

Allplan 2006

Step by Step

Step by Step – Layers
Nemetschek Campus

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Welcome

Welcome to Allplan, the high-performance CAD program for architects.

In these step-by-step instructions, you will learn about Allplan's data structure. In particular, this guide shows how to structure projects using drawing files and/or layers.

This chapter covers the following:

- Documentation for Allplan
- Additional help on Allplan
- Where to turn for training, coaching and project support

Documentation

The Allplan documentation consists of the following:

- The online Help is the main source of information for learning about and working with Allplan.
- While you work with Allplan, you can get help on the current function by pressing the F1 key, or activate **Help** on the **Standard** toolbar and point to the icon on which you require help.
- The **Manual** consists of two parts. The first part shows how to install Allplan. The second part provides an overview of basic concepts and terms as well as methods for entering data in Allplan.
- The **Architecture Tutorial** guides you step by step through the process of designing a building. In addition, you learn how to analyze and evaluate the building data using lists and schedules and to output the results to a plotter.
- The **Engineering Tutorial** guides you step by step through the process of creating key plans, shell and formwork drawings as well as reinforcement drawings - from simple 2D drawings to fully automatic reinforcement drawings managed in three-dimensional space.
- The brochure **New Features in Allplan** provides information on what's new in the latest version.

- Each volume in the **Step-by-Step** series deals with a specific concept or series of tools/modules in Allplan in detail. The areas covered include data exchange, system administration, geodesy modules, presentation tools, 3D modeling etc. These guides can also be obtained from the Nemetschek training department:

Nemetschek Deutschland GmbH
Campus Center Munich
Konrad-Zuse-Platz 1
81829 Munich
Germany

Phone: (0 18 01) 75 00 00

Fax: (0 18 01) 75 00 01

Additional Help

Tips for efficient usage

The **Help** menu provides the **Tips for efficient usage** item. This topic provides an overview of important tips and tricks.

User board

Nemetschek's Serviceplus Portal includes an extensive user board enabling thousands of users to exchange information on all questions pertaining to Nemetschek products. To register, go to <http://serviceplus.nemetschek.de>

LineLetter

The LineLetter is a publication that appears several times a year. It is sent in digital form free of charge to Serviceplus customers. The LineLetter includes practical tips and tricks on all program areas.

FAQs on the Internet

Up-to-date FAQ's are available on the Internet at the following address:

<http://www.serviceplus.nemetschek.de/faq>

Note: You can also get this address right from the program. On the **Help** menu, point to **Nemetschek on the Web** and click **FAQ**.

Feedback on the help

If you have suggestions or questions on the online Help, or if you come across an error, send an e-mail to Dokumentation@nemetschek.de

Feedback on the Documentation

We are always trying to improve the overall quality of our program documentation. Your comments and suggestions are important to us and we welcome feedback on the manuals and on-line help.

Please do not hesitate to contact us to express criticism or praise concerning the documentation. Feel free to contact us as follows:

Documentation Department

Nemetschek Technology GmbH
Konrad-Zuse-Platz 1
81829 Munich
Germany

Phone: (0 18 01) 75 00 00

Fax: (0 18 01) 75 00 01

Email: Dokumentation@Nemetschek.de

Understanding Layers

Layers provide an additional means of applying a structure - within drawing files. Metaphorically speaking, a layer is a transparency on which design elements belonging to a specific category (load-bearing walls, non-bearing walls) are drawn. Layers can be set so that they are visible or hidden.

The use of layers obviates the need for frequent switching between drawing files and they ensure that associative elements - such as wall dimensions or sill elevation labels - reside in the same drawing file and yet can still be hidden from view.

Layers are important organizational elements. Their importance increases the more people are involved in a project and the more a CAD system is used for the specialist design processes. Layers do not replace drawing files. Rather, they complement them.

What Are Layers?

A layer is not a foil. Rather, it is an element's attribute or property which you assign to design elements belonging to a specific category (load-bearing walls, non-bearing walls). Therefore, a layer is rather an element color or linetype than a drawing file. Layers can be set so that they are visible or hidden.

Each file contains at least the DEFAULT layer, which is always available to all users. Its status is always set to **Modifiable**. The default layer cannot be assigned any format properties and elements cannot assume the properties from the default layer.

Allplan supports up to 65,535 (2^{16}) layers.

Layers are arranged in a hierarchic structure:

- The first level describes the layer category (e.g., ARCHITECTURE, ENGINEERING).
- The second level is divided into special fields within the category (e.g., Design, Room).
- The third level consists of the layers themselves. Every layer has a full (long) name with a detailed explanation of the contents. Each layer also has an abbreviated name (e.g. Ceiling, RA_CE).

In addition, every layer has an internal number, which is used by the program to access the relevant layer.

Working with Project-Specific or Office-Specific Layers?

Layers are resources like linetypes and can thus be saved in the project in which they are used or in the office standard.

Important: It is essential that you create a new project and set the path settings for the layers to **Project** before you try out and test different layer settings.

Advantages of Organizing Data using Layers

With large projects in particular, organizing data using layers has significant advantages.

Task-oriented approach

For individual disciplines or design phases like, for example, designing the office arrangement in an administrative building, the same reference drawing files and current drawing file are required for each floor. As you work, you need to switch between the floors frequently.

If you work with layers, you do not need to reassemble the necessary drawing files each time or create filesets with each new project. Just define the layer sets you need for certain design phases/disciplines and store these as an office-specific standard. You can reuse the layer sets time and again – even in new projects.

Benefits during the analysis phase

In order for the interaction between elements to function cleanly, the walls and columns in question have to reside in the same drawing file. This is also the case for certain analysis and evaluation operations. With layers, you can meet these requirements easily.

Easier to assemble layouts

Layer sets are user-defined compilations of layers. These can also be used when editing and assembling layouts. When assembling a layout, you can choose to display only the elements in a specific layer set- switching between 1:50 and 1:100 is thus no problem.

Simplified data exchange via interfaces

Exporting drawing files to DXF/DWG layers is easier as you can assign each layer in a drawing file to a different DXF/DWG layer. When importing DXF/DWG files, the DXF/DWG layer structure can be automatically integrated in the layer hierarchy.

Disadvantages of Organizing Data using Layers

Effort spent managing layers

The process of managing layers involves some time and effort until you have familiarized yourself with the layer structure and are at ease with layers.

Data access

In the case of data organization with layers,, all the data is in one drawing file (i.e. in one file). This means that only one user at a time can access the data. To facilitate concurrent activity, the data which needs to be available to several users at the same time must be arranged on different drawing files.

Relationship between Layers and Drawing Files

The use of layers doesn't mean that drawing files don't play a role when it comes to organizing your data. With large project in particular, a combination of both is essential. With the same structural depth, the number of drawing files required is far less when working with layers.

The number of drawing files you need not only depends on the size of the project, but also on your hardware. Modern, fast computers with a lot of memory can handle a lot more data per drawing file without this leading to a noticeable downturn in performance. To be on the safe side, however, it is advisable to settle for a compromise between drawing file size and computing power in order to avoid pushing the hardware to its limits.

The interplay between layers and drawing files depends on the following factors:

- The size of the project and the number of designers involved at any one time.
If several designers are working on one floor, create one drawing file per area of responsibility (e.g., East Wing, Central Unit, West Wing, for example.)
- Simultaneous involvement of specialist designers on the project. Separate drawing files should always be used for the specialist designs in order to facilitate concurrent activity.

