

SIMS™ PRO

Tank Bottom Inspection Data Analysis and Reporting Software

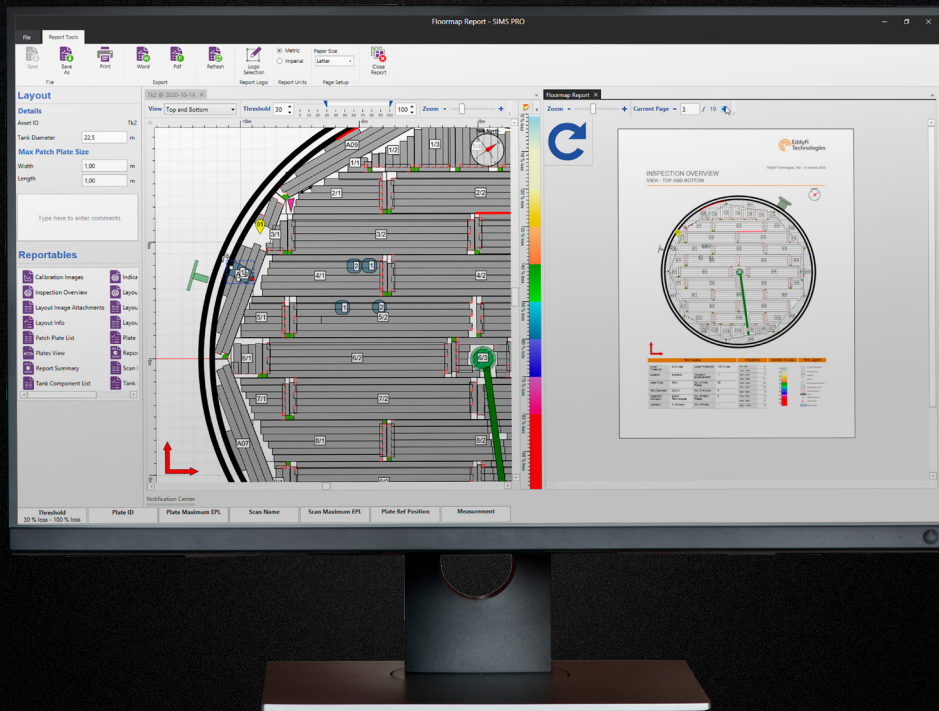


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1. Introduction

SIMS PRO provides the reporting solution for a tank floor inspection conducted by the FloormapX or the most recent models of the Floormap3Di series. The simple and intuitive process for delivering a report using SIMS PRO is as follows:

1. Collect tank floor inspection data using the FloormapX onboard data acquisition software SIMS GO.
2. Transfer all inspection data captured by SIMS GO onto a USB storage device.
3. Import the inspection data into SIMS PRO for offline viewing, analysis, data management and report generation purposes.



Figure 1 Tank Floor inspection and reporting solution

SIMS PRO software reporting package offers:

- Automated generation of tank bottom layout.
- Full resolution viewing, with multiple data layer options.
- Smart tools allowing full interaction with the recorded data, so that efficient and optimal maintenance and repair strategies can be formulated.
- Seamless combination of FloormapX data with other inspection results.
- Comprehensive repair design tools.
- Multiple report options including fully paperless reporting.

2. Installing SIMS PRO

Once the latest version of SIMS PRO has been downloaded from the Eddyfi website please run the installer and follow the on-screen instructions. If an earlier version of SIMS PRO exists it is automatically uninstalled during the installation.

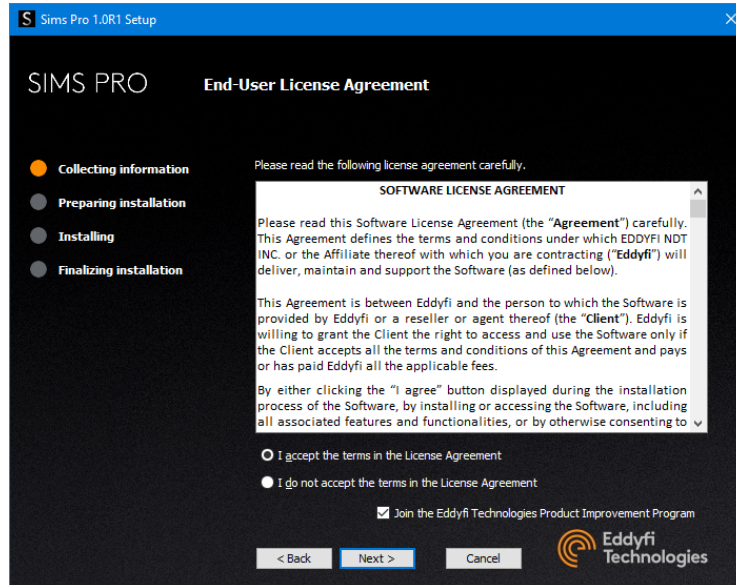


Figure 2 SIMS PRO installation wizard

During the installation you will be given an opportunity to join the Eddyfi Technologies Product Improvement Program. This is a voluntary program which you can opt out of at any time. It gathers information about how the software is used and identifies what features are important to you and the workflows used in the software. The information collected is anonymous and will help us to improve the software.

3. Loading SIMS PRO for the first time

Run the software by clicking the SIMS PRO icon on your desktop.



Figure 3 SIMS PRO desktop icon

A valid software subscription is required to use SIMS PRO. The first time you run the software you are prompted to enter a license key. Please enter the one provided by Eddyfi. If you do not have access to a license key, please contact an Eddyfi representative.

The first time you run the software a database is created to store your imported inspection data. Once created you are presented with the backstage **home** menu. From here you can manage your inspections. When the software is updating to a newer version the existing database is retained.

4. SIMS PRO Backstage

4.1 Backstage Overview

When the SIMS PRO application is loaded it opens into the backstage home menu.

