EASY LABEL FORGE

User Manual

Professional 3D packaging pipeline — Illustrator to PBR

Version 2.7.0 · 2026

Contents

1. Introduction

Easy Label Forge connects Adobe Illustrator packaging artwork to production-ready 3D materials. The workflow is: prepare your `.ai` file → define masks and ROIs → preview on 3D geometry → export PBR textures or send a live bridge to Blender, Cinema 4D, or Houdini.

Main workspace tabs

- **Mask Designer** — 2D canvas, ROIs, layer groups, shape tools.
- **Preview Projection** — OpenGL viewport; planar, cylindrical, or Smart UV; planar front-face option.
- **Shader Studio** — 2.7 presets, gallery, advanced effects, layer order, export / DCC launch.
- **Setup / Plugins** — corner button (top right): DCC paths, add-on install, preferences.

> **Tip:** Use the status bar for load progress, license state, and seat usage (*Seats: used/max* when activation is configured).

What's new in version 2.7.0

This release expands **Shader Studio** and keeps exports aligned with Blender, Cinema 4D, and Houdini.

- **Material preset gallery** — 18 built-in presets (metals, plastics, varnishes, soft touch, foils, LED zones, cardboard/plastic bases) with a visual grid and dropdown.
- **Base vs masks** — label artwork stays on the *base* layer; masks define *where* foils, varnish, or effects appear, each with its own material (diffuse tint).
- **Advanced effects** — sheen (soft touch), iridescent thin film (IOR, thickness in nm), emission (color + strength 0–100, 0 = off).
- **Layer order** — up/down arrows in Shader Studio; order is preserved on export and in DCC bridges (recipe 1.6).
- **Use label artwork on mask** — optionally reuse `base.png` on a mask instead of a flat color.
- **Planar preview** — *Front face only* checkbox to project only the product's front face.
- **Installer** — optional task to auto-install Blender, Houdini, and Cinema 4D bridge add-ons.

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2. Installation & first launch

1. Run `Setup_EasyLabelForge_v2.7.0.exe` and follow the installer.
2. When offered, enable **Install Blender, Houdini, and Cinema 4D plugins** for automatic add-on deployment (or install later from **Setup / Plugins**).
3. Launch **Easy Label Forge** from the Start menu or desktop shortcut.
4. On first run, open **Setup / Plugins** and set paths to your DCC executables (Blender required for Smart UV).

5. Optional: public builds often bundle Gumroad product IDs; for custom builds, copy `gumroad_product_ids.example.json` to `gumroad_product_ids.json` next to the executable (see `README_LICENSE.txt`).

> Without a license you can use the app in **evaluation mode** (export limits apply — see License section).

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3. License & activation

Purchases are delivered through **Gumroad**. After buying, use **Help** → **License** in the app.

Activate on this machine

1. Open **Help** → **License**.
2. Paste your Gumroad license key and click **Verify**.
3. If seat activation is enabled, the app registers this PC and shows *Seats: x/y* in the status bar.

Deactivate

- **Deactivate this machine** — frees one seat on your plan (Indie Plus / Studio).
- **Remove license entirely** — clears local license data on this PC.

Export limits by tier

Mode / tier	Max export (longest side)	Watermark on textures
No license (evaluation)	2048 px	Yes
Indie, Lifetime	4096 px (4K)	No
Indie Plus, Studio Core, Studio Pro	8192 px (8K)	No

Resolution is chosen in Shader Studio; values above your tier are clamped automatically at export.

Full product matrix: *easylabelforge.com* → Licensing details, or `docs/LICENSE_PRODUCT_MATRIX.md` in the developer package.

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4. Setup — plugins & DCC paths

Open **Setup / Plugins** (corner button). Configure executable paths and install bridge add-ons into each DCC.