Approach for Working with Layers

- 1 Decide whether the layers in the project are taken from the office standard or managed on a project-specific basis. We strongly recommend that you use the project-specific setting for practice.
- 2 Activate **Auto-select layer with menu** (Layer dialog box, **Select Layer/Visibility** tab): this way, the correct layer will be selected automatically when you activate a tool.
- 3 Activate **Match layer's format properties**:
 - **Format Definition** tab: activate **From Layer, ...**, select a layer (if necessary, an entire level in the hierarchy), select a linestyle.
 - **Select Layer/Visibility** tab: specify which format properties are to be matched.
- 4 When working, select a layer using the dropdown menu.
- 5 Save layer visibility settings as a layer set or favorite file.

Approach for Working without Layers

- 1 Disable **Auto-select layer with menu** (Layer dialog box, **Select Layer/Visibility** tab).
- 2 Check that the **Default** layer is active when you activate a tool.

Working with Layers

Layers provide an additional means of applying a structure within drawing files. Layers can be used for quick modifications as you can show and hide elements as you need just by switching the relevant layers on and off.

The Layer Dialog Box

- When you are working with Workgroup Manager in a network environment, you must be logged in as administrator. Otherwise, you cannot make any changes in the **Layer Sets**, **Design Groups**, **Format Definition** and **Layer Structures** tabs.

General functions



Expand

You can use this button to expand the tree structure so that all layers are displayed.



Collapse

You can use this button to collapse the tree structure of the layers so that only the first levels in the hierarchy are displayed.



Find

You can use this button to find layers.



Print

You can use this button to print out the layer hierarchy in its entirety or selected layers. In the latter case, you need to activate the **Selection** option in the **Print** dialog box..

Select Layer/Visibility tab

Match

When you click this button, the dialog box closes temporarily, and you can click an element in the workspace. The layer of the element clicked is set as the current layer.



You can use this button to save the current layer setting as a **Favorite** file (*.lfa).



You can use this button to retrieve layer settings you have saved as favorite files

Current visibility status

The names and the current visibility status of the layers are displayed in this area. By making settings in the **List box contents** area on the right, you can specify which layers are displayed. When **Match** is enabled in the **Layer's format properties** area, the pen, line and color properties assigned to the relevant layer are also displayed.

Design groups

Use this to select the current design group.

Drawing type

Use this to select the current drawing type.

List box contents

Use this to specify which layers are displayed in the left window.

- **List layers assigned to currently selected menu:** the layers assigned to the active tool are listed in the area on the left.
- **List layers in open drawing files:** the layers in active drawing files (i.e., current or open in edit mode) are listed. If all the layers are on the default layer, this option is not available.
- **List entire layer hierarchy:** all the layers are listed.

Layer/menu automation

Option enabled: when you activate a tool, the layer that is associated with this tool is automatically used as the current layer. Option disabled: the last layer selected is automatically set as the current layer.

Layer's format properties

Use this to configure the program to have the elements that you draw automatically assume the format properties from the layer on which they are drawn. More information is provided in the section entitled "Using the layer's format properties" on page 29.

Display

Use this to configure the program to display all elements on frozen layers using a single color.

Modify status

The available access rights are displayed in this area. Click the buttons to assign a status to the selected layer.

Layer Sets tab**Visibility in layer set**

The current visibility status is displayed.

Layer set in list box

Use this to select a layer set.

Define and modify layer sets...

Use this to define or modify layer sets.

Modify status

The status is displayed. Click the buttons to assign a status to the selected layer.

Design Groups tab**Access rights for design groups**

The current access rights are displayed.


Design group in list box

Use this to select a design group.

Define and modify design groups...

Use this to define or modify design groups.

Administrator options

Use this to specify whether elements with layers you are not allowed to edit retain the layer on which they are drawn or get the DEFAULT layer when you execute the  **Copy/Move Elements between Documents** tool.

In addition, you can define that users who are not explicitly assigned any design groups and/or layer sets can still see and use all design groups and layer sets. When this option is not active, a user must be granted explicit access rights for design groups and layer sets.

User options

Use this to configure the program to have the layers in a design group that you select in the **Select Layer/Visibility** tab automatically assume the visibility settings from this design group. When this option is disabled, the visibility settings do not change when you select a different design group.

In addition, you can specify whether the first ten characters of the full layer names or the abbreviations are displayed in dialog boxes.

Edit rights

The access right is displayed in this area. Click the buttons to assign an access right to the selected layers.

Format Definition tab**Layers available in office (project)**

The layers that are currently available in the project or office standard are displayed in this area. The linestyles and format properties assigned to the individual layers are displayed in the other columns.

Layer's format properties

Use this to specify whether and how new elements that you draw automatically assume the format properties from the layer on which they are drawn. You can define which format properties (pen, line and color) are to be taken from the layer in the **Select Layer/Visibility** tab. More information is provided in the section entitled "Using the layer's format properties" on page 29.

Assign format properties

Use this to assign format properties to the selected layers. When you check the **Assign, use linestyle** box, the format properties are assigned based on a linestyle.

Manage linestyles, area styles, drawing types

Use this to define or modify linestyles, area styles and drawing types.

Layer Structures tab

Layer structures used in the office (project)

The layer structures that are currently used in the project or office standard are displayed.

Still available

All the layer structures that are available in the `\etc` folder are displayed in this area. These layer structures come with Allplan. You can add layer structures to the project or office standard using the shortcut menu.



Use this to save the current layer structure to a file (*.dat).




Use this to retrieve saved layer structures.

Defining the Current Layer




Every element is automatically drawn on a specific layer. The layer on which you draw is based on the tool you use. A line and a wall, for example, are drawn on different layers.

The layer on which you draw is governed by the following settings:

- When you activate a tool (e.g., Line) for the first time, a specific layer is automatically selected as the current layer. The layer in question depends on which tool you activate. This is only possible when the **Auto-select layer with menu** option is activated in the **Layer** dialog box. When this option is disabled, the **Default** layer is always used.
- You can use  **Select, Set Layers** or the **Format** toolbar to define a different layer as the current one. This layer will then automatically be used as the current layer the next time you activate the tool.
- When you save components as favorite files, the current layer is also saved. When you retrieve favorite files later, this layer is automatically set as the current layer.
- The sill representation of door and window openings get the layer of the wall in which they are inserted, regardless which layer is currently set.

Selecting the Current Layer


To select the current layer

- Select the current layer in one of the following ways:
 - Select the layer in the list box on the **Format** toolbar. The selection in this list box is based on the tool you activated. You can expand and reduce this selection. Detailed information is provided in the section entitled “Defining the Layer Selection on the Format Toolbar” on page 22.
 - Click  **Select, Set Layers**, select the **Select Layer/Visibility** tab and double-click the layer you want to make current.
 - Click  **Select, Set Layers**, select the **Select Layer/Visibility** tab and click . Click an element in the workspace. The layer of this element is set as the current layer.
-

Notes:

You can only define a layer for which you are granted full access right as the current layer. The layers that are actually available to you depend on the design groups to which you belong.


Auto-select layer with menu setting enabled: when you activate a tool, the layer you set last for this tool is automatically used as the current layer. **Auto-select layer with menu setting disabled:** the last layer selected is automatically set as the current layer.

When you retrieve parameters/components saved as favorite files using , the layer that was set to current when you saved the parameters/components is automatically set as the current layer.

Assigning a Different Layer to Elements already Created

Elements that have already been created can be assigned a different layer. Doing so can change the elements' format properties (if the 'From Layer' setting is active).

