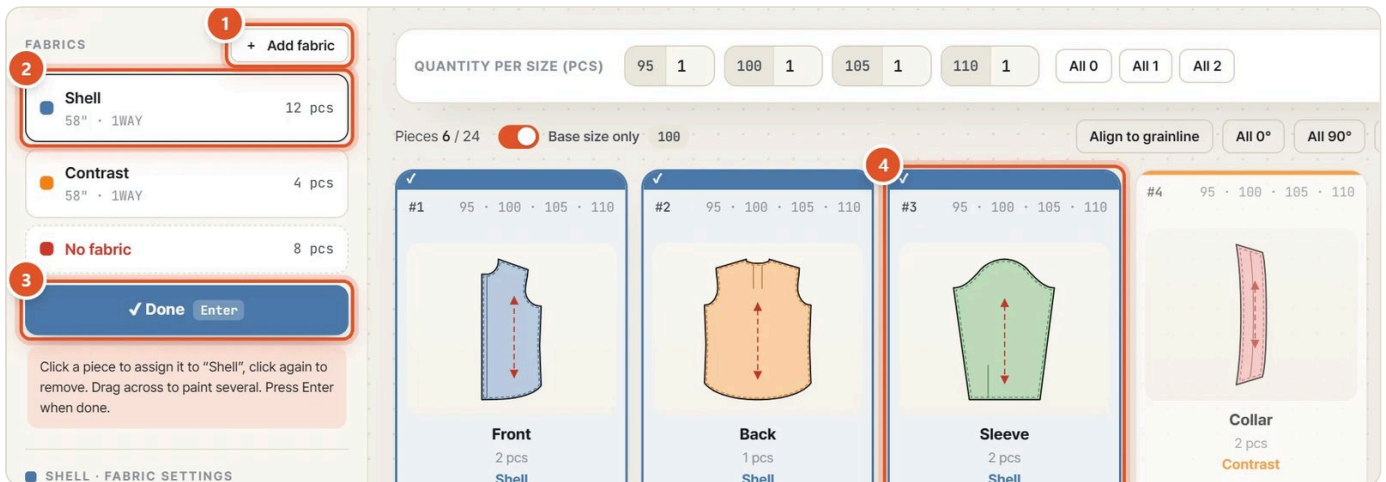
- 1 Click **Open DXF file** and choose your DXF.
- 2 Or drag the DXF file and drop it anywhere on this screen.
- 3 To practise first, click **Start with sample patterns**.
- 4 If you have worked here before, **Resume last work** appears. It reopens your last job just as you left it.

i Tip When the file has been read, a message such as “Loaded 24 pieces · 4 sizes” appears and you move to **Patterns**. While working, you can open another file with **Open DXF** at the top right.

! Note Opening a new DXF replaces the current job. If you want to keep it, use **Save project** first.

03 Add fabrics and assign pieces

Tell the tool which fabric each piece is cut from. Right after you open a file, every piece is **No fabric**.



Shell selected; Front, Back and Sleeve assigned to it (Collar is on Contrast)

- 1 If you use more than the shell fabric (contrast, lining...), click **Add fabric**. Double-click a fabric in the list to rename it.
- 2 Click the fabric you want to assign in the list.
- 3 Turn on **Assign fabric**. While it is on, the button reads **Done**.
- 4 Click a piece card to assign it — a ✓ appears on the card. Click again to remove it, or hold the button and drag across cards to paint several. When you are finished, press **Done** or **Enter**.

i Tip When assign mode is off, you can also drag a card onto a fabric on the left. Right-click a fabric for more: **Duplicate**, **Own quantities...**, **Run this fabric only** and so on.

! Note If any piece is still on **No fabric**, **Run marker** does not start — you are brought back here with a message.

04 Fabric settings (width, direction, time)

Click a fabric in the list and its settings appear below. Each fabric is set separately.

The screenshot shows the 'SHELL · FABRIC SETTINGS' interface. It includes the following elements:

- Width:** A text input field with '58' and a unit selector set to 'in'. The current value '147.3 cm' is displayed to the right.
- Max table length:** A text input field with '15' and a unit selector set to 'm'.
- Piece spacing:** A text input field with '0.3' and a unit selector set to 'mm'.
- Direction:** A dropdown menu currently set to '1-way (nap)'.
- Compute time:** A text input field with '60' and a unit selector set to 's'.
- Block marker:** A dropdown menu currently set to 'Off'.
- Fixed seed:** A toggle switch labeled 'Same input always gives the same result'.
- Stripe matching:** A toggle switch labeled 'When off, nesting is not affected at all.'.
- Use when this fabric's size ratio differs:** A button labeled 'Own quantities'.
- Est. minimum length:** A text field showing '6.18 m'.
- Bottom controls:** 'Rename' and 'Delete' buttons, and a button with a right arrow and the fabric name 'Shell'.

