

STL export from FreeCAD automation

CAD-018 / REV A / 2026.09.01

Export the final valid shape with controlled tessellation and a known scale.

STATUS	Recovered/Partial
CLASSIFICATION	CAD
MATERIAL	CAD / AUTOMATION
DISPOSITION	PUBLIC / RECOVERED/PARTIAL
CATEGORY	CAD / Scanning / Automation
RECORD TYPE	how-to

GOAL

Run the first test described in this guide and record the result for stl export from freecad automation.

SOURCE STATE

New reference guidance; not a recovered test result

EQUIPMENT

- FreeCAD
- Representative test model
- Measurement or inspection method

METHOD / STEPS

1. Recompute the document and verify the intended final object is nonempty and valid.
2. Select only the final body/shape, excluding sketches, intermediate solids and construction geometry.
3. Choose tessellation appropriate for the smallest curved feature and export the mesh to a collision-safe filename.
4. Reopen in the slicer and check bounding dimensions, orientation, body count and manifold warnings.

THINGS TO WATCH FOR

STL does not reliably store physical units. Very coarse meshing facets curves; excessive density makes files harder to handle without improving printer resolution. A successful file write does not prove correct geometry.

FIRST TEST / WHAT TO RECORD

An independent viewer reports the expected size and the slicer produces the intended solid.

RESULT / WHERE THIS STANDS

An independent viewer reports the expected size and the slicer produces the intended solid.

TROUBLESHOOTING

- STL does not reliably store physical units. Very coarse meshing facets curves; excessive density makes files harder to handle without improving printer resolution. A successful file write does not prove correct geometry.

SPECIFICATION

TOOL PATH	FreeCAD
DELIVERABLE	HOW-TO
VALIDATION	Representative model / known dimension
STATUS	Recovered/Partial

DEVELOPMENT HISTORY

2026.09.01 / Rev A

Imported as an independent manifest record; public copy keeps uncertainty visible.

REFERENCE NOTES

FreeCAD reference (<https://freecad.github.io/SourceDoc/>).

HOW-TO SOURCES

FreeCAD reference

<https://freecad.github.io/SourceDoc/>

RELEASED MATERIAL / SOURCE LINKS

cad-018-public-summary.txt

PUBLIC SUMMARY / RECOVERED NOTES

<https://u225x.com/downloads/manifest-records/cad-018-public-summary.txt>

RETURN TO THE LIVING RECORD

STL export from FreeCAD automation

This PDF preserves the public notes at this revision. Visit the record for updates and attached images.

<https://u225x.com/record/CAD-018>