

PRODUCTION RENDER SPEC SHEET + QA CHECKLIST



Cloudly
studio

Purpose

This spec defines a production-grade render deliverable. It is designed for repeatable catalog output, fast downstream design work, and predictable review cycles.

It is not a “creative brief”. It is an execution standard.

Scope

This document covers:

- Inputs required for CAD-to-render.
 - Output packaging and file standards.
 - Layer structure and naming.
 - Batch-native workflow expectations.
 - QA gates and acceptance criteria.
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Part A - Production Render Spec Sheet

A1. Definition of done

A render is done when:

- The output matches the agreed camera and framing for the view.
 - The product is visually consistent with the catalog set.
 - Product accuracy has been verified against engineering intent.
 - The deliverable is packaged in a designer-ready layered format.
 - The file passes the QA checklist in Part B.
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A2. Inputs required

Provide the following per product family:

Geometry and structure

- CAD assembly (preferred) or neutral exports (STEP/IGES) with hierarchy.
- Any simplified marketing geometry, if it exists.
- Drawings or annotated screenshots for critical details.

Visual references

- Reference photos for finishes and labels.
- Material callouts (paint, plastic, brushed metal, glass).
- Color standards if applicable (RAL, Pantone, internal codes).

Variants and rules

- Variant map (what changes across SKUs, regions, interfaces).
- Label and decal files (vector preferred).
- Screen content references (UI screenshots) if the product has a display.

If any input is missing, log it as a gap and resolve it in the accuracy pass.

A3. Output standard (non-negotiable)

Output standard: layered TIFF at 5000x3125

Required layers: Product (no shadow), Shadow (separate), White background (separate), Screen as Smart Object for quick swaps

Technical file settings

- Pixel dimensions: 5000 x 3125 px (landscape).
- Bit depth: 16-bit preferred for smooth gradients.
- Color profile: embedded ICC profile (define per project, default sRGB unless specified).
- Compression: LZW (lossless) recommended.
- Transparency: preserved in Product and Shadow layers.

View list

Define the view list once per product family (example):

- 01_Front3Q
- 02_Side
- 03_Back
- 04_Close_Interface (if applicable)

Do not introduce “creative angles” mid-batch.

A4. Layer structure and naming

Required layer names (exact)

- Product
- Shadow
- White background
- Screen (Smart Object)

Layer rules

Product (no shadow)

- Clean alpha around the product.
- No baked shadow, no baked background.
- No glow or vignette baked into the product pixels.

Shadow (separate)

- Shadow on transparency.
- Keep it neutral and physically plausible.
- No hard cutoffs, no double shadows, no “floating” look.

White background (separate)

- Solid white only.
- RGB values must be consistent (typically #FFFFFF unless specified otherwise).
- No gradients unless explicitly requested.

Screen as Smart Object for quick swaps

- Screen content must be editable without repainting.
- Smart Object bounds must match the physical screen area.
- If no screen exists, omit this layer and note “N/A” in the manifest.

Optional layers (only if agreed)

- AO (Ambient Occlusion)
- Reflection
- Specular highlight control
- Mask (selection aid)
- Label pass (for quick localization)

If optional layers are included, name them consistently across the batch.

A5. File naming convention

Use a single naming pattern across the project.

Pattern

`<Client>_<SKU>_<Variant>_<ViewCode>_<Res>_v<Revision>_<Status>.tif`

Example

`CLIENT_SKU1234_EU_01_Front3Q_5000x3125_v03_APPROVED.tif`

Status values

- WIP
 - QA
 - REVIEW
 - APPROVED
 - FINAL
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A6. Folder structure and delivery pack

Deliver a single zipped “Delivery Pack” per batch.

Recommended structure

- /01_Deliverables/Layered_TIFF/
- /02_Manifest/
- /03_ChangeLog/
- /04_Previews/ (optional JPG previews for quick review)

Manifest (required)

Provide a CSV or XLSX manifest with one row per file:

- SKU
- Variant
- ViewCode
- Filename
- Revision
- Status
- Date
- Notes (gaps, assumptions, special handling)

Change log (required)

Keep changes predictable across the batch.

- Date
- SKU(s) affected
- Change summary
- Reason (QA, accuracy, stakeholder request)
- Confirmed by (owner)

A7. Camera and framing standard

Camera is a catalog asset, not an artistic choice.

- Define camera per view and lock it.
- Match perspective 1:1 across SKUs within a family.
- If a camera exception is needed, log it and apply it consistently.

Recommended fields to lock per view:

- Focal length
 - Camera distance
 - Camera height
 - Target point
 - Crop and padding rules
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A8. Lighting and material baseline

Lighting must be consistent enough to unify the catalog, but flexible enough to improve clarity.

