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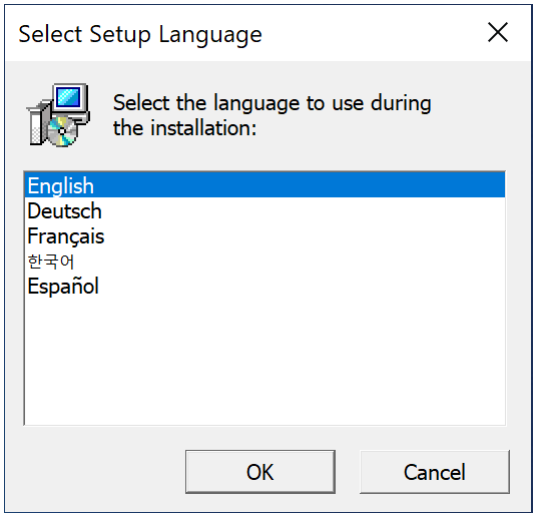
NEW FEATURES OF NANOCAD 24.0

When starting the installation, it's necessary to select the language. In the multilanguage version of nanoCAD 24.0 you can select one of the five languages available: English, French, German, Korean, or Spanish



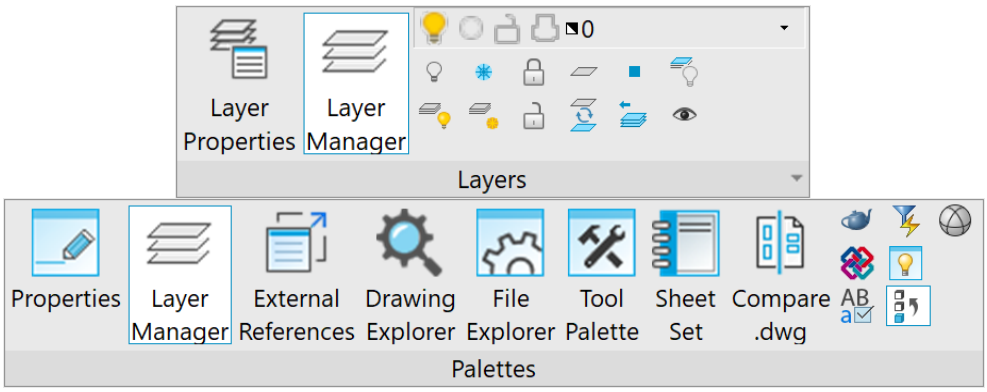
The selected language will have influence on installation, registration, interface of the software.

NEW FUNCTIONALITY OF NANOCAD 24.0

Layer Manager

A new functional toolbar **Layers** has been implemented for quick manipulations with layers.

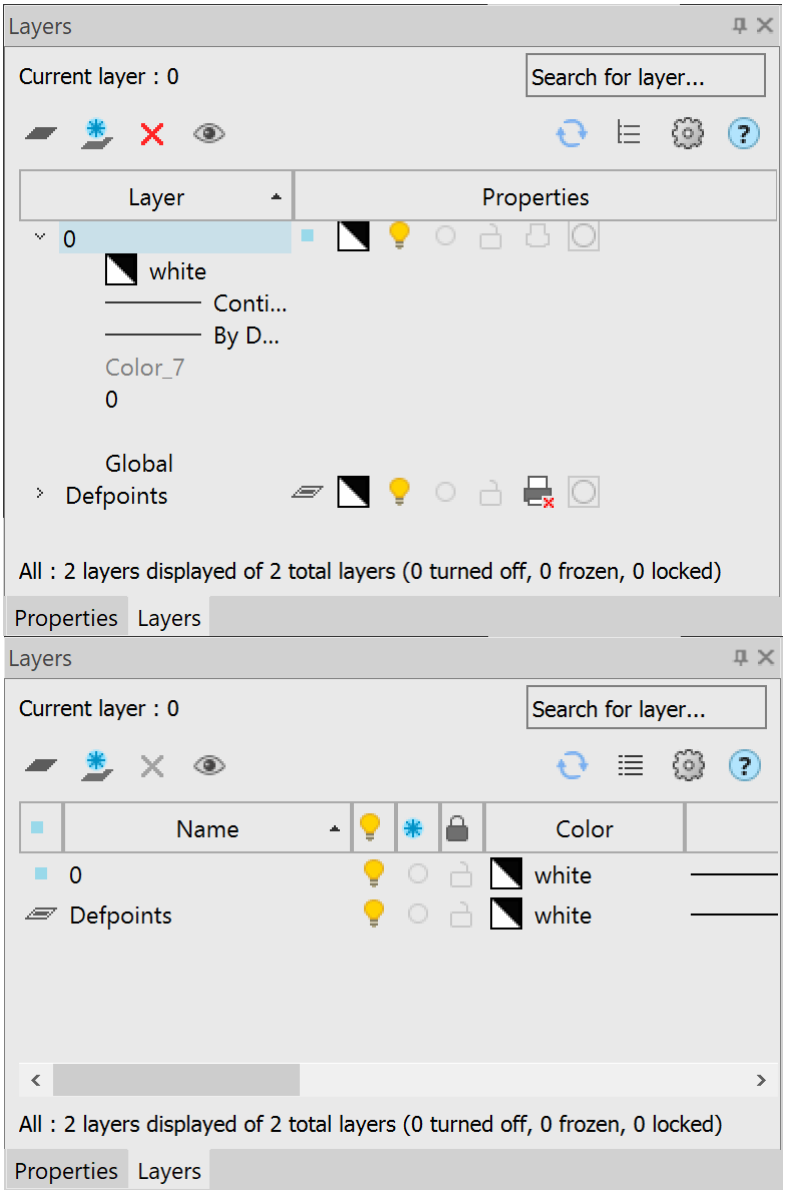
You can open the toolbar in the ribbon interface in the **Home** and **Settings** tabs:



In the classic interface: menu **View** – **Toolbars** > **Functional** > **Layer Manager…** or in the **Properties** bar – **Layer Manager…**

The command for opening the **Layers** functional bar in the command line – **LAYERSQUICK**.

The list of layers can be presented in a tree or table view:



In the tree view, the names of layers are displayed in the left column, and the main properties in the form of icons are displayed in the right column (Status, Color, VP Color, Layer Visibility, Freeze, Lock, Plot, New VP Freeze, VP Freeze). The remaining parameters are expanded in a list under the layer name when you left-click on the arrow to the left of the layer name. The default display mode is a tree view.

In the table view, layer properties are displayed in the form of a table with columns; the functionality corresponds to the **Layers** dialog.

Due to addition of the **Layer Manager** functional bar, the old **Layers** dialog has now become modal, i.e., while the dialog displays all relevant information on the layers in it and changes outside configure dialog are not taken into account. The bar synchronizes and displays current data after closing the dialog.

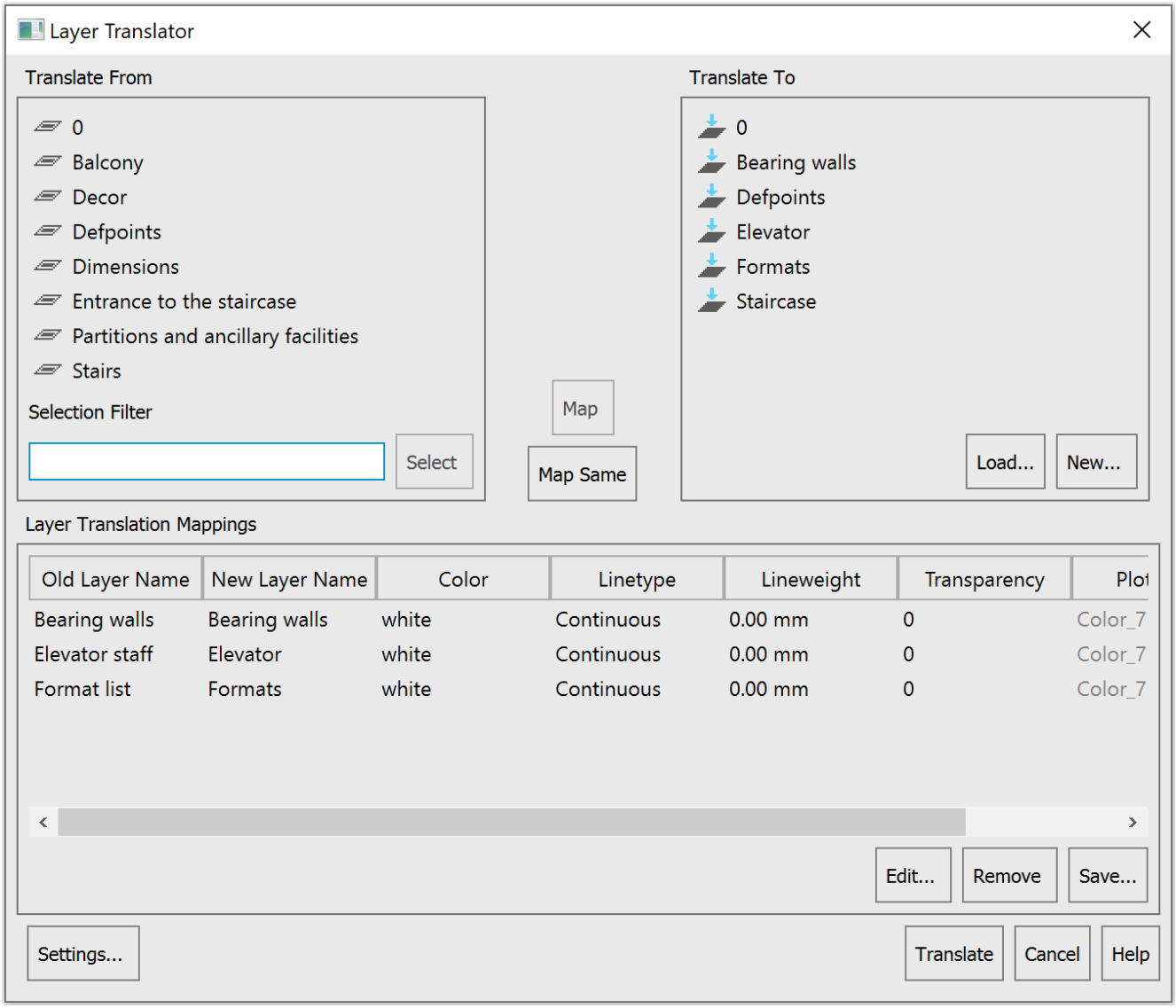
CAD Standards Toolbar

A new **CAD Standards** toolbar has been created, which includes such commands as: **Standards settings**, **Configure**, **Check**, **Layer Translator**.

Layer Translator

The **LAYTRANS** command has been added. The **Layer Translator** is designed to convert the layers of the current drawing in accordance with the standards specified for layers. You can also use the **Layer Translator** to visually control the contents of layers and to remove unused layers in a drawing.

