SOLIBRI MODEL CHECKER V9.5

Getting Started

with Solibri Model Checker™

Welcome

Thank you for choosing Solibri Model Checker™.

This document is designed as a short course to guide you through the Rule-based analysis process of Building Information Modeling (BIM) files. By the end of this tutorial, you will have a basic understanding of the concepts and some capabilities of the **Solibri Model Checker (SMC).** For additional information, we recommend reading the SMC online documentation.

This document is made specifically for **Solibri Model Checker v9.5**. If you have an earlier version, please note that user interface may have changed.

1. About Solibri Model Checker™

Solibri Model Checker™ is a software tool that analyzes Building Information Models for integrity, quality, and physical security. Solibri Model Checker makes the QA/QC process as easy as possible by X-raying the building model to reveal potential flaws and weaknesses in the design, highlighting the clashing components and checking that the model complies with the building codes and organizations' own best practices (see Figure 1).

Checking the Design

Companies in the **AECO** (architectural, engineering, construction, owner/operator) field are facing new opportunities and challenges as CAD systems are evolving from electrical drafting boards to BIM Authoring Tools. All the major BIM Authoring tools today are able to produce building models containing the relevant building components and related information, all in one file.

BIM files offer huge advantages for the AECO industry, but they also introduce new challenges. When information is exchanged and utilized in an electronic format, it is critical that the data can be trusted.

Solibri Model Checker (SMC) enables you to check a BIM file against a set of rules and to identify and report potential problems found. This is significantly faster and more reliable than the traditional way of manually checking and analyzing the building documents.

Rule-based Analysis

Rules are the basic building blocks of the Solibri Model Checker. A rule can check a model from a single aspect (e.g. spaces are aligned with surrounding walls and therefore area measurement is giving correct values) or from some specific point of view (e.g. usage of correct construction types). Some rules also report key characteristics (e.g. list of window types and sizes) of a building.

Some building code checking rules (e.g. accessibility rules) are included in the delivery. These rules are country specific, but by adjusting rule parameters they can be modified to fit many countries or jurisdictions. Please note that you may need to change space categories to fit the space names in your model.

As a result, the rule generates issues and in some cases a rule report. Issues are grouped into categories, which makes it easier to understand and address them.

Communicating the Results

SMC's Automatic Issue Navigator will visualize the issue in 3D by navigating to components causing the problem and hiding temporarily irrelevant components.

When the problems are defined and visualized it is still always up to the end-user to decide which issues require action.

You can create quite a powerful workflow by creating a slideshow presentation of items or issues of interest. You can then use this "*Visual Report*" as a dynamic working document for finding and determining solutions to the reported issues. A saved SMC file with results, decisions, and presentations can be viewed by anyone using the Solibri Model Viewer (a No Charge download available at www.solibri.com.)

Next, you can pass findings forward by creating a "*Coordination Report*" and sending it, for example, to the author of the model. The author can then view the report and make the necessary changes to the original BIM file. There is also a possibility to use BCF-files.

With these steps you have analyzed the BIM file, made your expert comments, documented and visualized the problems and made it easy for the BIM author to fix the problems. By following this workflow, you have also created an audit trail without any extra effort. This is part of the process of BIM Quality Assurance (see Figure 1).

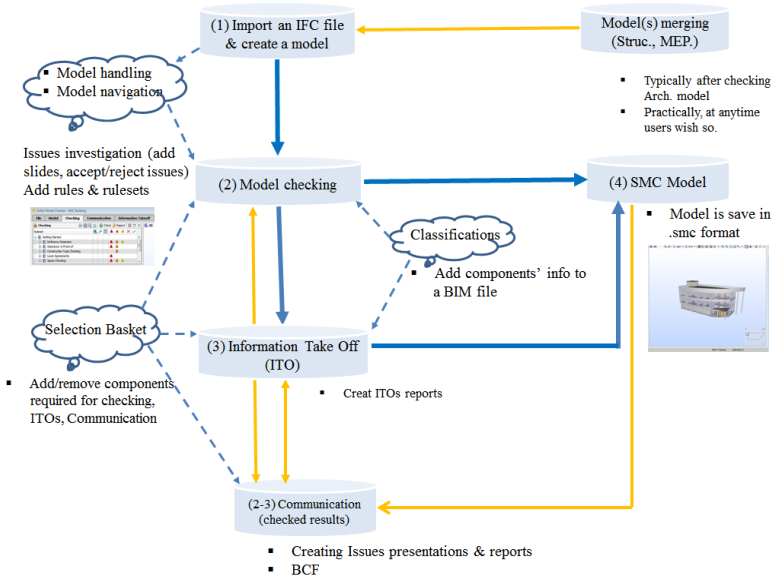


Figure 1 Overview of SMC QA/QC Process

2. Installing Software

1) Download the Solibri Model Checker from the Solibri Solution Center https://solution.solibri.com/ Run the executable installer file and follow installer instructions.

2) If you have custom add-ons to Solibri Model Checker, install SMC first and then install the custom add-ons and follow the instructions.

Launching the Software for the First Time

1) Double click the **Solibri Model Checker** icon on your desktop.

2) 'Welcome to Solibri Model Checker' window opens → Insert your Username and password and click Register (see Figure 2)

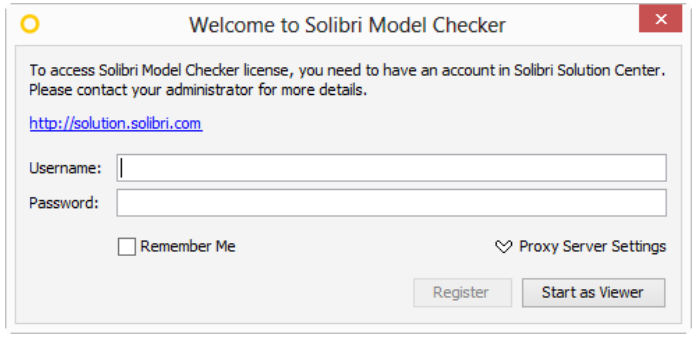


Figure 2 Registration window

Defining Settings in File Layout

1) The main window of SMC is opened and you'll see the **File Layout** (see *Figure 3)*

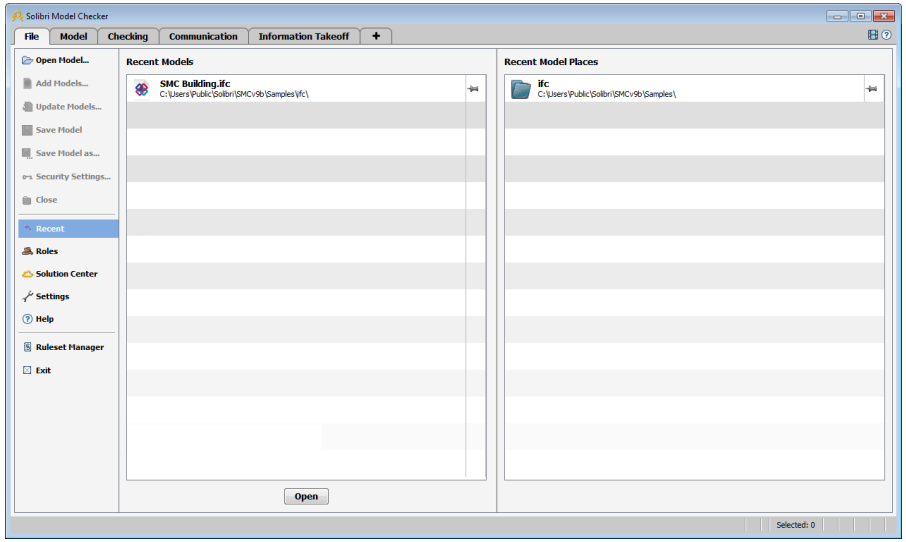


Figure 3 File Layout and "Recent Files"

2) Next you check your settings by Selecting **Settings** from the menu on the left (see *Figure 4).*

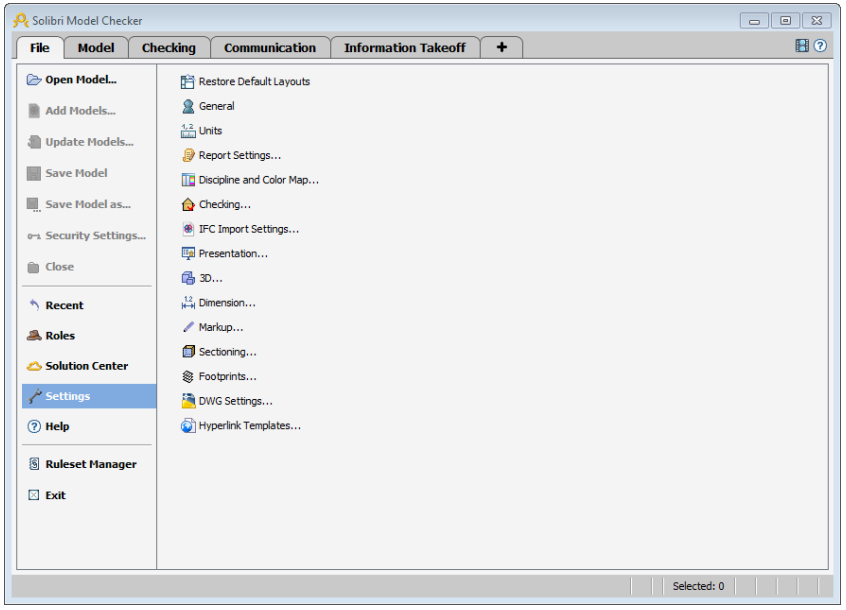


Figure 4 File Layout and "Settings"

Enter the user information into the **General** window and click **OK** (see *Figure* 5).

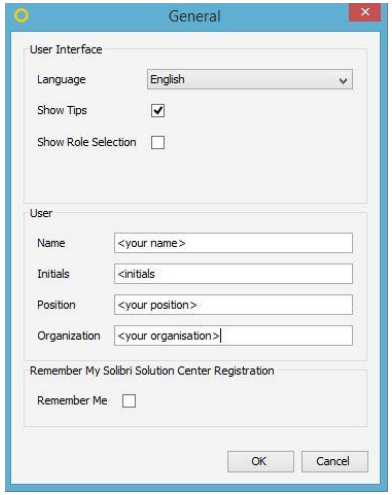


Figure 5 Settings-> General Dialog

3) Units setting, you may also want to set the **Units** to be used by the SMC user interface. You may change these units any time during your session. Please note that some rules require recalculation in order to update the rule results to use new Unit settings (see *Figure* 6)

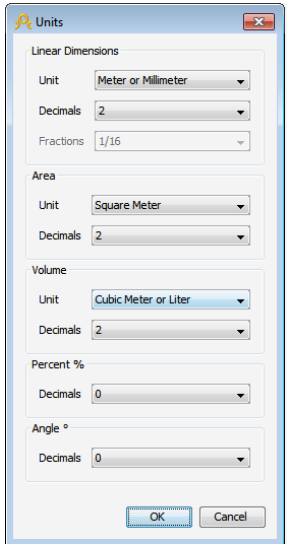


Figure 6 Selection of Units

Tutorial Videos

You may also watch tutorial videos that are available for each Layout by clicking the "Tutorial Video" button in the top right hand corner (see *Figure 7*). This will take you to the Solibri Tutorials web page.

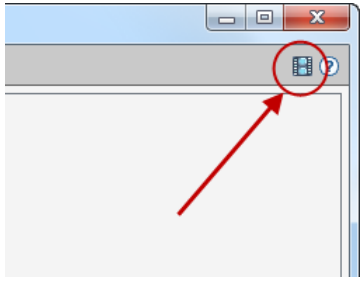


Figure 7 Tutorial Video is Available for Each Layout

Please note that the file(s) opened here may also be tailored by your organization and in this case differ from what is shown here.

3. Visualization

Opening a Model

SMC imports BIM files in neutral IFC format. You can find more information about additional options in the SMC Help.

Opening a Model:

1) When you click **Open Model** on the left sidebar menu, you will see the **Open Models** window that shows sample files (see Figure 8).

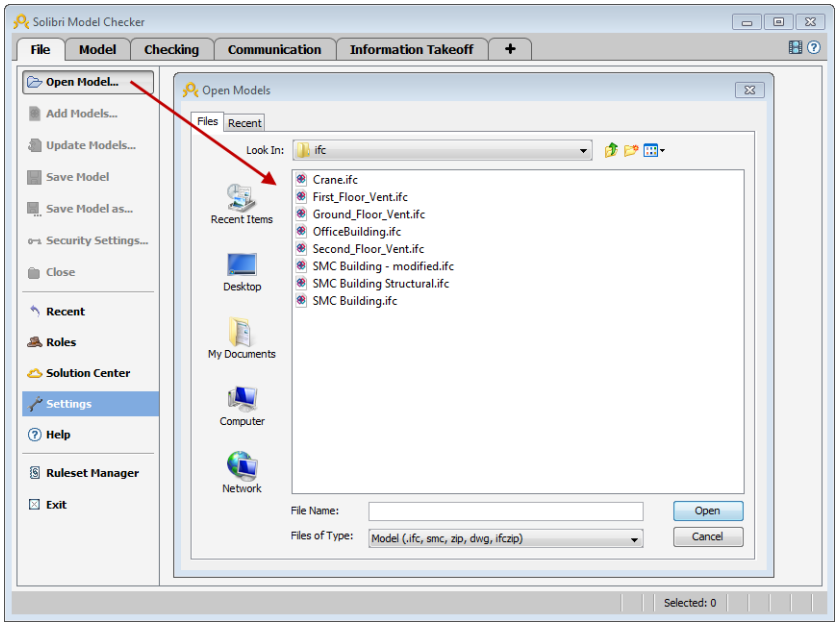


Figure 8 Open Models Dialog

2) Select *SMC Building* file on the bottom of the list and click **Open.**

3) Model discipline, when the model is opened you will be asked to verify the discipline the model belongs to. Setting the correct discipline is paramount for the rules to work correctly, see Figure 9.

