Chapter 1

Quick Start

Before You Install

Minimum System Requirements

In order to run **PASS 2026**, your computer must meet the following minimum standards.

Processor:
450 MHz or faster processor
32-bit (x86) or 64-bit (x64) processor

RAM:
256 MB (*512 MB recommended*)

Operating Systems:
Windows 11 or later
Windows 10
Windows 8.1
Windows 8
Windows 7

Windows Server 2022 or later
Windows Server 2019
Windows Server 2016
Windows Server 2012 R2
Windows Server 2012
Windows Server 2008 R2 SP1

Privileges:
Administrative rights required during installation only

Third Party Software:
Microsoft .NET 4.8 (*Comes pre-installed with Windows 11 or later, Windows 10 (May 2019 Update) or later, and Windows Server 2022 or later. Installation required on Windows 10 (October 2018 Update (Version 1809)) or earlier and Windows Server 2019 or earlier. For systems where .NET 4.8 installation is required, a .NET 4.8 download helper will start automatically when you run the* **PASS** *setup file.*)

Microsoft Visual C++ 2015-2022 Redistributable (x86) (*For systems where Microsoft Visual C++ 2015-2022 Redistributable installation is required, a Microsoft Visual C++ 2015-2022 Redistributable installation helper will start automatically when you run the* **PASS** *setup file.*)

Microsoft Windows Installer 3.1 or higher

Adobe Reader 7 or higher (*required for the Help System only*)

Hard Disk Space:
500 MB for **PASS** (*plus space for Microsoft .NET 4.8 and Microsoft Visual C++ 2015-2022 Redistributable if not already installed*)

Printer:
Any Windows-compatible inkjet or laser printer

Installing PASS

The installation procedure creates the necessary folders and copies the **PASS** program from the installation file. The files in the installation file are compressed, so the installation program decompresses these files as it copies them to your hard disk. During the installation wizard dialog, you will be able to choose the **PASS** installation location.

This section gives instructions for installing **PASS** on your computer system. You must use the **PASS** setup program to install **PASS**. The files are compressed, so you cannot simply copy the files to your hard drive.

Follow these basic steps to install **PASS** onto your computer system:

1. Run the downloaded executable installation file.

2. Once the setup starts, follow the instructions on the screen. **PASS** will be installed to the drive and folder you designate during the installation process.

If Something Goes Wrong During Installation

The installation procedure is automatic. If something goes wrong during installation, restart the installation procedure from the beginning. It may help to restart your computer before retrying the installation. If trouble persists, contact our technical support staff.

Validating PASS Installation and Operation (IQ and OQ)

Installation Qualification (IQ)

After starting **PASS**, you can validate that the software is installed completely and correctly using the **Installation Validation Tool for Installation Qualification (IQ)**, which is available in the Tools menu (Menu: Tools > Validation and Qualification (IQ/OQ) > Installation Validation Tool for Installation Qualification (IQ)) and in the PASS Home window procedure tree under Tools.

The **Installation Validation Tool** compares all PASS installation files against factory requirements and reports if any required files or folders are missing or invalid. Summary and detailed validation reports are created and displayed in the Output Window. If all files and folders pass installation qualification, then you can be certain that the software is installed correctly.

If at any time you begin to experience any type of issues with the software, we suggest that you run the Installation Validation Tool to verify that all the required files are present and that none have changed or become corrupted.

For more information, see the Installation Validation Tool for Installation Qualification (IQ) chapter in the documentation.

Operational Qualification (OQ)

After starting **PASS**, you can validate that the software is operating correctly using the **Procedure Validation Tool for Operational Qualification (OQ)**, which is available in the Tools menu (Menu: Tools > Validation and Qualification (IQ/OQ) > Procedure Validation Tool for Operational Qualification (OQ)) and in the PASS Home window procedure tree under Tools.

The **Procedure Validation Tool** verifies that one or more (up to all) procedures is/are functioning correctly by loading the procedure(s), executing calculations, and comparing the results to verified and expected outcomes. Summary and detailed validation reports are created and displayed in the Output Window. If all procedures pass operational qualification, then you can be certain that the software is functioning as expected.