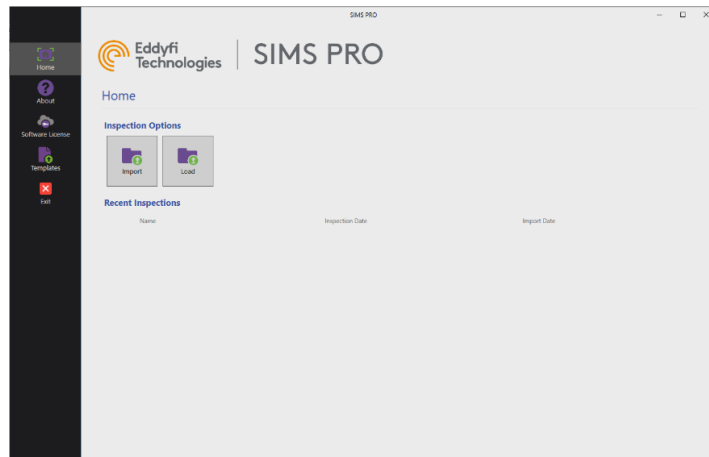


Figure 4 SIMS PRO backstage home

The backstage consists of the following sidebar sections:

Home

Here you can import inspection data from the FloormapX, Floormap3Di or SIMS PRO into the database as well as being able to load inspections stored within the database. The recent inspection list shows the last five inspection loaded.

Import

This option is available once an inspection is loaded in the frontstage. Here you can import a list of manual indications or patch plates identified during the tank inspection, then entered into the respective SIMS PRO excel template file, into the loaded inspection.

Export

This option is available once an inspection is loaded in the frontstage. Here you can export data for the loaded inspection into an excel file. The data available for exporting includes an indication list and a patch plate list.

About

Here you can find the information regarding the customer support contact details and the software version of the application. When new software versions become available, they can be downloaded and installed via the internet.

Settings

This option is available once an inspection is loaded in the frontstage. Here you find the display setting options for the frontstage layout.

Software license

Here you can manage, view details, and edit contact information for the software license of your SIMS PRO software. It is also possible to release a license code so that it can be transferred and activated on a different computer, if required.

Templates

Here you can save an excel template file from SIMS PRO that can be used to list manual indications or patch plates identified during the tank inspection. The template file can then be imported into the SIMS PRO inspection.

Left arrow

When an inspection is loaded this allows you to return to the frontstage of the software.

4.2 Importing Inspection Data

Before inspection data can be imported into the SIMS PRO database it first must be associated with an asset. If the asset does not exist it can be created during the importation process.

To import inspection data:

1. In the backstage home menu, click **Import**.
2. Select an existing asset from the list and click **Next**. Or, if a new asset is required, click **Add Asset** and enter the required information, then click **Create**.
3. From the dropdown select the importer that matches the data format to import:
 - FloormapX Inspection file: *.fminsp
 - SIMS PRO Export file: *.spg
 - Floormap 3Di Inspection file: *.fm3insp

Note

Inspection data from Floormap3D software v1.16 and earlier is not supported.

4. Click **Browse** and navigate to inspection folder you wish to import.
5. Click **Import** to begin the data importation process.

The importing process can take time as it progresses through the various steps. Once imported the inspection data is displayed in the frontstage of the SIMS PRO software. Here all plate, created during the inspection, are stitched together to display the tank floor layout.

4.3 Loading Inspection Data

There are two ways to load existing inspection data from the database, either via the load button or the **recent inspection** list, providing it is one of the last five inspections loaded.

Load button

To load existing inspection data from the database:

1. In the backstage home menu click **Load**.
2. Select the inspection to load from the list. Inspections are listed by asset details and inspection date.

3. Click **Load**.

Once loaded the inspection data is displayed in the frontstage of the SIMS PRO software.

Loading from the recent inspection list

In the recent inspection list in the backstage home menu, double click on the inspection to load. Once loaded, SIMS PRO displays the inspection data in the frontstage of the software.

4.4 Deleting Inspection Data

Inspection data can be deleted from the SIMS PRO database. To remove:

1. In the backstage home menu click **Load**.
2. Select the inspection from the list to delete.
3. Click **Delete Inspection**.
4. Click **OK**.

4.5 Exporting Inspection Data

Inspection data in the SIMS PRO database can be exported as an *.spg file. To export:

1. Load the inspection required for export.
2. In the backstage home menu click **Export**.
3. Click **Browse**.
4. Select an export location and file name then click **Save**.
5. Click **Export**.

The exported *.spg file can be imported into SIMS PRO and the inspection data viewed.

4.6 Saving Inspection Data

When an inspection is loaded and worked upon it can be saved to the SIMS PRO database by using the Save Layout button on the home ribbon. When the inspection or software is closed the following saving options become available:

- Save and Exit: Allows you to save and close the current inspection.
- Exit: Allows the inspection to be closed without saving.
- Cancel: Closes the dialogue box and returns to the inspection.

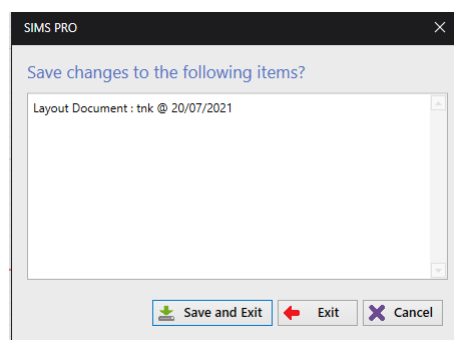


Figure 5 Exit inspection options

4.7 Saving Template file

An excel template file can be saved from SIMSPRO and used to enter details and location of manual indications or patch plate identified during the tank inspection.

Excel manual indication template

To save a manual indication template:

1. In the backstage on the sidebar click **Templates**.
2. Select **Excel Manual Indication Template** option.
3. Choose the desired measurement system for the template file.
4. Click **Browse** then select the save location for the template file.
5. Click **Save Template**.

Open the saved template file then enter the information about each manual indication identified in the tank.

Excel patch plate template

To save a manual indication template:

1. In the backstage on the sidebar click **Templates**.
2. Select **Excel Patch Plate Template** option.
3. Choose the desired measurement system for the template file.
4. Click **Browse** then select the save location for the template file.
5. Click **Save Template**.

Open the saved template file then enter the information about each patch plate to be added to the tank inspection.

4.8 Importing Templates

A SIMSPRO excel template file that has been populated with details of multiple manual indications or patch plates, identified during the tank inspection, can be imported into an inspection. Once imported, the manual indications or patch plates are automatically added to the inspection layout and included in the lists.