Rules:

- Baseline lighting is created once per family and reused.
- Material response must stay physically plausible.
- Avoid “polish” that distorts finishes (over-sharpening, fake edge glow).

If a finish changes across variants, treat it as a controlled variant, not a per-image tweak.

A9. Batch production system expectations

Batch workflow concept: 5-15 units, setup reuse, centralized QA

This implies:

- One first-article SKU locks camera, lighting, and packaging.
 - Reuse is the default (camera library, material library, scene templates).
 - QA is centralized and consistent, not distributed judgment calls.
 - Gaps are logged, resolved, and replayed across the batch.
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Part B - QA Checklist

QA approach: aesthetic pass + product accuracy pass

Use this checklist as a gate. If any “blocker” item fails, the file does not ship.

B1. Aesthetic pass (brand and catalog consistency)

Composition and camera

- View matches the approved camera template for this view code.
- Perspective is consistent with the family set (no subtle angle drift).
- Product scale feels consistent in-frame across SKUs.

Lighting and readability

- Lighting is consistent with the family baseline.
- Key surfaces are readable without harsh hotspots.
- No banding in gradients (background or reflections).

Shadows and grounding

- Shadow looks physically plausible (contact point, softness, direction).
- No double shadows, no “floating” look.
- Shadow intensity is consistent across the batch.

Cleanliness and artifacts

- No noise, fireflies, jagged edges, or sampling artifacts.
- No unintended color cast on white areas.
- Edges are clean against transparency (no halos).

Layer integrity (deliverable usability)

- Product layer has no baked shadow.
- Shadow is fully separated on transparency.
- White background is solid and separate.
- Screen Smart Object is editable and aligned (or marked N/A).

Aesthetic pass result

- PASS
 - FAIL (requires fixes before accuracy review)
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B2. Product accuracy pass (engineering intent)

Geometry and proportions

- Overall proportions match CAD and approved references.
- No missing critical geometry that changes interpretation.
- Assemblies and subcomponents are correctly placed.

Interfaces, ports, fasteners

- Correct connector types and port counts.
- Correct fastener presence and placement where visible.
- Correct vents, grills, handles, and service elements.

Labels, decals, compliance marks

- Correct label content (text, symbols) for this variant.
- Correct placement and orientation.
- Compliance marks match region rules where applicable.

Display and UI (if applicable)

- Screen content matches the approved UI reference for this variant.
- Screen layer is a Smart Object and is editable.
- No perspective or edge mismatch between screen content and housing.

Finish and material truth

- Material types match references (gloss vs matte, brushed direction).
- Color matches the agreed standard for this variant.
- No “beauty” edits that distort finish (over-smoothing, fake gloss).

Gap log and assumptions

- Any gap-filled detail is logged in the manifest notes.
- Assumptions are confirmed or flagged for stakeholder approval.
- Fixes are replayed consistently across impacted SKUs.

Accuracy pass result

- PASS
 - FAIL (requires corrections and re-check)
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B3. Final delivery QA (packaging and completeness)

File checks

- Correct resolution (5000x3125).
- Correct file type (layered TIFF).
- Correct naming pattern and status tag.
- Embedded ICC profile present.

Batch checks

- All requested views delivered for each SKU in the batch.
- Manifest includes every file with correct metadata.
- Change log updated for this delivery.
- Preview set (if included) matches TIFF content.

Delivery result

- READY TO SHIP
 - HOLD (missing items)
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Appendix - Example deliverable (what the PSD-equivalent structure looks like in TIFF)

Layer stack order (top to bottom)

1. Product
2. Shadow
3. White background
4. Screen (Smart Object) inside Product group or as a separate aligned layer (project-defined)

Editing instruction for design teams

- To swap the screen: open the Screen Smart Object, replace content, save, close.
 - To adjust shadow: edit Shadow layer opacity or blur as needed.
 - To place on non-white: hide White background layer and export with transparency.
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Appendix - Acceptance criteria (vendor test)

If you are comparing vendors, ask them to deliver one first-article file that meets this document.

Minimum pass criteria:

- Output standard: layered TIFF at 5000x3125
- Required layers: Product (no shadow), Shadow (separate), White background (separate), Screen as Smart Object for quick swaps
- QA approach: aesthetic pass + product accuracy pass
- Batch workflow concept: 5-15 units, setup reuse, centralized QA

If they cannot meet these on one SKU, they will not meet them on fifty.

Next Steps: Locking Down the Production Standard

This Production Render Spec Sheet defines the "how" for high-volume, predictable visual assets. The next step is to define the "what."

Ready to stop debating pixels? Send us your First Article CAD and Visual References, and let's lock in the camera and lighting baseline.