Each procedure can also be validated individually by clicking **Validate This Procedure** in the Help Center or Help menu on any Procedure Window.

For more information, see the Procedure Validation Tool for Operational Qualification (OQ) chapter in the documentation.

Starting PASS

PASS may be started using your keyboard or your mouse using the same techniques that you use to start any other Windows application. You can start **PASS** by selecting it from your Start menu using standard mouse or keyboard operations.

Entering Your License Key

The first time you run **PASS**, enter your license key in the pop-up window that appears. If you do not enter a valid license key, you will be able to navigate among **PASS** windows, view the help, and run procedures, but you will only be able to obtain sample output. If you purchase a license, you can enter the license key anytime by going to the **Help** menu and choosing **License**. Once you enter a valid license key, the evaluation version will become fully functional. You do not need to reinstall **PASS**.

For more information about obtaining a license, visit www.ncss.com.

Updating PASS

We periodically release updates that fix bugs or provide enhancements to your current version of **PASS**. These updates are provided with all purchased licenses, free of additional charge. You can view the problems that each update fixes and download updates from our website at www.ncss.com/download/pass/updates/. To determine whether you have the most recent update, click on **About** from the **Help** menu to find the current version and release date of your installed software. Compare this information to that of the updates available at our website.

The Three Primary PASS Windows

PASS is controlled by three main windows:

1. PASS Home Window
2. Procedure Windows
3. Output Window

Each window has its own menu bar and tool bar. We will now briefly describe each of the three.

The PASS Home Window

The **PASS Home** window helps you quickly and easily find the appropriate procedure to be loaded. Procedure categories and subcategories are given on the left. Clicking on any category or subcategory gives a list of all procedures in that category or subcategory. Click on a procedure button to load the procedure. The list of procedures in each category is shown in the large display area with a white background. The list of procedures can be shown as large buttons, medium tile buttons, or small list buttons. Favorite procedures and recently run procedures can be shown by clicking on the respective buttons. Procedures may also be found by entering keywords and clicking on Search. Closing this window will exit **PASS**.

The **PASS Home Window** chapter provides a closer look at the PASS Home window.

The Procedure Windows

Each **PASS** procedure is controlled by a **Procedure** window that contains all of the settings, options, and parameters that determine the input and output for the analysis. These options are separated into groups called *tabs* or *panels*. A particular panel is viewed by pressing the corresponding tab that appears at the left side of the window. The tabs are organized into groups separated by a horizontal line. Tabs above the line have input options specific to the procedure and determine specifically how the analysis is carried out. The options on <u>all</u> tabs above the separating line directly affect the calculation and accuracy of the results. Tabs below the line (usually *Reports* and *Plots*) have options common to all procedures that allow you to select and format reports and plots.

The values of all options available for a procedure are referred to as a *template*. A template may be stored for future use in a *template file*. By creating and saving template files (often referred to as *templates*), you can tailor each procedure to your own specific needs. Each time you use a procedure, you simply load your template and run the analysis you have preset or modify the template for a new analysis without changing all the options. You do not have to set all the options every time. The specific operations needed to do this are shown later.

At most six procedure windows can be opened at a time. You can widen the window to increase the size of the immediate help window by dragging the corners of the window. Closing this window will not exit **PASS**. Clicking the help button in the top right corner of a procedure window will show the help documentation for that particular procedure.

The **Procedure Window** chapter provides a closer look at the Procedure window.

The Output Window

The **Output** window displays the output from the statistical and graphics procedures. It serves as a mini-word processor—allowing you to view, edit, save, and print your output. Reports and graphs are saved in rich text format (RTF). Since RTF is a standard document transfer format, these files may be loaded directly into your word processor for further processing. Closing this window will not exit **PASS**.

You can compile and display multiple analyses by sending results from the output window to the gallery using the tools in the Output window menu and toolbar.

The **Output Window** chapter takes a closer look at the Output window.