To assign a different layer to elements already created

- 1 Click  **Modify Format Properties**.
- 2 In the **Modify Format Properties** dialog box, click the button with the name of the layer.
- 3 In the **Layer** dialog box, use the right mouse button to click the layer you want to assign to the elements and, on the shortcut menu, click **Current**.
- 4 Click **OK** in the **Modify Format Properties** dialog box.


Select the elements you want to assign to the selected layer.

Note: Information on layers and smart symbols is provided in the section entitled "Modifying the layers of smart symbols" on page 43.

Defining the Layer Selection on the Format Toolbar

When you activate a tool, you can quickly select a layer on the **Format** toolbar and make it current. The selection in this list box is based on the tool you activated. You can expand or reduce this selection.

To define the selection of layers on the Format toolbar





- 1 Activate the tool whose selection you want to change (e.g., Wall).
- 2 Click  **Select, Set Layers**.
- 3 Select the **Select Layer/Visibility** tab.
- 4 Activate **List layers assigned to currently selected menu**.

The layers assigned to the active tool are listed in the area on the left.

- 5 Do the following:
 - **To remove a layer:** click the layer you want to remove with the right mouse button. On the shortcut menu, click **Remove Layer**.
 - **To add a layer:** use the right mouse button to click in the area where the layers are displayed. On the shortcut menu, click **Insert Layer** and select the layers you want to add.
-

Layer Access Rights

There are different layer access rights. These rights control whether you can see and/or modify layers (and thus the elements assigned to the layers). The access rights are presented by icons in the Layer dialog box, **Select Layer/Visibility** tab:

Icon	Access right	Explanation
	Current	The layer on which you draw.
	Modifiable	Elements in this layer are visible and can be modified.
	Visible, frozen	Elements in this layer are visible but cannot be modified.
	Hidden, frozen	Elements in this layer are not visible and cannot be modified.

You can tell which rights the current design group has by the color of the icon's bottom: yellow = edit right, gray = viewing right only -> cannot be set to **Modifiable**).

The color of the icon's top shows the current visibility status.

You can restrict access to layers in the **Select Layer/Visibility** tab. For example, you can change the status of layers from **Modifiable** to **Visible, frozen**.

Layer access rights also depend on the design group to which a user belongs. Design groups are required when there are several users working on different levels within the layer hierarchy. This ensures that the layers which serve as the basis for a design are not changed by users unless their design group has the explicit right to do so.

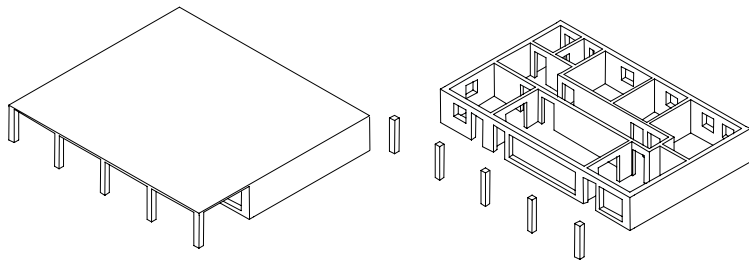
Consequently, you cannot assign a higher status to layers (for example, set hidden layers to modifiable) when you belong to a design group that is not granted full access rights to the relevant layers.

Layer Visibility

Setting the layer visibility in drawing files

You can set layers so that they are visible or invisible and thus show/hide the corresponding elements.

This way, you can quickly hide the elements you don't need during the current design phase, selectively modify elements in the displayed layers, check your plan and see whether all the elements are assigned to the desired layer. For example, you might choose to hide the slab layer and then view the spatial arrangement of the building as a hidden line image in perspective view.



If you find that you often require the same combination of visible and hidden layers (for dimensioning or labeling at certain scales, for example), then it is best to define what is known as a layer set. You can also use layer sets when assembling your layout later on so that only the visible layers are printed out.


Tip: Right click an element and, on the shortcut menu, select **Modify Layer Status** and then **Isolate Element Layer** to hide all the layers with the exception of the layer on which the element clicked is located.

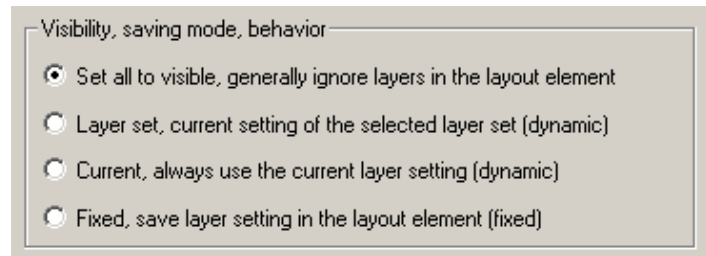
Note: You can configure the program to display all the elements on frozen layers using a single color by activating the check box in the **Display** area of the **Layer** dialog box.

Setting the layer visibility in layouts

When it comes to setting the visibility of layers in layouts, a distinction has to be made between elements that are in layout elements (documents placed in the layout) and elements that are actually drawn in a layout.

Visibility of elements in layout elements

Four options are available for setting the visibility of elements in layout elements. You can make visibility settings when you place layout elements using the  Layout Element tool. Click the Layer data entry box on the Context toolbar. Now you can select an option in the Element visibility from layers in the layout dialog box.



Set all to visible, generally ignore layers in the layout element

All elements that the user has the right to see are displayed and plotted, regardless of the layer settings.

Layer set, current setting of the selected layer set (dynamic)

Only the layers in the selected layer set are displayed and plotted. This option is only available when you have already defined a layer set. The current settings of the selected layer set are displayed. This setting is 'dynamic'; in other words, the appearance of the printout may vary depending on the current setting for the selected layer set.

Current, always use the current layer setting (dynamic)

All the layers that are visible in Select, Set Layers (Format toolbar) are displayed and plotted. This setting is 'dynamic'; in other words, the appearance of the printout may vary depending on the current layer setting.

Fixed, save layer setting in the layout element (fixed)

You can specify which layers are visible in the **Element visibility from layers in the layout** dialog box. Select the relevant layers and activate the desired status in the **Status** area. You can also use the shortcut menu. This setting is 'fixed' as it is saved with the layout element. Consequently, a layout is always printed out with the same settings, regardless of layer sets and the current layer setting.

Visibility of elements drawn in layouts

The visibility of elements which are actually drawn in a layout always depends on the current layer setting.

Saving visibility settings

If you find that you often require the same combination of visible and hidden layers (for dimensioning or labeling at certain scales, for example), then it is a good idea to save this setting. You can do this in two ways:


- **Define a layer set:** requires the relevant access rights
- **Save as a favorite file:** available to all users

Creating New Layers/Layer Hierarchies

You can use this tool to create new layers/layer hierarchies and rename existing layers.

- When you are working with Workgroup Manager in a network environment, you must be logged in as administrator.


To create a new layer/layer hierarchy

- 1 Click  Select, Set Layers.
 - 2 Select the Select Layer/Visibility tab.
 - 3 In the List box contents area, select the List entire layer hierarchy option.
 - 4 Use the right mouse button to click where you want to enter a new layer, and, on the shortcut menu, select New....
Please note that the layer is always inserted **below** the position clicked.

Depending on which level you select, existing names are used.
 - 5 Enter or change the names for the first level, the second level and the layer itself. Please refer to the notes on layer names.
-

Layers and Format Properties

Using the 'From Layer' format property

Elements can assume the format properties from the layer on which they are drawn. In this case, 'From Layer' is displayed on the **Format** toolbar and when you make modifications using the  **Modify Format Properties** too. Otherwise, the color of the element is displayed. More information is provided in the section entitled "Using the layer's format properties" on page 29.