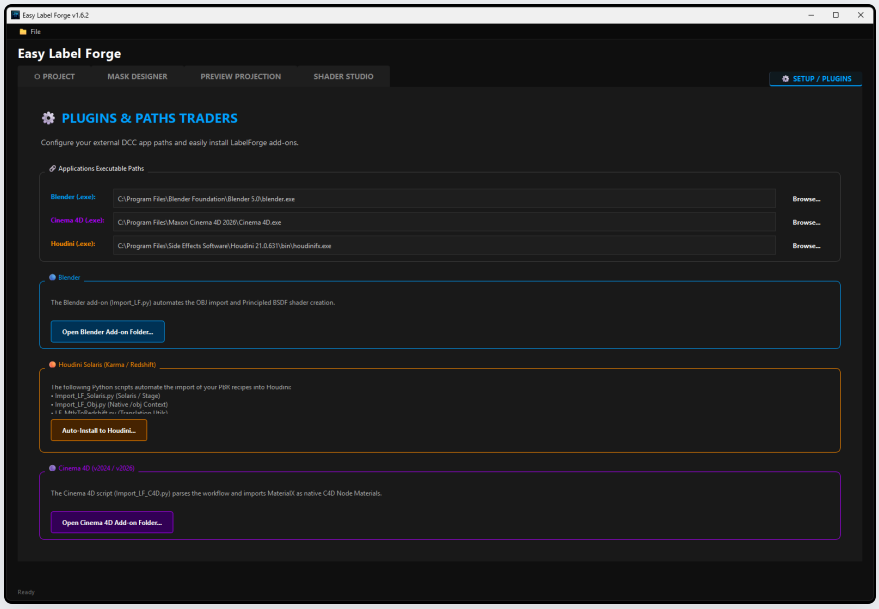

Figure 4.1

Application paths

- **Blender** (required for Smart UV / box unwrap) — path to `blender.exe`.
- **Cinema 4D** (optional) — enables C4D bridge export.
- **Houdini** (optional) — enables Solaris / MaterialX bridge.

Preferences

Under **Application preferences**, you can disable the reminder dialog when opening `.ai` files (PDF compatibility hint). Recommended for experienced users only.

Installing add-ons

Use the install buttons in each DCC section to copy the bundled add-on into the detected scripts folder. Restart the target application after installation.

5. Illustrator file requirements

Prepare artwork in Adobe Illustrator before import.

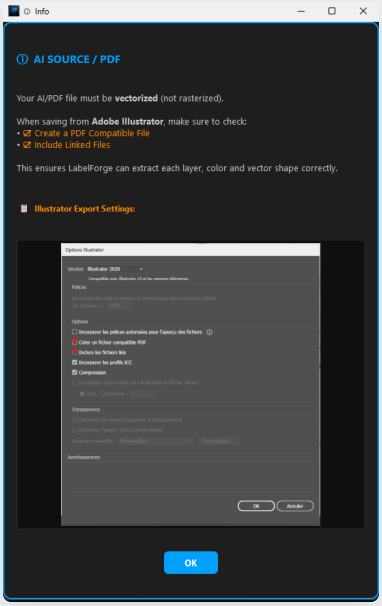

Figure 5.1

> **Required:** When saving, enable **Create PDF Compatible File** in Illustrator's Save / Save As dialog.

- **Vectorize text** — Type → Create Outlines on all live text.
- **Die-cut layer** — name cut/dieline layer or folder `LF_CUT` for Smart UV.
- **Layer structure** — separate foils, varnishes, and base art for accurate PBR assignment.
- Prefer current Illustrator versions; avoid legacy formats without PDF compatibility.

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6. Projects & loading artwork

Create or open a project from the home / project panel: choose your `.ai` or `.pdf` file and a project folder name.

- **Load / browse** — select vector artwork; a reminder may appear for `.ai` PDF compatibility.

- **Drag and drop** — drop a file onto the drop zone when available.
- LabelForge parses layers, colors, and embedded assets in the background; progress appears in the status bar.

