RiloTank 3D V.2026
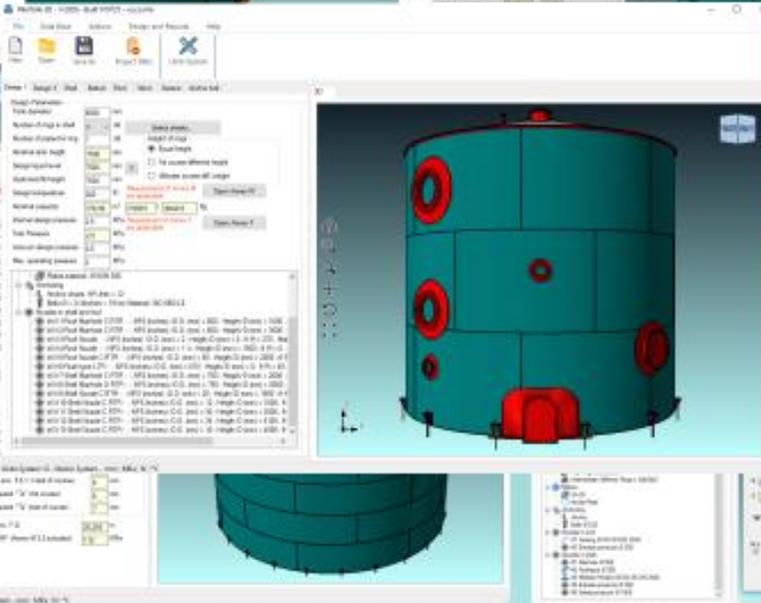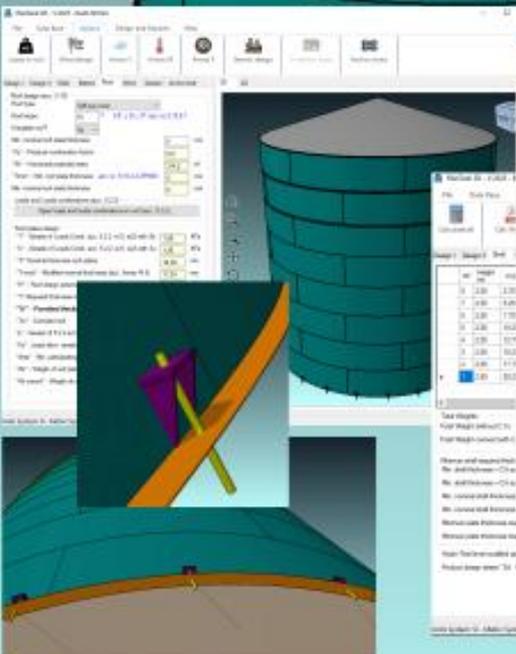
Design and calculation of welded vertical
cylindrical metal tanks, for storage of fluids.
API Standard 650 - 14 th Edition, August 2025

BROCHURE

https://www.rilotank.com
rilotank3d@gmail.com

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1. PRESENTATION. STORAGE EQUIPMENT DESIGN STANDARDS

Rilotank 3D is a technical software for the design and calculation of metal tanks (carbon steel, stainless steel or Duplex Stainless Steel), welded (not bolted), vertically oriented (it does not cover horizontal orientation, nor spherical shape), for the storage of fluids (in liquid and/or gaseous state - it does not cover the storage of solids and therefore, neither fluidised solids). The storage of such fluid must meet the following conditions in terms of pressure and temperature:

Pressure: ≤ 18 KPa

Temperature: ≤ 260 ºC

Although a series of considerations must be taken into account with respect to the pressure that will be studied in point 10.- Design at internal pressure according to Annex F of API 650 and to the temperature that will be studied in point 5.- Requirements of Annex M of API 650 due to high temperatures ≤ 260 ºC.

STORAGE EQUIPMENT REGULATIONS, CODES, GUIDELINES AND SUPPORTING DOCUMENTS

The selection of a standard for the calculation of metallic equipment for fluid storage depends on several factors, which will mainly be:

- The volume of fluid to be stored,
- Pressure range at which it must be stored.
- Temperature at which the fluid must be stored

Generally, the standard par excellence for the calculation of fluid storage tanks, especially in the hydrocarbon sector, is API 650, drawn up by the American Petroleum Institute. It is undoubtedly the most widely used standard at international level, even beyond refineries and the gas & oil sector, as it has also been widely used in other sectors such as the agri-food sector, due to the fact that it not only covers carbon steel materials, but also other tank manufacturing materials widely used in the agri-food sector, such as stainless steel.

