

# Silicone RFQ Input Package Guide

How to use STEP files, 2D drawings, physical samples, and application data for faster custom silicone project review

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## 1 STEP / 3D File

Best for geometry, complex features, volume, DFM, and mold-parting review.

## 2 2D Drawing

Best for tolerances, datums, materials, surface notes, and inspection criteria.

## 3 Physical Sample

Best for reverse engineering, fit, failure review, and material feel.

**Best overall package: STEP file + 2D drawing + sample or assembly photos**

**Direct recommendation.** For a new custom silicone part, the strongest RFQ package is usually a STEP file plus a controlled 2D drawing. A physical sample or assembly photographs add valuable information when fit, surface, reverse engineering, or an existing failure must be reviewed.

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**Intended users:** Buyers, product engineers, sourcing teams, equipment manufacturers, and brand developers

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**Scope.** This guide helps customers prepare information for preliminary manufacturing, tooling, sampling, and quotation review. A final quotation still depends on the confirmed geometry, material, tolerances, quantity, testing, packaging, and project requirements.

# 1. Which Input Is Best?

## 1. New custom part with completed design

Send the STEP file and a controlled 2D drawing. Add assembly files or photographs when surrounding geometry affects fit, sealing, grip, or installation.

## 2. Existing part that must be reproduced

Send the physical sample, clear photographs, available dimensions, and information about the original function. A sample alone may be worn, deformed, or incomplete.

## 3. Fit, sealing, or tolerance-critical project

Send the STEP file, 2D drawing, mating-part data, groove or housing dimensions, and the planned inspection method.

## 4. Current supplier or field failure

Send the failed part, approved sample if available, assembly photographs, defect description, operating conditions, and current drawing or specification.

## 5. Early-stage concept without CAD

Send sketches, reference photographs, basic dimensions, installation method, target quantity, and the problem the silicone part must solve.

**Do not delay an initial discussion only because the CAD package is incomplete.** Reemane can begin a feasibility review from a sample, photographs, dimensions, or a concept description. Accurate mold and production quotation requires enough confirmed information to define the final part.

# 2. What a STEP File Tells the Manufacturer

A STEP or STP file provides the three-dimensional geometry of the silicone part. It is especially useful for complex covers, sleeves, caps, grommets, seals, overmolded components, undercuts, varying wall thicknesses, and parts with multiple functional surfaces.

## 1. Geometry and volume

The 3D model helps estimate part volume, approximate material usage, mold envelope, cavity space, and geometric complexity.

## 2. Wall thickness and flow path

The model reveals thin sections, thick transitions, deep cavities, long flow paths, and features that may affect filling or curing.

## 3. Parting line and demolding

The geometry helps evaluate possible mold opening direction, undercuts, removable cores, parting-line position, and demolding risk.

## 4. Assembly relationships

When the mating component is included, the model helps review stretch fit, interference, clearances, sealing contact, retention, and installation path.

**Limitation:** A STEP file usually does not fully communicate tolerance priorities, material grade, hardness, color, surface finish, test method, inspection datums, or which dimensions are critical to function.

## 3. What a 2D Drawing Tells the Manufacturer

The 2D drawing converts the product design into controlled manufacturing and inspection requirements. For many silicone projects, it is the key document for defining what must be measured, what variation is acceptable, and which notes govern the approved part.

### 1. Critical dimensions and tolerances

Identify fit, sealing, alignment, wall thickness, hole, groove, and assembly dimensions that require control.

### 2. Datums and measurement direction

Define where measurements begin, how the part is oriented, and how flexible geometry should be inspected.

### 3. Material and hardness

State the silicone type or material direction, target Shore A hardness, and any color or curing requirements.

### 4. Surface and appearance notes

Specify texture, gloss, parting-line restrictions, flash limits, logo details, and visible surfaces.

### 5. Testing and documentation

List functional tests, report requirements, sample scope, packaging, labeling, and acceptance criteria.

**Limitation:** A 2D drawing can be difficult to interpret when the geometry is complex or when several views do not completely define the three-dimensional shape. For complex molded silicone parts, the 2D drawing should control requirements while the STEP file defines geometry.