Project data (ROIs, groups, paths) is stored alongside your chosen project directory for later sessions.

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7. Mask Designer

The Mask Designer maps 2D artwork regions to 3D products using ROIs, guides, and layer groups.

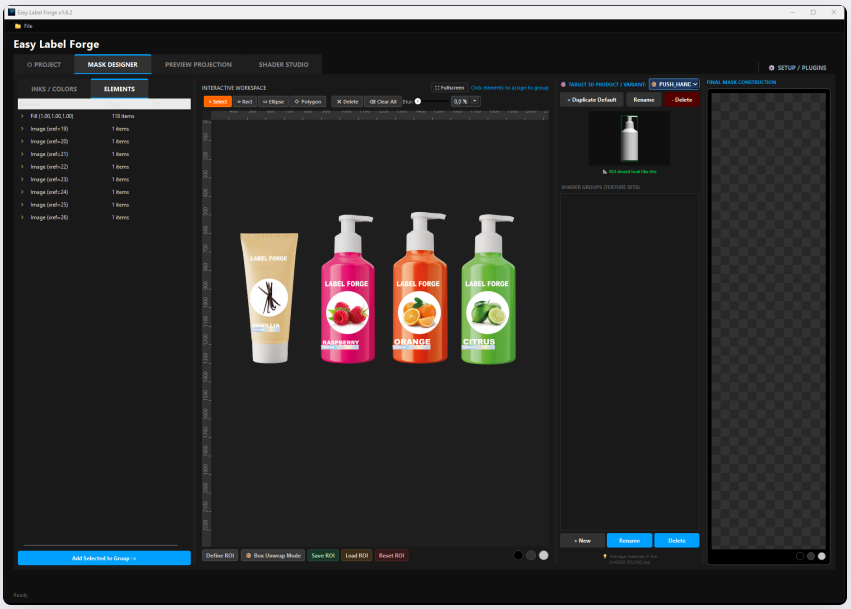

Figure 7.1

Canvas & guides

- Pan / zoom on the central canvas; drag from rulers to create guides (hold `Ctrl` to move guides).
- Right-side panels: **Target 3D**, ROIs, and **Groups** (layer hierarchy from Illustrator).

ROIs (regions of interest)

- Draw ROI rectangles to isolate each label on the sheet.
- Multiple ROIs supported; snapping aligns to guides.

Shape tools

- Rectangle, ellipse, polygon for custom masks; `Ctrl` while drawing subtracts from existing shapes.
- `Arrow keys` nudge; `Shift+Arrow` for larger steps; `Ctrl+Z` undo.

Layer groups & Advanced panel

Assign Illustrator layers to metallic, varnish, emboss, or base color channels via the Groups panel. Use the collapsible **Advanced** area for the element tree and ink list.

8. Preview Projection

The **Preview Projection** tab displays your mesh with live texture projection.