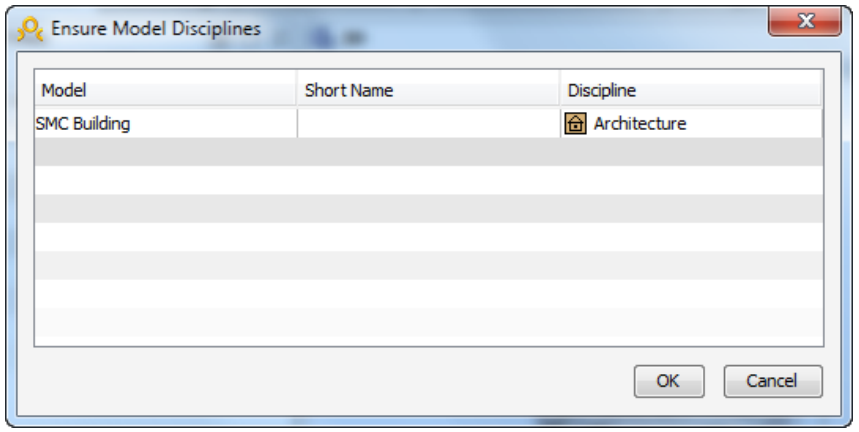


Figure 9 Ensuring Model Disciplines

4) After the file has been opened, you will see the model in the user interface. Note: You are now operating in the **Model Layout View** (see Figure 10).

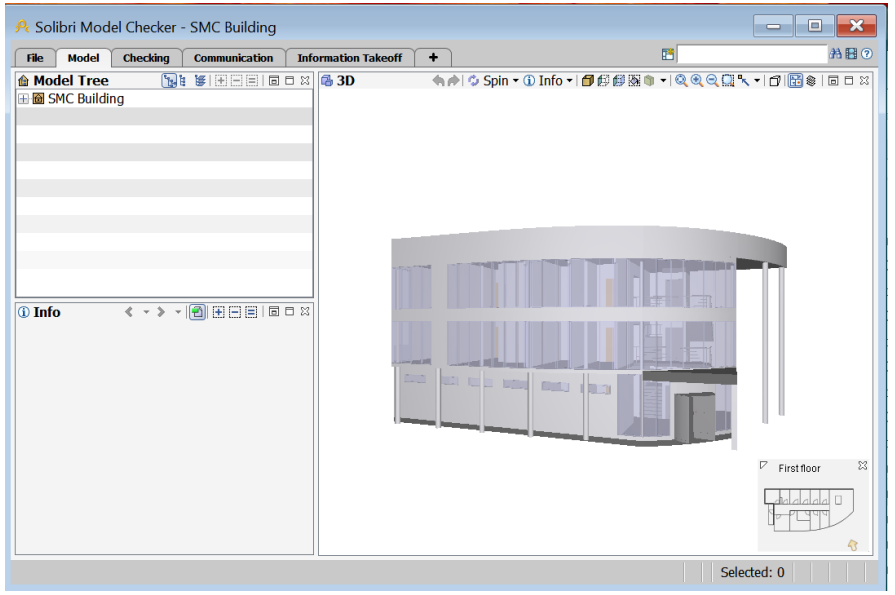


Figure 10 SMC User interface showing the Model layout

Exploring the User Interface

Layouts

The user interface consists of five Layouts, by default. Layouts are; File, Model, Checking, Communication, and Information Takeoff (see *Figure 11)*. You have the possibility to add new layouts (+) or modify the existing layouts.

Figure 11 Five main layouts are File, Model, Checking, Presentation and Information Takeoff

File Layout

The File layout Window includes the following headings (see Figure 12):

Open Model: opening IFC, DWG or SMC files

Add Models: adding (merging) one or more files to the session

Update Models: updating existing models already opened during the session or included in the current SMC model

Save Model: saving current model with the current file name

Save Model as: saving current model with a new file name

Security Settings: setting up security parameters like locking the file with a password or expiration date

Close: closing the current model

Recent: most recently used files

Roles: selecting a user role

Solution Center: possible extensions to SMC

Settings: setting up parameters, user information, units, discipline and color mapping, etc.

Help: help documentation and support options

Ruleset Manager: switching to **Ruleset Manager** for modifying rule parameters and Rulesets

Please note that depending on your user profile you may not have access to Ruleset Manager. In this case contact your system administrator.

Exit: closing the current model and the application

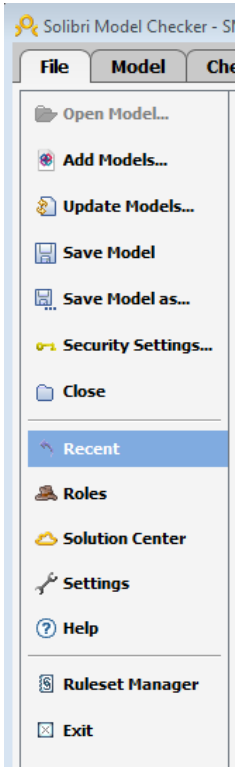


Figure 12

Model Layout

By default you can see three views; Model Tree, Info, and 3D (see Figure 13).

The Model Tree shows the model containment hierarchy by default.

The Info View shows information of the selected component.

The 3D View shows the model in graphical format once you have opened a model.

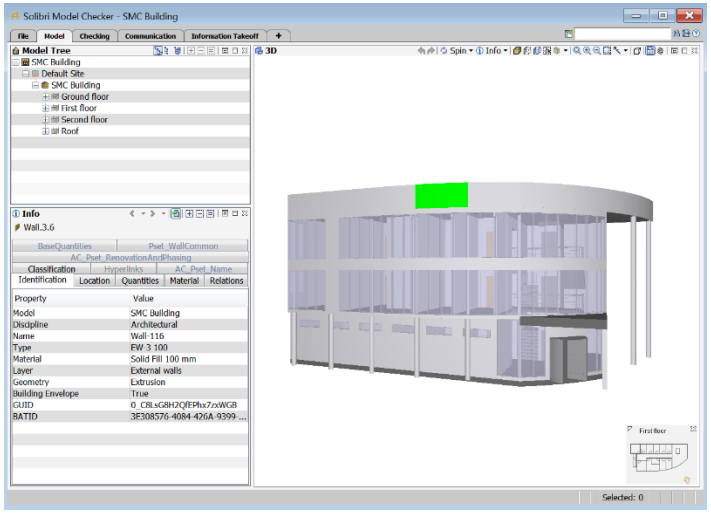


Figure 13 The Model layout

Checking Layout

This layout introduces the **Checking View** where you can work with *Rules* and *Rulesets*, the **Results View** where you can find the *Rule Issues*, and the **Result Summary view which summarizes the Issues count** related to a specific Rule to get an overall view of the model quality and possibility to make a QA report. (see *Figure 14)*

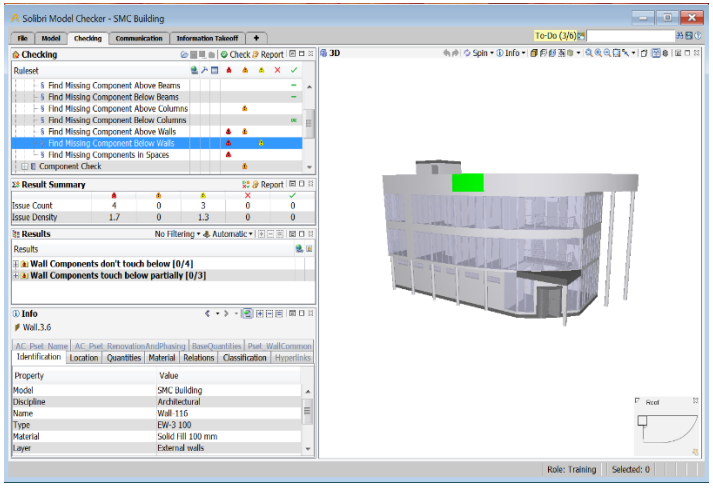


Figure 14 The Checking layout

Communication Layout

This layout is for collecting and saving *Rule Issues* and User definable Viewpoints into a presentation/slideshow. This is a convenient and powerful way to show and share the findings in the model (see *Figure 15)*.

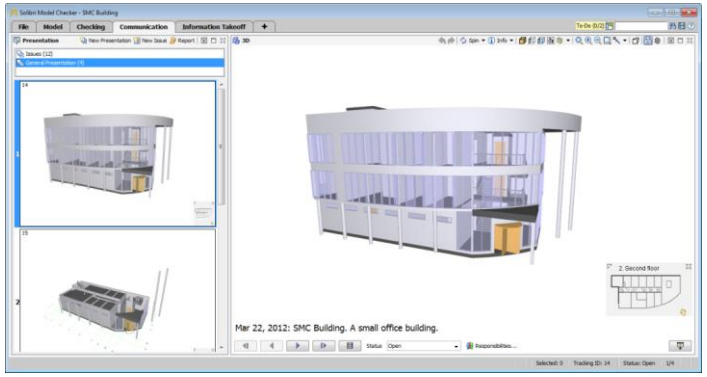


Figure 15 The Communication layout

Information Takeoff Layout

This layout is for **collecting information** from the model. In brief, **Information Takeoff (ITO)** allows users to collect information from the BIM file, organize it, visualize it, and report it. This information can include spatial areas for area calculations, envelope of the building (e.g. exterior wall areas) for energy calculations, volumes, quantity takeoff and much more (see *Figure 16).*

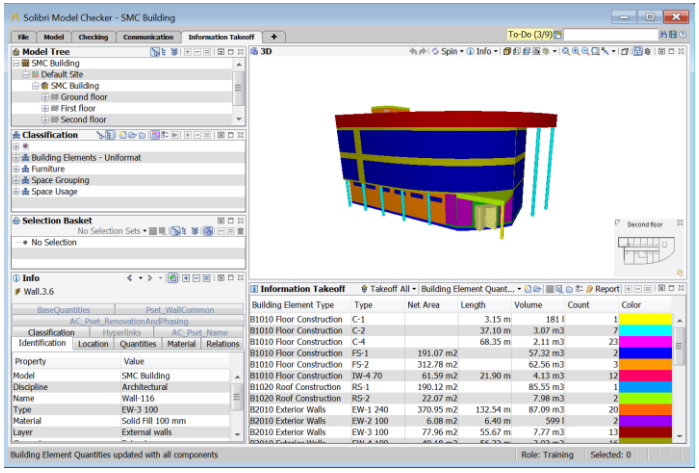


Figure 16 The Information Takeoff layout

Views

By default SMC has preselected views available in four different layouts. When you want to explore more of the model information you can open additional views (see *Figure 17).*

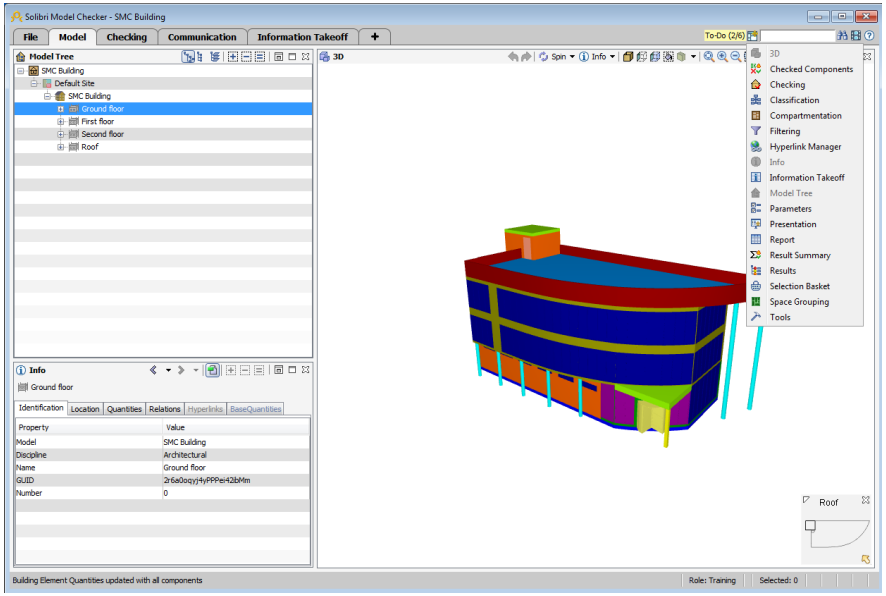


Figure 17 Adding views

All additional views open as floating views that you can move around the active Layout. The floating view will disappear when you change to a different layout. When you get back to the layout where you opened the view it will reappear.

You can open, resize, dock/undock and close views. When you grab the dotted area of the view at the top left-hand corner you can dock the view into the layout. A rectangle will show where the view will be dropped. You can undock the view by selecting the icon at the top right-hand corner (see *Figure 18)*.