Advantages of the 'From Layer' format property

- The elements' format properties are associated with the layer's format properties in a fixed manner. When you change the format properties of the layer, the format properties of all the elements to which this layer is assigned change accordingly.
- You can work in a scale-independent manner using linestyles.

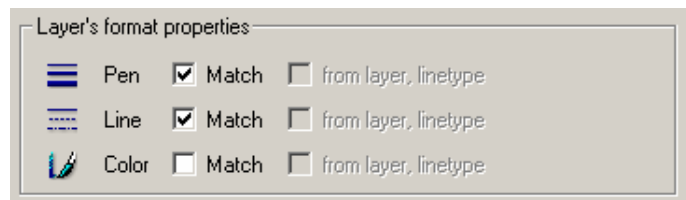
Note: When working with pen thickness and line color of text as well as pen thickness, linetype and line color of dimension lines and dimension text, you have to take into account special conditions that control the assignment of pen thickness and line color and that override the 'From Layer' property.

Using the layer's format properties

In the Layer dialog box, you can specify that an element is to automatically assume the properties of the layer on which it is drawn.


This involves two steps:

- In the **Format Definition** tab, you can define whether and how an element is to assume the format properties of the layer on which it is drawn. This general setting applies for all new elements and is valid until you explicitly change it. When you are working with Workgroup Manager in a network environment, you must be logged in as administrator. Otherwise, you cannot make settings in the **Format Definition** tab.
- In the **Select Layer/Visibility** tab, you can define which format properties (pen thickness, linetype and line color) are to be taken from the layer.




Format properties can be matched in three ways:

You can make these settings in the **Format Definition** tab.

- **Do not use, ignore layer's format properties** is enabled: each new element assumes the properties that are current on the **Format** toolbar.
- **Copy to Format toolbar as a proposed value** is enabled: when you create an element, the properties that are assigned to the current layer are set on the **Format** toolbar. The element's format properties can be modified at creation time (on the **Format** toolbar) or later (using  **Modify Format Properties**). The layer is not associated with the element; in other words, later modification of the layer's format properties has no effect on the elements to which this layer is assigned.

- **From layer in a fixed manner** is enabled: depending on the setting you make for **Assign, use linestyle**, the following two options are available:
 - **Assign, use linestyle disabled**: you can define the layer's format properties individually.
 - **Assign, use linestyle enabled**: the layer's format properties are adopted from a linestyle. For more information, see the section entitled "Using linestyles".

With this setting, the layer's format properties are used for new elements. The format properties cannot be modified either at creation time (on the **Format** toolbar) or later (using  **Modify Format Properties**). You can only change them by modifying the format properties of the layer. The element is associated with the layer's format properties in a fixed manner. When you change the format properties of the layer later, the format properties of all the elements to which this layer is assigned change accordingly. Instead of the current settings, **From Layer** is displayed on the **Format** toolbar and in the **Format Properties** dialog box.


Note: When working with pen thickness and line color of text as well as pen thickness, linetype and line color of dimension lines and dimension text, you have to take into account special conditions that control the assignment of pen thickness and line color and that override the 'From Layer' property.

Automatically using the layer's format properties

You can configure the program to have the elements that you draw automatically assume the settings for pen thickness, linetype and color from the layer on which they are drawn. When this setting is disabled, the elements are assigned the settings that are current on the Format toolbar.

To configure the system to automatically apply the settings of the current layer to new elements

➡ Requirement: Copy to Format toolbar as a proposed value or From layer in a fixed manner must be enabled on the Format Definition tab.


- 1 Click  Select, Set Layers.
- 2 Select the Select Layer/Visibility tab.
- 3 In the Layer's format properties area, select the formats that are to be applied automatically.

Information on defining format properties for layers is provided in the section entitled "Assigning format properties to layers" on page 33.

Assigning the 'From Layer' setting to elements already created

You can assign the 'From Layer' setting to elements already created.

To assign the 'From Layer' format property later


- 1 Click  Modify Format Properties.
- 2 Activate Change "From Layer" for pen, line and color in the Type of modification area.
- 3 In the Format properties area, check the boxes of the format properties for which you want to assign the 'From Layer' setting.
- 4 Select the elements you want to modify.

Note: You can also assign the 'From Layer' setting to elements already created by activating Copy to Format toolbar as a proposed value or From layer in a fixed manner on the Format Definition tab of the Layer dialog box and assigning the elements the relevant layer again.

Removing the 'From Layer' setting from elements later

You can remove the 'From Layer' setting from elements at any time.


To remove the 'From Layer' format property later

- 1 Click  Modify Format Properties.
 - 2 Activate Change "From Layer" for pen, line and color in the Type of modification area.
 - 3 In the Format Properties area, uncheck the boxes of the format properties for which you want to remove the 'From Layer' setting.
 - 4 Select the elements you want to modify.
-

Assigning format properties to layers

Every layer has the following format properties: **pen**, **line**, **color**. In the Layer dialog box, you can specify that an element is to automatically assume the properties of the layer on which it is drawn.

To assign a pen thickness, linetype and line color to layers

- 1 Click  **Select, Set Layers** and select the **Format Definition** tab.
- 2 In the area on the left, select the layer(s) for which you want to define format properties.

The properties that the selected layers have in common are shown in the area on the right. If they have different properties, the area is just white space.

- 3 Set the format properties you want to assign to the selected layers.

Note: If you selected several layers and want to change just a single property, set just the property in question. All the other properties remain unchanged.

Note: If the elements are to automatically assume the format properties of the layer on which they are drawn, activate the relevant check box in the **Select Layer/Visibility** tab.

Using linestyles

Linestyles allow you to define the display of elements based on the reference scale and drawing type. Requirements: the **From layer in a fixed manner** option is activated and the **Assign, use linestyle** box is checked..

The format properties (pen, line, color) you define for a layer can be saved in a named linestyle. Elements can then assume the format properties of this layer. When defining linestyles, you can specify whether they change with the scale or drawing type. Linestyles can be defined differently for various scale ranges/drawing types so that the display of elements varies depending on the reference scale/drawing type.

Several predefined, DIN 1356-1-compliant linestyles are shipped with the program.

Linestyles are project resources. Consequently, when creating a project, you can specify whether you want to use the linestyles in the office standard or project-specific linestyles.

You can also apply the **As construction lines** setting to scale ranges/drawing types. Elements with this layer are then displayed using the linetype and color of construction lines. However, these elements are not 'genuine' construction lines and cannot be selected using the **Construction line** filter

Linestyles cannot be assigned the **Hidden** property. To hide a linestyle, you need to hide the relevant layer. However, you can use the name of a linestyle for defining a layer set which hides the corresponding layers.

Important: Working with linestyles and different settings for various scale ranges and/or drawing types requires a carefully thought out approach!

Defining linestyles

To define a new linestyle

- 1 Open the **Define, manage linestyles, area styles, drawing types** dialog box.
- 2 In the **Linestyle settings** area, click the **New, manage....** button.
- 3 Click **New**.
- 4 Enter a name for the new linestyle and click **OK**.

By default, the new linestyle gets the following settings which are valid for all scale ranges/drawing types: pen=1, line=1 and color=1.

- 5 Click in the **Scale 1:x** or **Drawing type** column and enter the scale or drawing type for which these settings are to apply.
- 6 Click an entry in the **Pen, Line** and **Color** columns and select a setting in each column.

Note: You can also apply the **As construction lines** setting to scale ranges/drawing types. Elements with this layer are then displayed using the linetype and color of construction lines. However, these elements are not 'genuine' construction lines and cannot be selected using the **Construction line** filter

Note: You can define up to 255 linestyles.