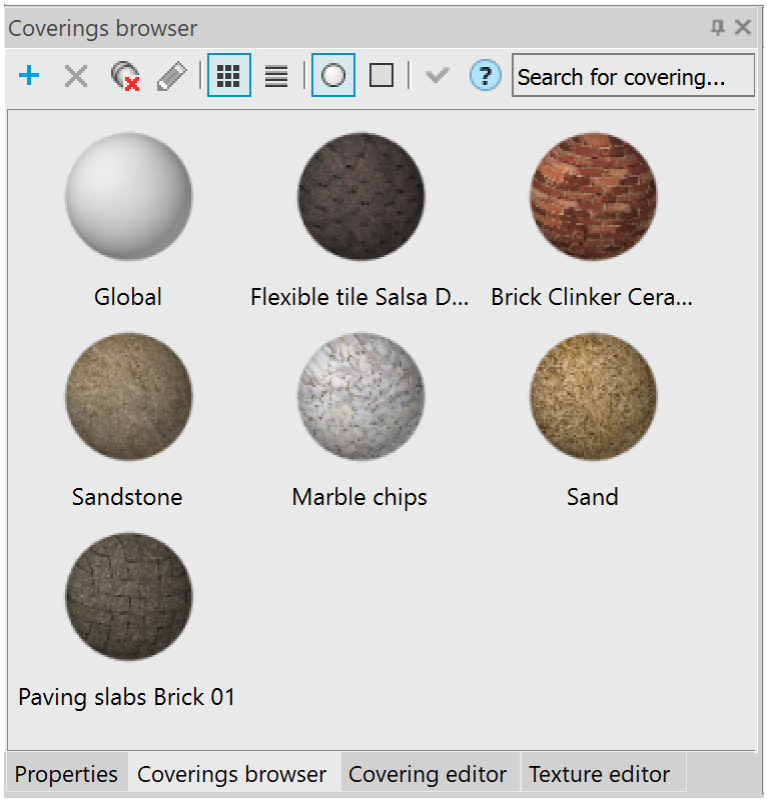
The command opens the **Layer Translator** dialog box:



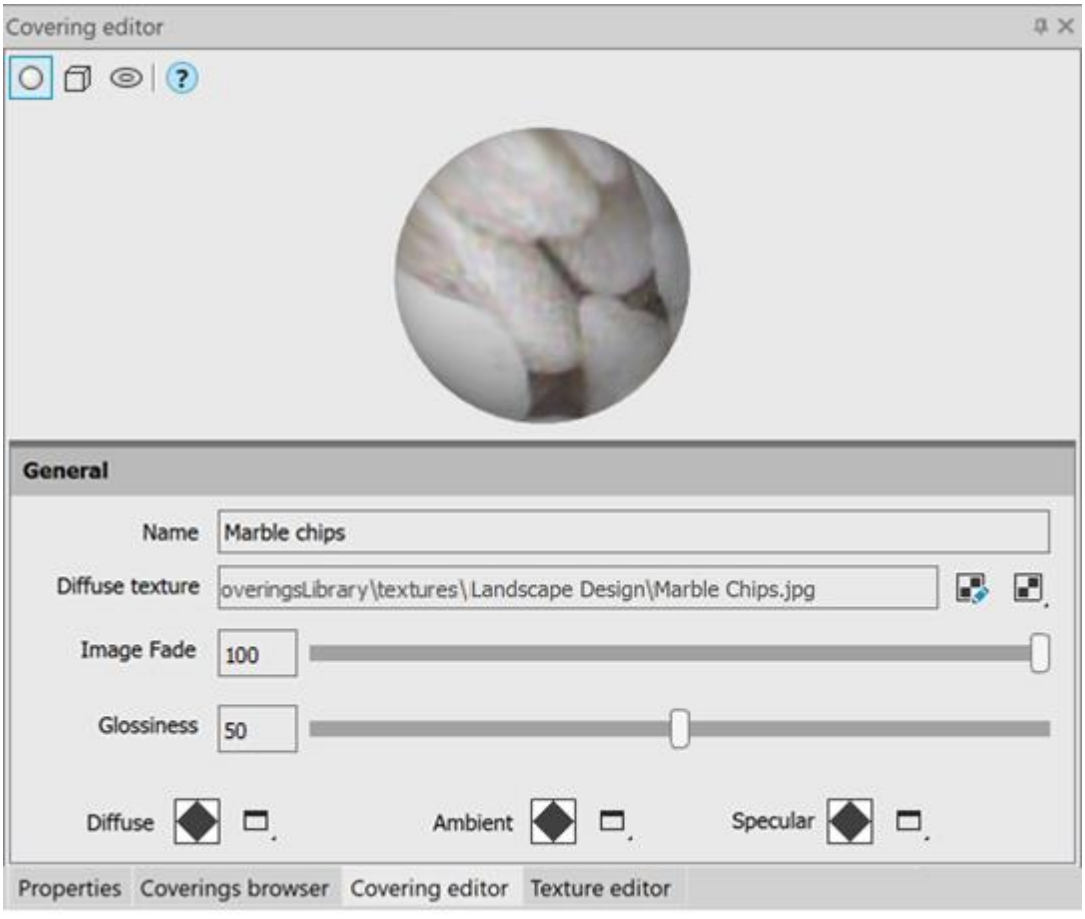
Updating Functional Toolbars

The following functional toolbars have been updated and improved:

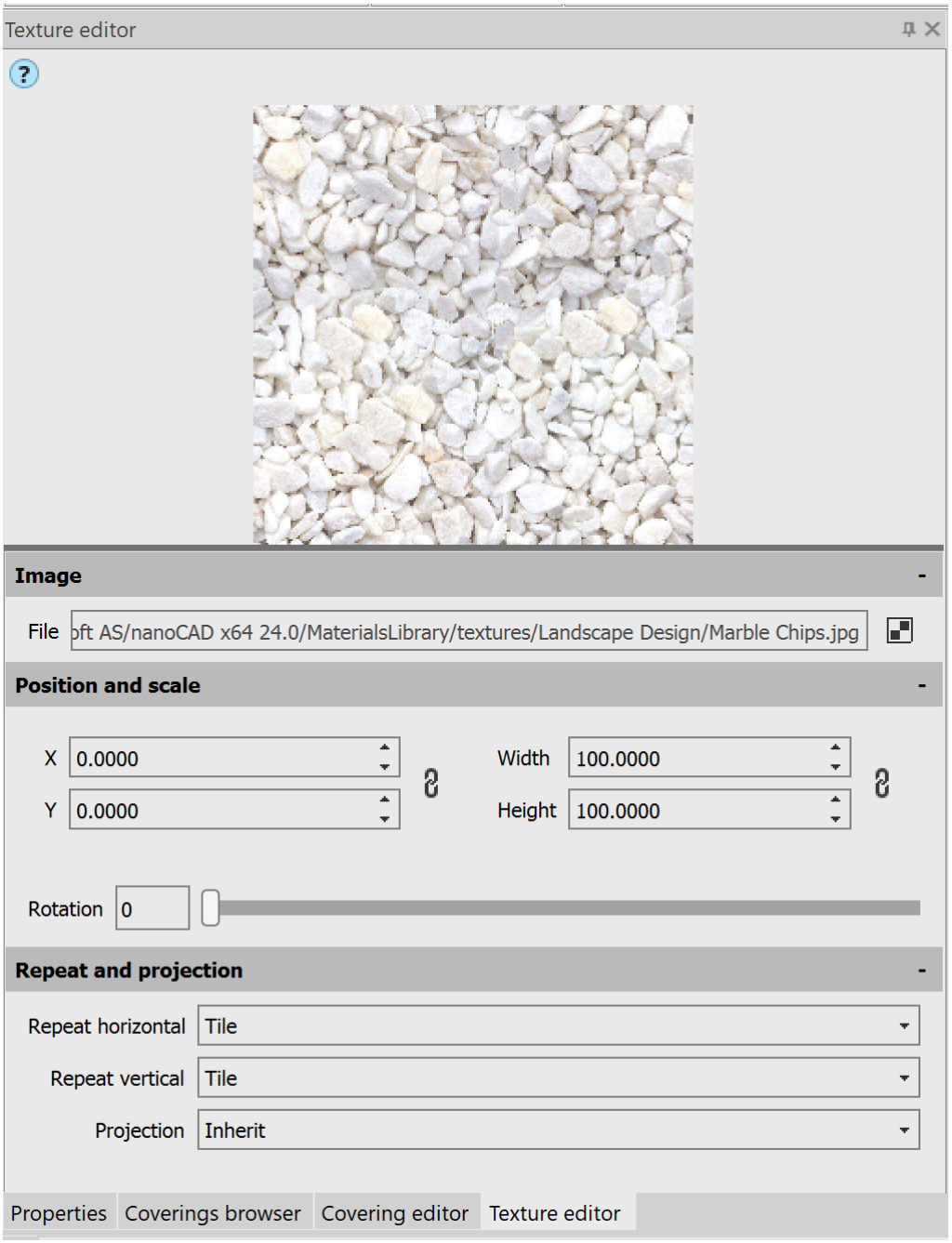
- **Coverings browser** (**COVERINGBROWSER**)



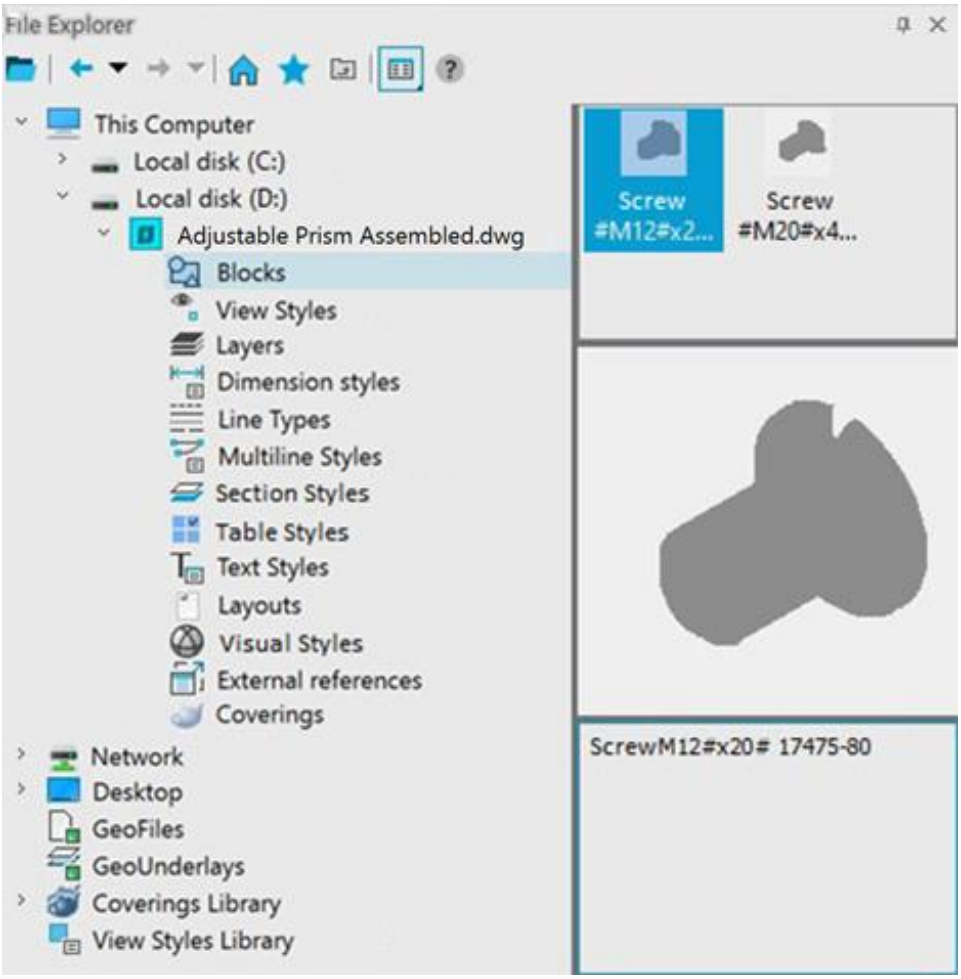
- **Covering editor** (**COVERINGEDITOR**)



