

VERIFAB

Product QC Reference & Acceptance Criteria

Created once per catalogue product. Defines the parameters a part of this product is graded on, what each grade means, and the bar to pass. Validators score each evaluation against this reference and record results on the QC datasheet.

How scoring works

2 PASS	Meets the standard. Nothing to fix on this parameter.
1 NEEDS CORRECTION	A minor, correctable issue. The part is not passed as-is — rework or reprint, then re-evaluate.
0 FAIL	Does not pass. On a parameter marked critical, a 0 means the part is rejected.

Overall rule. A part is certified only when every applicable parameter scores 2. Any parameter at 1 → correct and re-evaluate. Any critical parameter at 0 → reject. Parameters marked N/A are excluded.

1. Product identification

Product name		Catalogue / part No.	
Design version		Source / upstream project	
Intended use / function			
Licence		Specified material	
Risk classification (if any)		Reference template version	
Prepared by		Date	

2. Product-specific specification (define for this product)

These values feed the dimensional, fit, and functional parameters below.

Critical dimensions & tolerances

Feature / dimension	Nominal	Tolerance ±	Check method (Go/No-Go, calliper...)

Required photo angles for this product

Top	☐	Bottom	☐
Front	☐	Back	☐
Left side	☐	Right side	☐
Isometric	☐	Critical-feature close-up	☐
Marking / serial close-up	☐	Part + witness coupon	☐
Other: _____	☐	Other: _____	☐

Functional / mechanical test definition

Test required?	☐ Yes ☐ No (N/A)	Test type	☐ Bend ☐ Load ☐ Fit ☐ Leak ☐ Other
Method (how to perform it)			
Applied condition (e.g. load, bend distance)		Acceptance behaviour	

3. Quality parameters & grading

Standard parameters come pre-filled with default definitions — adjust the wording, add a reference image, and set criticality for this product. Mark any parameter N/A if it does not apply. Add product-specific parameters in section 4.

A1 Design file & version (and SOP)

Why it matters	Approved, current designs are vetted for safety; the wrong file or a skipped step voids that assurance.		
Applies to product?	☐ Yes ☐ N/A	Critical?	☐ Yes ☐ No

Score	What it means for this product	Reference image
2 PASS	The current approved catalogue design (correct version) was used and the documented build procedure was followed.	<i>insert example</i>
1 NEEDS CORRECTION	An approved design was used but an outdated version, or the procedure was not fully followed — redo with the current design/process.	<i>insert example</i>
0 FAIL	A non-approved or unlisted design file was used.	<i>insert example</i>

A2 Material conformance

Why it matters	The certified properties depend on the specified material and a traceable batch.		
Applies to product?	☐ Yes ☐ N/A	Critical?	☐ Yes ☐ No

Score	What it means for this product	Reference image
2 PASS	The specified approved material/grade was used, from a traceable batch (correct type, and colour if specified).	<i>insert example</i>
1 NEEDS CORRECTION	Correct material type, but batch/traceability unconfirmed or a minor deviation — verify before passing.	<i>insert example</i>
0 FAIL	Wrong or non-approved material used.	<i>insert example</i>

A3 Print profile & parameters

Why it matters	The validated profile is what the certification is based on; deviations change the outcome.		
Applies to product?	☐ Yes ☐ N/A	Critical?	☐ Yes ☐ No

Score	What it means for this product	Reference image
2 PASS	Printed with the validated, locked profile and parameters for this product (layer height, temperatures, speeds...).	<i>insert example</i>
1 NEEDS CORRECTION	A minor deviation from the validated profile that may affect quality — confirm parameters or reprint.	<i>insert example</i>
0 FAIL	Printed with a materially different or unvalidated profile.	<i>insert example</i>

B4 First-layer / base adhesion

Why it matters	A poor base layer causes warping, gaps, and peg/dimension problems that can ruin the part.		
Applies to product?	☐ Yes ☐ N/A	Critical?	☐ Yes ☐ No

Score	What it means for this product	Reference image
2 PASS	Base adhered fully and evenly; no warping, gaps, or detachment on the bottom.	<i>insert example</i>
1 NEEDS CORRECTION	Print completed but the base shows minor warping, lifting, or small gaps — correct (re-level / reprint).	<i>insert example</i>
0 FAIL	Base failed to adhere — the print failed or detached from the bed.	<i>insert example</i>

B5 Layer adhesion & lamination

Why it matters	Weak layer bonding makes the part fragile and prone to failure in use.		
Applies to product?	☐ Yes ☐ N/A	Critical?	☐ Yes ☐ No