Modifying linestyles

- When you are working with **Workgroup Manager** in a network environment, you must be logged in as administrator.

Several predefined, DIN 1356-1-compliant linestyles are shipped with the program.

To modify linestyles


- 1 Open the **Define, manage linestyles, area styles, drawing types** dialog box.

- 2 Specify whether the linestyles are to depend on the scale or drawing type.
- 3 Select the linestyle you want to modify in the **Linestyle settings** list box.
- 4 Click in the **Scale 1:x** or **Drawing** type column and enter the scale or drawing type for which these settings are to apply.
- 5 Click an entry in the **Pen**, **Line** and **Color** columns and select a setting in each column.

Note: You can also apply the **As construction lines** setting to scale ranges/drawing types. Elements with this layer are then displayed using the linetype and color of construction lines. However, these elements are not 'genuine' construction lines and cannot be selected using the **Construction line** filter.

Assigning linestyles to layers

To assign a linestyle to a layer

- 1 Click  **Select, Set Layers** and select the **Format Definition** tab.
 - 2 Activate the **From Layer** option in the **Layer's Format Properties** area.
 - 3 Use the tree structure to select the layers to which you want to assign the linestyle.
 - 4 Check the **Assign, use linestyle** box in the **Assign format properties** area and select a linestyle.
-

Using drawing types

Drawing types used in conjunction with area styles and linestyles allow you to display elements on screen and in printouts in a manner that reflects the selected drawing type. Drawing types can be used both in document mode and in the Plot Layout module. When working in document mode, you can select drawing types in the status bar. In the Plot Layout module, on the other hand, drawing files can be selected when layout elements are placed.

When you create a project, you can specify whether you want to use the drawing types in the office standard or project-specific drawing types. Layer structures, linestyles and drawing types are based on the same setting.

Selecting the current drawing type (in document mode)


To select the current drawing type (in document mode)

- Click the drawing type displayed in the status bar and select a drawing type.

Note: This option is only available when the **Linestyles, area styles depend on drawing type** setting is active in the **Define, manage linestyles, area styles, drawing types** dialog box.

Selecting the current drawing type (for layout elements)

To select the current drawing type (for a layout element)

- 1 Click  Layout Element.
- 2 Click in the box beside **Type of drawing** and select a drawing type.

Note: This option is only available when the **Linestyles, area styles depend on drawing type** setting is active in the **Define, manage linestyles, area styles, drawing types** dialog box.

Defining drawing types

- When you are working with Workgroup Manager in a network environment, you must be logged in as administrator. Otherwise, you cannot make any settings.

To define new drawing types

- 1 Open the Define, manage linestyles, area styles, drawing types dialog box.
- 2 Activate the Linestyles, area styles depend on drawing type setting.

The existing drawing types are displayed.

- 3 Click a drawing type with the right mouse button and, on the shortcut menu, click **New drawing type**.

Or:

Click  at the bottom of the dialog box.

- 4 Enter a name for the drawing type and make settings for the pen, line and color.

Note: You can define up to 255 drawing types.

Copying drawing types

- ➔ When you are working with Workgroup Manager in a network environment, you must be logged in as administrator. Otherwise, you cannot make any settings.

To copy a drawing type

- 1 Open the **Define, manage linestyles, area styles, drawing types** dialog box.
- 2 Activate the **Linestyles, area styles depend on drawing type** setting.


The existing drawing types are displayed.
- 3 Click a drawing type with the right mouse button and, on the shortcut menu, click **Copy drawing type**.
- 4 Enter a name for the new drawing type and make settings for the pen, line and color.

Note: You can define up to 255 drawing types.

Modifying the current drawing type (for layout elements)

To change the current drawing type for a layout element


- 1 Right-click the layout element for which you want to change the drawing type, and, on the shortcut menu, click **Properties**.
- 2 Select a drawing type.

Tip: You can change the drawing type for several drawing files in a single step using  **List, Edit Layout Elements**.

Note: This option is only available when the **Linestyles, area styles depend on drawing type** setting is active in the **Define, manage linestyles, area styles, drawing types** dialog box.

Using area styles

Area styles allow you to display architectural components with different surface settings depending on the reference scale or drawing type.

In contrast to linestyles, this association is not based on the **From Layer** format property. Rather, the architectural elements' component properties or the 2D surface element known as  **Area Style** are used to establish this link. You can save hatching styles, patterns, fills or bitmaps for fixed scale ranges or drawing types as named area styles. Moreover, area styles can be used for architectural components as an alternative to hatching styles, patterns, fills or bitmap areas.

Area styles are defined in the **Format Definition** tab in the **Layer** dialog box or using **Tools - Defaults - Linestyles, area styles, drawing types**.

When you create a project, you can specify whether you want to use the area styles in the office standard or project-specific area styles. Patterns, hatching styles and area styles are based on the same setting.

Defining area styles

To define a new area style

- 1 Open the **Define, manage linestyles, area styles, drawing types** dialog box.
- 2 Click **New, manage**.
- 3 Click **New**.
- 4 Enter a name for the new area style and click **OK**.
- 5 Click in the **Scale 1:x** or **Drawing type** column and enter the scale or drawing type for which these settings are to apply.
- 6 Click an entry in the **Hatching** and **Pattern** columns and in the **Fill** or **Bitmap** area column and select a setting in each column clicked.

Note: You can define up to 255 area styles.

Modifying area styles

- ➔ When you are working with Workgroup Manager in a network environment, you must be logged in as administrator. Otherwise, you cannot make any settings.

To modify area styles

- 1 Open the **Define, manage linestyles, area styles, drawing types** dialog box.
 - 2 Specify whether the area styles are to depend on the scale or drawing type.
 - 3 Select the area style you want to modify in the **Area style settings** list box.
 - 4 Click in the **Scale 1:x** or **Drawing type** column and enter the scale or drawing type for which these settings are to apply.
 - 5 Click an entry in the **Pen, Line and Color** columns and select a setting in each column.
-

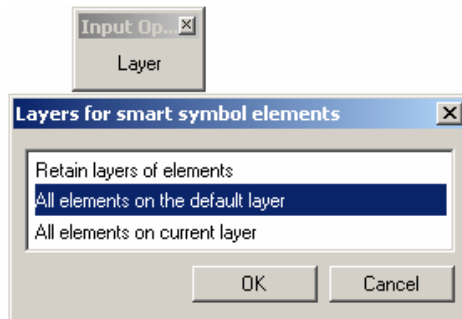
Smart Symbols and Layers

Arranging smart symbol elements on layers

When it comes to specifying which layer is assigned to the elements of a smart symbol when it is placed in the workspace, a distinction has to be made between the instance of the smart symbol as a whole and its individual foils (i.e. the geometric elements).

- **Instance of smart symbol:** when the smart symbol is placed, the instance of the smart symbol can be placed on the default layer or on the current layer. You can make this setting in the **Smart Symbol** module's options, **Settings** area.
- **Foils (geometric elements):** the geometric elements are arranged on layers in accordance with the setting you made when you defined the smart symbol.

It is irrelevant which layer is set as the current layer when you place a smart symbol. The settings you made when you defined the smart symbol always apply. During definition you can choose between three options by clicking **Layer** (Input Options):



- **Retain layers of elements:** all geometric elements of a foil retain their layers.
- **All elements on the default layer:** all geometric elements of a foil are placed on the default layer.
- **All elements on current layer:** all geometric elements of a foil are placed on the layer that is current when you define the smart symbol.