To import a template file:

1. In the backstage on the sidebar click **Import**.
2. Select **Excel Data Template** option.
3. Click **Browse** then select the folder location of the template to import.

Note

If Show Removable media is ticked it automatically searches the root directory of that drive.

4. Select the desired template file to import from the available template list then click **Load**.

Note

The data in the template file is reviewed to ensure it can be imported into the inspection. Any validation errors identified are listed in a table and must be corrected prior to importing.

5. Click **Import** when Data Validation Successful message is shown.

4.9 Exporting Indication List

To configure and export an indication list to a .xlsx file:

1. In the backstage on the sidebar click **Export**.
2. Select **Indication List** option.
3. Click **Browse** then select the export location and file name for the exported indication list.
4. Configure the export list by ticking the required options then click **Export**.

The list is saved to the exported location and opens using the default program for .xlsx files.

4.10 Exporting Patch Plate List

To configure and export a patch plate list to a .xlsx file:

1. In the backstage on the sidebar click **Export**.
2. Select **Patch Plate List** option.
3. Click **Browse** then select the export location and file name for the exported indication list.
4. Configure the export list by ticking the required options then click **Export**.

The list is saved to the exported location and opens using the default program for .xlsx files.

5. SIMS PRO Frontstage

5.1 Overview

SIMS PRO progresses to the frontstage once inspection data has been imported or loaded. It consists of the following sections:

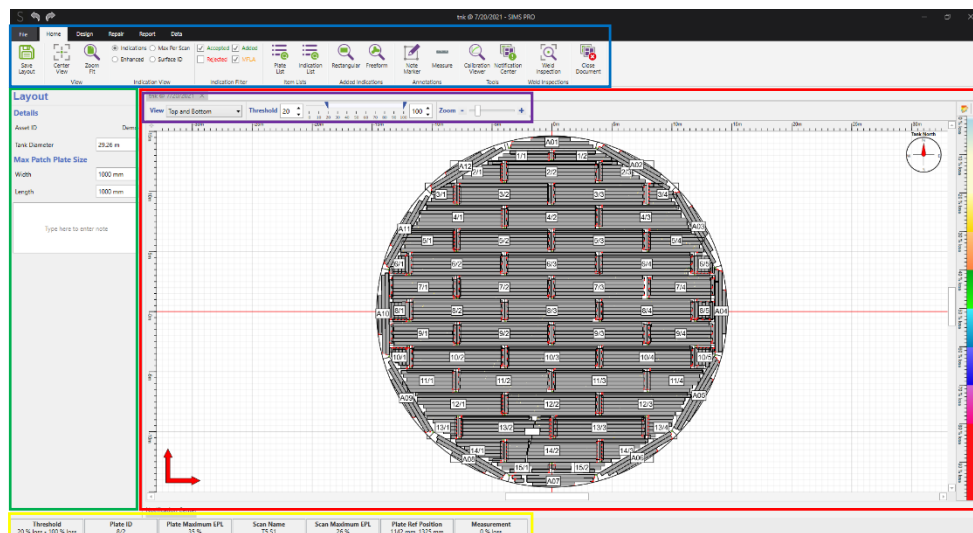


Figure 6 SIMS PRO frontstage

Ribbon bar

Across the top of the frontstage, highlighted in blue above, is the ribbon bar consisting of the following tabs:

- File: Provides access to the backstage.

- Home: Allows for viewing and editing indications, layout annotations and lists.
- Design: Allows for operations such as adding tank components and shapes to the layout.
- Repair: Allows for tank repair operations such as applying patch plates to the layout.
- Report: Allows for the generation of reports using the report wizard or custom report.
- Data: Allows for the import additional data or replace existing data to the layout.

Layout view

The layout view, highlighted in red above, displays a visual representation of the plates and scanned data. A tool bar, highlighted in purple above, allows you to alter the layout view by changing:

- Data views.
- Indication threshold levels.
- Zoom controls.
- Layout color palette.

Item property view

The item property view, highlighted in green above, is where you can view and edit the information for selected items on the layout.

Status bar

The status bar, highlighted in yellow above, displays information regarding the cursor position as you moved it over the layout view.

5.2 Layout View Navigation

Zooming and panning

To zoom and pan around the layout you can either use a mouse or keyboard controls. Scrolling the mouse wheel alters the zoom level of the layout with the zoom focused about the cursor position. Alternatively, the zoom level can be altered using the keyboard **PgUp** and **PgDn** keys. Here the zoom is focused about the center of the layout view. To pan around the layout either hold down the mouse scroll wheel, or use the middle mouse button, or hold the **Shift** key on the keyboard together with the mouse left button.

Switching data views

The inspection data displayed in the layout view can be switched to show one of the following views using the view dropdown. Keyboard shortcut function keys can also be used to switch between the available data views which include:

- Top and Bottom: **F1**: displays all the indications.
- Top: **F2**: displays top surface indications only.
- Bottom: **F3**: displays bottom surface indications only.
- MFLA: **F4**: displays raw data captured with the MFL array data.
- STARS: **F5**: displays raw data captured with the STARS.

Setting layout units

The inspection data displayed in the layout view can be either in metric or imperial values. To set the units:

1. Click **File** in the ribbon.
2. Click **Settings** in the sidebar.
3. In the **Units** option, select either **Metric** or **Imperial** from the dropdown.

Adjusting indication threshold

The indication threshold control allows you to filter the indications seen on screen based on EPL. To change the threshold:

1. Select an indication data view: either **Top and Bottom**, or **Top**, or **Bottom**.
2. Alter the lower or upper threshold values via the text box or the range slider bar.

Note

The raw data views MFLA and STARS have no threshold adjustment.

Cursor hover box information

As the cursor is moved around the screen a hover box displays the measurement value at its location. The measurement unit is determined by the layout data view.

Additional cursor information can be viewed in the cursor hover box by ticking **Show Verbose Cursor Information** in the backstage settings. Once enabled the maximum value of the indication and its surface origin is also displayed.

Note

The additional cursor information is only shown when indication view is set to indications.

5.3 Status Bar

The information displayed in the status bar updates based upon the cursors position on the layout. The status bar displays the following information:

- Threshold level for the layout view.
- Plate ID the cursor is on.
- Plate Maximum EPL value for the plate the cursor is on.
- Scan Name for the scan the cursor is on.
- Scan Maximum EPL value for the scan the cursor is on.
- Plate Reference Position from the plate origin the cursor is on.
- Measurement value of the data view that the cursor is on.