Numbered callouts (1-6) are placed on the right side of the interface, pointing to the Width input, the Max table length and Piece spacing inputs, the Direction dropdown, the Compute time and Block marker inputs, the Own quantities button, and the bottom control buttons respectively.

Fabric settings for Shell

- 1 Enter the **Width** in inches. The value in cm is shown at the top right.
- 2 **Max table length** is the longest lay your cutting table takes (m). **Piece spacing** is the gap left between pieces (mm).
- 3 Pick the **Direction**. **1-way (nap)** keeps every piece facing the same way, **2-way** also allows 180° turns, and **Free 90° rotation** turns pieces in 90° steps.
- 4 **Compute time** is how long (in seconds) the engine works on one fabric; more time can find a tighter layout. Set **Block marker** to 2 or 3 zones to keep each garment's pieces together and avoid shading.
- 5 If this fabric needs a different size ratio, click **Own quantities** and enter it separately.
- 6 The buttons at the bottom **Rename** or **Delete** the fabric. The button with the fabric's name, such as **▶ Shell**, nests this fabric only.

i Tip **Est. minimum length** is a rough length worked out from the piece area; a warning is added if it may exceed **Max table length**. Turn on **Fixed seed** to get the same result from the same input.

05 Enter quantities per size

The sizes in your DXF are listed automatically. Enter how many garments to cut in each size.



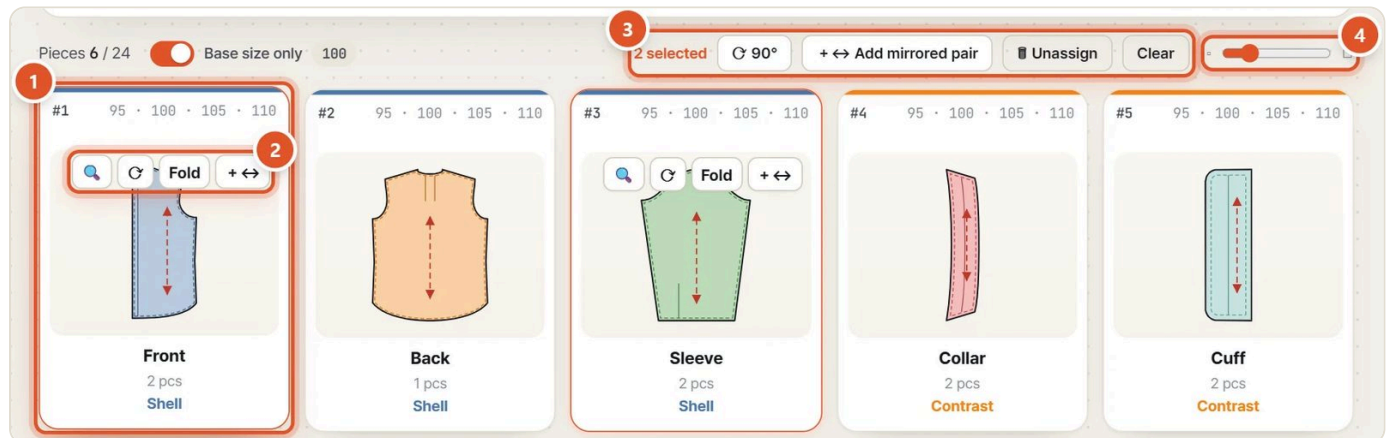
Sizes 95 · 100 · 105 · 110 set to 1 · 2 · 2 · 1 (6 garments)

- 1 Type the number of garments next to each size. 0 leaves that size out.
- 2 **All 0**, **All 1** and **All 2** set every size at once.
- 3 **Garments** shows the total. Yardage per garment is divided by this number.
- 4 With **Base size only** on, you see one card per part and every change applies to all sizes. Turn it off to see a separate card for each size.