Moving from Window to Window

There are several ways of moving among the windows:

1. Remove the windows you are not currently using by minimizing them.

2. Arrange the windows on your screen so that all can be seen.

3. Use the task bar along the bottom of your screen.

4. Use the Windows menu.

5. Use the PASS Home window.

6. Use the toolbar (this is usually the quickest and easiest).

Selecting a Procedure

There are three primary ways to select a procedure:

1. Select the procedure using the PASS Home window.

2. Select the procedure from the Procedures menu.

3. Click the button of the corresponding procedure from the Favorites, Recent, or Loaded buttons of the tool bar.

Obtaining Help

Training Videos

The **PASS** product information and training videos give a narrated experience of various aspects of using the software and available features. We suggest that you start by watching these videos. You can access all of the **PASS** videos from our website at www.ncss.com/videos/pass. They will guide you step-by-step through example analyses using the software.

Help System

The Help System is started from the Help menu or by clicking on any of the help buttons (blue circle with a question mark). In most cases, clicking the help button will open the general help system and then go to the chapter corresponding to window in which the help button was pressed. **PASS** updates, available for download at www.ncss.com, may contain adjustments or improvements of the **PASS** Help System. Adobe Acrobat or Adobe Reader version 7 or later is required to view the help system. You can download Adobe Reader for free by going to www.adobe.com. Adobe Reader can also be installed from the *Utilities* folder on your **PASS** installation CD.

Navigating the Help System

There are a few key features of our help system that will let you use the help system more efficiently. We will now explain each of these features.

Contents Tab

Clicking on the Contents tab opens the Contents portion of the viewer. From this tab you can expand the table of contents to view nested headings.

Index Tab

You can go view the index options by clicking the Index tab. The index allows you to quickly locate keywords and/or statistical topics. You can narrow the list of index entries displayed by selecting a specific topic category in the uppermost dropdown box.

Index entries are displayed in the format

Index Entry   CHAPTER NAME   or   CHAPTER NAME   Index Entry.

You can control which entries are displayed by clicking on the radio buttons at the bottom of the tab window.

Searching a Document

Right-click on the document and select Find to search for a keyword in the document.

Printing the Documentation

To print pages from the documentation, click on the **Print** button at the top of the PDF. This will launch the Adobe Reader print dialogue screen. You can choose to print a single page or a range of pages from the help file.

Technical Support

If you have a question about **PASS**, you should first look to the Help System. If you cannot find the answer there, look for help on the web at www.ncss.com/support. If you are unable to find the answer to your question by these means, contact **PASS** technical support for assistance by calling (801) 546-0445 between 8 a.m. and 5 p.m. (MST) Monday through Friday. You can also contact us by email at support@ncss.com. Our technical support staff will help you with your questions.

If you encounter problems or errors while using **PASS**, please view our list of recent corrections before calling by going to www.ncss.com/download/pass/updates to find out if you problem or error has been corrected by an update. You can download updates anytime by going to the update website. If updating your software does not correct the problem, contact us by phone or email.

To help us answer your questions more accurately, we may need to know about your computer system. Please have pertinent information about your computer and operating system available.

Steps to Complete a Sample Size or Power Calculation in PASS

The steps to complete a sample size or power calculation in **PASS** are as follows:

1. Select and load a procedure using the **PASS Home** window.

   This can be done using the navigation tree or by entering a search keyword. Click on a procedure button in the main display area to load the procedure.

2. Input the analysis parameters on the **Procedure** window.

   You should examine and specify all input options on all tabs before running an analysis. The tabs are located on the left side of the procedure window and are grouped into two sets by a horizontal line. Tabs above the line are critical (e.g., Design, Options, etc.) and you should visit each to make sure that the analysis is correctly specified. The options on all tabs above the separating line directly affect the calculation and accuracy of the results. Tabs below the line (e.g., Reports and Plots) have options common to all procedures that allow you to select and format reports and plots. Input options on the Reports and Plots tab do not affect calculations; they allow you to specify which reports and plots to display and how they will be formatted.

3. Click the **Calculate** button on the **Procedure** window to perform the calculation and view the results in the **Output** window.

   The **Output** window displays the output of the power analysis or sample size calculation. It allows you to view, edit, save, and print your output. Scroll down to view the graph at the end of the report.

To watch videos on the steps needed to run an analysis in **PASS**, see the videos page of our website at www.ncss.com/videos/pass/.