5.4 Item Selection Properties

The properties section on the left-hand side of the screen displays information related to the item selected on the layout. Depending upon the item selected there are simple operations that can be performed.

Layout properties

To view the basic layout properties, select the white background of the layout. Properties include:

- Asset ID.
- Tank Diameter.
- Max Patch Plate Size.

Rectangular and sketch plate properties

To view rectangular or sketch plate properties, select either a plate or sketch plate. Properties include:

- Plate ID.
- Maximum Indication.
- Plate Thickness.
- Coating Thickness.
- Calibration Name.
- Scan Overlap.
- Position Locked: this can be unchecked to allow plate movement.

Annular ring properties

To view annular ring properties, select an annular plate to access the annular ring. Properties include:

- Annular Diameter.
- Rotation of annular ring.

Annular plate properties

To view annular plate properties, double click on an annular plate. Properties include:

- Plate ID.
- Maximum Indication.
- Plate Thickness.
- Coating Thickness.
- Calibration Name.
- Scan Overlap.

6. Home Ribbon

The home ribbon is the default tab and contains features for viewing and editing indication data on the layout view.

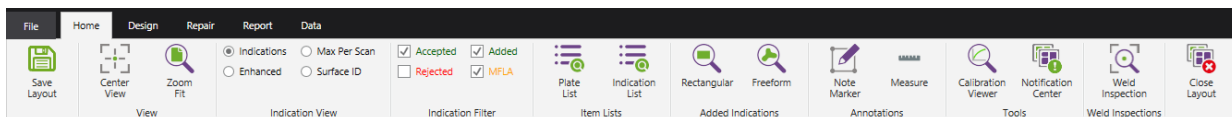


Figure 7 Home ribbon

6.1 Save Layout

Save layout allows the current state of the inspection to be saved to the database.

6.2 Center View

Center view resets the layout view so that the center of the layout is positioned in the middle layout window. The zoom level is not altered.

6.3 Zoom Fit

Zoom fit alters the zoom level so that every item on the layout is visible in the layout view.

6.4 Indication View

The indication view of the inspection layout can be set as:

Indications:	Indications are displayed at the captured resolution of the SIMS GO software.
Enhanced:	All indications become enhanced in size. The enhancement size can be altered using the Enhanced Indication Size slider bar located in the backstage settings option.
Max Per Scan:	Each scan adopts the color of the maximum indication found on it.
Surface ID:	Indications are colored in terms of their surface origin. <ul style="list-style-type: none">i. Bottom surface indication Blue colorii. Top surface indications Red coloriii. Both surface indications Green color

6.5 Indication Filter

The indication filter determines which indication status, set via the indication list, to display on the layout. The available options are as follows and can be used in combination with each other.

Accepted:	Layout displays the indications that have been proved-up and accepted. The indication status is represented by a green circle in the indication list.
Added:	Layout displays any manually added indications added in SIMS GO or SIMS PRO. The indication status is represented by a green circle in the indication list.
Rejected:	Layout displays the indications set as rejected due to being non-relevant. The indication status is represented by a red square in the indication list.
MFLA:	Layout displays the indications that have been captured by the FloormapX. The indication status is represented by an orange triangle in the indication list.

Note

Rejected indications are OFF by default.

6.6 Plate List

This list provides information related to each plate such as the maximum indication on the plate, the thickness of the plate and coating, the calibration name used to inspect that plate and the number of note markers added to the plate. To open, click the **Plate List** button on the home ribbon. The plate list tool window opens to the right of the layout window but can be dragged and docked as required. To select and view a plate from the list, double click on the row. The layout view zooms to that plate and the properties for the plate are shown.

6.7 Indication List

This list provides information for indications on a selected plate. Here the status and surface origin of an indication can be modified, as well as entering a prove up value, altering the detection method and adding a comment to indications. The list only displays indications that have been selected in the indication filter ribbon and lie between the threshold range set for the layout. To view the list of indications for a plate:

1. Click **Indication List** on the home ribbon.
2. Select a plate on the layout.

The indication list tool window opens to the right of the layout window but can be dragged and docked as required. To locate an indication from the list on the plate, either click on a row and the indication is circled on the layout, or double click on a row. This zooms the layout view into the plate and circles the indication.

When an indication is selected in the list additional information is displayed at the bottom of the window. An image of the indication, its location, plate co-ordinates and dimensions are shown along with a method of detection and any indication notes added during the inspection. Indication notes can be edited or added to any indication in the list, but method of detection can only be edited once the indication status has been set to accepted. Indication note can also be identified and viewed in the indication list by hovering the cursor on the speech bubble icon.

Status	EPI	Prove-up	Est. Rem.	EPI	Surface	STARS	MFLA	Report EPI	Notes
31%	2.7 mm	55%			0.55 V	0.98 V	55%		
37%	2.8 mm	54%			2.52 V	1.29 V	54%		
52%	2.9 mm	52%			2.92 V	2.01 V	52%		
50%							50%		
45%	3.3 mm	45%			3.59 V	1.68 V	45%		
45%	3.3 mm	45%			2.19 V	1.65 V	45%		
42%	3.5 mm	42%			2.01 V	1.54 V	42%		
40%					4.48 V	1.39 V	40%		
36%					2.61 V	1.21 V	36%		
31%					2.63 V	0.99 V	31%		
29%					4.01 V	0.86 V	29%		

Location	Coordinates
Plate: 6/1	X: 410 mm, Y: 1790 mm
Dimensions	Method
X: 33 mm, Y: 13 mm	FMX
Confirmed with pit gauge	

Figure 8 Indication list showing additional information for a selected indication

Rejecting indications

To reject an indication:

1. Select a plate.
2. Click **Indication List** on the home ribbon.
3. Select an indication and change the status to **Reject**, red square.

Accepting indications

To accept an indication:

1. Select a plate.
2. Click **Indication List** on the home ribbon.
3. Select an indication and change the status to **Accept**, green circle.
4. Modify the indication by:
 - Entering a prove up or estimated remaining value.
 - Changing its surface origin.
 - Alter the method.