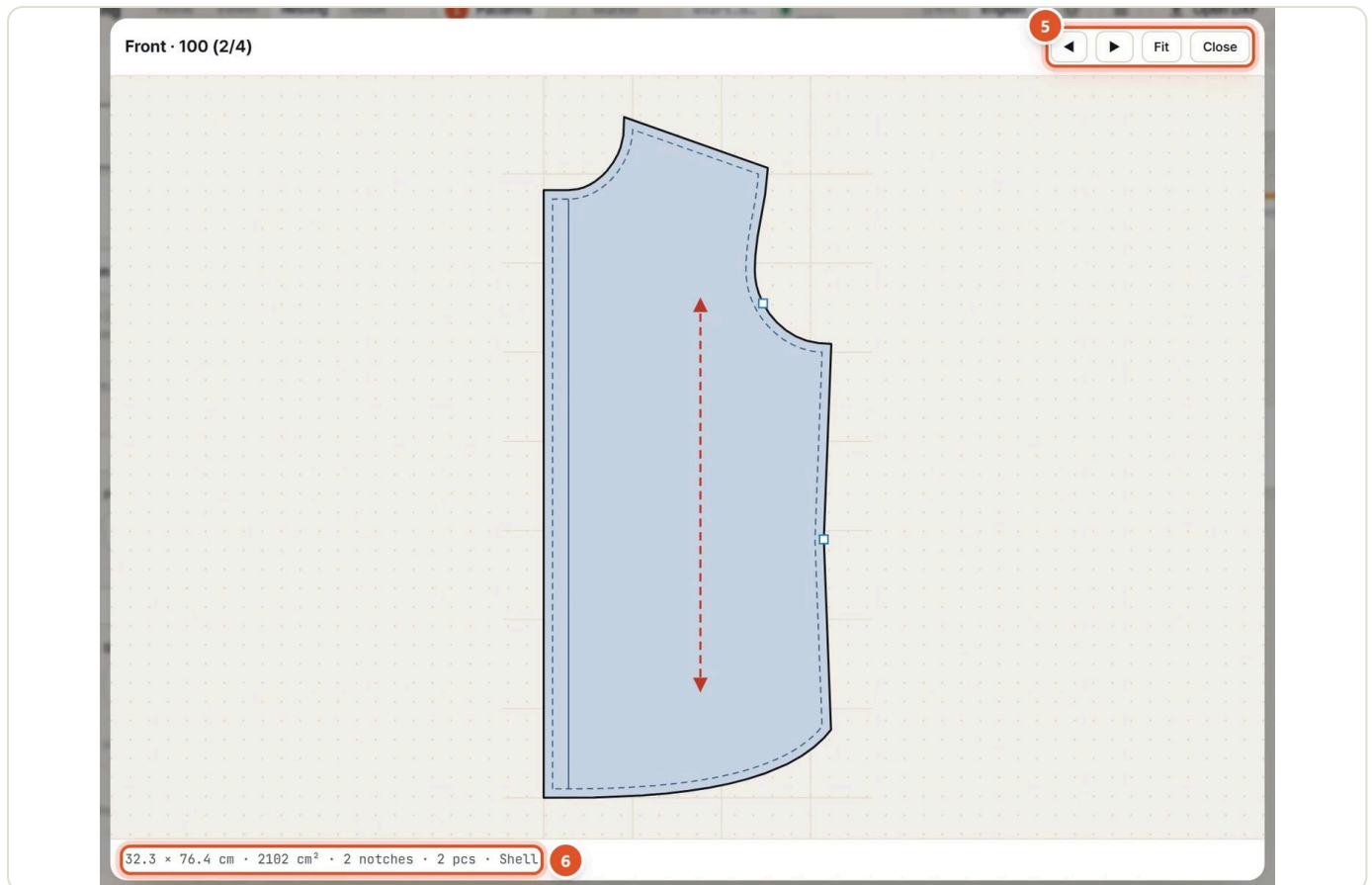
i Tip The count on each card, such as **2 pcs**, is pieces per garment, taken from the DXF. The marker gets pieces per garment × garments.

06 Work with piece cards and View large

Select cards to rotate them or add mirrored pairs. Open View large to look at a piece closely.