Note: When you place a smart symbol and a layer of a geometric element is not included in the current layer structure, the relevant geometric element is placed on an undefined layer (??_layer#).

For more information, see the sections that follow.

Modifying the layers of smart symbols

Click a smart symbol with the right mouse button and choose **Format Properties** on the shortcut menu. Now the layer of the instance of the smart symbol is displayed (this is not the layer on which the geometric elements are located) and can be modified.

Visibility of smart symbols based on layers

When you hide the layer on which the instance of the smart symbol resides, all the geometric elements of this smart symbol are also hidden. When the layer of the instance of the smart symbol is visible, the visibility of the individual geometric elements depends on the settings of the layers on which these elements are placed.

Example:

Geometric elements: line (Layer_Lin), circle (Layer_Circ)

Instances of smart symbol: A (Layer_A), B (Layer_B)

The layer that is hidden is displayed in the **Invisible** column. The visible (=v) and hidden (=h) geometric elements are listed in the other columns.

	A		B	
Invisible	Line	Circle	Line	Circle
Layer_Lin	h	v	h	v
Layer_Circ	v	h	v	h
Layer_A	h	h	v	v
Layer_B	v	v	h	h
Layer_Lin + Layer_Circ	h	h	h	h

Smart symbols and the 'From Layer' format property

Geometric elements and smart symbols can have the **From Layer** format property. When elements are displayed, the setting for the geometric elements has priority. The **From Layer** setting assigned to the instance of the smart symbol is only considered if the geometric elements do **not** have the **From Layer** setting.

Take the 'color' format property, for example:

Geometric elements:	Line (From Layer, red)
	Circle (not From Layer, blue)
Instances of smart symbol:	A (From Layer, green)
	B (not From Layer)

The following is displayed on screen:

	A		B	
	Line	Circle	Line	Circle
Color	red	green	red	blue

Working with Layer Structures

Overview of files used for managing layers

layerbas.dat

The `layerbas.dat` file is the central Nemetschek default hierarchy and resides in the `\etc` folder. If the `layerdef.dat` file is deleted or gets damaged, Allplan will reference the `layerbas.dat` file. In addition, Allplan uses this file to restore the substructures provided by Nemetschek (architecture, engineering, precast units, hall design).

layerdef.dat

The `layerdef.dat` file is located in the `\std` folder or in the project folder (depending on whether the layers are taken from the office standard or defined in a project-specific manner). As soon as any changes are made to the default layer hierarchy, Allplan creates the `layerdef.dat` file by copying the `layerbas.dat` file. The `layerdef.dat` file is a coded ASCII file and should always be included when data is exchanged. It also contains all user-defined layers or layers generated during import. In addition, the layers' format properties (pen, line and color) are saved in this file (these values are proposed by the system when **Copy to Format toolbar as a proposed value** is activated).

This file also includes the assignment between internal layer numbers and layer names. Only the layer numbers are saved with the elements. In order to display the associated layer names, Allplan requires the `layerdef.dat` file. You can transfer the `layerdef.dat` file without having to convert data between V2003 and earlier versions. The file format changed in V2004. If you want to transfer the `layerdef.dat` file to an earlier version, you need to convert the data using the Services application beforehand.

grp2lay.dat

The `grp2lay.dat` file contains the assignments between functions and layers. In other words, this file specifies which layers are available for selection in the quick access lists of the individual tools. You should not transfer this file to other versions as this can cause problems. The system administrator can edit the layers in the quick access lists.

grp2lay.usr

The layer the user selected last in the quick access list for a tool is saved in this file in the \usr folder.

grp2lay.ref

This is the template file based on which the grp2lay.usr file is generated.

linestyle.sty

The definitions of the individual linestyles are saved in this file.

facestyle.sty

The definitions of the individual area styles are saved in this file.

displaytype.sty

This file contains the drawing types.

lbginfo.dat

This file includes the design groups and the users' access rights to these design groups. After files have been restored, the assignments between users and design groups/user groups need to be redefined. Check that the Workgroup Manager is active as you do so.

lpainfo.dat (V16 and higher)

This file contains the layer sets and the users' access rights to these layer sets. After files have been restored, the assignments between users and layer sets/user groups need to be redefined. Check that the Workgroup Manager is active as you do so.

lpa0*.dat

These files control which layers are displayed in layer sets. A file exists for every layer set.

lpauser.000

The most recent setting of the visible layers is saved in this file.

lbd*.dat

(layers that can be displayed)

lba*.dat

(layers that can be selected)

Layer management and Workgroup Manager

The rights of users working at a standalone workstation or at a network workstation without Nemetschek Workgroup Manager are not limited: they can change defaults, modify layer hierarchies and create new layers, user groups and design groups.

To make sure that everything runs smoothly, it is essential that the areas of responsibility are clearly defined. This is particularly important in a network environment without Workgroup Manager. For example, A is responsible for maintaining the layer structure, B for the layer sets etc.

Nemetschek's Workgroup Manager simplifies the process of managing layers and access rights. The system administrator grants rights to specific users, thus defining which users have access to which layer sets and user groups. This way, any undesired modifications of the layer structure can be avoided.

The following table shows how the Workgroup Manager affects layer management.

Note: Workgroup Manager displays a message when a user does not have sufficient rights to make modifications.

How Workgroup Manager affects layer management

Access to ...	Workgroup Manager sysadm	Workgroup Manager User	Without Workgroup Manager Standalone workstation or network workstation
Project layer hierarchy	yes	no	yes
Creating and renaming layers	yes	no	yes
Setting linetypes	yes	no	yes
Defining layer sets and design groups	yes	no	yes
Granting access rights to layer sets and design groups	yes	no	not available
Defining layer sets	yes	no	yes
Defining design groups	yes	no	yes
Selecting design groups	yes	depends on access rights	yes
Selecting layer sets	yes	depends on access rights	yes
Editing the layer selection on the Format toolbar	yes	no	yes
Showing/hiding the layers in a level	yes	yes	yes

The ARCHITECTURE layer structure

A predefined ARCHITECTURE layer structure is provided with Allplan. This structure is especially suitable for small construction projects and offices. You can also customize this structure for your needs by adding or removing data on a project-specific basis.

In addition, you can create your own layer structures based on the structure that comes with Allplan. Spend some time thinking about how best to structure layers for your purposes and then create the

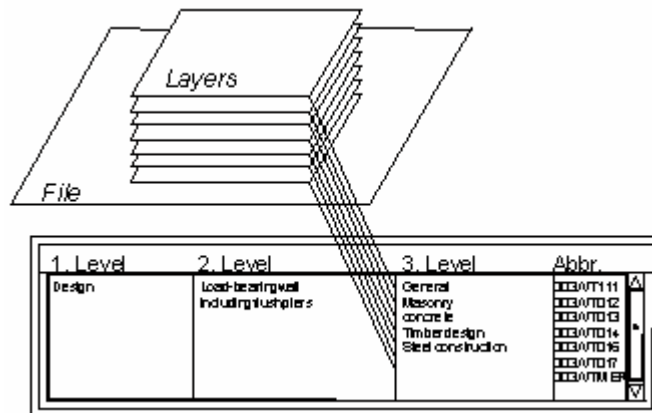
structure. For more information, see the chapters entitled "Basic rules for creating layer structures" (page 54) and "Check list for creating your own layer structure" (page 55).

Managing layers and layer structures

The management of layers and layer structures is generally the responsibility of the system administrator. This person defines which layers are used, sets up the design groups and grants access rights. The designers (architects, engineers, etc.) are assigned to the design groups and thus have the relevant access rights.