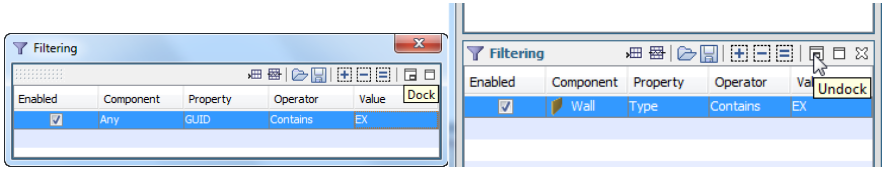


Figure 18 Docking a view

You'll mainly use the 3D, Model Tree, Checking and Results Views in the following chapters (see *Figure 19)*. Let's take a closer look at them.

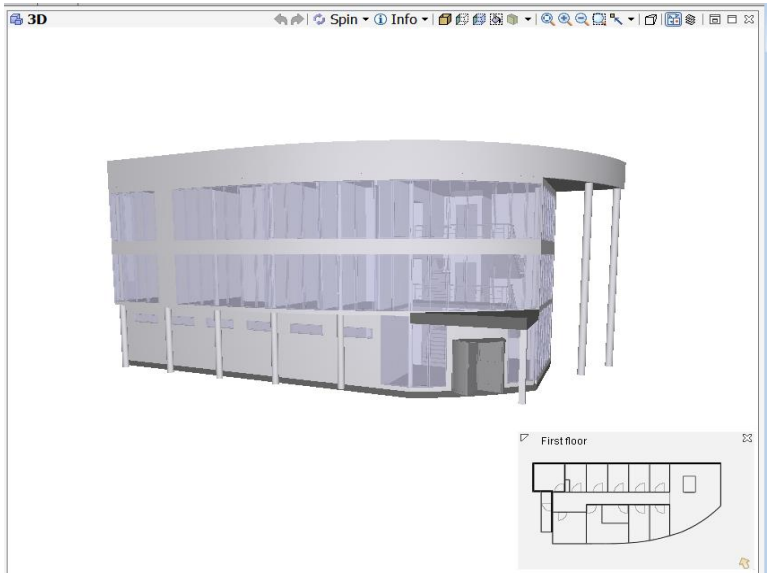


Figure 19 3D view

Different views allow the user to execute different actions. The main purposes are:

View	Contains
3D	Graphical representation of the model. Allows user to move and rotate the model and visualize it from different viewpoints. Allows user to select, hide and make components transparent.
Checked Components	Shows information about the checking status of components: All Checked, Passed, Failed, etc.
Checking	Active Rulesets Allows user to launch checking and create reports
Classification	Allows user to classify and visualize components by various classifications (e.g. by space usage).

View	Contains
Compartmentation	Functionality to create and modify different compartments (gross area, fire, or secure compartments)
Filtering	Allows user to create different filters and use them in making selections
Hyperlink Manager	Create and manage hyperlinks. Hyperlinks can be added at any level within Solibri Model Checker and to almost any element, including Rulesets, models, types, components, issues and slides.
Info	Shows information about selected component, rule or issue.
Information Takeoff	Allows user flexible collecting of information, visualization, and reporting. Also hyperlink connections to components can be exported with it.
Model Tree	A tree view of the model
Parameters	Parameters of the selected rule
Communication	Shows slideshows created from the model
Report	Shows report of the selected rule, if available.
Results	Shows results of the selected rule
Results Summary	Summarizes the Issue count of a selected rule
Selection Basket	Shows the selected components
Space Grouping	Shows user the space grouping tree of the current model
Tools	Possible tools of the selected rule

Visualization of the Model

You'll select all visualization and other tools from the **3D View Toolbar** (see *Figure 20).*

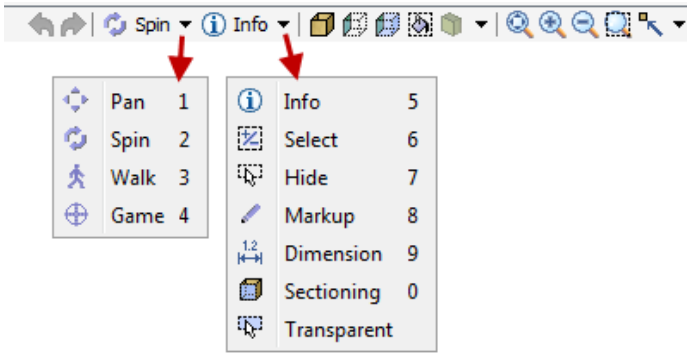


Figure 20 3D view toolbar – Navigation models and actions

Try to **pan** and **spin** the model.

Walk Navigation

In the walk mode you can walk inside the building. When you click **Walk** (see Figure 21) the model is leveled horizontally. In the walk mode the movement is controlled by mouse. Press and hold down the mouse button and move it around the view. The center of the 3D View is the base point. When your mouse is above the center point, you move forward. The distance from the center point determines the speed. Similarly, you're your mouse is below the center point, you move backward. When it is right of the center point, you move to the right, etc.

Walk has a fixed "walking height" and it helps you when walking stairs and sloped slabs as it follows the surfaces below. Collision Detection prevents you from walking through walls and obstacles. You can turn this mode on and off by pressing the letter "c" on your keyboard (while in walk mode). When you walk close to a door it will be hidden temporarily. You also have the ability to walk inside the building using typical game controls by choosing **Game** from the menu.

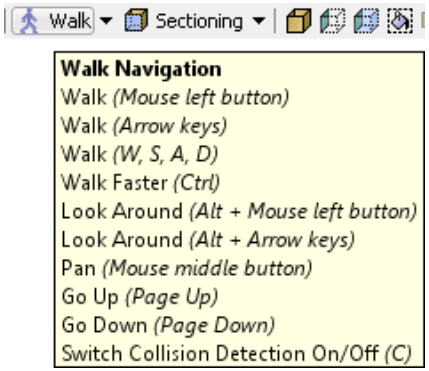


Figure 21 Walk controls

You can always look at the component information when you select **Info** and then click a component in the **3D View**. Information of the selected component is shown in the **Info View** in the lower left corner of the screen.

Markup Tool

Markup Tool is for adding markups to highlight found problems. Markups can be saved e.g. to presentations to be sent to other parties for information.

A markup can be for example a round shape, a line, a picture, a cloud shape. The markup comes to the surface where you have pointed your mouse. You need to choose a markup tool before making a markup (see Figure 22).

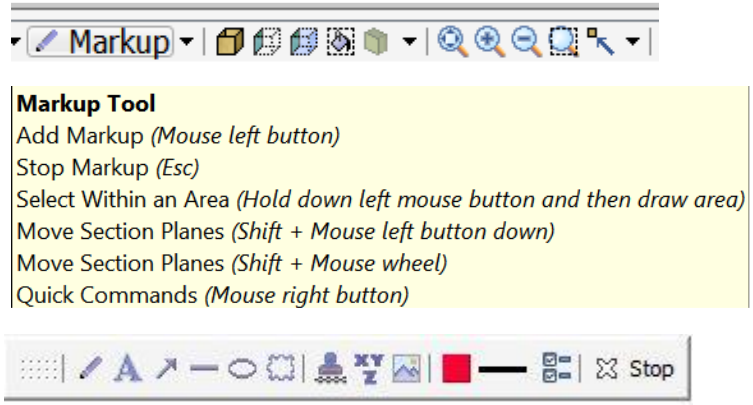


Figure 22 Markup Tool

You may use and combine markups until you push the “Stop” button, press “esc” key or change to another tool.

Dimension Tool

Dimension Tool is for finding out what is the dimension between surfaces, edges or points.

Select two objects or surfaces to measure the distance between them (see *Figure 23)*.

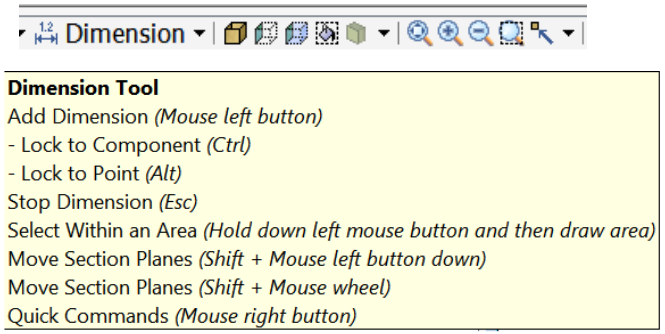


Figure 23 Dimension controls

Sectioning Tool

Sectioning Tool is used to cut the building by section plane. It is also possible to move a plane when defined.

Select a surface you want to use as the sectioning plane. You can have up to 6 different sections (see *Figure 24)*. You can move the Section plane by keeping Shift-button down and pressing the left key on mouse or by keeping the Shift-button down and scrolling the mouse wheel.

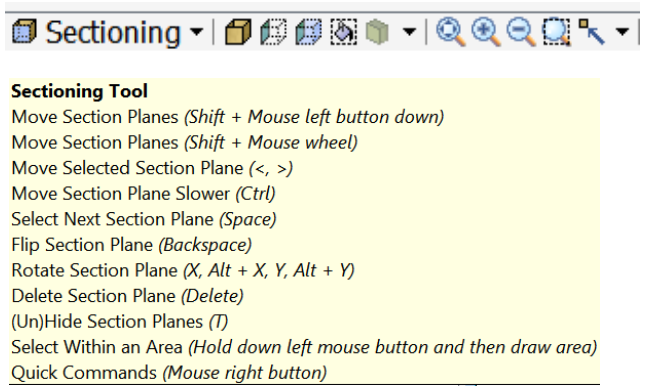


Figure 24 Sectioning controls

Selecting Components Visible in the Model

You can temporarily show and hide components in the model using the following options (see *Figure 25)*.

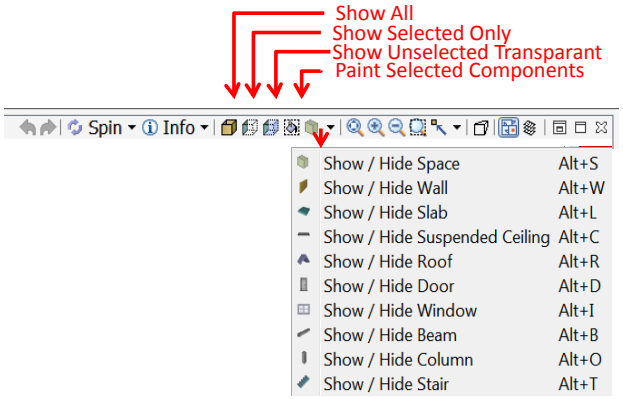


Figure 25 3D view toolbar – Show/hide options

Zoom and Viewpoints

You can always switch the **Main View** to one of, **Front**, **Back**, **Left**, **Right**, **Top**, **Bottom**, **Top Front Left** etc. from the small triangle on the right side of the **Main Views** icon. This view will be the default and it is used when you click the **Main View**. You can **zoom** the model also by **rolling your mouse wheel**. And if you keep your **mouse wheel down**, you can **pan** the model (see *Figure 26)*.

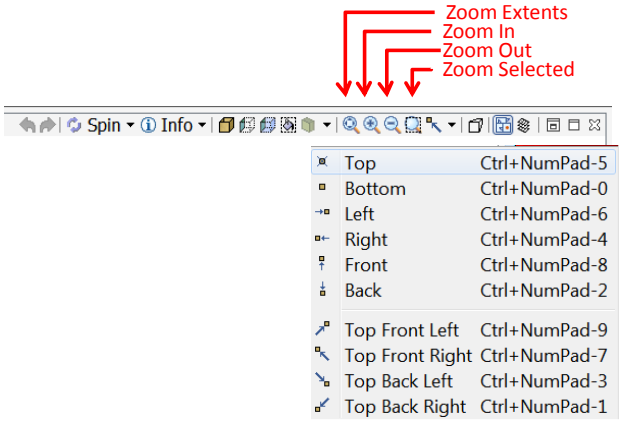


Figure 26 3D view toolbar – Zoom and viewpoints

Visualization of Components on a Selected Floor

It is often easier to handle a model floor by floor. All building components like walls, columns, etc. and also spaces should be contained by a building floor.

Model containment hierarchy is shown in the **Model Layout**. Click the **Model Layout** tab in the upper left corner of the SMC Window (see *Figure 27)*.

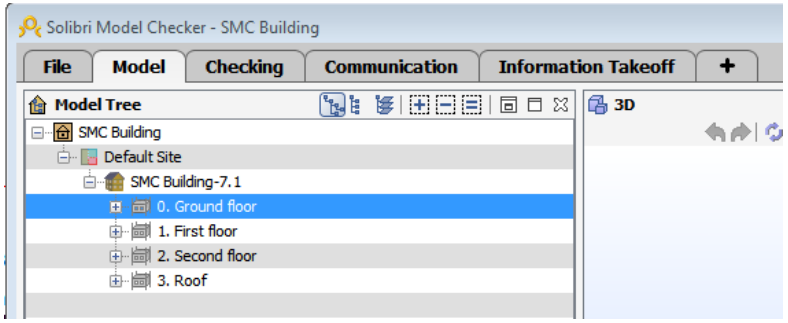


Figure 27 Model Tree view tab

The containment hierarchy is shown by default. You can open and close nodes in the **Model Tree** by clicking the small (+) and (-) boxes. Open the model hierarchy and click *First Floor* from the **Model Tree**. Then click **Set to Selection Basket** from the toolbar (see Figure 28). Please consult online documentation for more advanced use of the Selection Basket.