Front and Sleeve selected



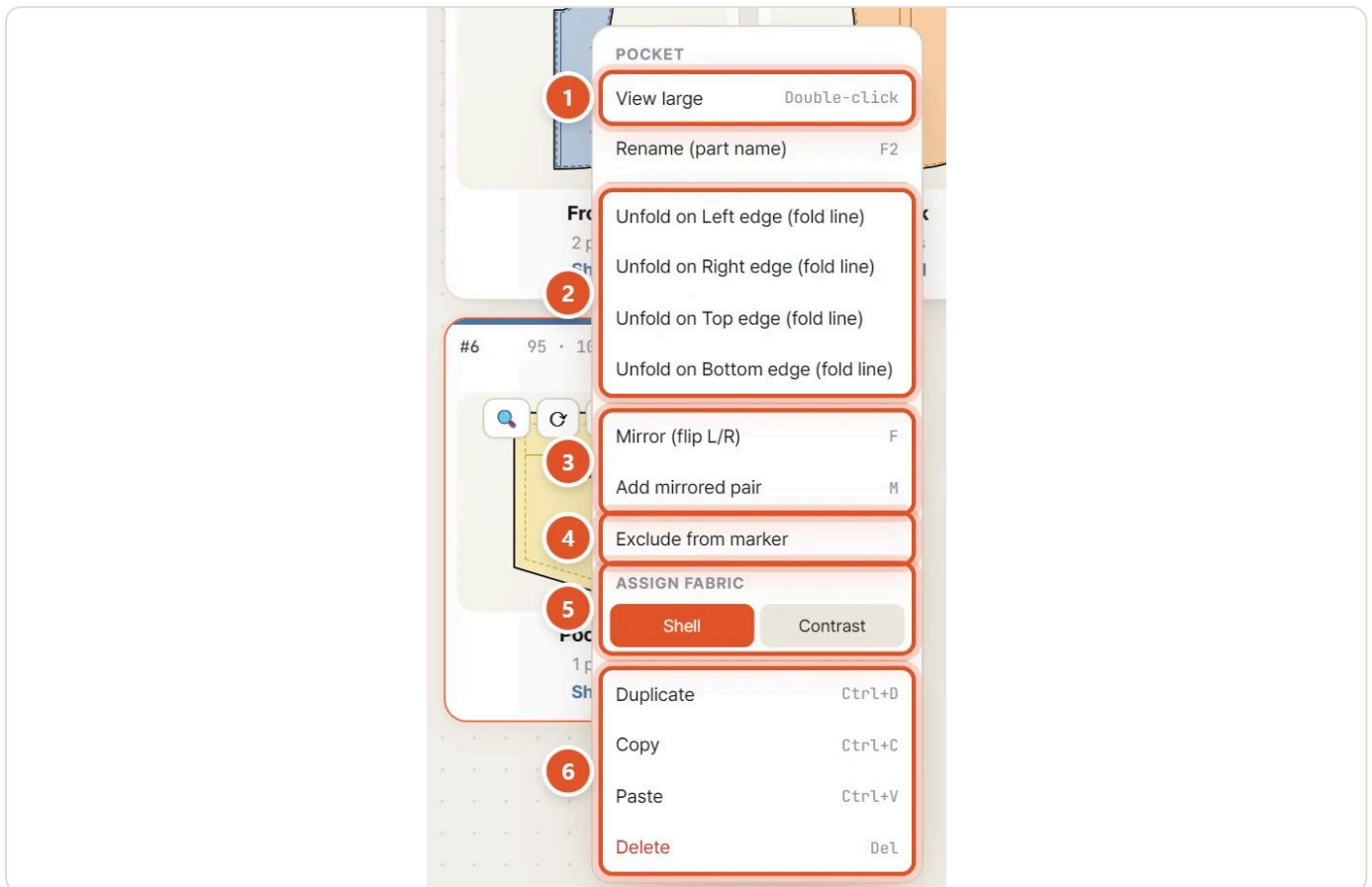
View large — Front, size 100

- 1 Click a card to select it. **Ctrl** +click adds more cards; **Shift** +click selects every card in between.
- 2 Hover over a card to show four small buttons: magnifier (View large), (rotate 90°), **Fold** (unfold on the fold line) and **+ <=>** (add mirrored pair).
- 3 With cards selected, the toolbar shows **90°**, **+ <=> Add mirrored pair**, **Unassign** and **Clear**.
- 4 Drag the slider at the far right to change the card size.
- 5 Open a piece with the magnifier button (or right-click → **View large**). Use **<=>** to step through the other sizes of the same part, **Fit** to reset the zoom, and **Close** or **Esc** to close.
- 6 The bottom line shows the size (cm), area, number of notches, pieces per garment and fabric. Use the wheel to zoom and drag to pan. Blue are notches, the red arrow is the grainline, and the faint grid is 10 cm.

i Tip With nothing selected, **Align to grainline** turns every piece to its grainline, and **All 0°** / **All 90°** set the angle of all pieces at once.

07 Right-click menu (unfold, mirror, exclude)

Right-click a card to see every command for that piece. Select several cards first to apply a command to all of them.



The right-click menu on the Pocket card

- 1 **View large** opens the piece. Change the part name with **Rename (part name)** just below it.
- 2 For a half pattern drawn on the fold, choose the fold edge, e.g. **Unfold on Left edge (fold line)**. Only a straight edge can be used. The card then shows a badge such as **Unfold L**; **Remove unfold** puts it back.
- 3 **Mirror (flip L/R)** flips the piece. **Add mirrored pair** makes the flipped partner as a new card (its name ends with ↔). The partner goes into the marker with the same piece count, and its quantity and rotation are managed separately.
- 4 **Exclude from marker** keeps the piece but leaves it out of the marker. The card fades and shows **Excluded**. To bring it back, use **Include in marker** in the same place.
- 5 The fabric buttons under **ASSIGN FABRIC** change the piece's fabric directly.
- 6 **Duplicate**, **Copy**, **Paste** and **Delete** also work with the shortcuts shown on the right.

i Tip Made a mistake? Press **Ctrl + Z** to undo.

08 Stripe matching

For striped fabric: each piece is placed so that a chosen point sits on a stripe. While it is off, nesting is not affected at all.