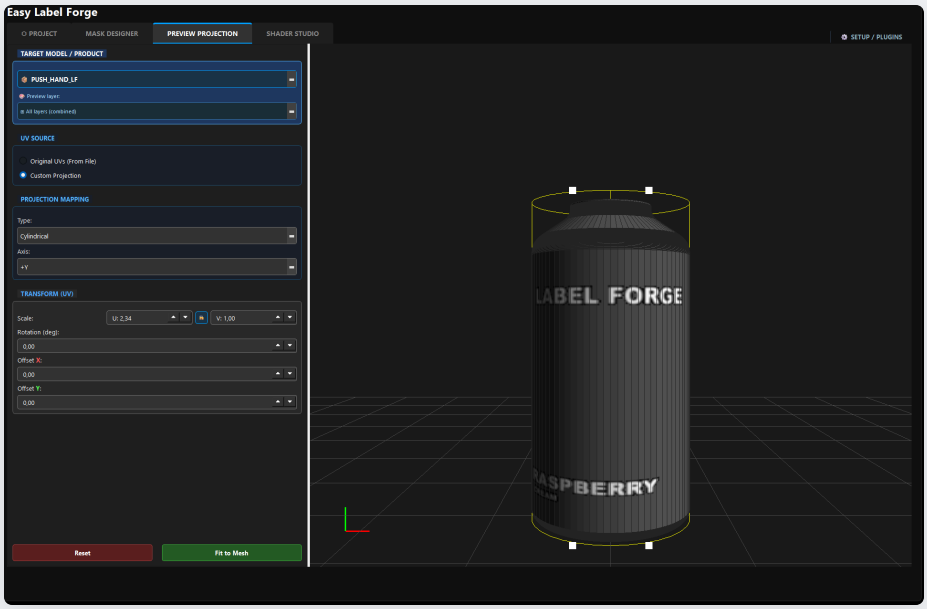

Figure 8.1

Loading geometry

Import an `.obj` (or supported mesh) representing your product. Thumbnails help pick variants when configured.

Projection modes

- **Planar** — projects along X, Y, or Z; best for flat panels.
- **Cylindrical** — wraps 360°; circumference is computed to reduce stretching.
- **Smart UV (unwrap)** — uses Blender with `LF_CUT` dielines to build a box UV layout.

Planar projection — front face

In **Planar** mode, **Front face only** (on by default) limits projection to the mesh front face so artwork is not stretched onto sides or the back of the product.

In **Unwrap_uv** mode, the *Front →R→B→L* selector defines which box face is treated as the front for Smart UV alignment.

9. Shader Studio & export

Assign materials per layer, use 2.7 presets, then export or launch a DCC bridge.

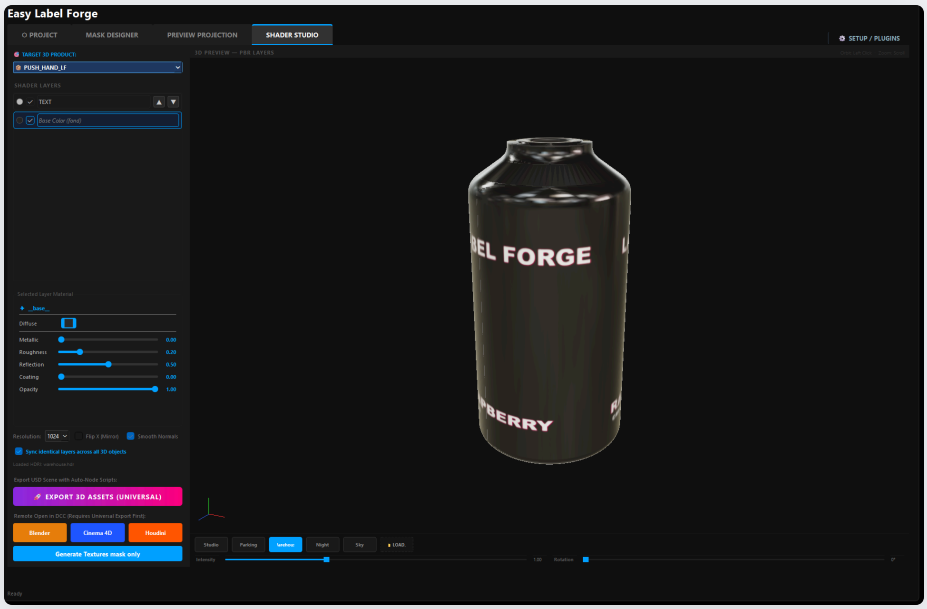

Figure 9.1: Shader Studio and export controls.

Base + mask material model (v2.7)

- **Base layer** — carries main label artwork (`base.png`): cardboard, plastic, glossy, or neutral finishes. Pick a *base* preset or tune metallic, roughness, reflection, and coating manually.
- **Mask layers** — each foil / varnish / effect group has its mask and material. The mask defines *where*; diffuse color tints the PBR look (not full artwork unless you enable label reuse).
- **Use label artwork** — per-mask option to sample `base.png` in that region (e.g. printed areas under varnish).