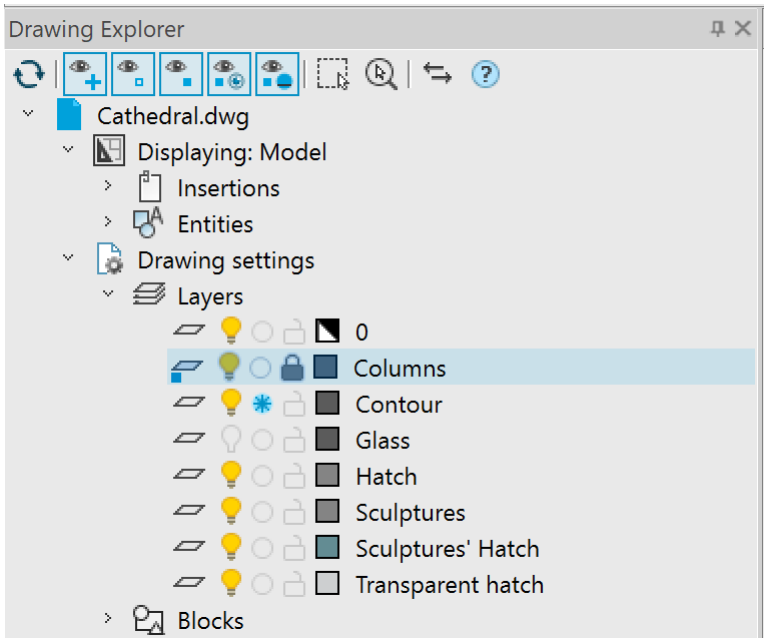
- **Texture editor**



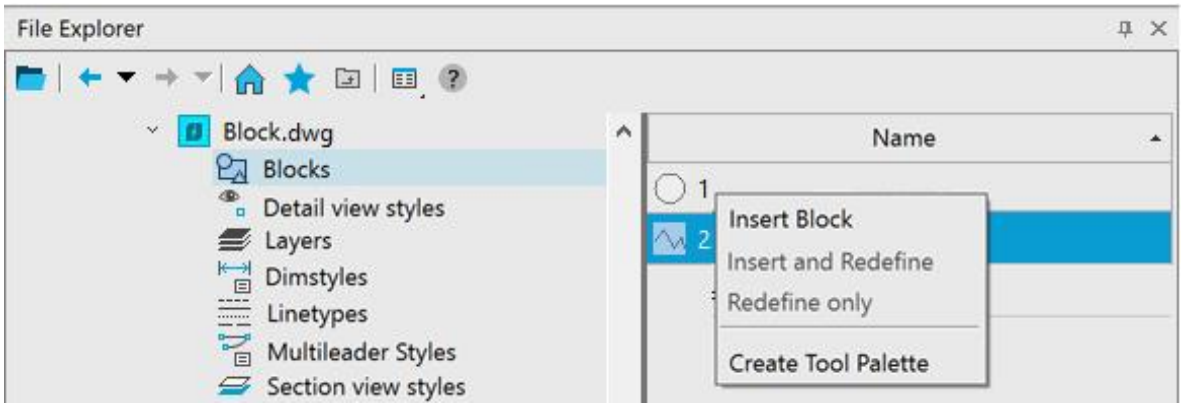
- **File Explorer** (**FILEEXPLORER**, **ADCENTER**)



The possibility to lock and unlock layers has been added to the **Drawing Explorer** functional bar. To do this, in the **Layers** group, click the lock icon while holding down the ***CTRL*** key for the selected layer.

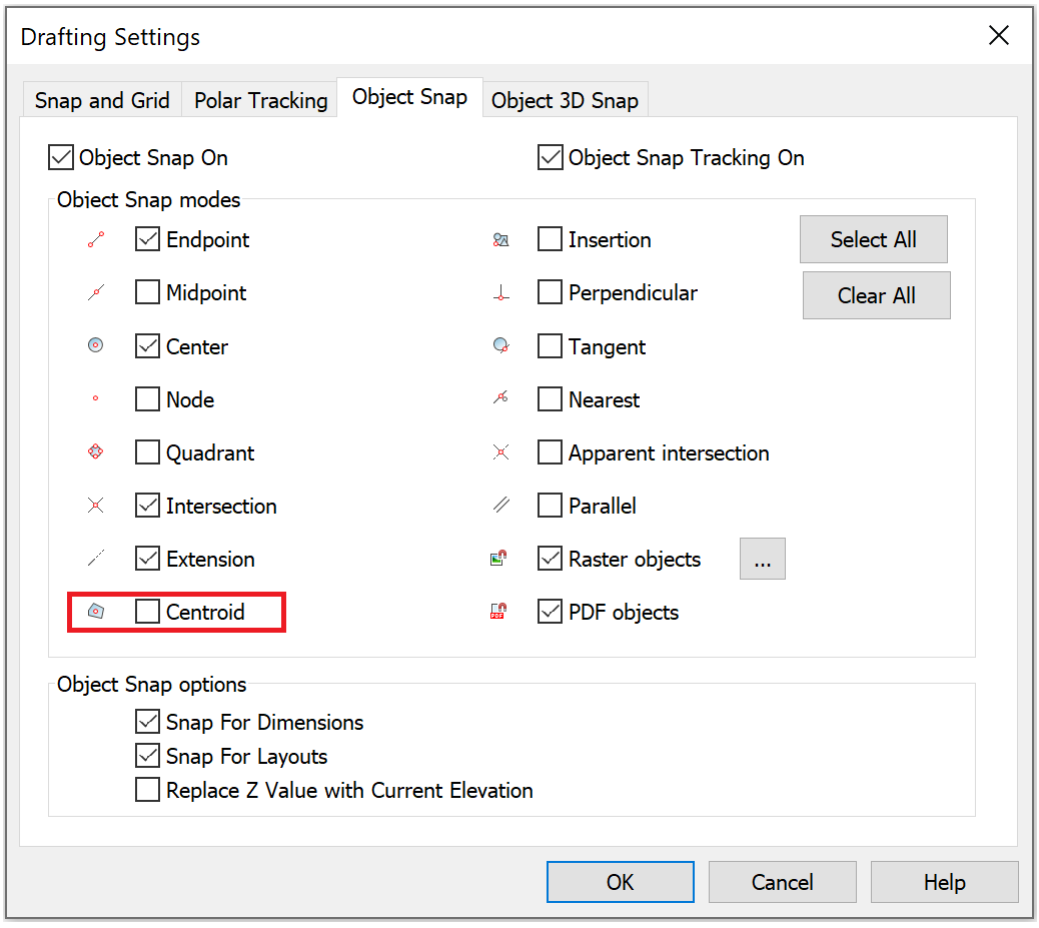


The possibility to redefine blocks has been added to the **File Explorer** functional bar. The **Insert and Redefine** and **Redefine only** commands are available in the block context menu .



Centroid Snap

A new **Centroid** object snap has been added – snap to the center of mass of closed objects (circle, ellipse, polyline, spline, region, block). You can call the one-time **Centroid** object snap using the **GCE** (geometric center) keyword.



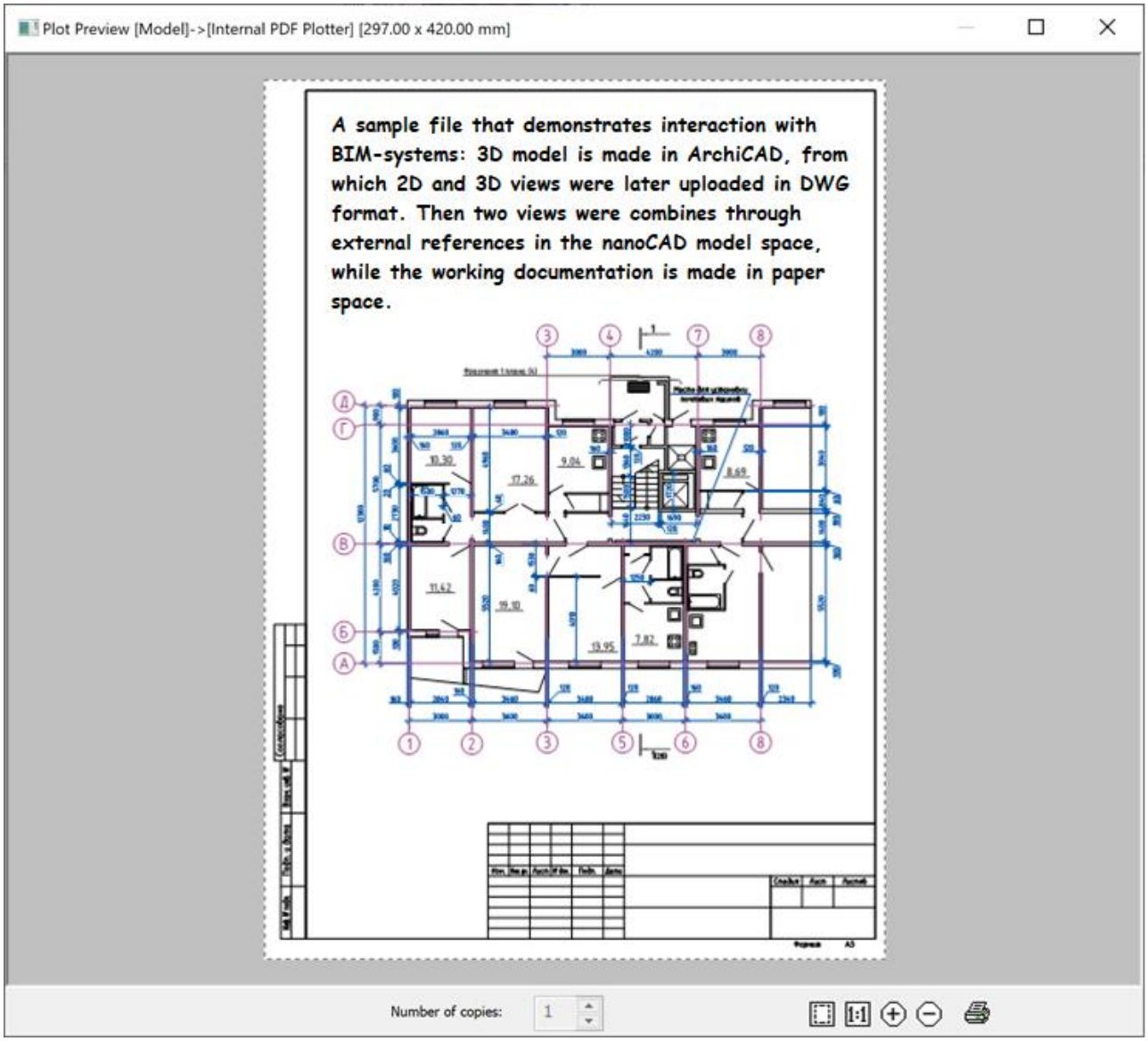
Area

A new **AREA** command has been added to the **Inquiry** toolbar to calculate area and perimeter by specifying points of an area or an object.

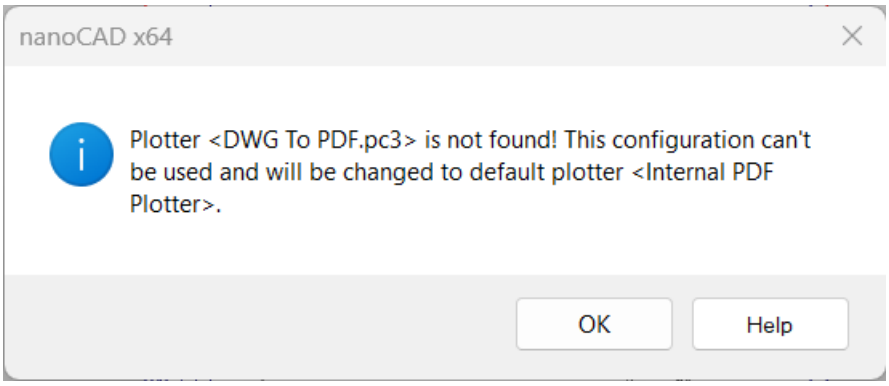
The **Area** (**AREA**) and **Cumulative Area** (**CAREA**) commands now calculate area, including for objects of the **Region** (**REGION**) type.