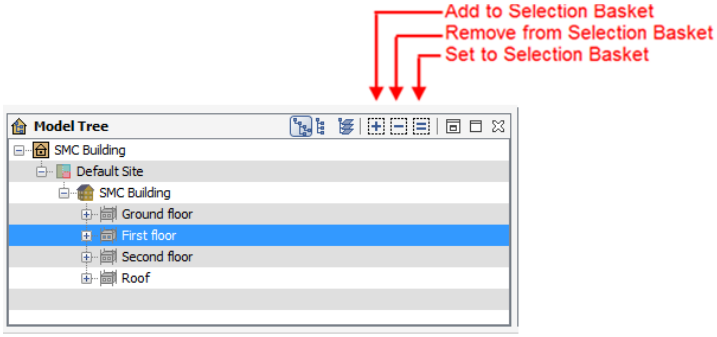


Figure 28 Model Tree view

Only the selected floor is shown in the 3D View (see Figure 29). Tilt the building so you can see it from the plan view (or click **Top** from the **Main Views** menu).

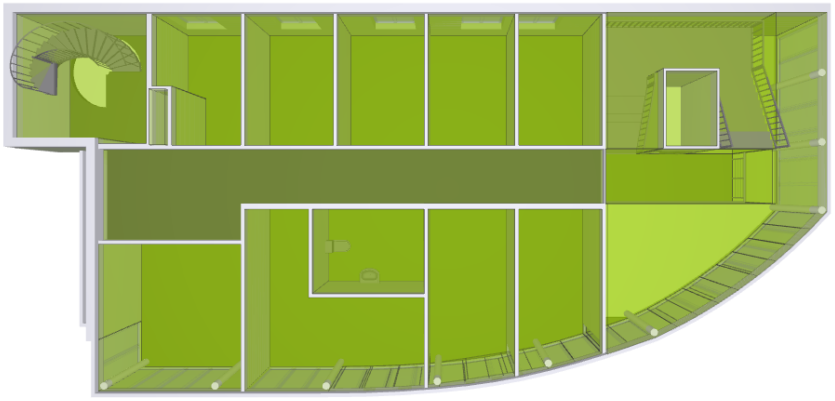


Figure 29 First floor is shown in the 3D view

You can select multiple floors at once by holding the **Ctrl-button** down. Or you can add floors to the selection by using the **Add to Selection Basket** . Selected components can be seen in the 3D View and also in the Selection Basket View.

You can show all components by clicking the **Show All** . And if you want to see only the selected components (floor) again, click **Show Selected Only** .

4. Checking & Analyzing a Model/Design

Choosing a Role

Role is a collection of Rulesets and other resources that are tailored for a given purpose. At the Checking layout, before you can proceed with the checking process, you are prompted to choose a Role. Once you have chosen a Role, you will go directly to 'Opening/Adding Ruleset' phase.

When selecting the "Training" Role (*see Figure* 30) you will have the getting started Ruleset already selected and you can **move to the next phase "Checking the Design".**

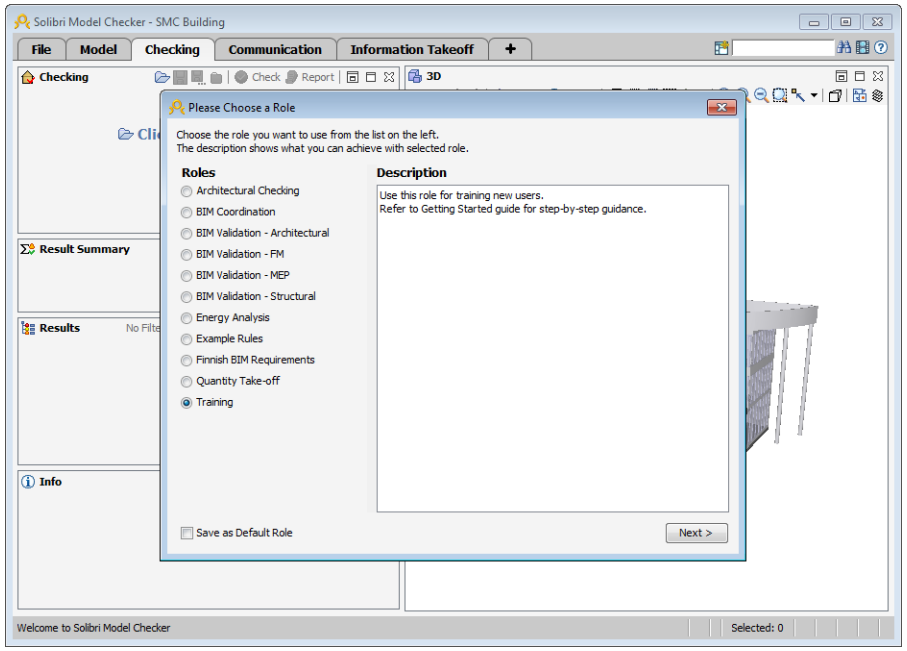


Figure 30 Choose a Role window

Opening/Adding a Ruleset

After choosing your Role, you get a dialog with a list of Rulesets to choose from. Also, you find a (+Add Rulesets) tab to browse and add more Rulesets (see *Figure* 31).

NOTE. USE THE Getting started RULESET ONLY FOR TRAINING!

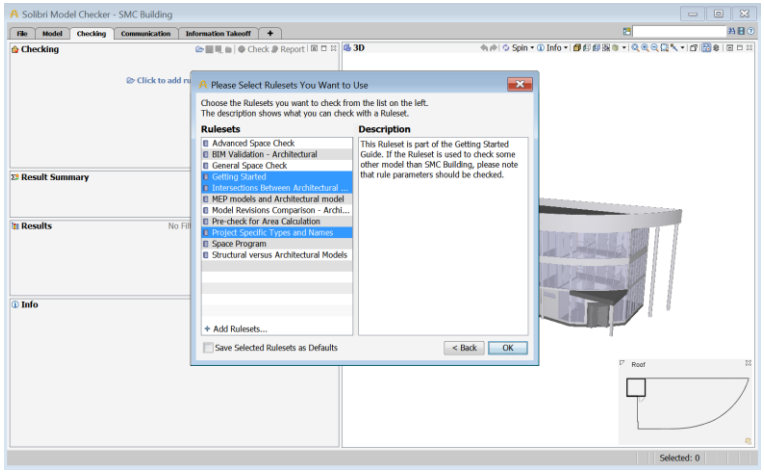


Figure 31 Select a Ruleset window

You can also open and add more Rulesets in the Checking view in the following way:

Each Ruleset is a file with *.cset* extension. All Rulesets are installed **on your computer in the Rulesets folder** or **as shared resources on a centralized location on your network**. You can edit current Rulesets and create new ones in the **Ruleset Manager** (read more about this in our online documentation).

Please note that depending on your user profile you may not have access to Ruleset Manager or you may not have the possibility to modify the rule parameters or Rulesets. In this case contact your system administrator.

Click the **Click to add Ruleset …** or click **Add** in the Checking View Toolbar (see *Figure 32)*. **Select Ruleset** dialog is opened. You can select more Rulesets to add. In this tutorial we don't have to add more rulesets.

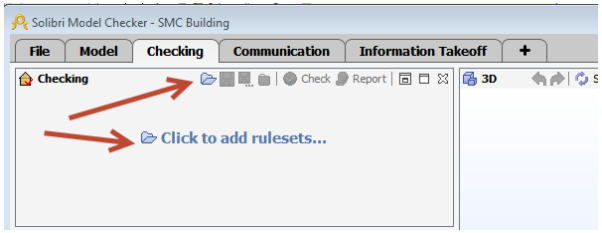


Figure 32 Add Ruleset

Once the Ruleset is imported, it is shown in the **Checking View**.

The To-Do list

Before you can proceed to the checking process, SMC will present you with a To-Do list of tasks (Completing of Classifications, filling in of project specific parameters, etc.) to be performed in order to get reliable results when checking your model or running ITOs (See *Figure 33*).

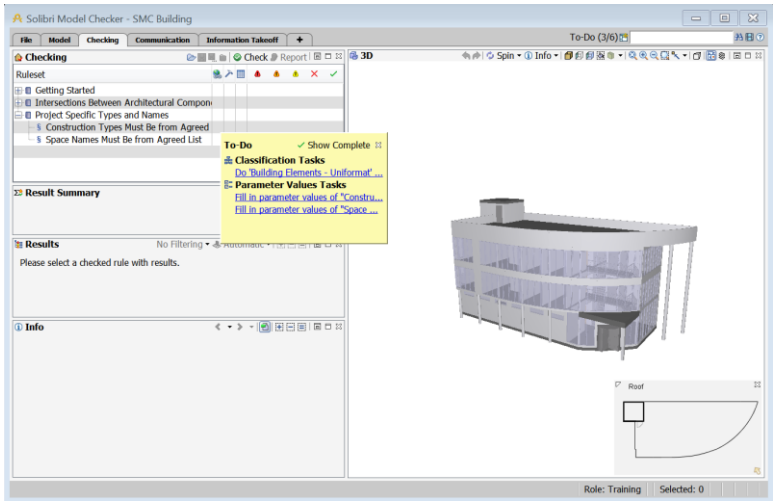


Figure 33 The To-Do list

Example 1: Classification Task

An example of a To-Do list with Classification tasks to be performed (Figure 33), selecting 'Do "Building Elements – Uniformat" Classification' will open the Missing Classification dialog window (see *Figure 34*).

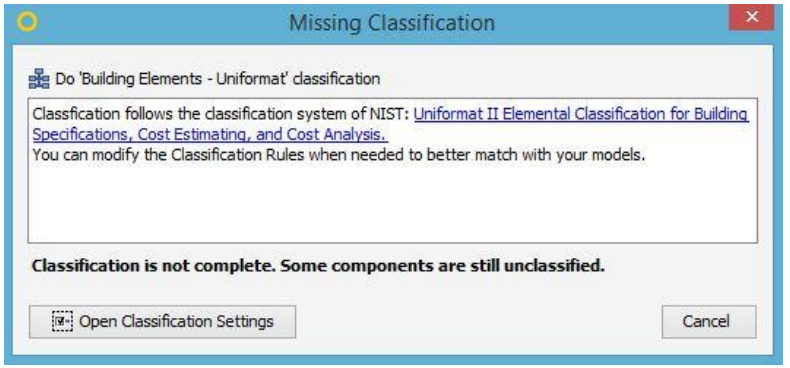


Figure 34 Missing Classification dialog window

In the window you are notified of the missing or incomplete Classification. Pressing the Open Classification Settings tab will open the Classification Settings dialog window (see Figure 35).

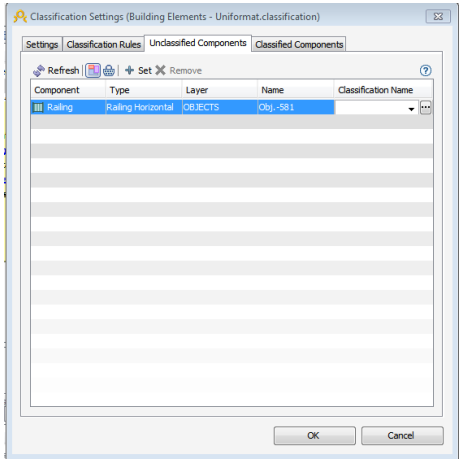


Figure 35 Classification Setting dialog window

The “railing” components are not classified yet. Add a classification name (see *Figure 36*), the railing will move to the Classified Components (see *Figure 37*).

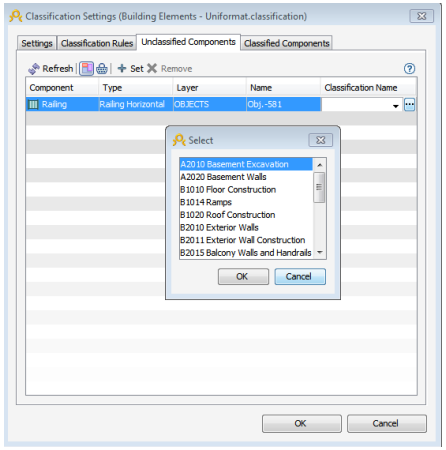


Figure 36 Classification dialog window / Unclassified Components

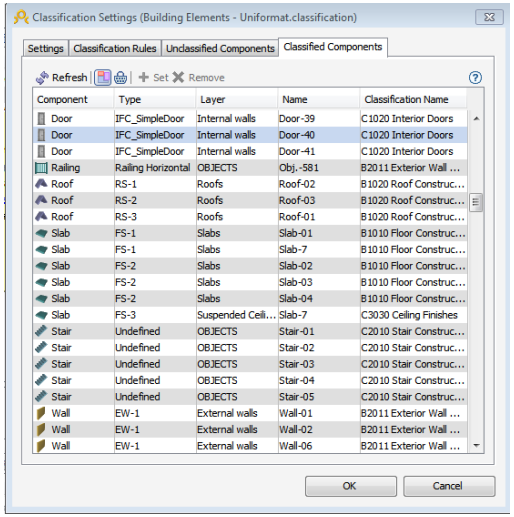


Figure 37 Classification Settings window / Classified Components

This will complete the Classification and the task is greyed in the To-Do list notifying you that it is done and you can continue with the next task (*see Figure 38*).