Score	What it means for this product	Reference image
2 PASS	All layers bonded well; no delamination, splits, or mid-print shifts.	<i>insert example</i>
1 NEEDS CORRECTION	Minor layer separation or a slight shift visible — correct / reprint.	<i>insert example</i>

Score	What it means for this product	Reference image
0 FAIL	Layers separated or broke, or a major shift caused failure.	<i>insert example</i>

B6 Top surface quality

Why it matters	Gaps in the top surface signal internal voids and make the part hard to clean or disinfect.		
Applies to product?	☐ Yes ☐ N/A	Critical?	☐ Yes ☐ No

Score	What it means for this product	Reference image
2 PASS	Top surface complete and closed; no gaps, holes, or cracks.	<i>insert example</i>
1 NEEDS CORRECTION	Top surface complete but with minor visible gaps or cracks — correct.	<i>insert example</i>
0 FAIL	Top surface did not complete (open or failed).	<i>insert example</i>

B7 Extrusion quality

Why it matters	Poor extrusion creates gaps and deformities that weaken the part and trap contamination.		
Applies to product?	☐ Yes ☐ N/A	Critical?	☐ Yes ☐ No

Score	What it means for this product	Reference image
2 PASS	Even, consistent extrusion; smooth uniform edges; no significant stringing or blobs.	<i>insert example</i>
1 NEEDS CORRECTION	Minor under/over-extrusion or stringing/ooze needing cleanup or tuning — correct.	<i>insert example</i>
0 FAIL	Severe under/over-extrusion causing gaps, deformities, or a failed print.	<i>insert example</i>

B8 Bridging, overhangs & support

Why it matters	Failed bridging or support causes sag, droop, and deformation on overhanging features.		
Applies to product?	☐ Yes ☐ N/A	Critical?	☐ Yes ☐ No

Score	What it means for this product	Reference image
2 PASS	Bridges/overhangs printed cleanly; supports (if any) removed with no damage; surface smooth.	<i>insert example</i>
1 NEEDS CORRECTION	Minor sagging, surface marks, or support-removal marks — correct / clean up.	<i>insert example</i>
0 FAIL	Required support missing or failed; significant sagging or deformation.	<i>insert example</i>

B9 Surface finish & visible defects

Why it matters	Warping, cracks, and contamination compromise strength, fit, and cleanability.		
Applies to product?	☐ Yes ☐ N/A	Critical?	☐ Yes ☐ No

Score	What it means for this product	Reference image
2 PASS	No warping, cracks, gaps, or contamination; finish consistent with the reference.	<i>insert example</i>
1 NEEDS CORRECTION	Minor cosmetic defects (small blemishes, slight warp) correctable to standard — correct if needed.	<i>insert example</i>
0 FAIL	Significant warping, cracking, or defects that compromise the part.	<i>insert example</i>

B10 Completeness & feature integrity

Why it matters	A missing or broken feature (peg, clip, hole, text) makes the part non-functional.		
Applies to product?	☐ Yes ☐ N/A	Critical?	☐ Yes ☐ No

Score	What it means for this product	Reference image
2 PASS	All features present and intact (pegs, holes, clips, markings); nothing missing or broken.	<i>insert example</i>
1 NEEDS CORRECTION	A minor feature imperfect (tight hole, small flash) that can be corrected — correct.	<i>insert example</i>
0 FAIL	A functional feature is missing or broken.	<i>insert example</i>

C11 Dimensional accuracy / scale

Why it matters	Out-of-scale parts will not fit or function; printer settings can drift the size.		
Applies to product?	☐ Yes ☐ N/A	Critical?	☐ Yes ☐ No

Score	What it means for this product	Reference image
2 PASS	Within tolerance on every critical dimension (section 2); passes Go/No-Go or measures within the stated limit.	<i>insert example</i>
1 NEEDS CORRECTION	Slightly outside tolerance but possibly correctable, or borderline — re-measure / adjust against section 2.	<i>insert example</i>
0 FAIL	Out of tolerance or wrong scale beyond the acceptable limit.	<i>insert example</i>

C12 Fit & assembly

Why it matters	If it does not mate with its intended parts, it cannot be used. (Mark N/A for standalone parts.)		
Applies to product?	☐ Yes ☐ N/A	Critical?	☐ Yes ☐ No

Score	What it means for this product	Reference image
2 PASS	Mates and assembles correctly with its intended parts; fit is right — not loose, not forced.	<i>insert example</i>
1 NEEDS CORRECTION	Assembles, but fit is marginal (slightly loose or tight) — correct.	<i>insert example</i>
0 FAIL	Does not fit or assemble with mating parts.	<i>insert example</i>