Plot

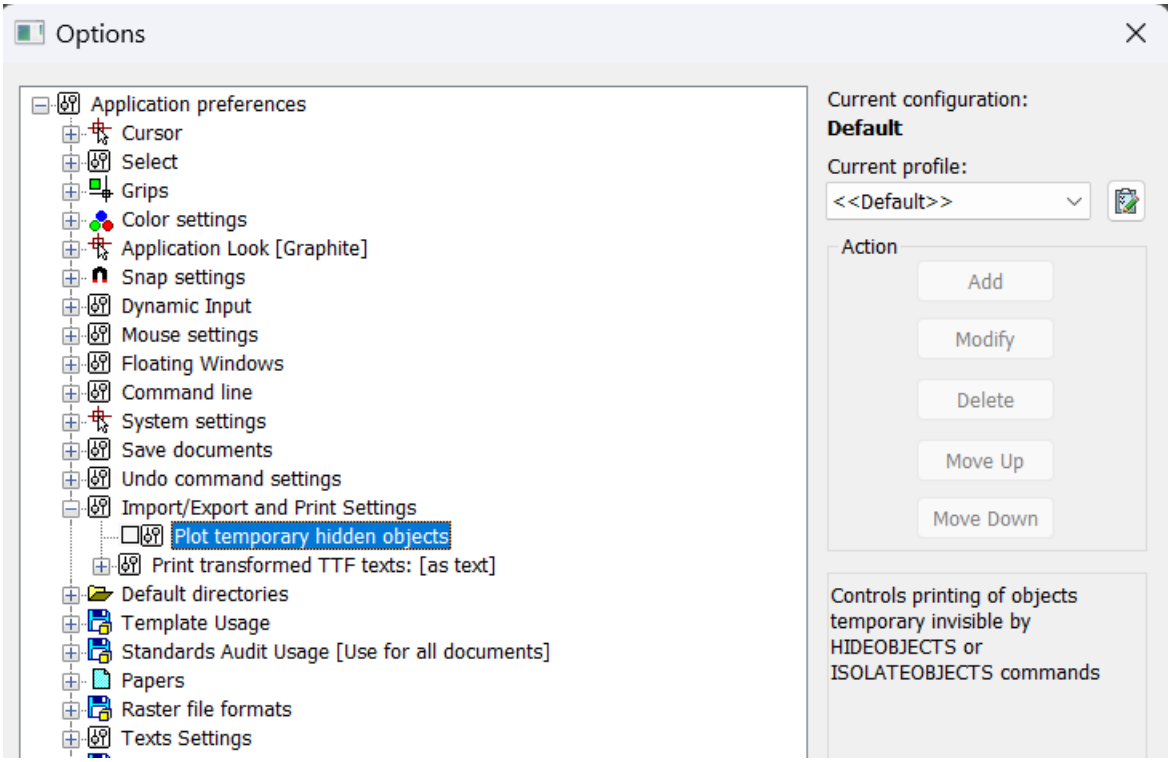
The **Preview...** button has been added to the right side of the **Plot** and **Page Setup** dialogs, which opens the **Preview** dialog, which can be expanded to full screen.



The behavior of the **Plot** dialog when there is no plotting device (printer/pc3) specified in the document has been fixed. The **Internal PDF-plotter** will now be used. In this case, whenever possible, the format dimensions and orientation specified in the pc3 file or document are preserved. The **Internal PDF-plotter** will select a format that exactly matches the size specified in the document or pc3, or the next larger one from the list of formats available for that plotter



In the **OPTIONS** dialog box, in the **Import/Export and Print Settings** section, a new option has been added: **Plot temporary hidden objects**:



It controls the printing of objects that are temporarily hidden by the HIDEOBJECTS or ISOLATEOBJECTS commands. When the option is enabled, hidden objects in temporary isolation mode (system variable OBJECTISOLATIONMODE = 0) are printed; when disabled, they are not printed. By default, the option is disabled; temporarily hidden objects are not printed.

In the **Page Setup** dialog, the name of the *Frame Width* field has been changed to the **Frame Weight**. The field is available when the **To file** mode is enabled.

Text

The following shortcuts have been added:

- ***CTRL+SHIFT+SPACEBAR*** – inserts a non-breaking space in texts;
- ***CTRL+B*** – enables/disables the bold style for new or selected text;
- ***CTRL+I*** – enables/disables italics for new or selected text;
- ***CTRL+U*** – enables/disables underlining for new or selected text;
- ***CTRL+O*** – enables/disables overlining for new or selected text.

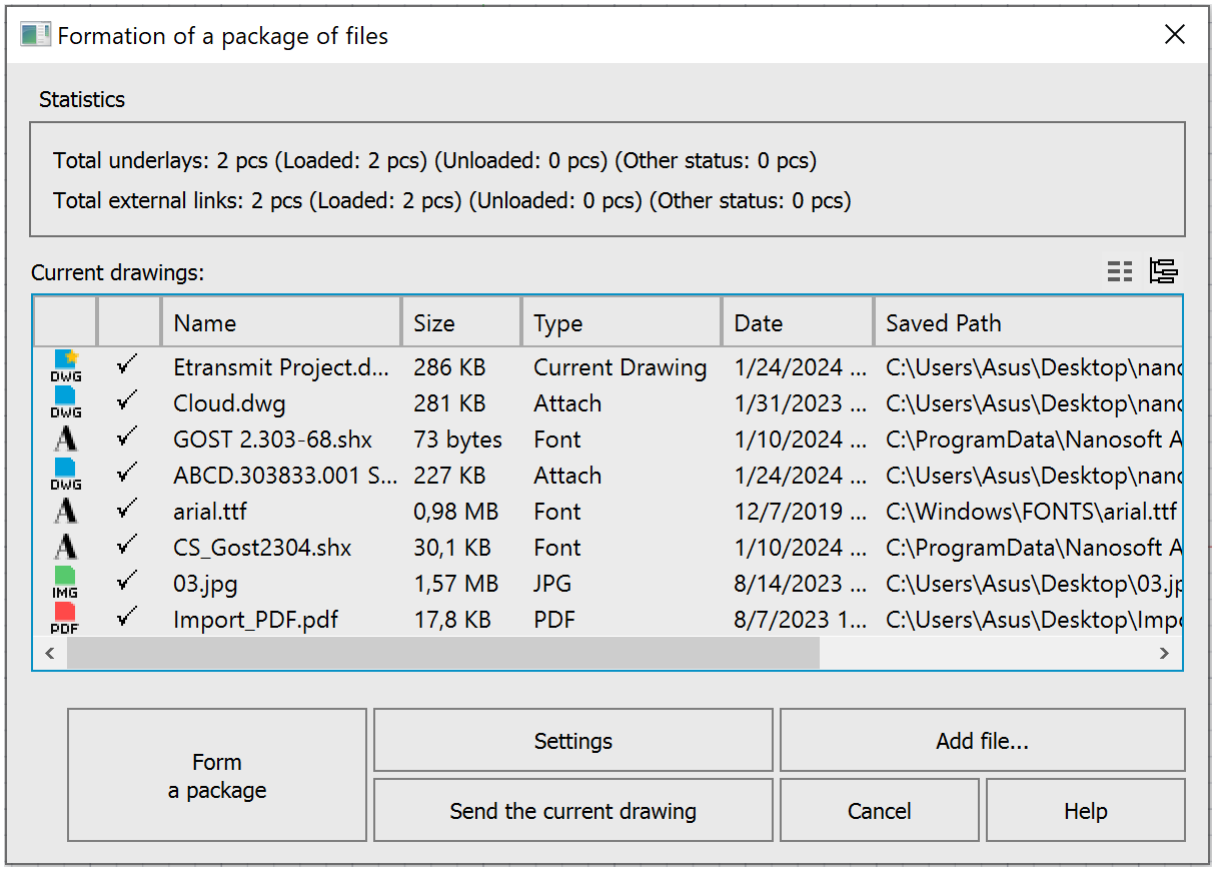
It has become possible to automatically set the frame width to fit the text size by double-clicking the left mouse button on the element of the text input window.

It has now become possible to switch from the “text insertion” mode (text is entered starting from the insertion point) to the “text replacement” mode (text entered from the keyboard replaces previously typed text) using the ***INSERT*** key.

Updating the ETRANSMIT Command

Now the ETRANSMIT command not only creates a package of files for transfer to another user, but also creates a *.eml file and automatically opens it with the mail client installed on the computer. If the user has Outlook as

the standard email client, then instead of creating an eml file, the command will create a letter with an attachment.

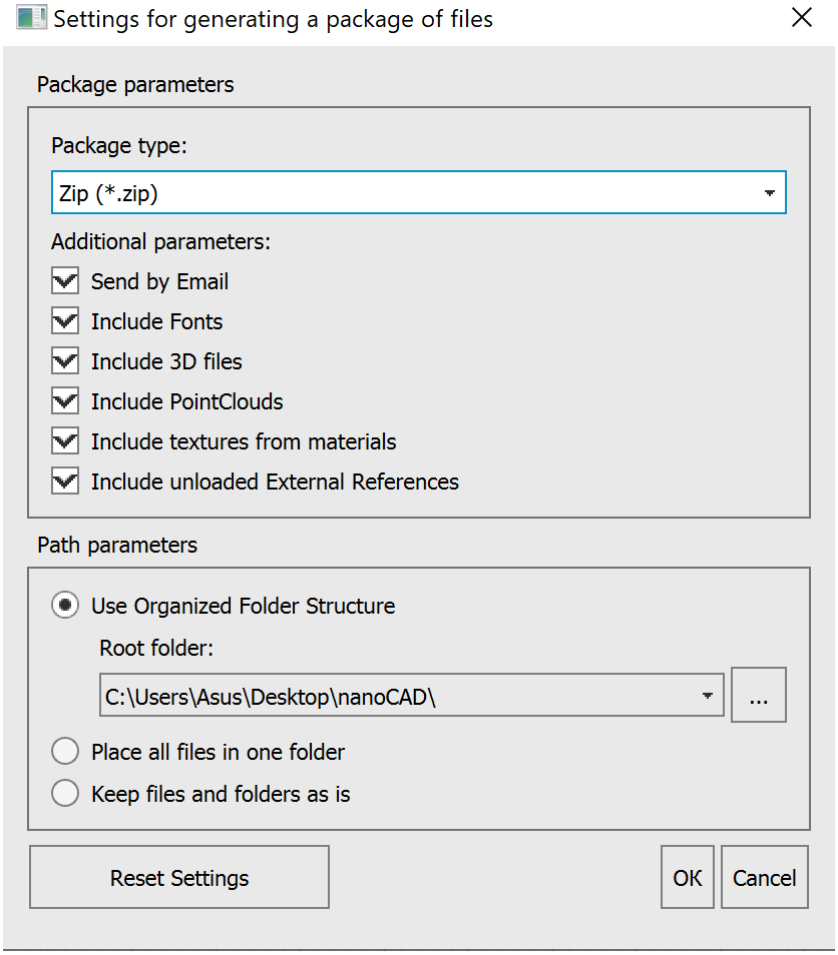


The generated package of files includes an information file with a *.txt extension, containing a list of all files (including folders), instructions and notes for users.

The command is supplemented with the following settings:

- setting the root folder to form an organized folder structure;
- inclusion of textures created and/or used in the drawing in the file package;
- inclusion of point cloud in the file package;

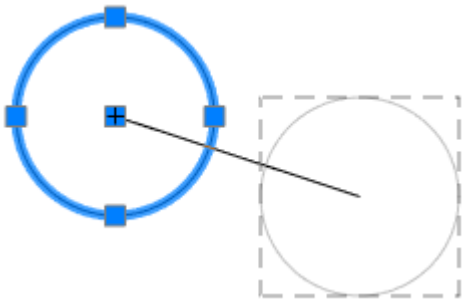
- inclusion of unloaded external references in the file package.



The command also includes adding 3D files in *.stl format to the package if they are in external references of the document.