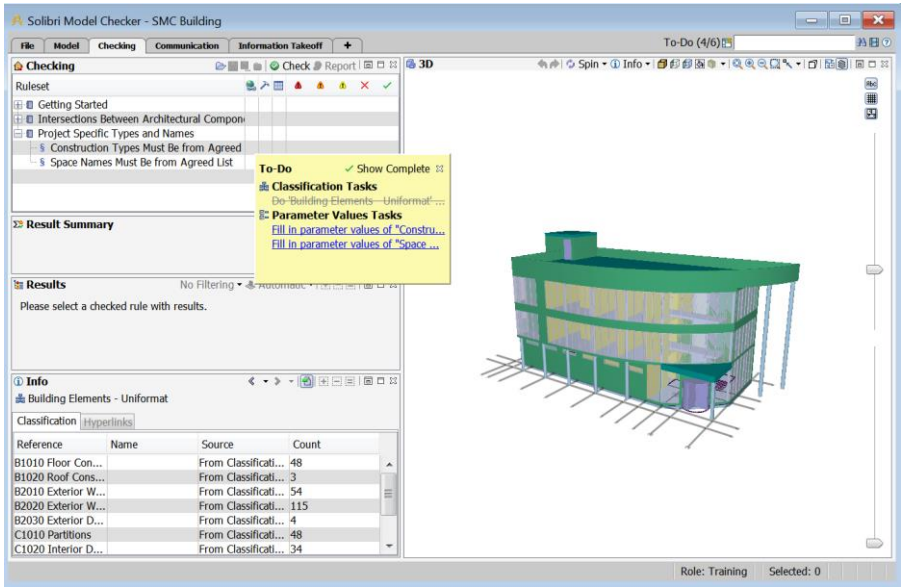


Figure 38 Adding ’Building Elements – Uniformat’ Classification Task is completed

Example 2: Data Import Task

Another example of a To-Do list with tasks to be performed is the task Fill in parameter values of 'Construction Types Must Be from Agreed List'. Clicking on the task will open 'Fill parameter values' dialog (see *Figure 39*).

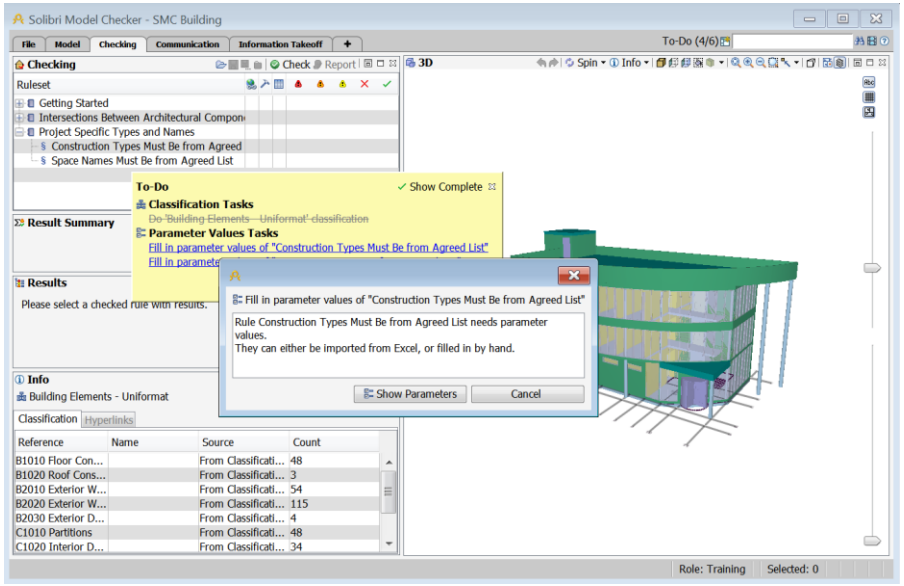


Figure 39 Fill parameter values dialog

Parameters of the rule can be filled manually by adding rows to the 'Allowed Property Values' table, or they can be imported from a spreadsheet file (.xls or .xlsx file). Select 'Import Excel Worksheet' from the above right corner of the table (see Figure 40 and Figure 41).

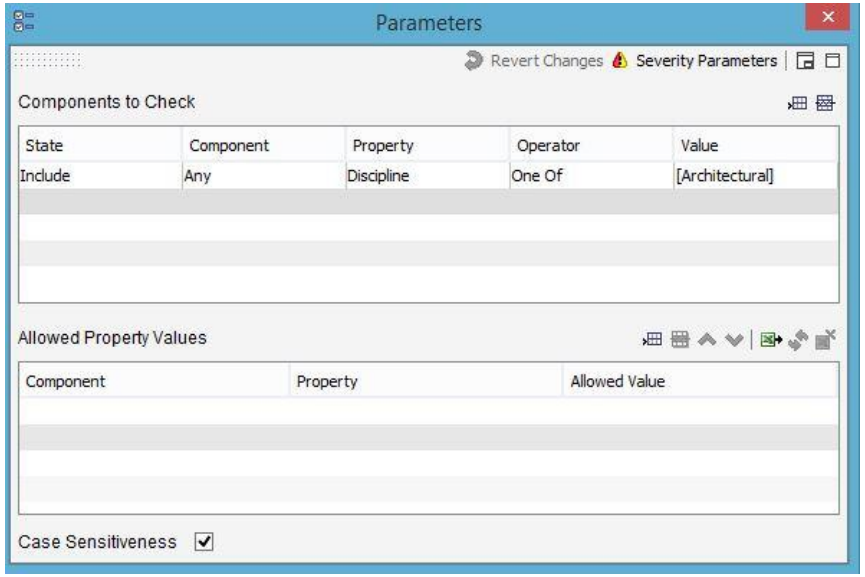


Figure 40 Rule parameters of rule 'Constructions Types Must Be from Agreed List'

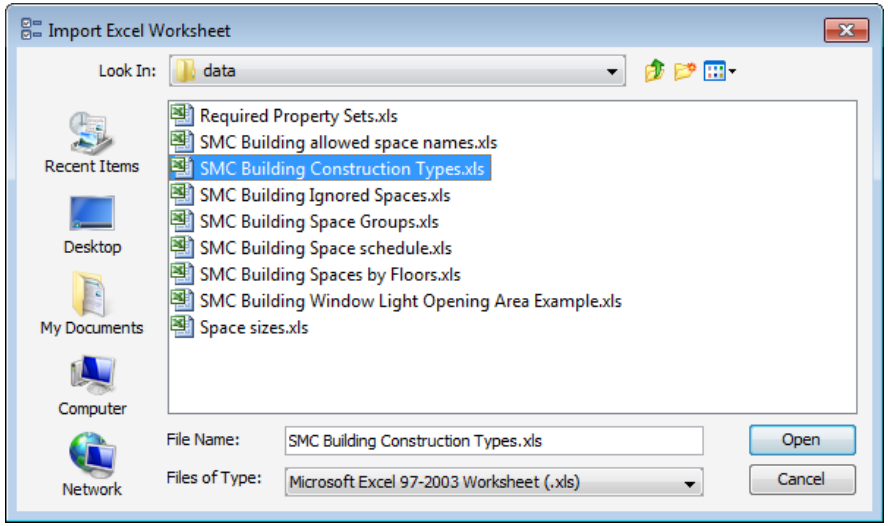


Figure 41 Import Excel sheet dialog window

Select the SMC Building Construction Types -> Open -> Import Excel sheet. Follow comments in the top of the table, and select all rows but the first one (see Figure 42), and Finish importing.

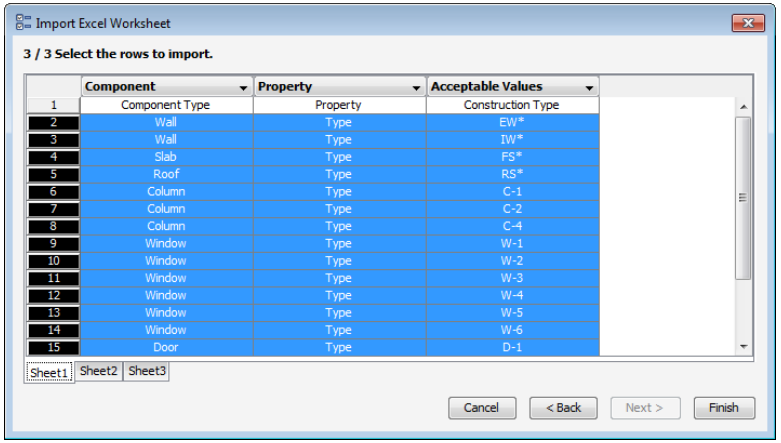


Figure 42 Example task in To-Do list → Import Excel sheet

Values from the spreadsheet are imported to rule table parameter. You can now close the Parameters View if you like. Once the task has been performed, it is greyed in the To-Do list notifying you that it is done and you can continue with the next task. (see Figure 43*)*.

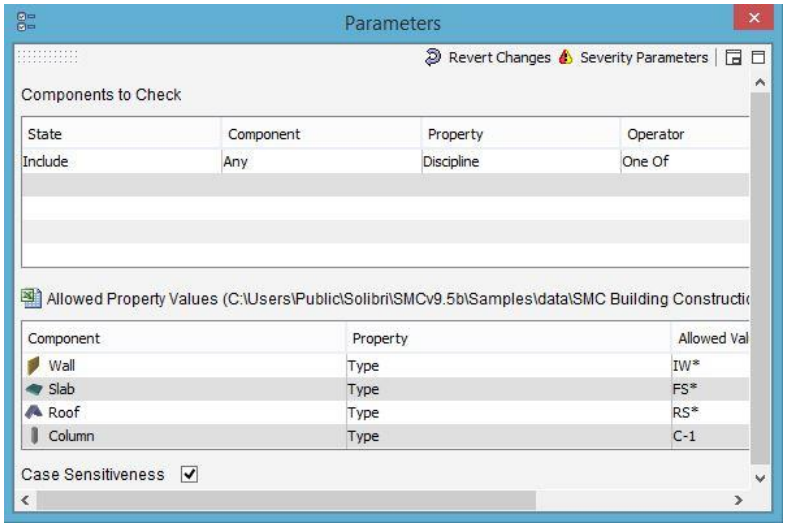


Figure 43 Values imported to rule table

Next you can import allowed space names from the file 'SMC Building allowed space names.xls'. Or, you can fill in the table parameter manually.

Checking the Design

Now that you have imported a model, selected a Role, opened a Ruleset(s) and performed the tasks in the To-Do list, you are ready to check the model.

(1) Click the Check in the **Checking View** Toolbar.

(2) The checking process starts and you can follow the progress in the **Checking Tree Table** (see Figure 44*)*.

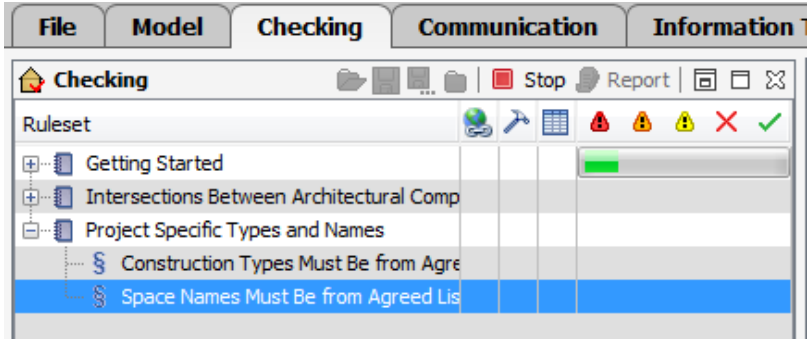


Figure 44 Checking process

(3) During the checking process you can expand or close the rule tree and start analyzing the results that are generated.

(4) Once the model is checked, the **Checking Tree Table** (see **Error! Reference source not found.**45) shows the status of each rule. The status may be ✓ (accepted, decision made that some issues required no actions) , OK (passed), or – (irrelevant, in case the BIM file does not have information the rule needs), ✗ (rejected, decision made some issues must be fixed) or it has a problems classified as **Critical** , **Moderate** , or **Low Severity** .

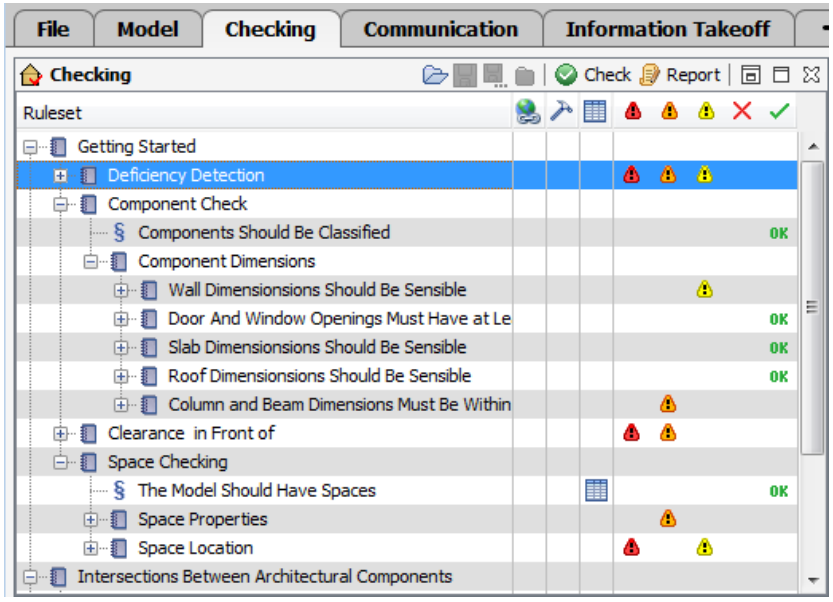


Figure 45 Checking tree table

(5) Filter results by focusing on **Critical** Issues (see Figure 46).