C13 Mechanical / functional test

Why it matters	The part must withstand its real-world handling and loads without failing. (Define the test in section 2.)		
Applies to product?	☐ Yes ☐ N/A	Critical?	☐ Yes ☐ No

Score	What it means for this product	Reference image
2 PASS	Passes the defined functional test (section 2) with no damage and the correct behaviour.	<i>insert example</i>
1 NEEDS CORRECTION	Borderline — a minor issue (slightly too stiff/weak, minor splinter) — correct and re-evaluate.	<i>insert example</i>

Score	What it means for this product	Reference image
0 FAIL	Fails the functional test (breaks, leaks, or deforms).	<i>insert example</i>

D14 Post-processing, edges & cleanability

Why it matters	Sharp edges, residue, or un-cleanable surfaces are unsafe, especially for medical use.		
Applies to product?	☐ Yes ☐ N/A	Critical?	☐ Yes ☐ No

Score	What it means for this product	Reference image
2 PASS	Cleaned; no sharp edges, stringing, or residue; surface suitable for disinfection and intended use.	<i>insert example</i>
1 NEEDS CORRECTION	Minor finishing needed (deburr, remove residue) before pass — correct.	<i>insert example</i>
0 FAIL	Sharp edges, contamination, or a surface that prevents proper cleaning or use.	<i>insert example</i>

D15 Marking, serial & traceability

Why it matters	Marking and traceability link the part to its printer and material batch for accountability.		
Applies to product?	☐ Yes ☐ N/A	Critical?	☐ Yes ☐ No

Score	What it means for this product	Reference image
2 PASS	Required marking/serial present and legible; traceable to the printer and material batch.	<i>insert example</i>
1 NEEDS CORRECTION	Marking present but unclear, or traceability incomplete — correct / record.	<i>insert example</i>
0 FAIL	Required marking missing, or the part is not traceable.	<i>insert example</i>

4. Product-specific parameters (add as needed)

Use these blank blocks for criteria unique to this product. Write the parameter name on the line, the reason, and what 2 / 1 / 0 look like.

Custom parameter 1: _____

Why it matters			
Applies to product?	☐ Yes ☐ N/A	Critical?	☐ Yes ☐ No

Score	What it means for this product	Reference image
2 PASS		<i>insert example</i>
1 NEEDS CORRECTION		<i>insert example</i>
0 FAIL		<i>insert example</i>

Custom parameter 2: _____

Why it matters			
Applies to product?	☐ Yes ☐ N/A	Critical?	☐ Yes ☐ No

Score	What it means for this product	Reference image
2 PASS		<i>insert example</i>
1 NEEDS CORRECTION		<i>insert example</i>
0 FAIL		<i>insert example</i>

5. Evaluation scorecard

Duplicate this page per evaluation, or record the same scores on the QC datasheet (acceptance summary). A part passes only if every applicable parameter = 2.

Parameter	Score (0/1/2)	Critical	N/A	Notes
A1 Design file & version (and SOP)		☐	☐	
A2 Material conformance		☐	☐	
A3 Print profile & parameters		☐	☐	
B4 First-layer / base adhesion		☐	☐	
B5 Layer adhesion & lamination		☐	☐	
B6 Top surface quality		☐	☐	
B7 Extrusion quality		☐	☐	
B8 Bridging, overhangs & support		☐	☐	
B9 Surface finish & visible defects		☐	☐	
B10 Completeness & feature integrity		☐	☐	
C11 Dimensional accuracy / scale		☐	☐	

Parameter	Score (0/1/2)	Critical	N/A	Notes
C12 Fit & assembly		☐	☐	
C13 Mechanical / functional test		☐	☐	
D14 Post-processing, edges & cleanability		☐	☐	
D15 Marking, serial & traceability		☐	☐	
<i>Custom 1</i>		☐	☐	
<i>Custom 2</i>		☐	☐	

Overall result	☐ Pass — certify ☐ Needs correction — rework & re-evaluate ☐ Reject		
Evaluated by		Date	
Linked datasheet No.		Linked certificate No.	

Recommended critical parameters. Typically mark as critical: A1 design file, A2 material, B5 layer adhesion, B10 completeness, C11 dimensional, C13 functional test, and D15 traceability. Adjust to the product's risk.

Relationship to other documents. This reference defines the bar; the QC datasheet records each part's evaluation against it; the producer accreditation assessment qualifies the site that printed it.