Same input always gives the same result

Stripe matching

One stripe every 3 cm · Repeats along the marker length — affects yardage directly · best of 3 runs (compute time 180 s)

Stripe repeat **First stripe at**

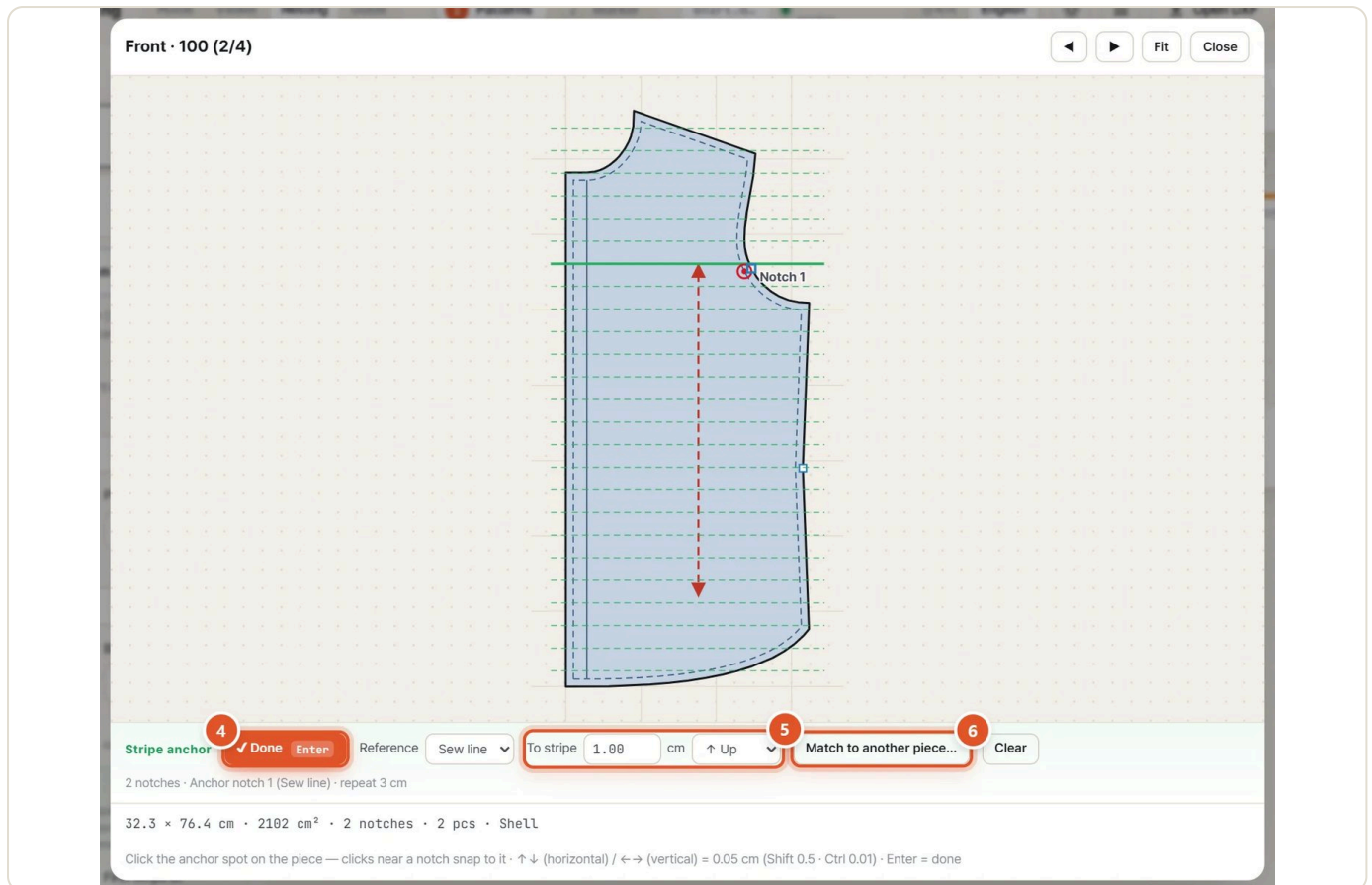
3 cm 0 cm

Stripe direction **Attempts**

Horizontal (rep) 3x

Use when this fabric's size

Stripe matching in the fabric settings (3 cm repeat)



Anchor on the front armhole notch, stripe 1 cm above it

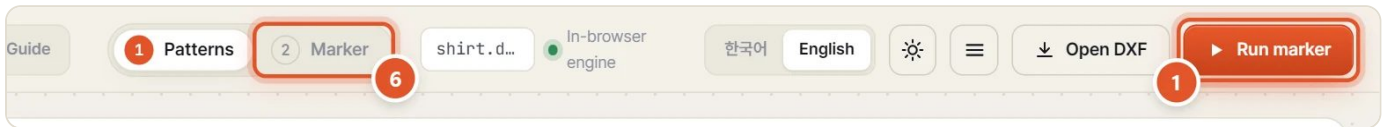
- 1 In the fabric settings, turn on **Stripe matching**.
- 2 In **Stripe repeat**, enter how many cm it takes for the stripe to repeat (measure the fabric). **First stripe at** moves where the first stripe lies.
- 3 Choose the **Stripe direction** — horizontal (repeats along the length) or vertical (repeats across the width). **Attempts** sets how many runs to try; the shortest marker is kept.
- 4 Open the source piece (usually the front) in View large, click **Pick anchor**, then click the reference spot on the piece. Clicks near a notch snap to it; the anchor is shown as a red circle. Finish with **Done** or **Enter**.
- 5 In **To stripe**, enter the distance from the anchor to the stripe (cm) and its direction (**↑ Up** / **↓ Down**; for vertical stripes **→ Right** / **← Left**). The solid green line is the stripe to match; the dashed green lines are the other stripes.
- 6 For pieces that must match the front (sleeve, pocket...), open them in View large, click **Match to another piece...**, click the spot that meets when sewn on each side, then **OK**. The stripe position is worked out automatically for every size.

i Tip Marks in the matching window: □ notch, △ sew-line corner, × corner of an inner line (such as a pocket placement line), ⊕ any spot on the piece. While picking an anchor, the arrow keys change **To stripe** by 0.05 cm (**Shift** 0.5 · **Ctrl** 0.01).

