



Hardware Requirements and Recommendations for Strand7 R3

Operating System

Strand7 R3 is a 64-bit Windows application that runs on 64-bit Windows 7, 8, 10 and 11.

RAM

As a 64-bit application, Strand7 R3 can access all of the RAM installed on your computer. A computer with 16 GB of RAM will be adequate for most typical Strand7 models (e.g., models with fewer than one million degrees of freedom), with larger models benefitting from 32 GB (or more) of RAM. More RAM is useful in any case; for example, so that multiple applications (Strand7, CAD, etc.) can run more efficiently at the same time, or for running the Strand7 solvers on multiple models simultaneously.

Graphics

Strand7 R3 uses Direct X11 for displaying graphics, and therefore the graphics card becomes a significant factor in the overall performance of the Strand7 graphical user interface. Excellent graphics performance can be achieved even with a mid-range graphics card; however, the better (faster, more cores, more memory) the graphics card, the better the Strand7 graphics performance will be. As a minimum, the graphics card must support Direct X11 with FEATURE_LEVEL_11_1 (or above). Most graphics cards manufactured since 2015 will support this feature level. Information about your graphics card, including the supported feature level, can be obtained by executing the 'dxdiag' utility in Windows.

CPU

Strand7 R3 performs much of its processing on the CPU; therefore, the higher the CPU clock speed the better. Currently, only some parts of Strand7 R3 are multi-threaded or parallelised (both in the GUI and in the solver), so a multi-core CPU is only partly exploited at present. However, future R3 releases will make increasing use of parallelisation. Multiple CPU cores are also useful for running the Strand7 solvers on multiple models simultaneously, or to run different applications at the same time.

Hard Drive

An SSD is recommended for the Strand7 scratch folder location. This folder is used for swap space by Strand7, particularly for large models, so it should be stored on the fastest local hard drive available on the computer. For the storage of model files and results, a mechanical hard drive, or even a network drive, will be adequate. Reading and writing models from a cloud drive will impact performance and is therefore not recommended.

Summary

In summary, higher performance components can make a difference for larger Strand7 models (for example, more RAM, faster CPU, better graphics card, etc.). Decisions about hardware will generally depend on your budget and the types of analyses and size of models you intend to run.