Layers are arranged in a hierarchic tree structure. This does not apply to the default layer, which is not integrated in this hierarchic structure. The layer structure consists of the following three hierarchic levels:

- The first level describes the layer category (e.g., ARCHITECTURE, ENGINEERING).
- The second level is divided into special fields within the category (e.g., Design, Room).
- The third level consists of the layers themselves. Every layer has a full (long) name with a detailed explanation of the contents. Each layer also has an abbreviated name (e.g. Ceiling, RO_CE).



The current layer's abbreviation is displayed on the **Format** toolbar. The long name is displayed in the ToolTips of the **Select, Set Layers** dialog box.



When you create a project, you can specify whether you want to use the layer structure of the office standard or a project-specific layer structure.

You can save layer structures as named files and retrieve them later when needed. Linestyles assigned to layers are saved with the layer structure. However, a separate file (with the same name and the extension `.sty`) is created. When retrieving a saved layer structure, you can decide whether to use the relevant linestyle file.

Saving layer structures

- When you are working with Workgroup Manager in a network environment, you must be logged in as administrator.
-

To save the current layer structure



- 1 Click  **Select, Set Layers**.
 - 2 Select the **Layer Structures** tab.
 - 3 Click  **Save** in the dialog box.
 - 4 Enter a name for the layer structure and click **OK**.
 - 5 If the current layer structure includes a layer that is associated with a linestyle, the file containing the linestyle definition is also saved (this file gets the same name as the layer structure and the extension `.sty`). Click **OK** to confirm.
-

Retrieving layer structures

- When you are working with Workgroup Manager in a network environment, you must be logged in as administrator.

Important: Importing a layer structure overwrites the current structure. If you are working with office-specific layers, this operation affects all the projects with office-specific layer structures.

To retrieve a saved layer structure


- 1 Click  Select, Set Layers.
 - 2 Select the Layer Structures tab.
 - 3 Click .
 - 4 When retrieving a saved layer structure containing linestyles, you can decide whether to retrieve this linestyle definition, too.
-

Removing layer structures

To make things more apparent on screen, you can remove unnecessary layer structures. The first level and all subordinate levels and layers are removed. You can remove user-defined layer structures as well as structures that come with Allplan. These default layer structures can be restored later when needed. However, all user-defined layers and modified abbreviations are lost.

- When you are working with Workgroup Manager in a network environment, you must be logged in as administrator.
-

To remove a layer structure

- 1 Click  Select, Set Layers.
 - 2 Select the Layer Structures tab.


The layer structures currently used in the office/project are displayed in the left window.
 - 3 Click the layer structure you want to remove with the right mouse button. On the Shortcut menu, click **Remove Layers**.
-

Restoring layer structures

- When you are working with Workgroup Manager in a network environment, you must be logged in as administrator.

You can quickly and easily restore the default layer structures (ARCHITECTURE and ENGINEERING) provided with the program by copying them from the `\etc` folder to the project or office folder. With this approach, you can also integrate new layers that come with updates. Custom layers and formats assigned to layers are not overwritten.

To restore the default layer structure

- 1 Click  **Select, Set Layers**.
- 2 Select the **Layer Structures** tab.

The available default layer structures are displayed in the right window.

- 3 Click the structure you want to restore with the right mouse button and, on the shortcut menu, choose **Add to Office (or Project)**.
-

Combining layer structures from different projects

You can give the layer structure a uniform appearance by combining layer structures from different projects.

To combine layer structures from different projects

- 1 Export a project's drawing files (including the layers) using the **Export loaded drawing files with resources** tool (File menu)
 - 2 Copy the NDW-format files created to the other project.

As the NDW files have the same names as the drawing files, you can use the **Open on a project-specific basis** tool to open the NDW files as drawing files in the destination project.
 - 3 Switch to the destination project and open every NDW file using the **Open on a project-specific basis** tool.
 - 4 Select one of the options in the dialog box available for adjusting resources.
-

Modifying layer structures

You can modify layer structures by removing/adding individual layers or entire levels from/to the layer structure. In the case of an office-specific layer structure, this operation modifies the office standard and consequently all the projects whose layer structures are based on the office standard.

Custom layer structures you delete can be restored manually. Alternatively, you can also save a layer structure before you delete it. This way, you can retrieve it later when needed. The layer structures (ARCHITECTURE and ENGINEERING) provided with the program can be restored quickly and easily. All you need to do is copy them from the standard folder to the project/office folder. However, any changes you made to these layer structures in the meantime (e.g. new custom layers, new abbreviated layer names) are lost.

Basic rules for creating layer structures

- The first step involves analyzing the requirements in your office; they vary depending on the number of employees, IT structure and equipment as well as type and size of your projects.
- If you do not need a specific layer structure, it is best to start working with a predefined layer structure provided by Nemetschek.
- It is also advisable to use just a few layers until you have familiarized yourself with the layer structure and are at ease with layers
- Appoint a person who is responsible for designing, setting up and maintaining the layer structure.
- Start by drawing up your own layer structure using a word processor or spreadsheet and discuss this structure with the employees in your office. If necessary, modify the layer structure so that it suits the needs and requirements of all persons involved. Only then should you begin to create the layer structure in Allplan.
- A layer structure is 'alive': you can adapt it to meet the requirements imposed by new tasks and projects.
- We strongly recommend that you do not change the layer structure of current projects! However, if changing the structure is still not avoidable, only the person who is responsible for the layer structure should modify it.
- New layers can be added to existing structures at any time even when you are editing the project in question. You should try to avoid deleting layers at all costs!
- In the case of large projects in particular, the layer structure and drawing file structure must interact. You should therefore create a drawing file structure that is appropriate to the layers you use.
- Spend some time thinking about how best to structure layers for your purposes and then decide on a layer structure and stick to it.
- If you have any queries, please contact the experts at Nemetschek!

Check list for creating your own layer structure

Your office

How many employees are working in your office?

In the case of large offices: layers (in conjunction with Workgroup Manager) provide a convenient way of assigning and managing access rights.

What is the average size of your projects?

In the case of small projects: layers allow you to work quickly without having to switch between drawing files (only 2-3 drawing files are required). Dimensions, rooms and stories are associative as all elements are in the same drawing file.

In the case of large projects: you should use layers in conjunction with a drawing file structure.

With large projects and several computers, harness the advantages provided by Workgroup Manager!

How many computers are used in your office? (WHO does WHAT and WHEN?)

In the case of several computers: work in a network environment using Workgroup Manager.

Network – yes/no?

Recommended with more than two computers

Workgroup Manager – yes/no?

Recommended with more than 3/4 computers.

Workgroup Manager allows several people to work on the same project. To facilitate concurrent activity, the drawing file structure needs to be set up accordingly!

What about design professionals? Is it necessary to assign rights?

The assignment of rights using layers is thus flexible and can be configured to meet requirements as they arise. In addition, layers provide a superior approach when it comes to structuring data. To facilitate simultaneous involvement of specialist designers on the project, you need to set up the drawing file structure accordingly!

Is the layer structure to apply globally?

After some testing, you should save the layer structure in the office standard.

Is the layer structure to apply for special projects only?

Layer structures designed to suit the needs of special projects should be managed on a project-specific basis or saved in the **Private** folder (in a user-specific manner). These layer structures can exist in addition to the office standard.

Tasks

What plans do you generate? Construction drawings such as building applications, application plans, working drawings? Or do you also create presentations where you need to hide elements?