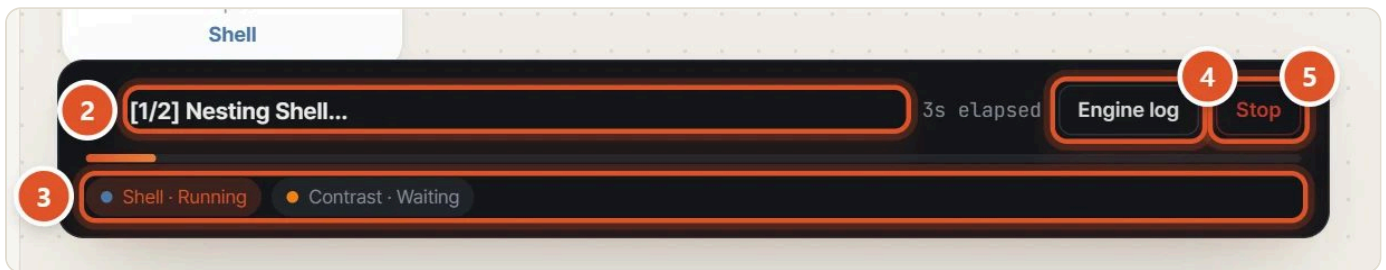
Note Stripe matching multiplies the compute time by the number of **Attempts** (e.g. 60 s × 3 = 180 s). Pieces with an anchor are placed only at 0° or 180°, even with free rotation.

09 Run the marker

When everything is set, the engine nests one fabric after another. Each fabric takes about its **Compute time** .



The Run marker button and the Marker step



Running — Shell in progress, Contrast waiting

- 1 Click **Run marker** at the top right (or press **F5** or **Ctrl** + **Enter**).
- 2 The bar shows which fabric is being nested and the time elapsed. The line underneath shows progress.
- 3 Each fabric shows its status: **Waiting** , **Running** or **Done** .
- 4 **Engine log** shows what the engine is doing, as text.
- 5 **Stop** ends the run. Fabrics that have already finished keep their results.
- 6 When every fabric is done, the **Marker** screen opens by itself.

i Tip To re-run a single fabric, use the button with its name at the bottom of the fabric settings (e.g. **▶ Shell**), or right-click the fabric → **Run this fabric only** .

! Note If **Run marker** is greyed out, the engine is still loading. Wait until the green dot and **In-browser engine** appear at the top right.

10 Read the results (yardage, efficiency, layout)

The **Marker** screen shows a summary at the top, a table per fabric in the middle and the layout below.

1

YARDAGE / GARMENT
1.339 yd

2

TOTAL YARDAGE
8.032 yd

AVG. EFFICIENCY
78.7 %

TOTAL LENGTH
7.344 m

Summary and per-fabric table — 6 garments, 58-inch fabric

Shell 58" (147.3cm) 6.593 m 79.6 % Placed 36/36 4

Run moreRun more on all fabricsShow namesPNGPNG 2xSVGDXF+ = zoom in - drag to pan when zoomed

6 - Fit +

Back Front Sleeve Pocket

Shell layout — the pointer resting on a Back piece

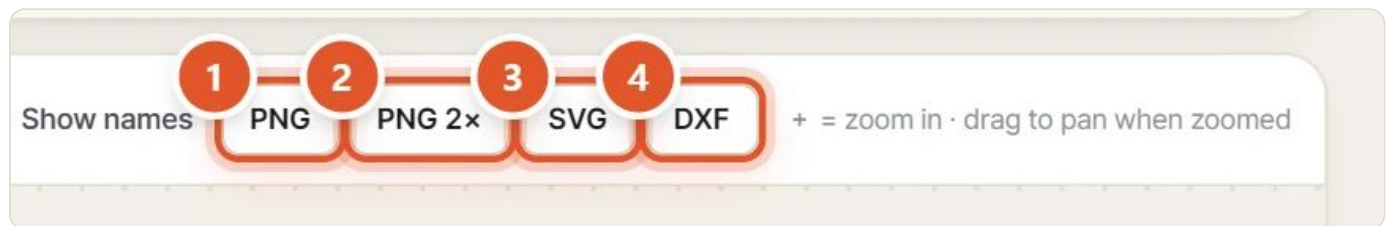
- 1 **YARDAGE / GARMENT** is the fabric length (yd) one garment needs — the total over all fabrics.
- 2 **TOTAL YARDAGE** (yd), **AVG. EFFICIENCY** (%) and **TOTAL LENGTH** (m) cover all fabrics together.
- 3 The table has one row per fabric: width, length, efficiency, total yd, yd per garment, pieces (placed/needed) and status. Click a row to show that fabric's layout below.
- 4 The line above the layout shows the width, marker length, efficiency and the **Placed** count.
- 5 Hover over a piece to see its part, size, angle and area.
- 6 The marker stays fixed — dragging or the scroll wheel won't move it. To look closer, click **+** at the bottom right; once zoomed in you can drag to pan. Click **Fit** to go back.
- 7 To shorten the marker further, click **Run more**. It **continues** from the current marker, and keeps the previous result if it can't get shorter. You can also right-click a fabric name and choose **Run more on this fabric (continue)** or **Run more on all fabrics**.