Presets & gallery

- **Preset** dropdown — applies diffuse + PBR to the active layer (base or mask) immediately.
- **Gallery** button — visual grid; click a swatch to apply. Thumbnails ship with the build when included in resources.
- **14 mask presets** — bright/satin metal, warm gold, cool silver, glossy/satin plastic, matte opaque, gloss/satin varnish, soft touch, holographic foil, iridescent varnish, white/color LED zones, subtle security iridescent strip.

- **4 base presets** — cardboard, plastic, glossy, neutral.

Advanced panel (per layer)

- **Reflection / Coating** — specular and clear-coat style layer (mapped in Blender Principled BSDF).
- **Sheen** — soft-touch style finish (sheen + sheen roughness).
- **Thin film** — iridescence: IOR, thickness (nm), weight. Supported in the Blender bridge; ELF UI preview is approximate.
- **Emission** — color and strength **0–100** (0 = off). LED presets use moderate values suited to preview and DCC import.

Layer order

Use ▲ / ▼ next to the layer list. The top row in Shader Studio stacks above others in export. Order is stored in `Label_Recipe.json` as `shader_layers_order` (recipe 1.6+) for Blender, Houdini, and Cinema 4D.

Channels & export

- **Base color / Metallic / Roughness / Opacity** — standard PBR workflow unchanged.
- **Generate textures (mask only)** — square mask outputs; watermark in evaluation mode.
- **Export 3D assets / universal textures** — full PBR set at selected resolution (tier: 2048 / 4K / 8K).
- **DCC bridge** — sends textures + recipe to the DCC configured in Setup.

> 4K/8K exports take longer and use more disk. After changing layer order or presets, regenerate textures before bridging so the DCC receives an up-to-date recipe.

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10. DCC bridges (Blender, Cinema 4D, Houdini)

Bridges read `Label_Recipe.json` (**1.6+**): layer order, reflection/coating, sheen, thin film, emission, and per-mask `use_label_artwork`.

Blender

Required for Smart UV and background geometry. The `import_LF` add-on stacks masks using `shader_layers_order` and maps Principled BSDF (specular, coat, sheen, thin film, emission). Restart Blender after installing from Setup.

Cinema 4D

Optional. Bridge recreates materials in the active C4D version when a valid executable path is set; advanced fields follow the exported recipe.

Houdini

Optional. Solaris / MaterialX import places textures and layer properties on USD materials; suited to Solaris/Karma pipelines.

> **Tip:** always export from Shader Studio after changing layer order or presets, then run the bridge once against the updated export folder.

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11. Troubleshooting

Issue	What to try
`.ai` won't parse	Re-save with **Create PDF Compatible File**; expand text to outlines.
Export resolution lower than selected	Check license tier; evaluation is capped at 2048 px.
Watermark on exports	Verify Gumroad license in Help → License.
Seats full	Deactivate an old machine from Help → License, or use Studio pool rules.
Blender / bridge fails	Confirm `blender.exe` path in Setup; install add-on; restart Blender.
8K export very slow	Expected for large ROIs; ensure disk space in temp export folder.
Preset gallery shows flat color swatches	Normal if thumbnail PNGs are not bundled; presets still work via the dropdown. Use a full build or contact support.
Thin film looks different in ELF vs Blender	ELF preview is approximate; verify in Blender after bridge. Use Blender 4.2+ for Principled thin film.
Wrong layer stack in DCC	Re-export after reordering layers; check `shader_layers_order` in the recipe JSON.
DCC add-ons missing after install	Re-run installer with the plugin task, or `EasyLabelForge_v2.7.0.exe --install-dcc-plugins` from the install folder.