Alternatively, in the EU, the EN 14015 standard is also widely used, which also covers the design and manufacture of site-built, vertical, cylindrical, flat-bottomed, non-buried, welded, steel tanks for the storage of liquids at ambient temperatures and above. This standard is also beginning to gain acceptance in North African and other Latin American countries.

Likewise, in the case of tanks, if the fluid storage is water, and the tank is made of welded carbon steel, it is possible to use the AWWA D100 standard drawn up by the American Water Works Association.

It should also be noted that there is another standard that has been widely used in recent years, due to the mandatory installation of fire water supply systems, and due to the speed and ease of assembly of bolted tanks, AWWA D103 is also widely used for bolted carbon steel tanks for water storage, supported in turn by the NFPA-22 guide for PCI water tanks. The following figure shows the most commonly used base standards for tank calculations, as well as the other complementary standards on which API 650 is based:
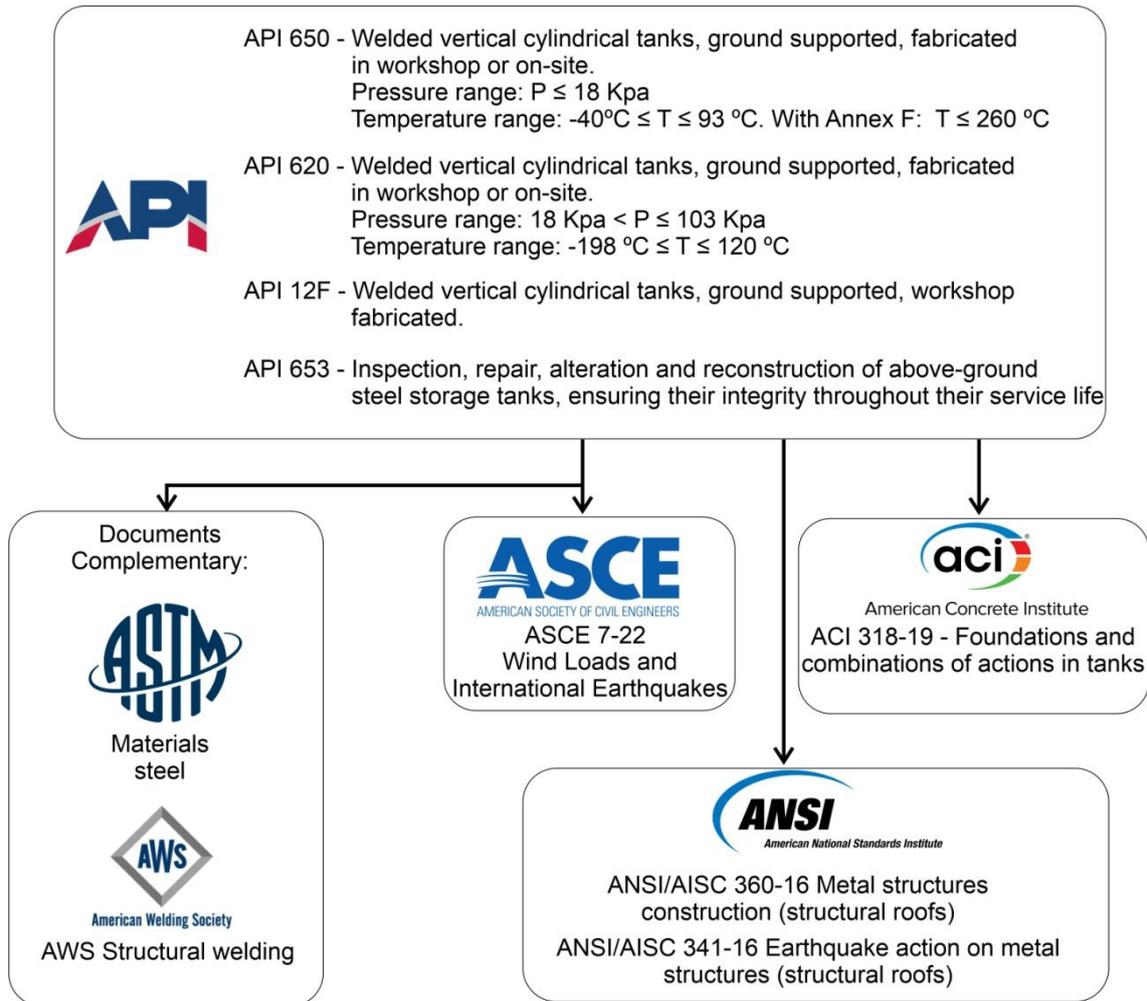
Figure 1.- API 650 standard and other similar reference standards with other pressure and temperature ranges such as API 620, as well as other useful standards such as API 12f for tanks manufactured in the workshop (of small dimensions compared to API 650) and API 653 for the inspection of tanks throughout their useful life. Other standards are also presented in which API 650 is supported for the choice of materials and welds, loads, foundation calculations, etc.