Cancel an indication modification

To cancel a modification and revert the indication to the original status:

1. Select a plate.
2. Click **Indication List** on the home ribbon.
3. Select a modified indication in the list and return its status to **MFLA**, orange triangle.

6.8 Added Indications

There are two indication shape options available for adding to the inspection layout.

Rectangular

To add a rectangular indication:

1. Click **Rectangular** on the home ribbon.
2. Click, hold, and drag to draw the rectangle indication.
3. Set the required properties for the rectangular indication.

Freeform

To add a freeform indication:

1. Click **Freeform** on the home ribbon.
2. Click on the layout to start drawing the freeform indication.
3. Move the cursor to the end of the line then click again. Repeat until the indication outline is drawn.
4. Close the indication by double clicking or return the cursor to the red square at the start position.
5. Set the required properties for the freeform indication.

6.9 Note Marker

To add a note marker:

1. Click **Note Marker** on the home ribbon.
2. Click on the layout to position the note marker.
3. Set the required properties for the note marker.

6.10 Attachments

To add a photograph, a pdf or other attachment file:

1. Click **Note Marker** on the home ribbon.
2. Click on the layout to position the note marker.
3. Right-click on the note marker then select **Add Attachments**.
4. Click **Browse** and locate the attachment file.
5. Enter an attachments comment.
6. Click **Add Attachment**. The attachment appears in the properties for that note marker.

Note

The maximum size of the attachment file is 100MB.

File types that can be attached include: *.bmp, *.doc, *.docx, *.gif, *.jpg, *.pdf, *.png, *.txt

6.11 Measure

To add a measurement line:

1. Click **Measure** on the home ribbon.
2. Click on the layout to position the start of the measurement line.
3. Click on the layout to position the end of the measurement line.

6.12 Calibration Viewer

The calibration viewer allows you to see the calibration details and traces associated with each plate. To view the calibration trace associated with a plate:

1. Click **Calibration Viewer** on the home ribbon.
2. Select a plate on the layout to view its calibration trace.

The calibration tool window opens to the right of the layout window but can be dragged and docked as required. The view dropdown, at the top of the window, is used to switch between the following traces:

- MFLA Top.
- MFLA Bottom.
- STARS.

6.13 Notification Center

The notification center window provides you with additional information on certain actions and can be useful when an unforeseen event occurs. This window pops up from the bottom of the software to display the message.

6.14 Weld Inspections

The weld inspection tool allows you to mark lines on the layout that have undergone weld inspection and can either be a straight or a curved line. The location of these can be seen on the report along with total weld length measurements. To add a weld inspection:

1. Click **Weld Inspection** on the home ribbon.
2. Click on the layout to position the start of the weld inspection.

3. Click on the layout to position the end of the weld inspection.

To curve a weld inspection line:

1. Select the weld inspection on the layout.
2. Tick **Curve Weld Inspection** in the properties.
3. Click, hold, and drag the red dot on the weld inspection to set the curvature.

6.15 Close Document

The **Close Document** button allows you to close the inspection and returns to the software backstage. When closing you can either save the inspection data and exit or exit the inspection without saving.

7. Design Ribbon

The design ribbon allows tank design operations such as setup and editing of plates, their layout position, the numbering and adding customization features.

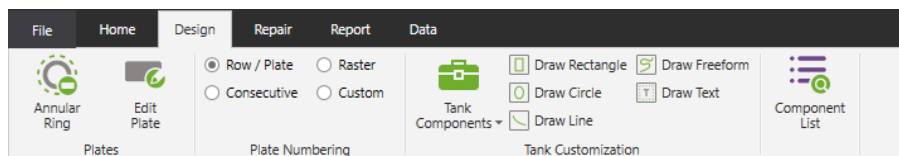


Figure 9 Design ribbon

7.1 Tank North

To set the tank north:

1. Click on the compass in the top right corner of the layout.
2. In the tank north indicator properties set the rotation using the slider bar.

To hide the tank north:

1. Click **File**.
2. Click **Settings**.
3. Untick **Show Tank North**.

7.2 Plates

Repositioning a single plate

To move a single plate:

1. Select a plate to move.
2. In the properties untick **Position Locked**.
3. Click, hold, and move the plate to the required position.
4. Once complete lock the plate by ticking **Position Locked**.

Repositioning multiple plates

To move multiple plates:

1. Hold the **Ctrl** key and select the multiple plates to move.

2. Right-click and select **Unlock Selected Plates**.
3. Click, hold, and move the plates to the required position.
4. Once complete lock the plates by right-clicking and selecting **Lock Selected Plates**.

Annular ring rotation

To rotate the annular ring:

1. Select an annular plate on the layout.
2. In annular ring properties untick **Rotation Locked**.
3. Set rotation using the slider bar.
4. Once complete lock the rotation by ticking **Rotation Locked**.

Annular ring creation

If annular ring plates have not been created during the inspection, then you can create the annular ring on the layout. To create an annular ring:

1. Click **Annular Ring** on the design ribbon.
2. Enter all annular ring information.
3. Click **OK**.

7.3 Edit Plate

To edit a plate:

1. Select a plate.
2. Click **Edit Plate** on the design ribbon or right-click and select **Edit Plate**.

The layout view closes and opens the edit plate view. Here modifications can be made to the plate setup and scan positions as well as the ability to select multiple indications for data modification. Please refer to the Indication Ribbon and Modification Ribbon for further information.

Exiting edit plate

To close edit plate view and return to the layout view click **Close View** on the plate ribbon. When exiting plate view you can either keep any changes made in edit plate and exit or exit plate view without keeping any changes.

Plate numbering

The plate numbering displayed on the layout can be set to one of the following options:

- Row / Plate: Plates are numbered in a row / plate format.
- Raster: Plates are numbered in a serpentine pattern.
- Consecutive: Plates are numbered from left to right, top to bottom.
- Custom: Plates display the custom Plate ID text in the plate properties.

7.4 Tank Customization

Tank customization allows you to add various features to the tank in order to provide a truer representation of the inspection environment. There are standard tank components that can be

selected from a dropdown list and added to layout as well as basic drawing shapes and tools to account for any other features. The available tank components include:

- Manway.
- Nozzle.
- Sump – Circular.
- Sump – Rectangular.
- Support – Circular.
- Support – Rectangular.