Other Novelties

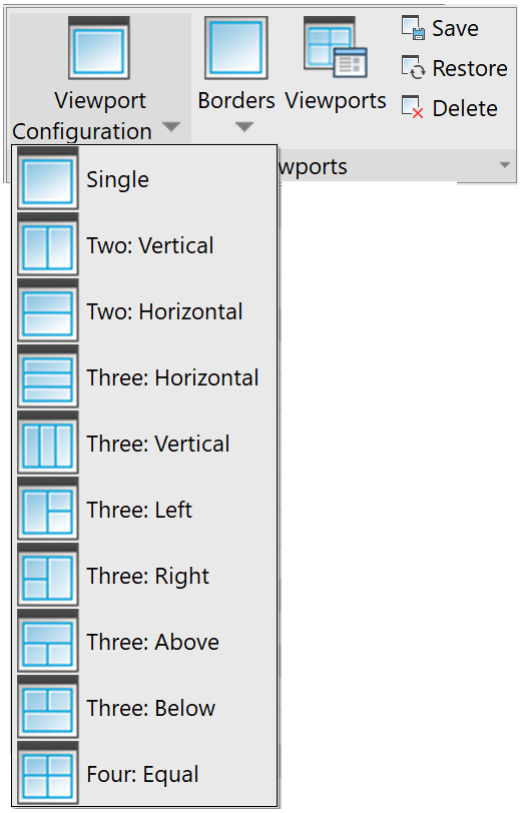
A new system variable **SHOWMODIFYFRAME** has been added, which controls the visibility of the dotted frame around selected objects in editing operations (copy, move, etc.).



The functionality of the command to construct a circle using 2 tangency points and a radius has been improved

. Now you can also specify block elements as tangents.

The set of model viewport configurations has been expanded:



The commands are available in the Ribbon: **View** – **Model Viewports** – **Viewport Configuration** and in the classic interface Menu: **View – Viewports**, Toolbar: **Viewports**.

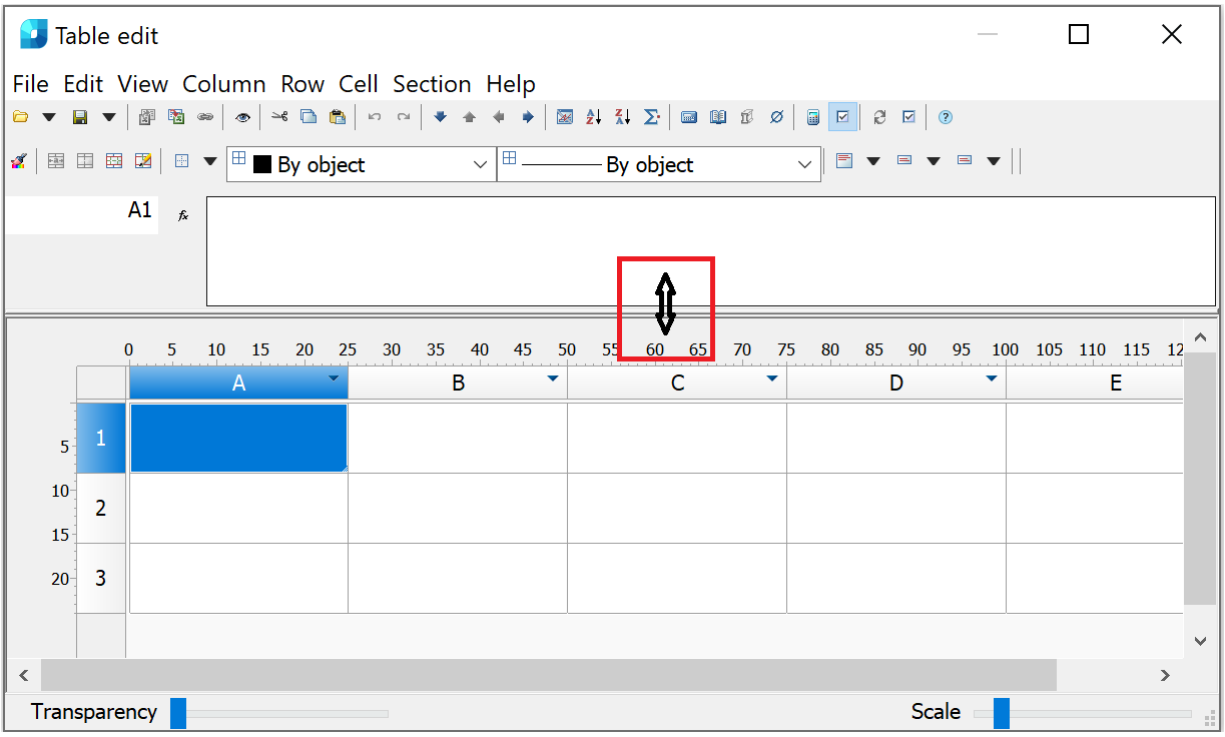
Now, when copying properties of a *polyline* using the **MATCHPROP** command, in addition to the *width*, the *linetype generation* is also copied.

The standard **Coverings library** has been supplemented with new textures in the sections of **Wood**, **Roofing**, **Landscape Design**, as well as with a new **Water** section.

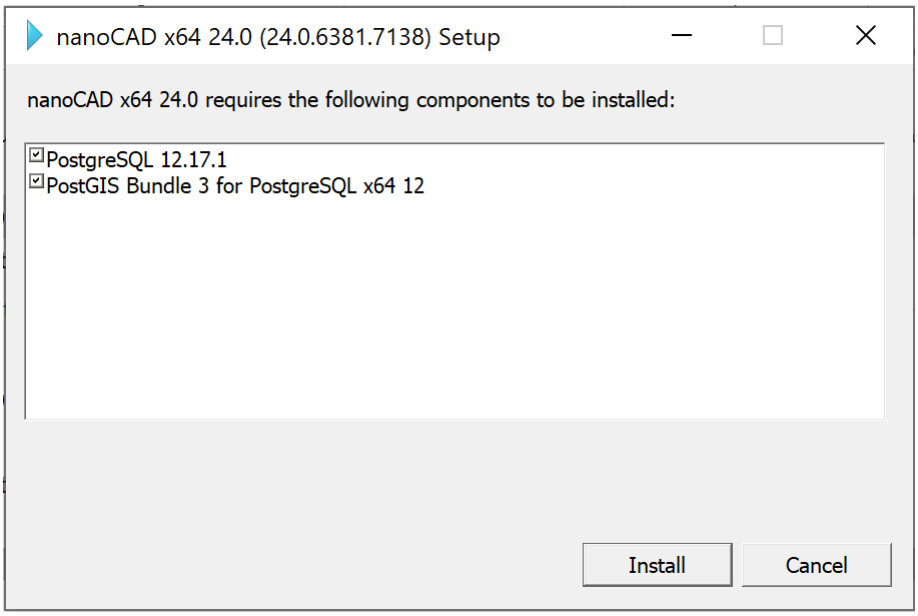
The possibility to delete the Defpoints layer (a service layer containing control points) using the **LAYDEL** command has been added. During further work with the document, when setting dimensions, the layer will be created again.

The possibilities for inserting blocks into mcad objects (tables, leaders) have been expanded. Now, using the **Explode Geometry** command, you can also add blocks with the **Allow Explosion** – **No** option.

The possibility to expand the expression input field in the **Table edit** dialog.



The possibility to install the PostGIS extension for PostgreSQL has been added to the program distributive. The extension is necessary to use the functionality of Databases when storing point clouds. If you do not plan to work with point clouds, you can skip this step during installation.



The **Properties** (**INSPECTOR**) functional bar for a block now displays the **Uniform scale** property that is set when the block definition is created. You can change it in the block editor (**BEDIT**).

NANOCAD FIXES

Critical Errors

The program crash when specifying an array of degenerate objects (segments, polylines), leaders, tables as a trajectory has been fixed.

The crash when clicking the Select button (Navigation and selection) while the drawing name is selected in the **Drawing Explorer** (**DRAWINGEXPLORER**) has been fixed.

The crash that occurred after renaming a VP Configuration using invalid characters has been fixed.

The crash that occurred when closing a drawing without saving after inserting and clipping a map background (**MAPVIEW**, **CLIPMAP**) has been fixed.

The bug that caused the program to freeze and crash when the file size was more than 1 GB has been fixed.

The crash has been fixed and the platform's performance with drawings containing external links to large ECW rasters has been optimized. Now work with the file is organized in parts (up to 64 MB). Printing of such drawings is possible from model space using, for example, the **Internal PDF-plotter**.

Other Corrections

The mechanism for selecting inserted blocks in the **LAYOFF**, **LAYFRZ** and **LAYVPI** commands has been corrected. Now, with the **Block Set** > **Block** options, the commands also work for layers that contain a block inside a block (external reference).

The error has been fixed, due to which external references (**XATTACH**) with long names were being selectively inserted when multiple files were selected at the same time. You can now select many files with long names. The maximum number of references to be loaded is limited to 200. A bug has also been fixed that caused drawings to be inserted at different scales when inserting external references at the same time.

The error with the **FIELD** command has been fixed, when in the **Formula**, when entering an expression with brackets, the outer brackets were removed, which led to calculation errors.

The operation of the **Stop** button in the **Batch Processing** dialog (**BATCHPROCESS**) has been corrected.

The situation has been fixed when warning messages about standard violations appeared in the **Reference Edit** (**REFEDIT**) mode.

The bug has been fixed due to which a duplicate ellipse would appear when scaling a circle or arc unevenly.

The bug has been fixed that resulted in size associativity being lost after the **Change Space** (**CHSPACE**).

The bug with the availability of text parameters (text height, rotation) with the "Width" and "Fit" alignment options in the **Attribute Definition** (**ATTDEF**) window has been fixed.

The operation of the **NEWLAYER** command has been corrected; the possibility to enter names of new layers with spaces has been added.

The line weight has been limited to 200 mm in the **Create & Edit Plot Style Table** (**PLOTSTYLEMANAGER**).

The bug due to which underlays in **DWF** format were not inserted into a drawing using the **UATTACH** command has been fixed.

The error that occurred when synchronizing the attributes of block references (**ATTSYNC**) in blocks with attributes that included a formula with an attribute field of the same block has been fixed.

The bug that resulted in the viewport lock button not working if the viewport was clipped by a polyline has been fixed.

The bug has been fixed due to which it was impossible to select a fill angle equal to 360 degrees when creating and editing a **Polar Array** (**ARRAYPOLAR**).

The number of errors due to which it was possible to edit multileader text on a locked layer have been fixed.

The error due to which block attributes were not displayed after inserting it into a new file has been fixed.

The bug has been fixed due to which the status of an external reference in the **External References** toolbar was not updated when it was updated.

The bug has been fixed due to which texts in annotative blocks with two scales were not printed.

The situation where adding an external reference (**ATTACH**) to a 2D block would convert it to a 3D block has been fixed.

The bug has been fixed due to which new field format options (**FIELD**) were not applied after editing.

The bug has been fixed due to which the export of the drawing area (**COXPBPACTP**) in WMF format was not performed.

The bug has been fixed due to which fields in multileaders (**MLEADER**) with the **Right attachment** – **Underline top line** style turned into text.

The bug has been fixed due to which the custom width of a multiline attribute was not scaled when scaling (**SCALE**) a block (**BLOCK**).

The situation where *.png format rasters were not loaded when importing *.dxf files has been fixed.

The bug due to which auto-recalculation did not work in a table with blocks whose names began with the "_" character (underscore) has been fixed.

The bug has been fixed due to which, when inserting a template sheet into a new file using the **LAYOUTFROMTEMPLATE** command, definitions of blocks located on other sheets or in model space were also added to the drawing.

The bug due to which information on the Region (**REGION**) object was displayed incorrectly in table cells has been fixed.

The mechanism for displaying a message about standards violations has been corrected. The message now closes automatically when you click on a link in it or when a standards check is started.

The bug has been fixed due to which blocks in table cells were displayed incorrectly after adding rows to the table.

The situation has been fixed when the **Update view to Plan when UCS is changed** (**UCSFOLLOW** system variable) did not change when switching between UCSs through the **Properties** functional bar.