2. VERSIONS OF RILOTANK V.2026

There are three different versions of Rilontank V.2026:

VERSIÓN	CARATERÍSTICAS
Rilotank 3D V.2026a **FREE**	✓ Perpetual licence until the next update ✗ Openings can only be added to the cylinder (Nozzles in shell) but not to the roof (Nozzles in roof). ✗ No están disponibles las opciones de exportación del dibujo 3D a formatos DWG, DXF ni HTML ✗ Only a basic calculation report with the results on 10 pages can be exported; the complete calculation report, which includes 50 pages with the following, cannot be exported: ✗ Calculation report. Statics. ✗ Equations used according to API 650 14th and reference

	to its articles. ✘ Tank measurement with all its materials and weights. ✘ 3D drawing of the tank ✘ The programme's calculation files (with the extension *.RILO) cannot be saved or opened. ✔ Ideal for engineering and other technical students, universities and professionals who wish to test the software's performance in order to compare their manual calculations. ✘ No support or maintenance
Rilotank 3D V.2026a PRO	✔ Perpetual licence until the next update ✔ Perpetual licence, 1 licence for 1 PC. ✔ Openings can be added to the cylinder (nozzles in shell) and also to the roof. (nozzles in roof). ✔ All options for exporting the 3D drawing to DWG, DXF and HTML formats are available. ✔ Export of the complete calculation report is available, including 50 pages with: ✔ Calculation report. Statics. ✔ Equations used according to API 650 14th and reference to its articles. ✔ Tank measurements with all materials and weights. ✔ 3D drawing of the tank. ✔ The programme's calculation files (with the extension *.RILO) can be saved and opened, so they can be retrieved later and the tanks recalculated by changing the parameters. ✔ Ideal for freelance engineers and SMEs who want to automate calculations quickly and efficiently. ✔ Support for 4 months, to answer any questions ✔ Access to video tutorial platform for 6 months ✔ Access to presentation platform and PDF notes with examples and other documentation for 6 months
Rilotank 3D V.2026a EMPRESARIAL	✔ Perpetual licence, with up to 5 licences to install on 5 different PCs in the office. ✔ Openings can only be added to the cylinder (nozzles in shell) but not to the roof (nozzles in roof). ✔ All options for exporting the 3D drawing to DWG, DXF or HTML formats are available. ✔ Only the export of a basic calculation report with the results on 10 pages is available. The export of the complete calculation report, which includes 50 pages with the following, is not included: ▪ Calculation report. Statics. ▪ Equations used according to API 650 14th and reference to its articles. ▪ Tank measurement with all its materials and weights. ▪ 3D drawing of the tank ✔ The programme's calculation files (with the extension *.RILO) cannot be saved or opened ✔ Ideal for companies, limited companies and public limited companies, engineering firms, tank and boiler

manufacturers, EPCs, etc.
- ✓ One year of support for answering questions.
- ✓ One year of access to the video tutorial platform.
- ✓ One year of access to the presentation and PDF notes platform with examples and other documentation.
- ✓ Maintenance with the right to updates with software improvements that appear throughout the year following purchase.

3. HELP AND SUPPORT

To access help, in the "Help" menu tab, you can directly open the PDF manual by clicking on the "Manual" button, see figure 2:
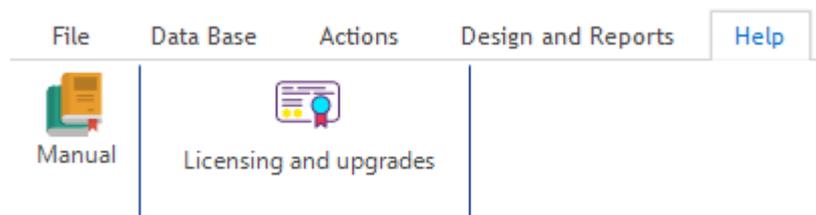

Figure 2.- Access to program manual

Additionally, our YouTube channel features numerous videos specifically designed for easy learning, explaining step-by-step each and every one of the procedures for using the different parts of the software. In addition to quickly learning how to use the application (which is very simple), the videos are also rich in information, presenting the equations, articles, and calculations of the API 650 standard. These videos also provide a wealth of information for learning how to use this standard. These videos include recommendations and links to other sources of information such as articles, presentations, etc.