Layer management allows you to assign layer sets specific to your own needs and requirements. This way, you can configure the program to show only the elements you want to see.

Do you also design electrical installations, furnishings, sewage facilities etc.?

Here, too, you can use layer sets to show and hide elements in an easy and comfortable manner.

To facilitate concurrent activity, you need to set up the drawing file structure accordingly!

Exchanging data with partners

Would you like to exchange data with partner offices working with a layer structure (AutoCAD layers, data exchange via DXF/DWG/DGN)?

Using layers, you can place DXF/DWG/DGN data in a single drawing file with an identical layer structure; the AutoCAD layers are assigned automatically to Nemetschek layers. This is possible for importing and exporting data.

Does your exchange partner use Allplan layers? Do you want to use this layer structure?

The layer structure of your design partner should be defined on a project-specific basis. This ensures that the structure is transferred automatically when data is exchanged. You can also agree on a common office standard with your design partner (this can be very useful when you often exchange data with the same partner).

Do not forget to appoint a person who is responsible for designing, setting up and maintaining the layer structure.

Preliminary considerations prior to creating your own layer structure

Relationship between layers and drawing files

Create the drawing file structure so that the individual drawing files contain a minimum of data. This ensures that you can work quickly.

Possible structures:

- based on construction stages
- based on building structure

Hierarchical structure:

Structural depth:

- based on building materials
- based on load-bearing/non-bearing walls
- based on materials

Use catalogs and assign appropriate layers as attributes. Consider the time and effort spent doing this as a good investment - after all, in the long term, it will save you time and money.

Would you like to display dimension strings at various scales (e.g. at 1:500, 1:100, 1:50, 1:20 etc.)?

Use/generate one layer per dimension string instead of a large number of drawing files; the elements are associative.

Are layers required for design professionals?

By using trade-specific layers and defining user groups, you can ensure that specialist designers only get the data they require and cannot modify other data.

When creating a new layer structure:

Group (e.g. trade)

 2nd level (DF name)

 3rd level with

 meaningful

 abbreviation

Backing up the layer structure of the office standard

The layer structure applying for the entire office is included when you back up the office standard (see the section entitled “Backing up the office standard” in the chapter providing information on backing up data). However, you can also back up the files for the layer structure separately.

To save layer structures

- 1 In the Services application, click **Data Backup**, point to **Specific Files** and click **Office standard**.
- 2 Select the following files:

File	Contents
layerdef.dat	Layer structure, core of layer hierarchy: contains the predefined layers provided with Allplan as well as all new layers. This file must be included when you back up and exchange data.
layerdef.dat.bak	This file is generated when you create new layers or modify existing layers. It contains the previous status of the layer structure (before you modified it). This file must be included in backups. However, it does not have to be transferred when data is exchanged.
lbd*.dat lba*.dat	Layer sets, user groups and the settings of the layers assigned These files must be included in backups. However, they do not have to be transferred when data is exchanged.
lpauser.dat	
grp2lay.dat grp2lay.ref	Layers available for selection in quick access lists provided by some menus These files must be included in backups. However, they do not have to be transferred when data is exchanged.

Using design groups

Access privileges can be controlled at layer level by means of design groups. Design groups are generally assigned when there are several people working on the same project: When you have installed Workgroup Manager, you can assign users to design groups. As a result, each user is granted the rights to one or more design groups and can consequently see/edit only the layers associated with those groups.


Design groups not only control who accesses which layers. By defining design groups with a selection of layers that are available while drawing, the entire design process can be facilitated.

The design group called **ALLPLAN** is created automatically after the program has been installed. This group has read and write access for all layers.

Creating new design groups

- ➔ When you are working with Workgroup Manager in a network environment, you must be logged in as administrator.

To create a new design group


- 1 Click  **Select, Set Layers**.
 - 2 Select the **Design Groups** tab.
 - 3 Click the **Define and Modify Design Groups...** button.
The **Design Group Manager** dialog box opens.
 - 4 Click **New design group...**
 - 5 Enter a name for the new design group and click **OK** to confirm.
The **Assign users** dialog box is displayed.
 - 6 Select the users you want to assign and click **Close**.
-

Deleting design groups

By deleting a design group, users with access to that group will no longer be able to use the layers associated with it.

- When you are working with Workgroup Manager in a network environment, you must be logged in as administrator.


To delete design groups

- 1 Click  Select, Set Layers.
 - 2 Select the **Design Groups** tab.
 - 3 Click the **Define and Modify Design Groups...** button.
The Design Group Manager dialog box opens.
 - 4 Select the design groups you want to delete, click the selection with the right mouse button and, on the **shortcut menu**, click **Delete Design Groups**.
-

Renaming design groups

- When you are working with Workgroup Manager in a network environment, you must be logged in as administrator.

To rename a design group

- 1 Click  Select, Set Layers.
 - 2 Select the **Design Groups** tab.
 - 3 Click the **Define and Modify Design Groups...** button.
The Design Group Manager dialog box opens.
 - 4 Click the design group you want to rename with the right mouse button. On the **shortcut menu**, click **Rename Design Group**.
 - 5 Enter the new name and click **OK** to confirm.
-

Using layer sets


A layer set is a set of layers that you can select when compiling and arranging layouts. You can also use layer sets control which layers are visible/hidden. Only the elements in the selected layer set are displayed in the layout.

For example, you can select a layer set for working drawings so that only the data that is relevant to a working drawing appears in the final printout.

Creating new layer sets

- When you are working with Workgroup Manager in a network environment, you must be logged in as administrator.

To define a new layer set


- 1 Click  **Select, Set Layers**.
 - 2 Select the **Layer Sets** tab.
 - 3 Click the **Define and Modify Layer Sets...** button.
The **Layer Set Manager** dialog box opens.
 - 4 Click **New layer set...**
 - 5 Enter a name for the new layer set and click **OK** to confirm.
The **Assign users** dialog box is displayed.
 - 6 Select the users you want to assign and click **Close**.
-

Deleting layer sets

When you delete a layer set, only its name is deleted; the layers and elements on the layers are not affected. Bear in mind, though, that deleting layer sets may lead to layouts that no longer produce the desired result.

- When you are working with Workgroup Manager in a network environment, you must be logged in as administrator.


To delete layer sets

- 1 Click  Select, Set Layers.
- 2 Select the Layer Sets tab.
- 3 Click the Define and Modify Layer Sets... button.
The Layer Set Manager dialog box opens.
- 4 Select the layer sets you want to delete, click the selection with the right mouse button and, on the shortcut menu, click Delete Layer Sets.

Renaming layer sets

- When you are working with Workgroup Manager in a network environment, you must be logged in as administrator.



To rename a layer set

- 1 Click  Select, Set Layers.
 - 2 Select the Layer Sets tab.
 - 3 Click the Define and Modify Layer Sets... button.
The Layer Set Manager dialog box opens.
 - 4 Click the layer set you want to rename with the right mouse button. On the shortcut menu, click Rename Layer Set.
 - 5 Enter the new name and click OK to confirm.
-

Using a layer set for assembling layouts

When you place documents in a layout, you can select a layer set so that only a specific selection of layers is visible in the layout.

To use a layer set when assembling layouts

- 1 Click  Layout Element or  NDW Layout Element in the Plot Layout module.
 - 2 If necessary, select a NDW layout element.
 - 3 Click **Layer** on the Context toolbar.
 - 4 In the **Visibility, saving mode, behavior** area, activate the **Layer set, current setting of the selected layer set (dynamic)** option.
 - 5 Select a layer set.
-

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