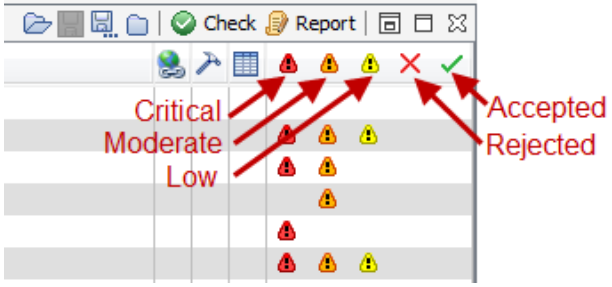


Figure 46 Filtering results

You can focus only on **Critical** issues by hiding the **Moderate** and **Low Severity** issues by clicking their icons as shown in (see Figure 47). Clicking again on **Moderate** and **Low Severity** to show all results.

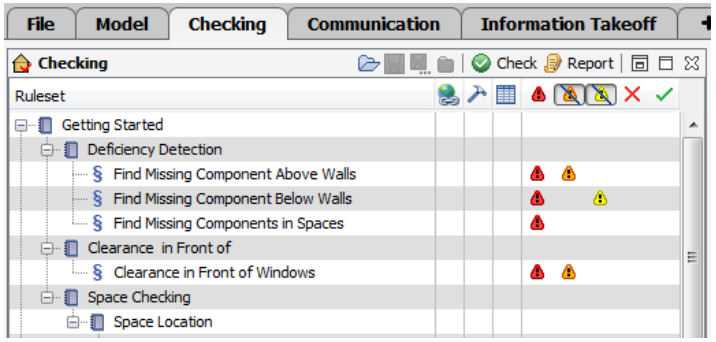


Figure 47 Moderate and low severity issues hidden

Analyzing the Results

As an SMC user, one of your main tasks will be analyzing the checking results, and this task can be very different depending on the scenario at hand. Instead of going through all the details, we will demonstrate some of the features by using examples.

Example 1: Deficiency Detection

Solibri Model Checker includes Rulesets dedicated to finding what is missing from the BIM file. Here are the steps to follow for this example:

(1) Make sure you have **Critical** , **Moderate** , and **Low Severity** level issues visible.

(2) Open the **Deficiency Detection** branch by clicking the small + sign next to the Ruleset name in the **Checking Tree Table**.

(3) Select the *Find Missing Components Below Walls* rule.

(4) **Info View** will inform you about the nature of the rule (see Figure 48).

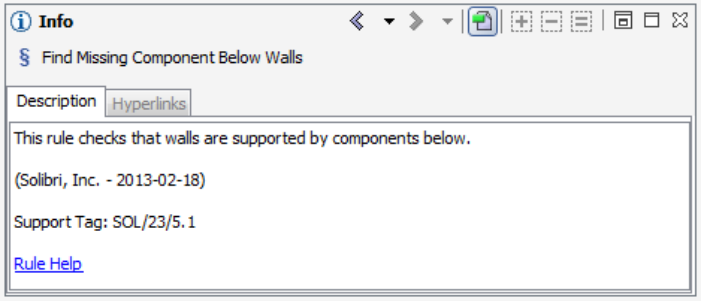
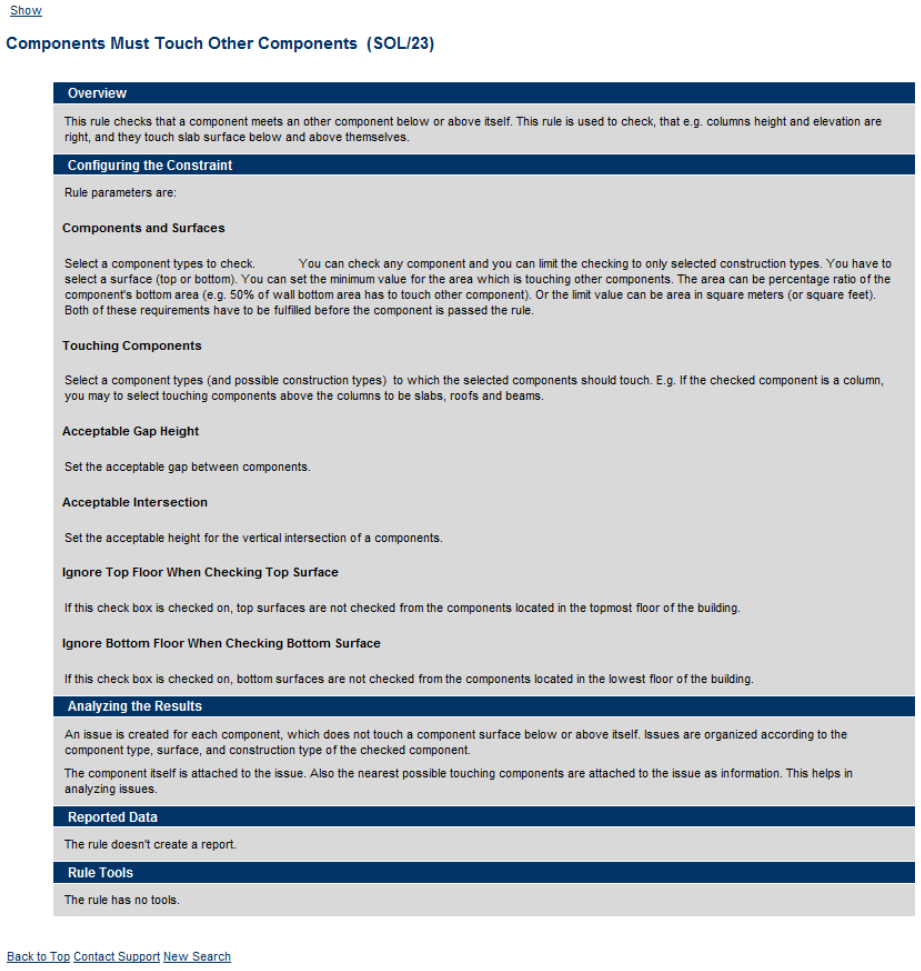


Figure 48 Info view

(5) From the **Info View** click "*Rule Help*" and you will find the documentation related to this rule (see Figure 49*)*.


Show

Components Must Touch Other Components (SOL/23)

Overview

This rule checks that a component meets an other component below or above itself. This rule is used to check, that e.g. columns height and elevation are right, and they touch slab surface below and above themselves.

Configuring the Constraint

Rule parameters are:

Components and Surfaces

Select a component types to check. You can check any component and you can limit the checking to only selected construction types. You have to select a surface (top or bottom). You can set the minimum value for the area which is touching other components. The area can be percentage ratio of the component's bottom area (e.g. 50% of wall bottom area has to touch other component). Or the limit value can be area in square meters (or square feet). Both of these requirements have to be fulfilled before the component is passed the rule.

Touching Components

Select a component types (and possible construction types) to which the selected components should touch. E.g. If the checked component is a column, you may to select touching components above the columns to be slabs, roofs and beams.

Acceptable Gap Height

Set the acceptable gap between components.

Acceptable Intersection

Set the acceptable height for the vertical intersection of a components.

Ignore Top Floor When Checking Top Surface

If this check box is checked on, top surfaces are not checked from the components located in the topmost floor of the building.

Ignore Bottom Floor When Checking Bottom Surface

If this check box is checked on, bottom surfaces are not checked from the components located in the lowest floor of the building.

Analyzing the Results

An issue is created for each component, which does not touch a component surface below or above itself. Issues are organized according to the component type, surface, and construction type of the checked component.

The component itself is attached to the issue. Also the nearest possible touching components are attached to the issue as information. This helps in analyzing issues.

Reported Data

The rule doesn't create a report.

Rule Tools

The rule has no tools.

Back to Top Contact Support New Search

Figure 49 Rule documentation

(6) **Result Summary view** and **Results View.** In the Result Summary view, "Issue Count" shows the total number of issues detected from checking Rule 'Find Missing Components Below Walls' according to each issue severity (see *Figure 50*). The "Issue Density" (issues/1000m3) gives a general understanding of model quality.

(7) To **View categories** of issues, click the **Results View**. The issues are all in two categories: "*Wall Components don't touch below*" and "*Wall Components touch below partially"* as shown in Figure 50. Numbers in the square brackets are: [number of decisions made / number of issues].

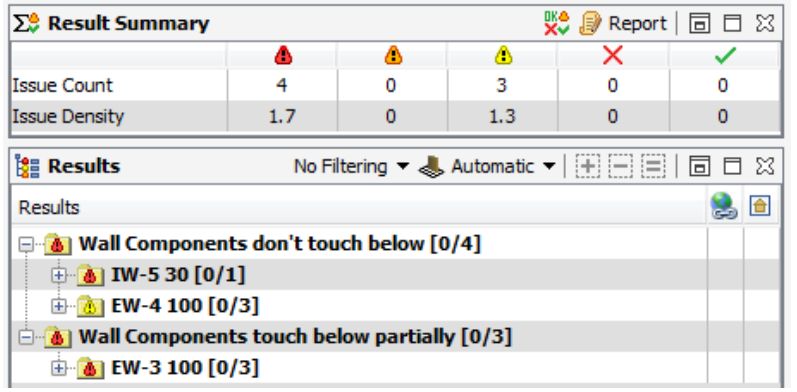


Figure 50 Result Summary view and Results view

(8) **View components**, when you click category "*Wall Components touch below partially"*, only components attached to issues of the category, are shown in **3D View**. The footprints of the related building floors are also shown for easy visualization (see Figure 51), please note the adjustable **Navigation Map** at the bottom right corner.

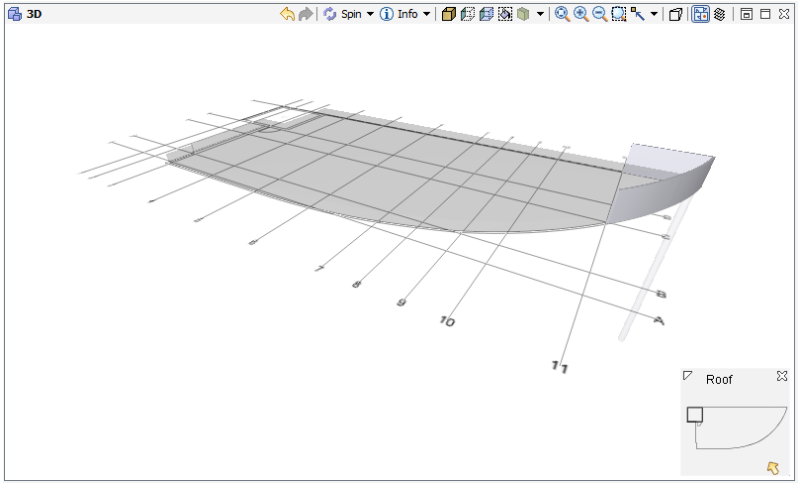


Figure 51 Components attached to issue are shown

(9) View list of components relating to an issue, when you select one of the issues in the category, only components attached to the issue are shown (see Figure 52). Please also note that if you double click the category or issue you will be zoomed closer to related components (see Figure 53).

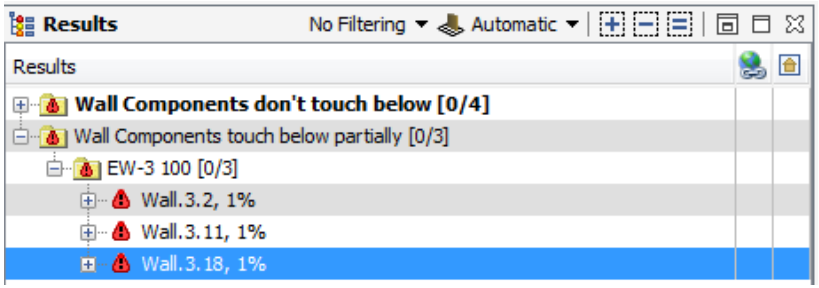


Figure 52 Detailed Results

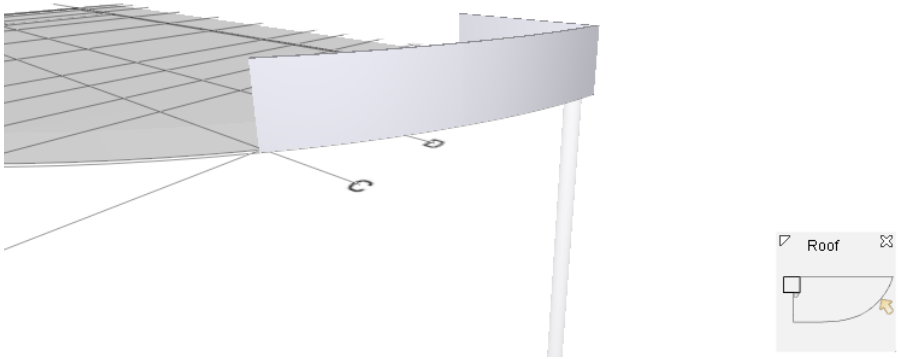


Figure 53 Detailed Results zoomed in 3D

(10) In case you want to visualize results differently you have several options:

(11) **Transparent visualization**, select one of the issues or categories, and choose **Transparent** visualization in the **Results View** Toolbar. Now the components in the selected issues are highlighted (see Figure 54**)**.