Therefore, we encourage you to visit our YouTube channel regularly:

https://www.youtube.com/@Rilotank

Visit **https://www.rilotank.com** regularly to stay up to date with the latest updates to our software.

For bugs, suggestions, feedback about the software, please contact by mail: **rilotank3d@gmail.com**

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4. MINIMUM REQUIREMENTS AND SOFTWARE INSTALLATION

MINIMUM REQUIREMENTS

- Operating system: Microsoft Windows 11, Microsoft Windows 10, 32-bit or 64-bit

- PC with i3 processor or higher

- Minimum 8 GB RAM

- Compatible keyboard configured with 'Region and Language' as follows:

• Country or region: ENG - England - The decimal separator for entering numerical data in the software must be a 'full stop' '.' and NOT A COMMA

• Country or region: ESP - Spain - The decimal separator for entering numerical data in the software must be a 'comma' ',' and NOT A FULL STOP

- Graphics card compatible with OPENGL and DIRECTX for 3D rendering.

- Screen with a minimum resolution of 1600 x 1200 px so that the different software windows and screens do not appear 'cut off' on the PC monitor.

- Internet connection to verify the licence. The software cannot be run without an internet connection, as the licence cannot be verified. If you run the software without an internet connection, a warning will appear on the screen and you will not be able to run RiloTank until you connect to the network.

INSTALLATION

The first step is to download the installer from the website www.rilotank.com. If you use Google Chrome as your browser, you may not be able to download the installer in compressed 'ZIP' format: **'SetupRilotank2026aFREE.zip'**, so that the browser indicates that it is a corrupt file, so we recommend to download the Opera or Mozilla Firefox browsers, which have never given problems in downloading our installers. We recommend that you use the Mozilla Firefox browser, which is free and can be downloaded from the following website: https://www.firefox.com/en-US/

To continue with the installation, simply unzip the .zip file and run the file: **SetupRilontak2026aFREE.msi**

Before installing any updates or new versions, you must know if you have a previous version of RiloTank installed on your computer. Before installing the new version, you must uninstall the old version, as in this

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case Windows will not allow you to install the new version and will display and will display an error message on your screen.

Therefore, you must uninstall the old version of the programme. In Windows, you must type 'Add or Remove Programmes' in the Windows search box using the keyboard.

To proceed with the installation you only need to unzip the .zip file and execute the file: **SetupRilontak2026aFREE.msi**

Before installing any of our programs you should know if you have installed on your computer a previous version of our software, before installing the new version you must uninstall the old version, because in this case Windows will not let you install the new version and will launch an error message on your screen.

Windows will probably prevent the installation of the program because the "SmartScreen" filter is activated, and the following message will appear on the screen:

In order to install the software without any problems, although Windows prevents the installation to avoid putting the equipment at risk, there is no risk to the equipment, as it is a tank calculation software and when it does not recognise the application, the Windows SmartScreen filter appears on the screen. In order to execute the installation, click on **'More info'** and the option 'Run anyway' will appear, which must be selected in order to carry out the installation. The installer will appear on the screen ready to perform the installation, just follow the instructions and press the 'Next >' button:
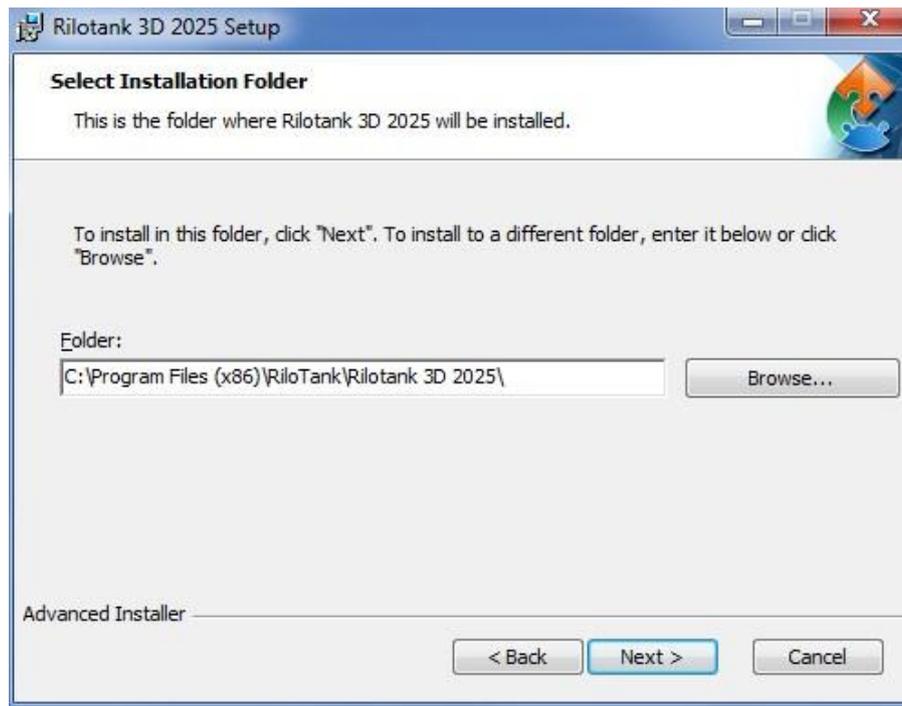
When you run the .msi file, the installer first checks your operating system version. Our software is optimised for Microsoft Windows 11 64-bit operating system. However, it can also run on Windows 10 32-bit. However if you do not have the latest Windows Update updates, you may be missing some prerequisites needed for the program to run correctly:

- **Microsoft .NET Framework 4.5** (dotNetFx45_Full_setup.exe)

- **Microsoft System CLR Types for SQL Server 2012 (x64)** (SQLSysClrTypes2012_x64.msi) Para Windows basados en 64 bits

- **Microsoft System CLR Types for SQL Server 2012** (SQLSysClrTypes2012_x86.msi) Mismo archivo que el anterior pero para sistemas operativos Windows basados en 32 bits.

- **Microsoft SQL Server 2008 Report Builder 2.0** (ReportBuilder.msi)

- **Microsoft Report Viewer 2012 Runtime** (ReportViewer.msi)

If the program installer detects that your operating system is missing any of the 5 prerequisites listed above, it will proceed to install them automatically.
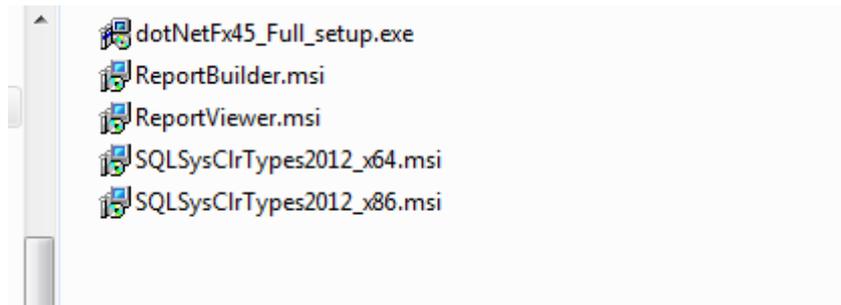
Once these pre-requisites have been checked and installed, the installer will proceed to install the Rilontak program itself, which by default all our programs are installed in the folder C:\Program Files(x86) \ Rilotank \ Rilotank 3D 2026\.

Once the installation process is finished, a shortcut icon to the software is created on the desktop and the application can be launched directly by clicking on the "Finish" button:

VERY IMPORTANT: If you receive an error message during the execution of the software, it is likely that some of the 5 necessary prerequisites are not installed. If this happens, you will only have to install them manually, executing the 5 files contained in the folder "prerequisites" located in the installation folder of the program: folder C:\Program Files(x86) \ Rilotank \ Rilotank 3D 2026\prerequisites (See image):

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If the installation was successful, you will be able to access the software via a shortcut icon on your Windows desktop:

Double-clicking on the software icon with the mouse will bring up the welcome screen of the software. Please read carefully the terms of use and copyright of the software, if you agree, press the 'Enter' button to access the software:

Please note that in order to run the software, the PC must be connected to the internet to check the software licence. If the PC is not connected to the internet it will not be able to run the software and will launch the error message:

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2026, March

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