The bug that caused sorting by date in the **External References** functional bar to work incorrectly has been fixed.

The bug due to which fields with document properties in tables were not edited or updated when dividing the table into pages has been fixed.

The bug due to which standards files (*.dws) were not displayed in the **File Explorer** has been fixed.

The bug has been fixed due to which after creating and applying a page setup (**PAGESETUP**) to another layout, zooming would not occur correctly and drawing limits would not be displayed.

The bug due to which external references were duplicated in the **External References** (**EXTERNALREFERENCES**) functional bar has been fixed.

The bug has been fixed that caused the raster selection border to become rasterized. Now, when performing rasterization operations, only that part of the selection that is located within the boundaries of the resulting image is rasterized.

The errors in the operation of the **FIELDEVAL** variable have been fixed. Now all variable values work as described.

The bug has been fixed due to which **MTEXT** with bold and/or italic formatting created in the current version of the program was displayed in older versions with formatting symbols.

The platform's performance has been accelerated when editing dimensions using grips (**GRIP**).

The bug has been fixed due to which some objects (nanoCAD tables (**TABLE**), coordination axes (**SPCLINE**, **SPGRID**, **SPPGRID**, **SPARCCLINE**, **SPCIRCCLINE**), slope designation (**SPGRAD**)) were created rotated if the current UCS was rotated relative to the WCS. Now the tables are oriented relative to the WCS.

The behavior of the **Frame weight** (formerly **Frame width**) field in the **Page Setup** and **Plot** dialogs has been corrected. Now the parameter is available only when the **Fit to paper** mode.

The bug due to which when pasting a cropped block via the clipboard, the block was inserted uncropped has been fixed.

Problems with isometric grid drawing have been fixed (grid lines were located at double of the distance specified in the settings).

The **Find and Replace** (**FIND**) command has been improved. Now it not only finds, but also replaces text in tables.

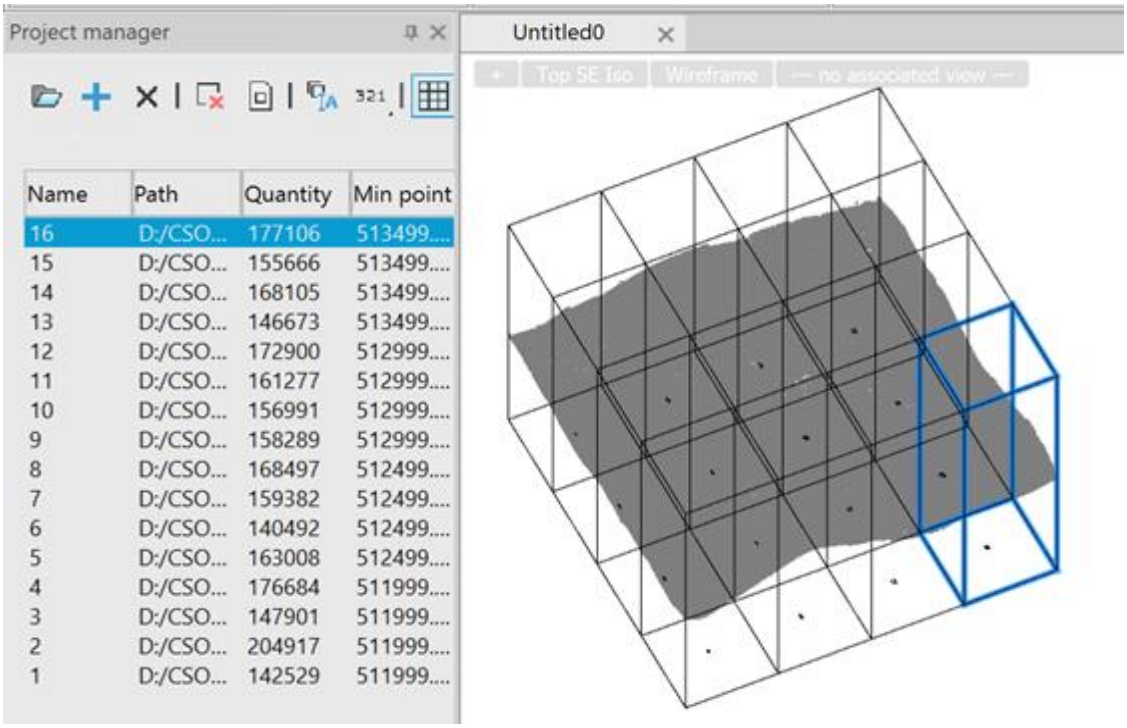
The mechanism for canceling actions when creating a raster (**PENCIL**, **ERASER**, **FILL**, **ERASE WITH FILL**) has been improved. Now every single action in the command is undone.

POINT CLOUDS

WHAT'S NEW

Project Manager

A new toolbar **Point Cloud Project Manager** (**NPC_PROJECT_MANAGER**) allows you to manage the project created during the import of point clouds.



Managing Revisions

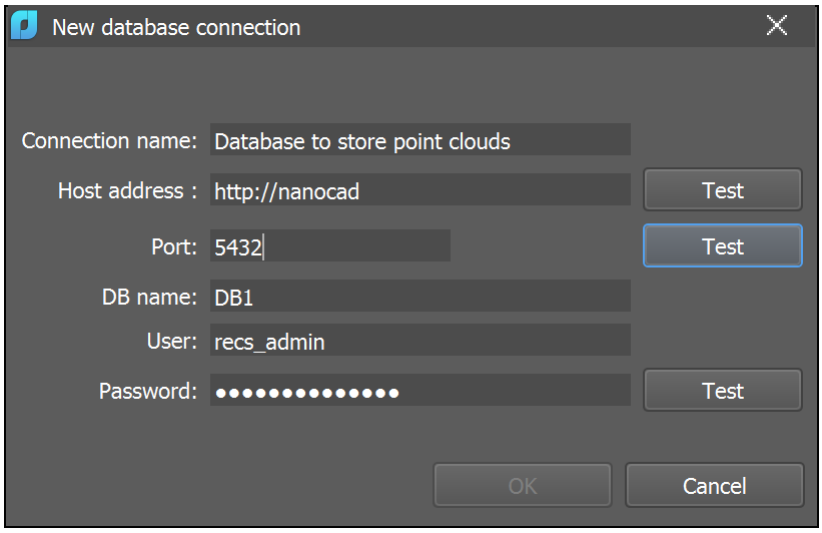
The **Managing Point Cloud Revisions in the Database** (**NPC_EDIT_DB**) dialog displays all databases in the selected connection, as well as all revisions of point clouds that were uploaded to the database using the **NPC_TO_DB** command – **Exporting Cloud Data to the Database**.

Point Clouds Hiding and Displaying Commands

New commands **Hiding the Point Cloud** (**NPC_HIDE**) and **Displaying a Point Cloud** (**NPC_SHOW**) allow you to hide selected (or all) point clouds, as well as unhide point clouds.

Checking Connections in the Database

When creating a new connection in the **Configuring Connections to Database** (**NPC_DB_CONFIG**) command, connections check has been added to ensure that the entered data is correct.



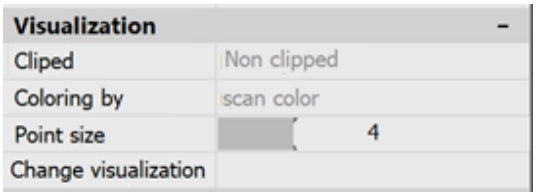
Shapes in Point Clouds

For point clouds in which shapes were found, **Shape Center** Snap has been added.

A new aggregate feature has appeared – **Construction**.

Slider for Point Size in the Properties Bar

In the **Properties** (**INSPECTOR**) bar now there is a possibility to use a slider to change the point size.



CORRECTIONS AND IMPROVEMENTS

The possibility to select rows using the **Shift** button has been added to the **View Mode** dialog (**NPC_VIEWMODE**).

The calculation of cloud dimensions after trimming a point cloud has been fixed.

An incorrect operation of the **Bounding Prism** (**MCLIP**) after clipping point clouds has been fixed.

The reset of point size and cloud clipping after changing the visibility of classes through the **Layers** (**LAYERS**) dialog have been fixed.

The **Export point clouds** (**NPC_EXPORT**) to RCS format has been accelerated.

The definition of the visibility of point clouds in 2D mode has been corrected.

The operation of the **Reset Clip** command (**NPC_CLIP_RESET**) in clipping a cloud has been fixed.

A cloud appearance when printing and rasterizing has been corrected.

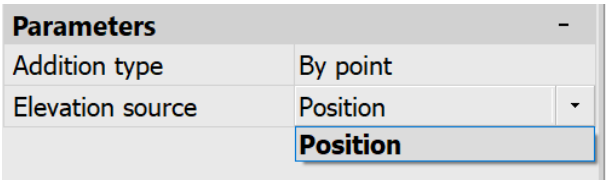
Point indices in clouds have been converted to UINT64 and the limit on the volume of point clouds has been removed.

TOPOPLAN MODULE

WHAT'S NEW

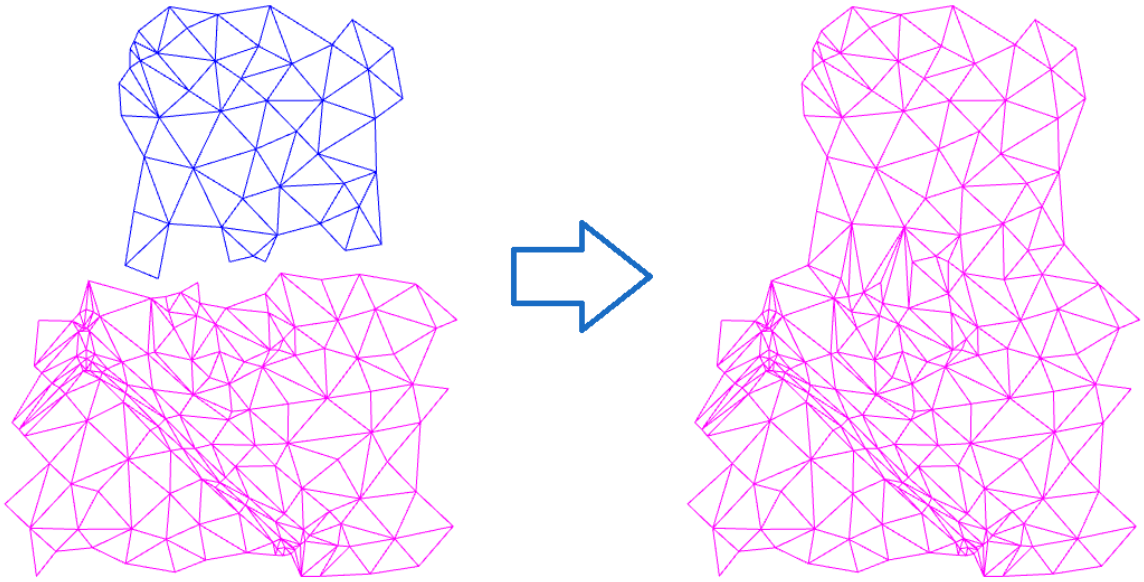
Adding a Group of Points

The **Adding a Group of Points** (**NG_MESH_VERTEX_ADD_BY_POINTS**) command has been supplemented with a new **By Point** parameter, which allows you to obtain elevation marks from points, geopoints, and blocks while simultaneously adding new nodes to the surface.