i Tip The ruler at the top is in metres, with the marker length in bold at the right end. Turn off **Show names** to hide the labels on the pieces. If the marker reaches or passes the **Max table length**, the limit shows as a red dashed line and a warning appears above.

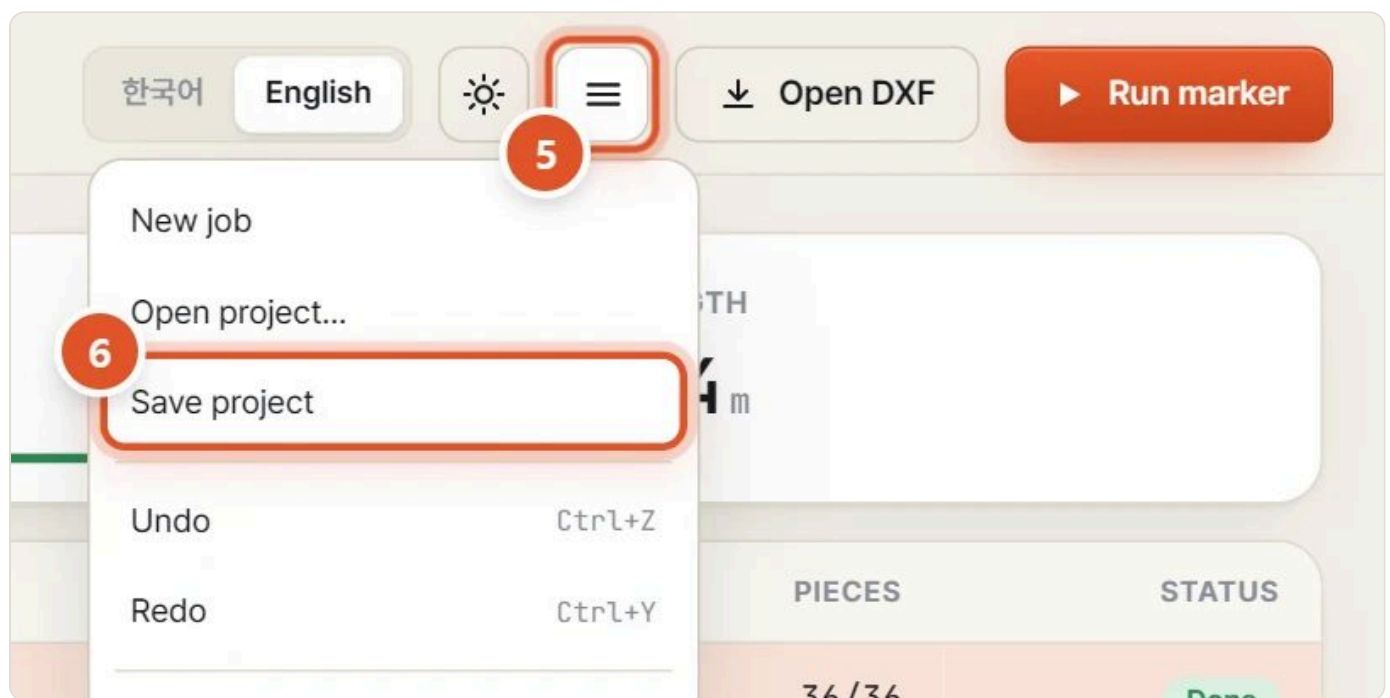
! Note The yardage does not include end loss or cutting allowance. Add them separately when you quote.

11 Save your work (images, DXF, project)

Layouts are saved one fabric at a time — the fabric you are looking at. The whole job is saved as a project file (.json).



The save buttons above the layout



The ≡ menu

- 1** **PNG** — an image with a title line (style, fabric, width, marker length, efficiency, yardage per garment, garments, date).
- 2** **PNG 2x** — the same image at double resolution.
- 3** **SVG** — a vector image that stays sharp at any size.
- 4** **DXF** — the fabric outline (layer FABRIC) and the placed pieces (layer MARKER) as a DXF for your CAD.
- 5** Click the ≡ menu button at the top right.