Tank components

To add a tank component:

1. Click the **Tank Component** button on the design ribbon.
2. Select the desired component from the dropdown.
3. Click, hold, and drag to draw the component.
4. Set the required properties for the component.

Component list

This list provides information related to each component added to the layout. To open click **Component List** on the design ribbon. The component list tool window opens to the right of the layout window but can be dragged and docked as required. To select and view a component from the list double click on the row. The layout view zooms to that component and the properties for it are shown.

Draw rectangle

To draw a rectangle:

1. Click **Draw Rectangle** on the design ribbon.
2. Click, hold, and drag to draw the rectangle.
3. Set the required properties for the rectangle.

Draw circle

To draw a circle:

1. Click **Draw Circle** on the design ribbon.
2. Click, hold, and drag to draw the circle.
3. Set the required properties for the circle.

Draw line

To draw a line:

1. Click **Draw Line** on the design ribbon.
2. Click on the layout to position the start of the line.
3. Click on the layout to position the end of the line.

4. Set the required properties for the line.

Draw freeform

To draw a freeform:

1. Click **Draw Freeform** on the design ribbon.
2. Click on the layout to start drawing the freeform.
3. Move the cursor to the end of the line then click again. Repeat until the freeform outline is drawn.
4. Close the freeform by double clicking or return the cursor to the red square at the start position.
5. Set the required properties for the freeform.

Add text

To add a text box:

1. Click **Draw Text** on the design ribbon.
2. Click, hold, and drag to draw the text box.
3. Set the required properties for the text box.
4. Edit the text by double clicking in the text box.

8. Repair Ribbon

The repair ribbon allows tank repair operations, such as adding patch plates and generating a list of patch plates with positional information required to repair the tank floor.

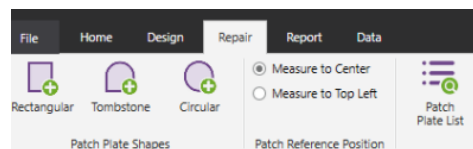


Figure 10 Repair Ribbon

8.1 Max Patch Plate Size

Before adding any patch plates to the layout ensure the maximum patch plate size has been set. This ensures any added patch plates fit through the tank manway. To set the max patch plate size:

1. Click on the white background of the layout view.
2. In the properties set the **Width** and **Length** for the max patch plate size.

8.2 Rectangular Patch Plate

To add a rectangular patch plate:

1. Click **Rectangle** on the repair ribbon.
2. Click, hold and drag to draw the patch.
3. Set the required properties for the rectangular patch plate.

8.3 Tombstone Patch Plate

To add a tombstone patch plate:

1. Click **Tombstone** on the repair ribbon.
2. Click, hold and drag to draw the patch.
3. Set the required properties for the tombstone patch plate.

8.4 Circular Patch Plate

To add a circular patch plate:

1. Click **Circular** on the repair ribbon.
2. Click, hold and drag to draw the patch.
3. Set the required properties for the circular patch.

8.5 Patch Reference Position

The position of a patch plate is determined by measuring from the plate reference position that the patch is located on to the patch reference position. The measurement reference for a patch can be set to be either the patch center or the top left corner and is set in the repair ribbon. This option applies to all patch plates and an orange dot on the patch plate indicates the location of this reference.

8.6 Patch Plate List

This list provides information related to each patch plate added to the layout. To open click **Patch Plate List** on the repair ribbon. The patch plate list tool window opens to the right of the layout window but can be dragged and docked as required. To select and view a patch plate from the list double click on the row. The layout view zooms to that patch plate and the properties for it are shown.

9. Report Ribbon

The report ribbon allows reports to be generated by either the report wizard tool, by starting with a blank report then building a custom report with the reportable elements or by loading a custom report template.

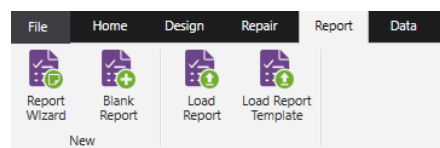


Figure 11 Report ribbon

9.1 Report Document Overview

The report document window opens to the right of the layout view when a report is generated or loaded. The report document window consists of the following sections:

- Report tools ribbon when the report document is selected.
- Tool bar at the top of the window containing:
 - Zoom controls.
 - Current page.
- A refresh icon is shown in the report document when changes have been made on the layout view. The report needs to be refreshed to reflect the layout updates.

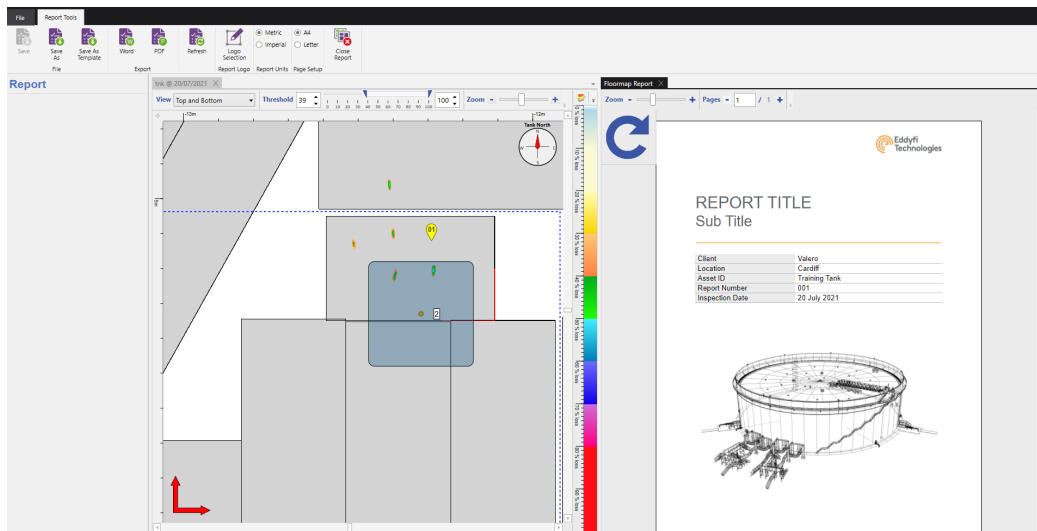


Figure 12 Report document window

9.2 Report Wizard

To generate a report using the wizard:

1. Set the report threshold level on the layout toolbar.
2. Click **Report Wizard** on the report ribbon.

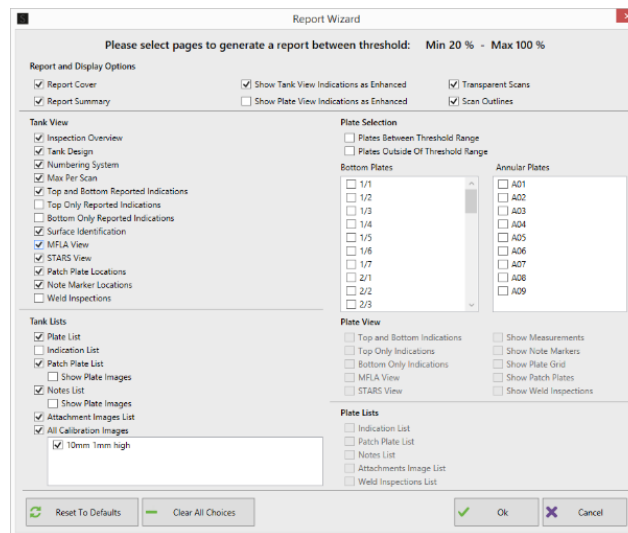


Figure 13 Report wizard options

3. In the report wizard tick the options to display the required pages.
4. Click **OK** to generate and view the report.

9.3 Custom Report Generation

To build a custom report with the available reportable elements:

1. Click **Blank Report** on the report ribbon.
2. On the layout view select either the layout or a plate to view the associated reportable elements in the properties.
3. Click, hold and drag the reportable element onto the report document.

4. Select the reportable element in the report and set the properties options accordingly.

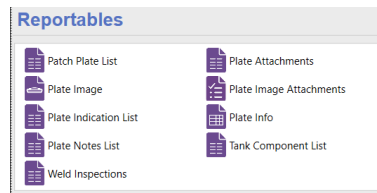


Figure 14 Plate property reportable options

9.4 Load Report

To load a saved report from the inspection database:

1. Click **Load Report** on the report ribbon.
2. Select the report from the list.
3. Click **Load**.

9.5 Loading Report Template

To load a template report

1. Click **Load Report Template** on the report ribbon.
2. Select the report from the list.
3. Click **Load**.

10. Report Tool Ribbon

The report tools ribbon is available only when the report document overview window is open and selected. Here you can find the options for report settings, exporting and saving reports.

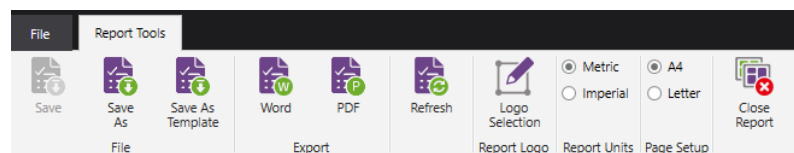


Figure 15 Report tools ribbon

10.1 Report Logo

To change the report logo:

1. Select the report document.
2. Click **Logo Selection** on the report tools ribbon.
3. Browse to the location of the required logo and click **Open**.

Note

Logo image size must be exactly 750 by 200 pixels.

10.2 Report Units

To set the report units:

1. Select the report document.

2. In report units on the report tools ribbon select one of the options:
 - Metric.
 - Imperial.

10.3 Page Setup

To set the page size:

1. Select the report document.
2. In report units on the report tools ribbon select one of the options:
 - A4.
 - Letter.

10.4 Saving a Report

Once a report has been generated it can be saved to the inspection database. Once saved it can be loaded once the inspection has been opened.

1. Click **Save As** on the report tools ribbon.
2. Enter a report name and click **Save**.

To save changes to an existing saved report in the inspection database click **Save** on the report tools ribbon.

10.5 Saving a Report Template

Once a report has been generated it can be saved as a template and used for future report generation with any inspection in the database.

1. Click **Save As Template** on the report tools ribbon.
2. Enter a template name and click **Save**.

Note

It is not possible to save plate specific reportable elements in a report template.

10.6 Exporting to Word

To export the report to a .docx document:

1. Click **Word** on the report tools ribbon.
2. Enter a file name and save location for the exported .docx file.
3. Click **Save**.

The report is saved and opens using the default program for .docx file and allows for further editing, if required.

10.7 Exporting to PDF

To export the report to .pdf document:

1. Click **PDF** on the report tools ribbon.
2. Enter a file name and save location for the exported .pdf file.
3. Click **Save**.

The report is saved and opens using the default program for .pdf files.

11. Data Ribbon

The data ribbon allows the importation of additional inspection data and replacing plate data.

11.1 Import Additional Plates

To import additional plates into an existing inspection:

1. Load the inspection that required additional plates to be imported too.
2. Click **Additional Plates** on the data ribbon.
3. Click **Yes**.
4. Select the importer.
5. Select the location of the inspection file to import.
6. Click **Import**.

Note

If a plate being imported already exists within the inspection, then the notification center displays a message informing the plate already exists. No data for this plate is imported or replaced.

11.2 Replace Plate

To replacing an existing plate in an inspection:

1. Select a plate.
2. Click **Replace Plate** on the data ribbon, or right-hand click and select **Replace Plate**.
3. Select the importer.
4. Select the location of the inspection file to import the plate data from.
5. Select the plate number to import from the dropdown.
6. Click **Import**.

12. Indication Ribbon

The indication ribbon is only available when in edit plate view and provides the ability to select multiple indications for data modification. Edit plate view can be accessed via the design ribbon.

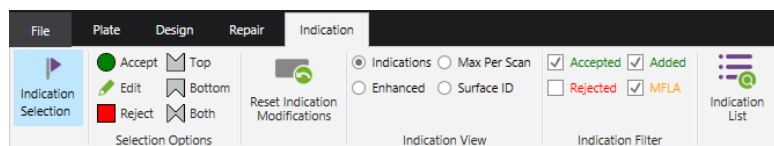


Figure 16 Indication ribbon

12.1 Indication Selection

To select a group of indications:

1. Click **Indication Selection** on the indication ribbon. Alternatively press the **Alt** key.

Note

Indication selection mode is active when the mouse cursor displays a purple flag. It is not

possible to select other items on the layout.