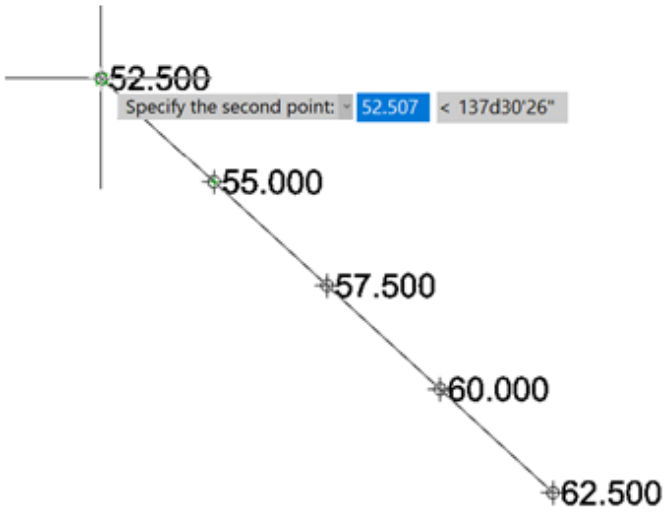
Combining Surfaces

The new **Combining Surfaces** (**NG_MESH_JOIN**) command combines 2 surfaces into one according to 2 scenarios: additive – saving the edges of both surfaces and exclusive – deleting the edges of the main surface and saving the edges of the secondary surface in the places where they overlap. If the surfaces do not touch, the edges of both surfaces will be preserved.



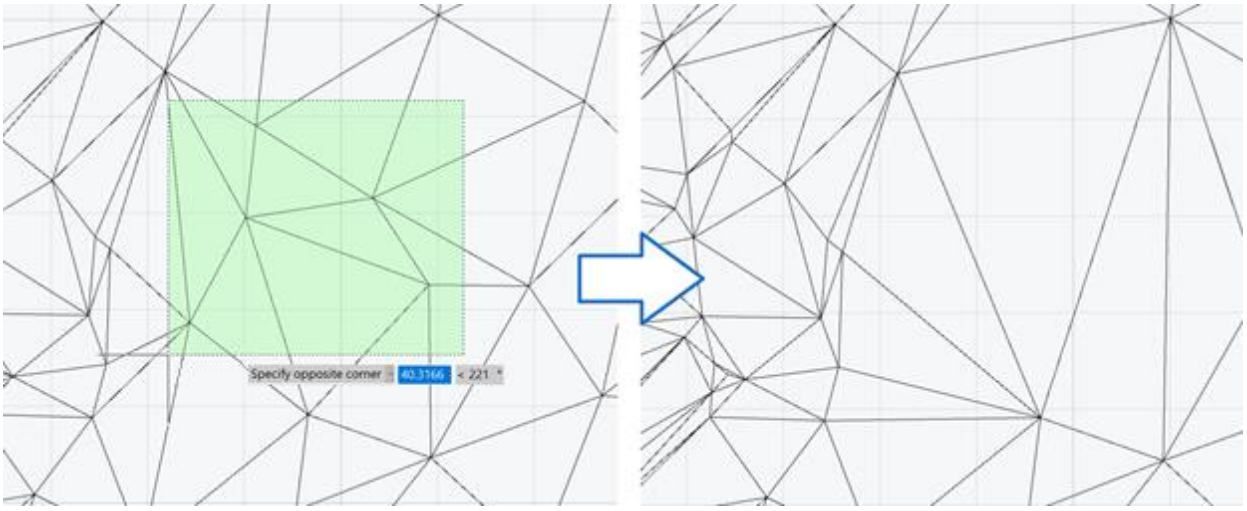
Creating Geopoints by Interpolation

The **Creating Geopoints by Interpolation** (**NG_CREATE_POINTS_BY_INTERPOLATION**) command creates the specified number of new geopoints along a line with the possibility to obtain marks from the surface.



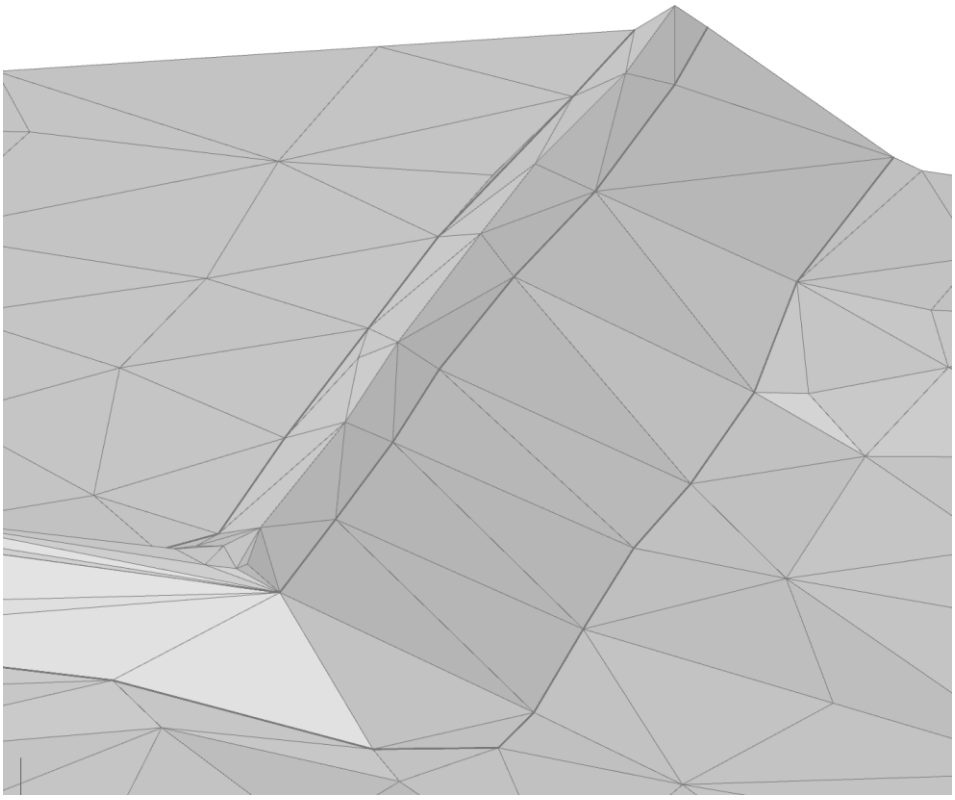
Deleting and Array of Surface Points

The **Delete Point** (**NG_MESH_VERTEX_DELETE**) command now allows you to delete several points at once, indicating them with a frame in the drawing

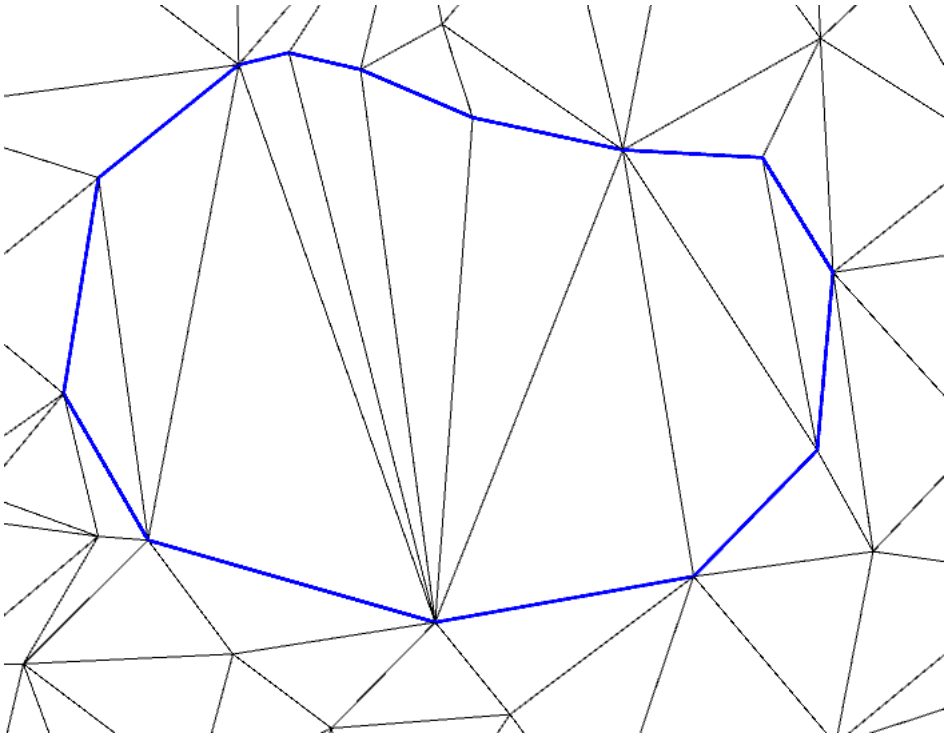


Adding Structural Lines

The **Add Structural Line** (**NG_MESH_STRUCTURAL_CREATE**) command now allows you to add several structural lines at once by selecting the necessary objects in the drawing.

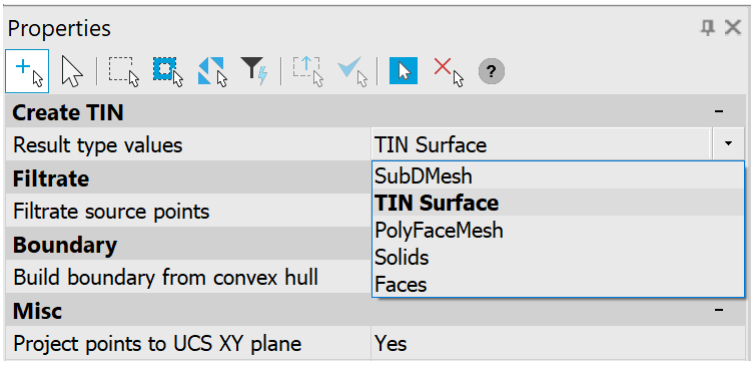


It also became possible to add closed structural lines, including with deleting points inside the contour.



New Surface Type

Using the **Create TIN by Points** (NG_CREATE_TIN) command it is now possible to create a new type of object – **TIN Surface.**

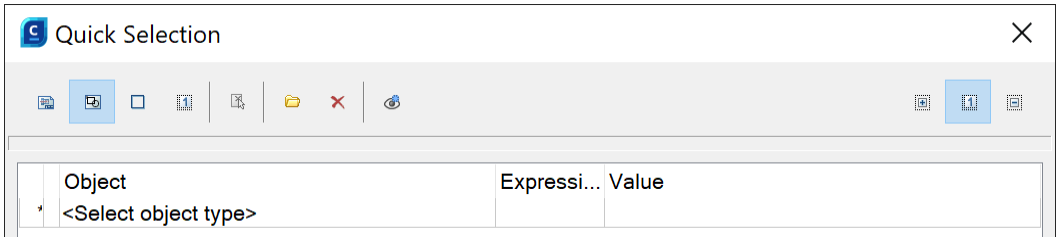

Properties
Create TIN
Result type values
TIN Surface
SubDMesh
TIN Surface
PolyFaceMesh
Solids
Faces
Filtrate
Filtrate source points
Boundary
Build boundary from convex hull
Misc
Project points to UCS XY plane
Yes

CONSTRUCTION MODULE

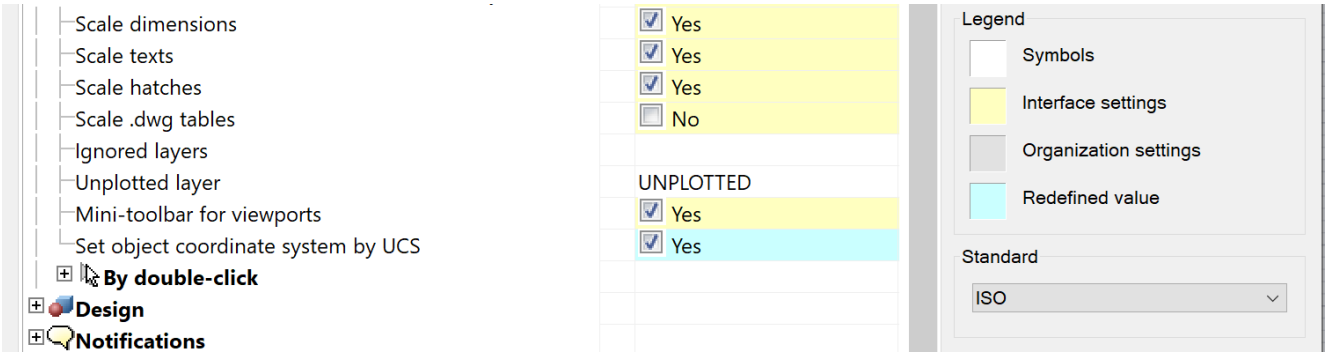
WHAT'S NEW IN CONSTRUCTION 24.0

The possibility to import large IFC files (1 Gb+) has been implemented.