## 4. What a Physical Sample Tells the Manufacturer

A physical sample provides information that may not be obvious from CAD. It is useful for reverse engineering, fit comparison, surface feel, flexibility, color direction, installation review, and failure analysis.

### 1. Real shape and handling

The sample shows how the part bends, stretches, grips, seats, or interacts with the assembly.

### 2. Surface and appearance

It helps communicate texture, gloss, edge condition, parting-line visibility, color direction, and acceptable visual quality.

### 3. Existing failure evidence

Tearing, permanent deformation, swelling, slipping, leakage, wear, and assembly damage can indicate where the current design or material is failing.

### 4. Reverse-engineering starting point

The sample allows dimensions and geometry to be reconstructed when original CAD is unavailable.

**Limitation:** A sample may have shrunk, swollen, worn, stretched, compressed, or been trimmed after production. Its exact material formulation, original tolerance, free-state dimension, mold shrinkage, and intended acceptance criteria may remain unknown.

## 5. Recommended RFQ Packages

### 1. Package A - Complete new product

STEP file + controlled 2D drawing + material and hardness direction + quantity + application requirements.

### 2. Package B - Existing sample reproduction

Physical sample + photographs + measured dimensions + assembly information + target quantity + explanation of what must remain unchanged.

### 3. Package C - Fit or sealing project

Part STEP file + mating-part or groove data + 2D tolerances + operating environment + functional test requirement.

### 4. Package D - Failed product redesign

Failed sample + approved reference if available + failure photographs + operating conditions + current drawing + desired improvement.

### 5. Package E - Early concept development

Sketches or reference images + basic dimensions + use scenario + installation method + target price or quantity direction + required functions.

## 6. Project Information Required in Every RFQ

- Part name and intended function.
- Estimated prototype quantity, first production quantity, and annual usage.
- Target material, hardness, color, texture, logo, and appearance direction.
- Operating temperature, contact media, cleaning method, UV, ozone, moisture, or outdoor exposure.
- Functional requirement such as sealing, grip, fit, protection, cushioning, insulation, or retention.
- Critical dimensions and the reason they are critical.
- Required test, report, standard, market, packaging, and labeling information.
- Current project status, target schedule, and whether another supplier or existing product is involved.

**Quotation accuracy improves when the customer identifies the functional priority.** A dimension used only for general appearance should not automatically receive the same tolerance or inspection effort as a sealing edge, locating feature, or assembly interface.

## 7. Common RFQ Problems That Delay Quotation

### 1. Only a screenshot is provided

Screenshots can communicate the concept, but scale, hidden geometry, wall thickness, and tolerances remain uncertain.

### 2. The drawing has no tolerance or material notes

The supplier cannot determine which dimensions are critical or what quality level the quotation should include.

### 3. Only the silicone part is shown

A cover, sleeve, seal, or grommet often depends on the mating part, groove, housing, or installation path.

### 4. The sample is damaged or permanently deformed

The measured shape may not represent the original design and should be compared with assembly data.

### 5. Quantity is not stated

Tooling layout, cavity count, process choice, inspection effort, and unit-price direction depend on production volume.

## 8. Reemane Project Review Workflow

### 1. Initial input review

Review drawings, samples, photographs, application conditions, quantity, and current project concerns.

### 2. Missing-information list

Identify the dimensions, material, assembly, testing, or documentation details still required.

### 3. Manufacturing and DFM discussion

Discuss compression molding feasibility, parting line, demolding, wall thickness, undercuts, tolerances, and mold direction.

### 4. Tooling and sample plan

Define mold development, prototype quantity, sample approval points, and any required design adjustments.

### 5. Quotation and project confirmation

Confirm mold cost, sample cost, unit price, lead-time basis, packaging, and commercial terms.

## Send Reemane Your Project Data

For a faster review, send the most complete package currently available. A STEP file and 2D drawing are preferred for a new design. For reverse engineering or failure analysis, add the physical sample, assembly photographs, and a clear description of the problem.

**Email:** [sales@siliconefactories.com](mailto:sales@siliconefactories.com)

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**Technical boundary.** This document supports preliminary project communication. Manufacturing feasibility, tolerances, material suitability, testing, and final quotation must be confirmed against the complete project data and approved sample.