2. Click, hold, and drag the selection box around the desired indications for modification. The blue box indicates the outline of the selected region, and the grey box indicates the indication selection outline for each indication within the region.

Note

Further individual indications can be added or removed from the selection by holding the **Ctrl** key and selecting indications.

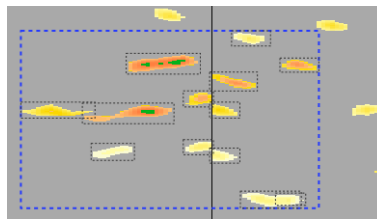


Figure 17 Group of selected indications

12.2 Region Selection: Multiple Indication Modification

Once indications are selected the selection options buttons for indication modifications and the reset modification button become available in the Indication ribbon.

Accept

Click **Accept** on the indication ribbon to set the status of the selected indications to accepted.

Note

If the Accepted tick box in Indication Filter is unticked these indications are no longer shown on the plate, but the indication selection box outlines remain visible since they are still selected.

Reject

Click **Reject** on the indication ribbon to set the status of the selected indications to rejected.

Note

If the Rejected tick box in Indication Filter is unticked these indications are no longer shown on the plate, but the indication selection box outlines remain visible since they are still selected.

Edit

Click **Edit** on the indication ribbon to alter the percentage values of the selected indications and set their status to accepted. The percentage values of the selected indications can be edited in one of two ways:

1. Set all selected indications to the **same** given prove-up value.
 - a. Select **Set Prove-up value**.
 - b. Enter a prove-up value in the dialogue box to set all indications too.
 - c. Click **OK**.

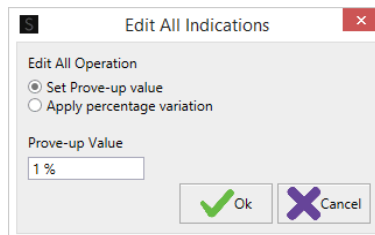


Figure 18 Edit indication by prove-up

Note

If indication percentages are edited to be outside of the current plate threshold range the indications are no longer shown on the plate, but the indication selection box outlines remain visible since they are still selected.

2. Alter the selected indications by increasing or decreasing **each** indication by a set percentage variation.
 - a. Select **Apply percentage variation**.
 - b. Enter a variation value to alter each indication percentage by entered amount.
 - c. Click **OK**.

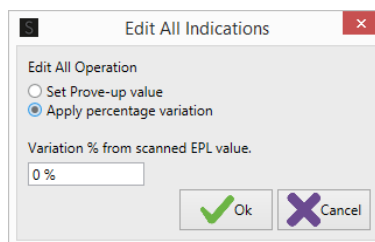


Figure 19 Edit indications by a percentage variation

Note

If indication percentages are edited to be outside of the current plate threshold range the indications are no longer shown on the plate, but the indication selection box outlines remain visible since they are still selected.

Top

Click **Top** on the indication ribbon to set the surface origin of the selected indications to become top and set the status to accepted.

Important

The EPL value for selected bottom indications become adjusted based upon the top surface calibration trace.

Note

If the view is set to Bottom the indications are no longer shown on the plate, but the indication selection box outlines remain visible since they are still selected.

Bottom

Click **Bottom** on the indication ribbon to set the surface origin of the selected indications to become bottom and set the status to accepted.

Important

The EPL value for selected top and both indications become adjusted based upon the bottom surface calibration trace.

Note

If the view is set to Top the indications are no longer shown on the plate, but the indication selection box outlines remain visible since they are still selected.

Both

Click **Both** on the indication ribbon to set the surface origin of the selected indications to become both and set the status to accepted.

Important

The EPL value for selected bottom indications become adjusted based upon the top surface calibration trace.

Reset Indication Modification

Click **Reset Indication Modification** on the indication ribbon to revert the selected indications back to their initial imported status and EPL values.

13. Modification Ribbon

The modification ribbon is a hidden ribbon, only available when in plate view and the enable plate modification, in plate properties, is ticked. This ribbon provides the ability to correct plate setup errors made during data acquisition.

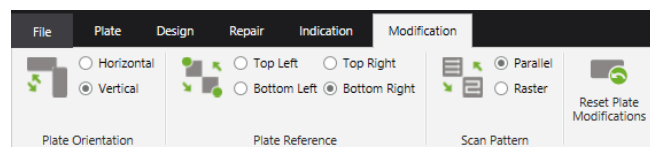


Figure 20 Modification ribbon

13.1 Enable Plate Modification

To perform plate modifications, such as correcting plate setup errors made during data acquisition or repositioning of scans then enable plate modification must be selected in plate view. To select:

1. In plate view select the plate.
2. In the properties tick **Enable Plate Modifications**.
3. Read the information box then click **OK**.

13.2 Plate Modification

The plate modification options available is determined by what type of plate is selected. When a plate setup change has been made the plate become hatched red to identify a modification has been made.

Important

Verify the location of all scans and indications after setup changes are applied.

Note

Plate setup changes only update the planned scan positions. The position of any curved or added scan, or manually altered planned scans do not get update.

Plate Orientation

The plate orientation on the modification ribbon can be changed between either a horizontal or a vertical plate.

Plate Reference

The plate reference corner on the modification ribbon can be changed between either the Top Left, Top Right, Bottom Left or Bottom Right corner.

Scan Pattern

The scan pattern on the modification ribbon can be changed between either a Parallel or a Raster scanning format.

Plate Size

The dimensions entered for the plate during data acquisition software can be changed in the plate properties.

Note

Scans do not move when the plate size is changed. If scans exist outside of the plate, it is not possible to exit plate view.

Scan Position

A scan can be manually repositioned on the plate. With Enable Plate Modification ticked, select a scan then click, hold, and move to the desired location. When a scan position change has been made the plate become hatched red to identify a modification has been made.

Note

The start of the scan is indicated by the red corner. The arc of a curved scan cannot be altered.

Reset Plate Modification

Click **Reset Plate Modification** on the modifications ribbon to revert the plate setup and size back to its initial setup options and clears the red hatching of the plate.

Note

Reset plate modification does not return curved or added scans back to their initial position.

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