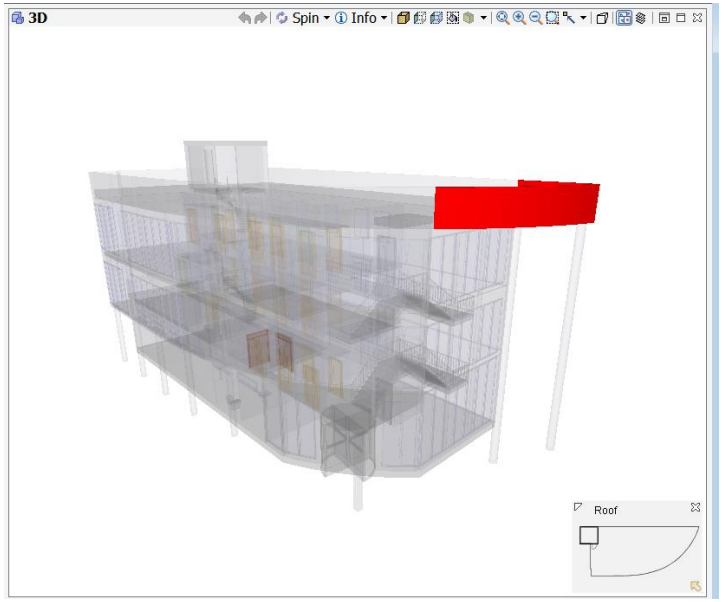


Figure 54 Transparent visualization

(12) Creating a **Section Box**. Select one of the issues or categories, click right your mouse, and choose **Section Box** in **Results View** popup menu (see Figure 55). Now a section box around the problematic components is created (see Figure 56).

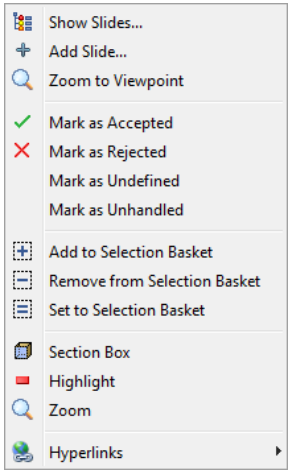


Figure 55 Select Section Box from the popup menu in the Results view

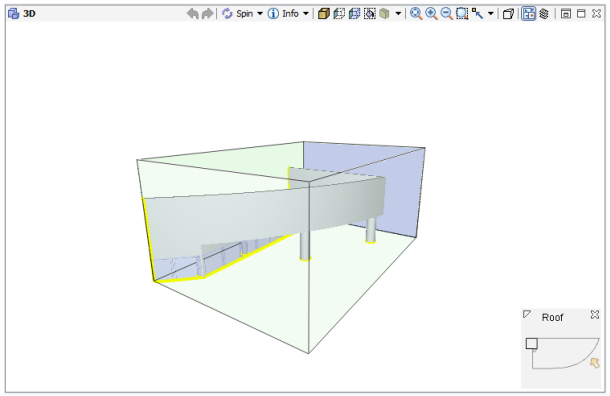


Figure 56 Section Box

(13) **Commenting on an Issue**, Select the issue, with *Wall 1.18*. Click the column to the right of the issue. You will have an **Issue Details** pop-up window appearing. You can also select the issue, right-click and select '*Add Slide'*. Notice that by default you will "*Reject*" this issue meaning that someone needs to fix this problem according to the instructions you type in the "**Comment**" field.

(14) In the **Issue Details** pop-up window you can give the Issue a name in the **Title -field** and describe it in the **Description** -field (see Figure 57).

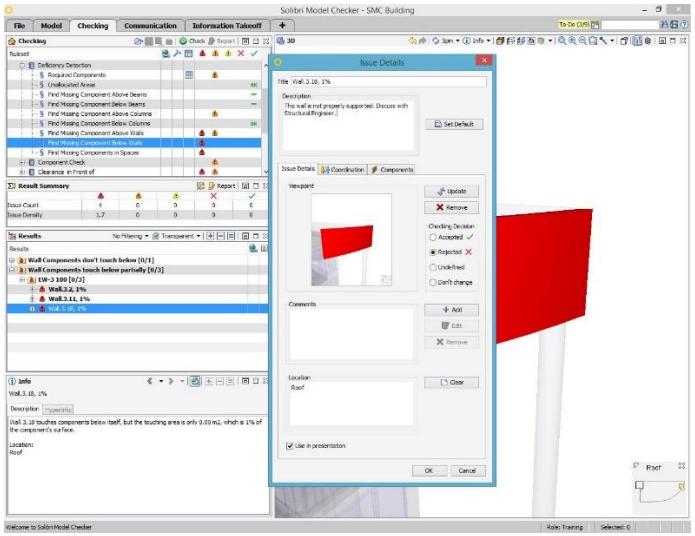


Figure 57 Issue Details window

(15) You will also assign the issue to a specialist to solve the problem, click on the Coordination tab, select "Assigned" in the **Status** bar and assign to, for example, "David" in **Responsibilities** bar (see Figure 58).

(16) You will notice that the **Results Tree** now includes marks for existing comments and has a red cross as this issue is now *"Rejected".*

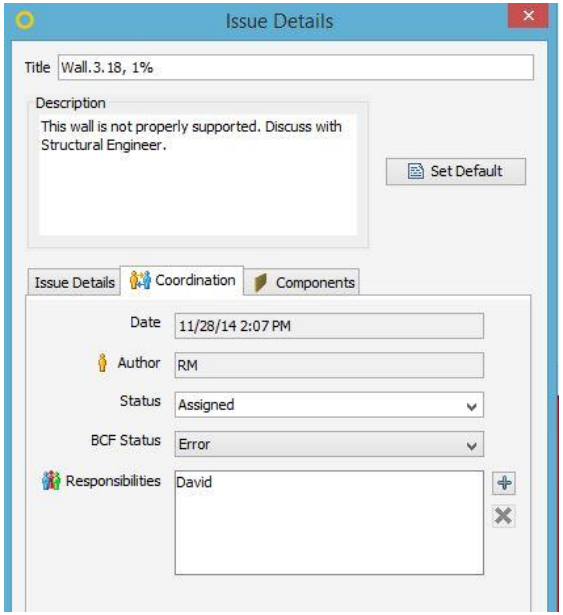


Figure 58 Coordination tab in Issue Details window

(17) Right click the "Wall Components don't touch below" -> "IW-5 30"> and you will get a pop-up window with other ways to mark the results. Choose "Mark as Accepted" this time (see Figure 59).

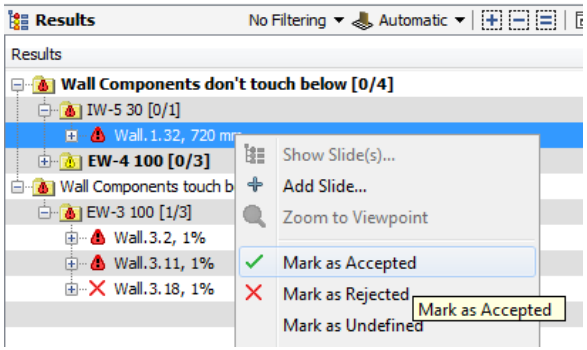


Figure 59 Accepting issues

(18) Repeat the same procedure for other issues. Note that you can also add a slide to a category.

(19) **Full 3D View**, last step for this rule example is to show the whole building in the **3D View**. Click **Show All** in the **3D View Toolbar**. This will remove the transparency and highlights from the **3D View**. Next click **Top Front Right** in the **3D View Toolbar**.

(20) Set **Automatic** navigation back on.

Example 2: Clearance in Front of

Here are the steps to follow for this example:

(1) Open the "*Clearance in Front of*" branch in the **Checking Tree Table** and also the next level "*Clearance in Front of Windows*" (see Figure 60*).*

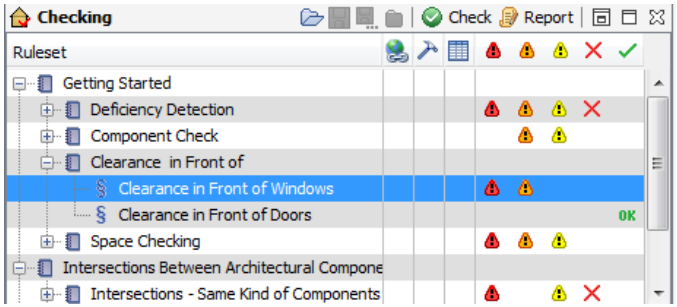


Figure 60 Clearance in Front of Windows rule

(2) Be sure that **Automatic** visualization is set back on and open the "*Suspended Slab too Close to Window Component*" category in the **Results Tree Table** and select the issue group "FS-3 too close to window 16 component" (see Figure 61*).*

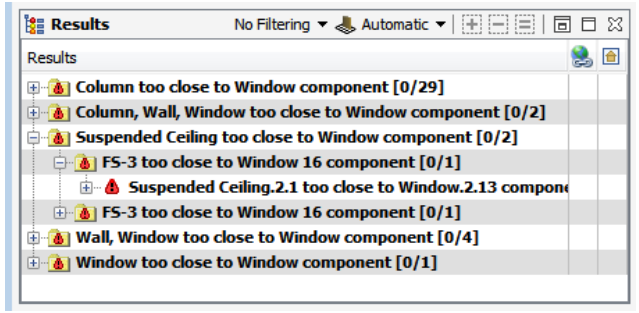


Figure 61 Slab too close to windows

(3) You can see a suspended slab component in front of two windows. There is a shadow showing dimensions of how much free space was required and how close the obstacle is (see Figure 62*).*

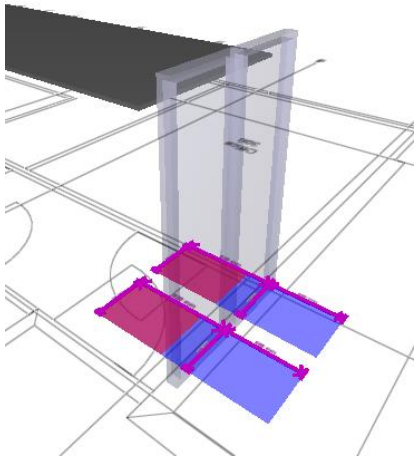


Figure 62 Suspended slab in front of windows

(4) Make a comment "*Consider making the window lower to avoid suspended ceiling being seen through the window".*

(5) Notice that other issues under "*Clearance in Front of Windows*" show columns, walls and windows in front of windows but in this case this is an architectural feature designed this way and is not considered as a problem. Accept other issues

Example 3: Validate Space Area and Volume

Here are the steps to follow for this example:

(1) Open the "*Space Checking*" -> "*Space Location*" branch in the **Checking Tree Table**.

(2) Select the "*Space Validation*" rule.

(3) Open the “Boundary” category in the Results Tree Table and select the issue inside it "*Boundary*"-> "*Office* "-> "*Space 2.4*" (see Figure 63).

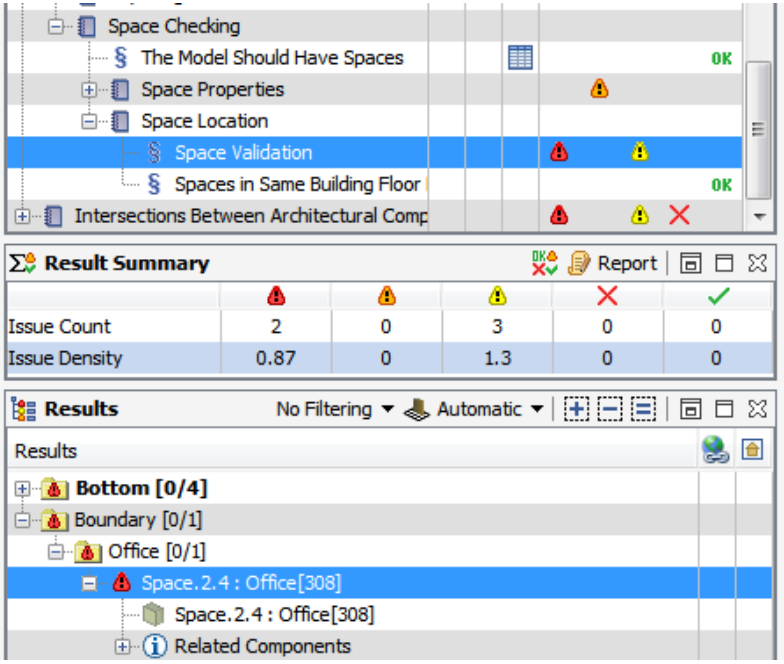


Figure 63 Boundary problem with Space 2.3: Office [308]

(4) In the **3D View** you can see a space object and a red line showing the part of the space boundary (seeFigure 64), which is not near a wall (or another space).

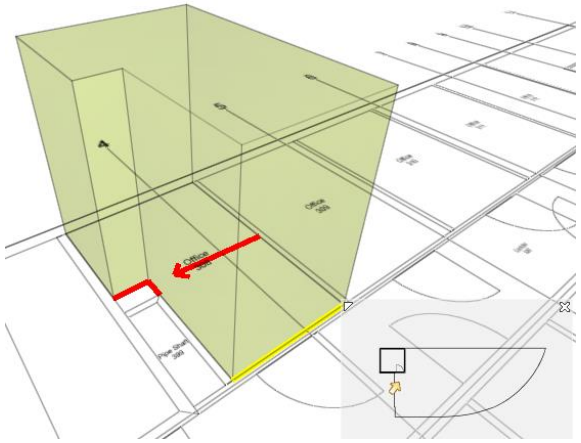


Figure 64 Part of the Space Boundary is not aligned with walls

(5) Right click the issue and choose “Add Slide…” from the pop-up menu. In the **Issue Details** window add a comment to the description field “*Space boundary is not aligned with bounding walls”.* Also, click the **Coordination** tab in order to assign the Issue to a specialist such as “Arc”, click Ok (see Figure 65).

