

STEP File Analyzer and Viewer (SFA) – 8 December 2025

As of January 2026, new versions of SFA and up-to-date Release Notes will only be available on [GitHub in the Release directory](#). Click on the file name, then on the download symbol to the right.

Minimum system requirements: Windows 10, Excel 2016, 64-bit computer. If Excel is not installed, then CSV files will be generated. Viewer files are shown in the default web browser with an Internet connection. SFA has been tested with Windows 10 and 11. Windows Server is not supported, although see ‘SFA crashing’ below and try setting the environment variable.

The largest STEP file that can be processed to generate a spreadsheet is about 430 MB. Files over that size must use the Part Only option with the Viewer. Use F9 and F10 to decrease and increase the font size in the Status tab.

Files in the SFA zip file (keep them all in the same directory):

- **STEP-File-Analyzer.exe** – SFA graphical-user-interface (GUI) version
 - The first time you run SFA, you will be prompted to install the IFCsvr toolkit (IFCsvrR300 ActiveX Component). Use the default installation directory.
 - Antivirus software might warn that there is a security issue with SFA or the toolkit. Both are safe to install and run. With Microsoft Defender, click More Info and Run Anyway.
 - If possible, install and run SFA from your home directory or desktop on the local C: drive.
- **sfa-cl.exe** – SFA command-line version, no user interface
 - From a Command Prompt, change to the directory where sfa-cl.exe is located and enter:
sfa-cl.exe C:/pathname/mySTEPfile.stp
 - The command-line version will use either the default options, the options that were set the last time the GUI version was run, or custom options.
- **SFA-File-Analyzer-Release-Notes-n.nn.xlsx** – Current release notes
- **SFA-User-Guide-v7.pdf** – User Guide from October 2021
- **nist_ctc_05.stp** – Sample STEP AP242 file (<https://www.nist.gov/document/nist-pmi-step-files>)

SFA crashing

There are several possible fixes if SFA crashes the first time you run it. (1) Uninstall the IFCsvr toolkit. Then run SFA as Administrator and when prompted install the IFCsvr toolkit for Everyone, not Just Me. (2) Set an environment variable. From the Windows menu, search for ‘Edit the system environment variables’. On the Advanced tab, select Environment Variables. Then create a new System Variable and set ROSE_SCHEMAS to C:\Program Files (x86)\IFCsvrR300\ dll You might need administrator privileges. If SFA still crashes immediately after the ‘Connecting to IFCsvr’ message, then there is no known fix available.

Missing GD&T symbols

If you are processing STEP AP242 files with semantic PMI, then some GD&T symbols might appear as question marks on worksheets for dimensions, tolerances, and equivalent Unicode strings. In this case, SFA will copy the required font file with the GD&T symbols, ARIALUNI.TTF, to C:/Users/yourname/AppData/Local/Temp/SFA. You must copy that file to C:/Windows/Fonts to install the fonts. You might need administrator privileges.

Directory pathnames

There might also be a problem running the software from a directory with accented, non-English, or symbol characters in the pathname. The following directory would cause problems because of the accent in Tešt - C:/Users/NIST/Documents/Analyzer/Tešt. Run the software from a directory without any special characters in the pathname.

Secure computing environments

Secure computing environments might require approvals to run SFA and associated programs. In addition to SFA itself, two other programs that might need approval are the IFCsvr toolkit installation files and Viewer software. Both programs are copied to C:/Users/username/AppData/Local/Temp/SFA. The IFCsvr toolkit install file is a .msi file. The Viewer is stp2x3d-part.exe along with dll's that are in stp2x3d-dll.zip

Use the option to manually save the spreadsheet if there are specific Excel options that need to be set before saving the file.

No Internet connection

If there is no outside Internet connection as required by the Viewer, then use the option on the More tab to 'Save X3D file generated by the Viewer' and display the resulting '.x3d' file in a free X3D viewer such as Octaga Player.

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