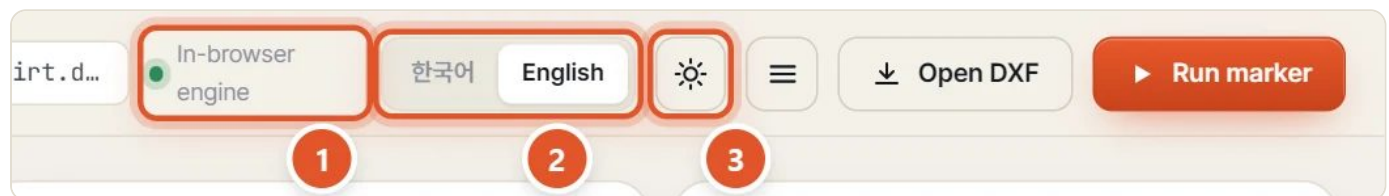
- 6 **Save project** downloads a project file (.json). Later, open it with **Open project...** or drop it onto the screen to carry on where you left off.

i Tip Your work is also saved in this browser automatically, so **Resume last work** appears next time. To carry on on another PC, take the **Save project** file with you. The same menu also has **Undo**, **Redo** and **New job**.

! Note **New job** closes the current job and also clears the copy saved in the browser. Use **Save project** first if you need it.

12 Engine status, language, theme and units

The top right shows the engine status and lets you change the language and the screen theme.



Top right — engine status, language, theme

- 1 A green dot with **In-browser engine** means it is ready. **Loading engine...** means wait a moment; **No engine** means check your internet connection and reload the page.
- 2 Switch the screen language with **한국어** / **English**. Standard part and fabric names are shown in English as well (e.g. 앞판 → Front).
- 3 The sun button switches between the light and dark screens.

i Tip Units: fabric width in inches (cm shown beside it), max table length and marker length in m, piece spacing in mm, stripe repeat in cm, yardage in yd. 1 yd = 91.44 cm.

13 Keyboard shortcuts

Ctrl + Z	Undo
Ctrl + Y	Redo (Ctrl + Shift + Z also works)
F5	Run marker
Ctrl + Enter	Run marker
Enter	Finish assigning fabric (Done) · finish picking an anchor
Esc	Close a menu · clear the selection · close View large

Ctrl + A	Select all visible pieces (Patterns screen)
Ctrl + C	Copy the selected pieces
Ctrl + V	Paste
Ctrl + D	Duplicate the selected pieces
Delete	Delete the selected pieces
R	Rotate the selected pieces 90°
Shift + R	Rotate -90°
F	Mirror (flip L/R)
M	Add mirrored pair
F2	Rename (part name)
←	Previous size in View large
→	Next size in View large

14 FAQ

Q. Is my file uploaded to a server?

No. Reading the DXF and nesting both happen inside this browser. The DXF reader and the fonts are downloaded when the page first opens, so you do need an internet connection.

Q. Which DXF files can I open?

AAMA/ASTM DXF files exported from pattern CAD work best. When each piece is its own block, the part name, size and quantity are read too. In a DXF without blocks, each closed shape becomes one piece, named by number. The cut line is looked for on layer 1 first; otherwise it is detected automatically.

Q. It says “No cut line found”.

No closed piece outline was found in the file. The message lists the layers in the file — check in your CAD that the cut line is saved as a closed line, then export again.

Q. The pieces come out far too small or too large.

This is usually a DXF unit problem. The tool reads the unit written in the DXF header (inch, mm, cm...) and assumes mm when none is given. Compare the cm size on the bottom line of View large with the real pattern; if it is wrong, set the unit in your CAD and export again.

Q. Part names show as numbers or the Korean text is garbled.

The Korean text was damaged when the file was exported from CAD. If it cannot be recovered, the pieces are numbered and a notice appears. Check that the export encoding is Korean (CP949). You can fix names with right-click →

Rename (part name) .

Q. Does the yardage include any allowance?

No. Yardage per garment = marker length (yd) ÷ garments. End loss and cutting allowance are not included, so add them when you quote.

Q. The result changes slightly every time I run it.

The engine tries many layouts within the set **Compute time** . Turn on **Fixed seed** to get the same result from the same input, and give it more compute time to find a tighter layout.

Q. It says “N pieces not placed”.

Some pieces could not be placed on the fabric. Check that no piece is wider than the fabric and that the **Direction** setting is not too strict, then run again with more **Compute time** .

Q. It warns that the marker length exceeds the limit.

The marker is longer than the **Max table length** in the fabric settings. Cut fewer garments per lay, or raise **Max table length** if your table is longer.

Q. My work is gone.

Work is saved automatically in this browser. Open the page again on the same PC and browser and **Resume last work** appears on the start screen. It is not there after clearing browser data or on another PC, so keep important jobs as a **Save project** file.