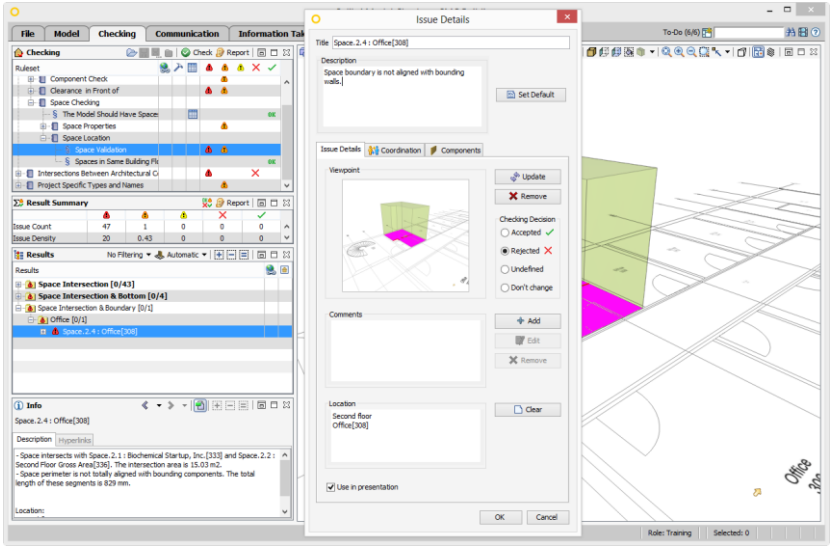


Figure 65 Issue Details

Example 4: Checking Interferences

Here are the steps to follow for this example:

1) Open the "*Intersections between Architectural Components"* branch in the **Checking Tree Table**.

2) Select the "*Wall - Wall intersections*" rule in the **Ruleset Tree Table**.

3) Open the category “Components Inside Each Other” in the **Results Tree Table** and select the issue inside it. You can see two walls in the upper left corner of the building.

4) Select the "*Wall.3.14 (EW-1) and Wall.3.7 (EW-1) are inside each other*" from the **Results Table Tree**. The smaller wall (being inside) is already rejected automatically by the rule (see Figure 66*)*.

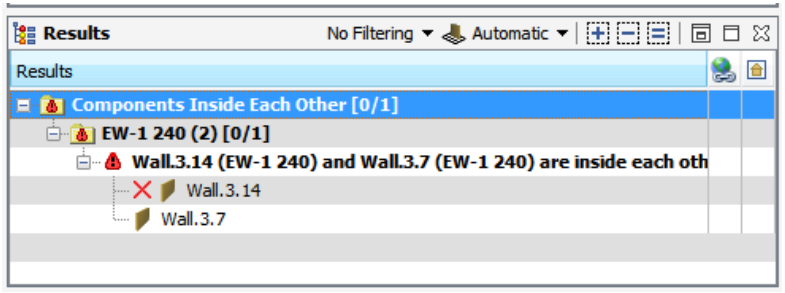


Figure 66 The issue, intersection checking

5) Double-click the issue and you will be zoomed close to the walls causing the problem. If you feel that you are too close, click the **Zoom Out** button from the **3D View Toolbar** (see Figure 67*)*.

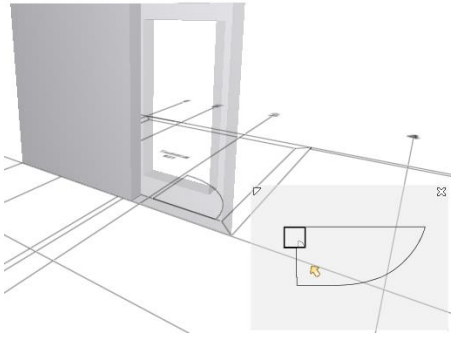


Figure 67 A wall inside another wall

5. Communication

Generation of a Presentation and Coordination Report

Once you have checked a building model and saved viewpoints of the problematic situations, you can create a slideshow to present the situation to your design or project team.

To create a presentation switch to **Communication Layout**:

1) Click the line "*Click to add New Presentation…"* (see Figure 68*).*

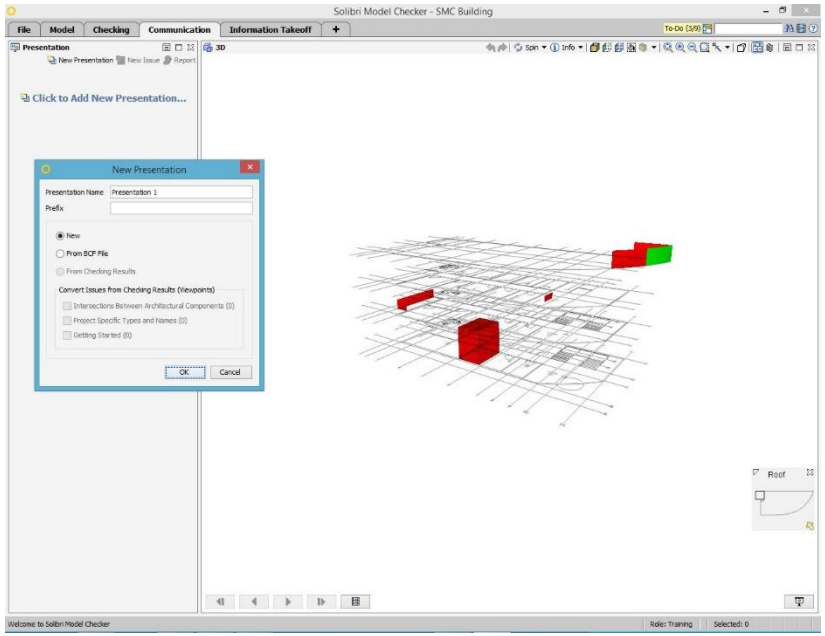


Figure 68 Converting Results to Presentation

2) Type a new name for the presentation and choose presentation to be made from the "*Getting Started*" Ruleset. Click **OK**.

3) A new presentation will be created. Click the first slide in the **Presentation View** (see Figure 69) and notice how the **3D View** changes to show the stored viewpoint.

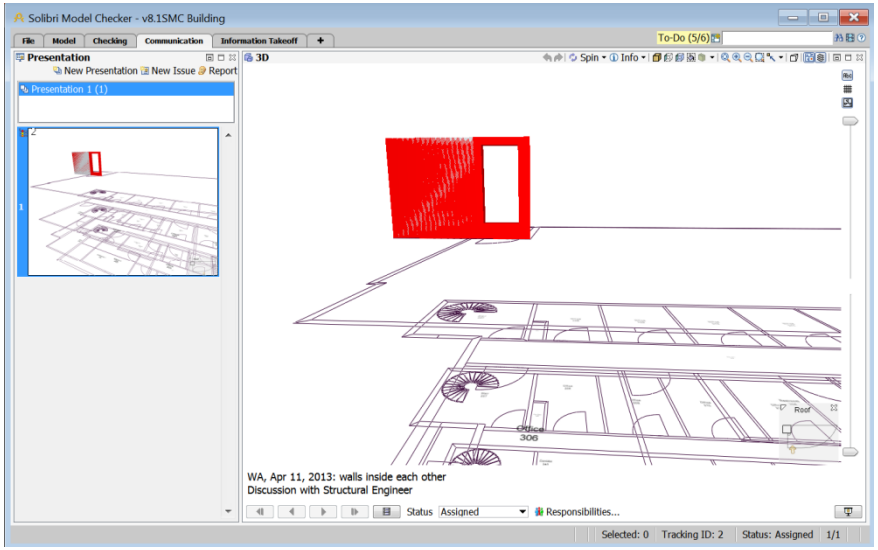


Figure 69 Presentation View

Presenting the Slideshow

4) To show the presentation in "Full Screen Mode" you click Toggle Presentation **mode** in the bottom right hand corner or the 3D Window (see Figure 70).

   The 3D View will be maximized and you have control buttons under the actual 3D Area (see Figure 71).

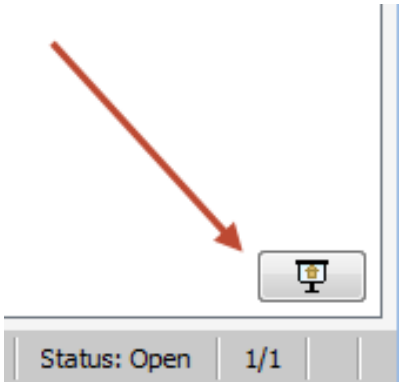


Figure 70 Presentation view detail

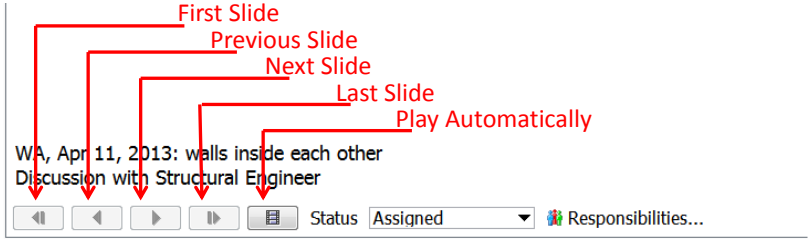


Figure 71 Presentation view controls

Custom Made Issues

5) You may also add issues separately by setting a view you want to store in the 3D View and then click "New Issue" on the **Presentation Toolbar**, or you can start a new Presentation. (see Figure 72).

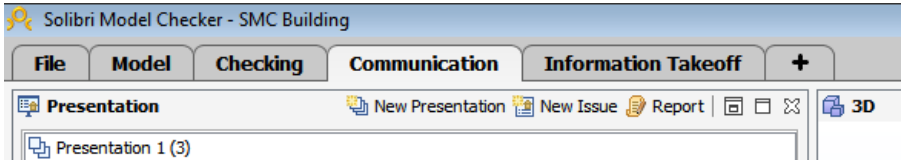


Figure 72 Presentation toolbar

Creating a Coordination Report

Once you have your presentation ready you can generate a **Coordination Report**.

6) You can write a report containing all issues and comments by clicking Report on the Presentation View Toolbar (see Figure 73). Create Report Dialog is opened.

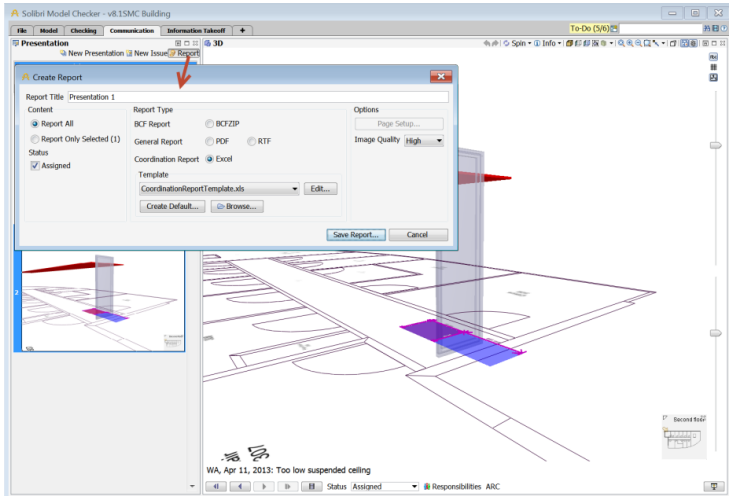


Figure 73 Making a Coordination Report

7) You can change the report file name and folder if you want to. Click **OK**.

8) After the report is written, it is generated and opened automatically (see Figure 74).

The report contains all selected issues, user comments and snapshots. Numbers refer to numbers in the presentation stored with the SMC file. Each issue will also be assigned a unique identification number. Once resolved, this number is not re-used.

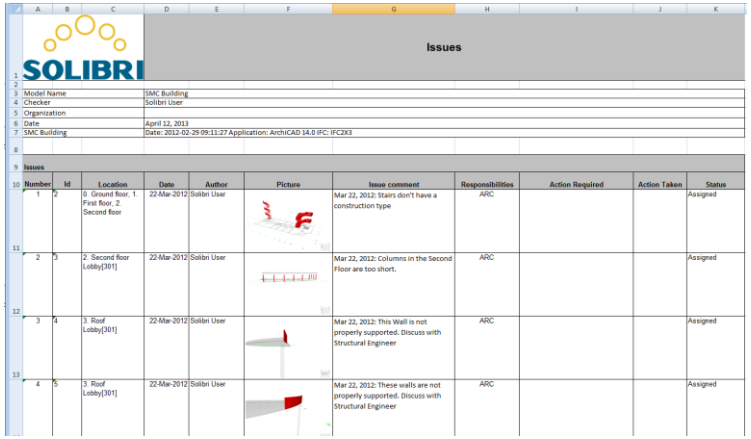


Figure 74 Coordination Report

Solibri Model Viewer

One good option for communicating results is to save an SMC file with presentations, user decisions, and snapshots and then share this file with the team. With the free Solibri Model Viewer, downloadable at www.solibri.com, anyone can view, share, and discuss these results.

You can comment issues in the Presentation view in Solibri Model Viewer. A report is saved in BCF-format. You can update the original model in Solibri Model Checker. That way the comments will be updated to the presentation.

6. Getting More Information

For additional information, consult the **SMC Help** or visit the Solibri Customer Support pages at www.solibri.com.