Quick Selection now takes into account frozen and hidden layers when the button is enabled:



A setting has been created for design objects to create their own coordinate system when creating elements. In this case, they are guided by the current UCS. By default, the setting is disabled.



Thus, now, when the setting is enabled, Construction design objects are oriented in accordance with the current coordinate system:

- Position marker;
- Level mark;
- Node designation;
- Fragment designation;
- Change marker;
- All types of leaders;
- Welded leg, welded seam, welded joints and cutting edges for welding;
- Permanent connection;
- Axes and array of axes;
- Slope designation;
- Picketage designation;
- Format;
- Table.

Conversion of AutoCAD tables into Construction tables takes into account the current scale with the option to select a scale.

New items have appeared in the database: flat washers according to the new standard; hexagonal rolled products; materials according to the new standard.

MECHANICA MODULE

WHAT'S NEW IN MECHANICA 24.0

Flange Properties

The properties of flanges and flange plugs have been improved.

The following properties have been added:

- material category;
- material;
- control group;
- additional parameters.

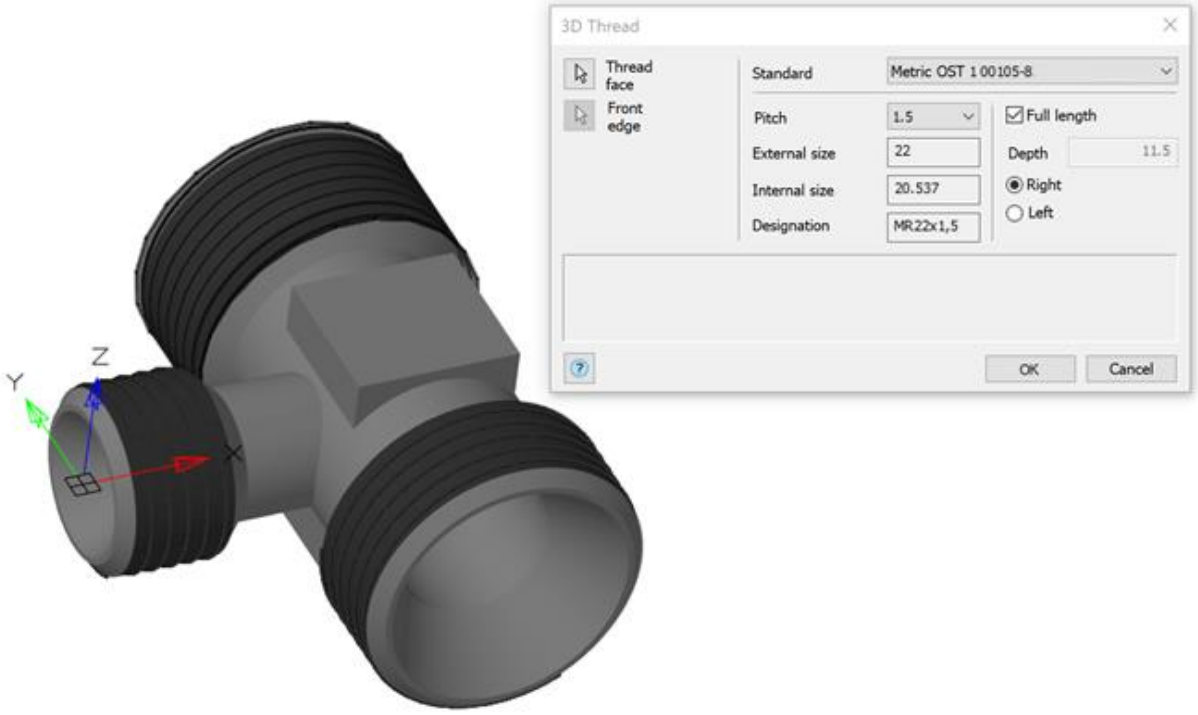
All these parameters can be selected in accordance with the requirements of the relevant standards. It has become more convenient to create a sign for flanges and flange blanks for specifications.

New Types of 3D Thread

In the updates of **nanoCAD Mechanics 23**, previously unannounced new types of threads have been added to the **3D Thread** tool: pipe, trapezoidal, buttress.

And in **nanoCAD Mechanics 24** a metric radius 3D thread has been added.

Now you can make 3D parts with such threads, both internal and external, in addition, such threads have appeared on base elements.



Other Changes

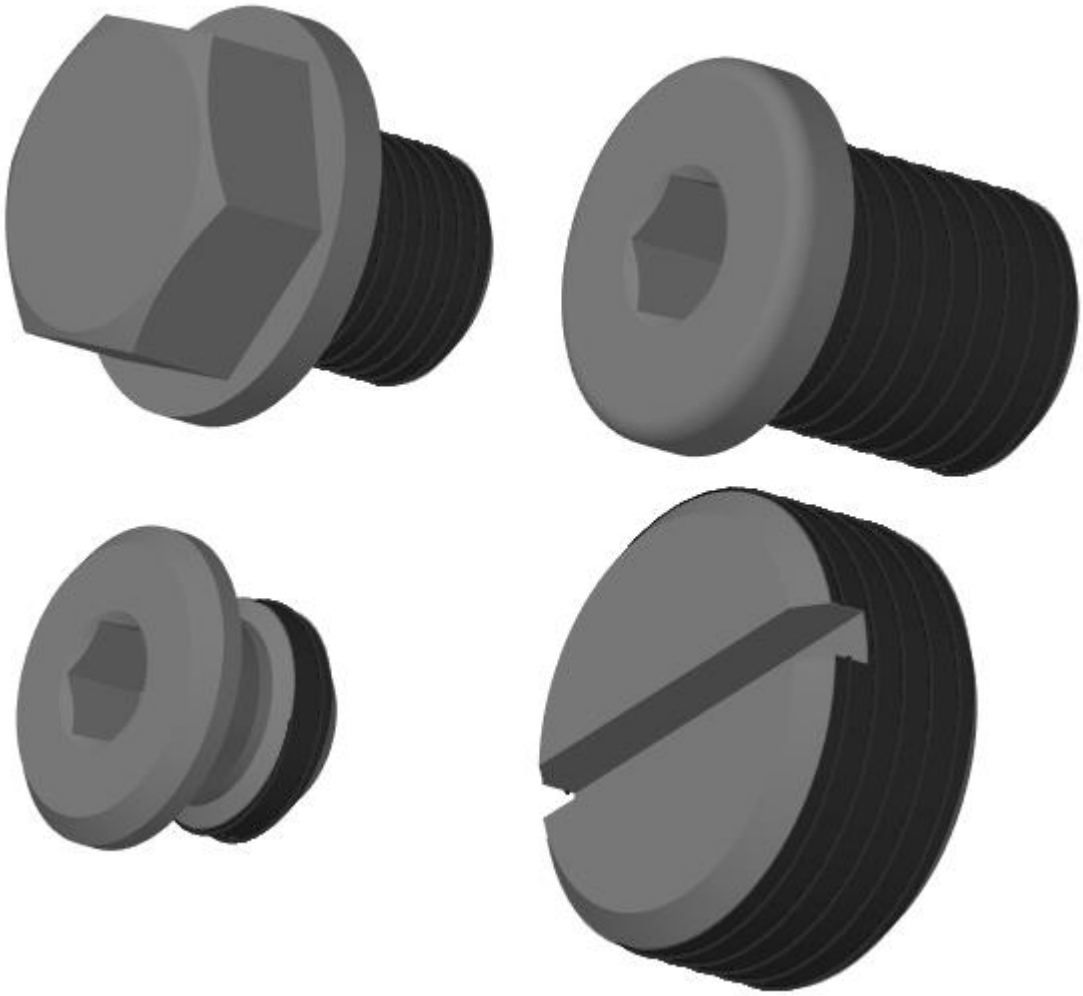
The option to construct an axis using two points has been added to the **Draw Axes** tool.

The format of angular units Deg/Min/Sec has been corrected.

The update of detail views from viewports has been corrected.

3D models of pipeline fittings for connections along the internal cone have been made.

3D models of plugs and stoppers have been made.



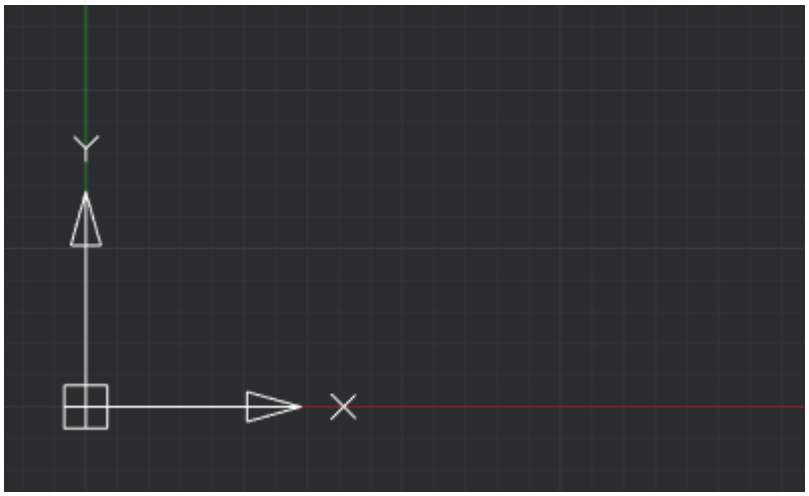
WHAT'S NEW AND WHAT'S BEEN FIXED IN THE TECHNICAL UPDATE OF NANOCAD 23.1

WHAT'S NEW

The most up-to-date and complete description of the new features of nanoCAD 23.1 is available online.

Color Display of the Positive Direction of X and Y Axes

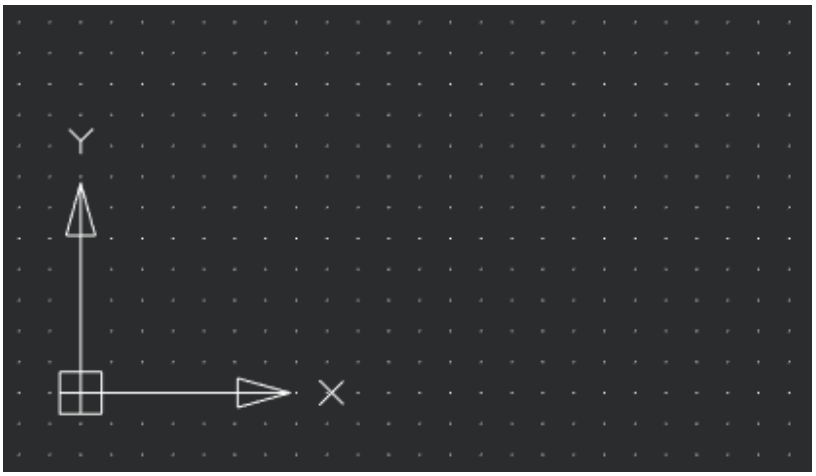
Color display of the positive direction of the abscissa axis (X axis) and the ordinate axis (Y axis) when displaying the grid has been implemented. This additionally allows you to navigate the editing plane.



The colored rays are directed from the origin of coordinates. Red is assigned to the X-axis and green to the Y-axis. Display is enabled/disabled when the grid is enabled/disabled (command line: GRID; hotkeys: F7, Ctrl+G).

Displaying Grid as Dots

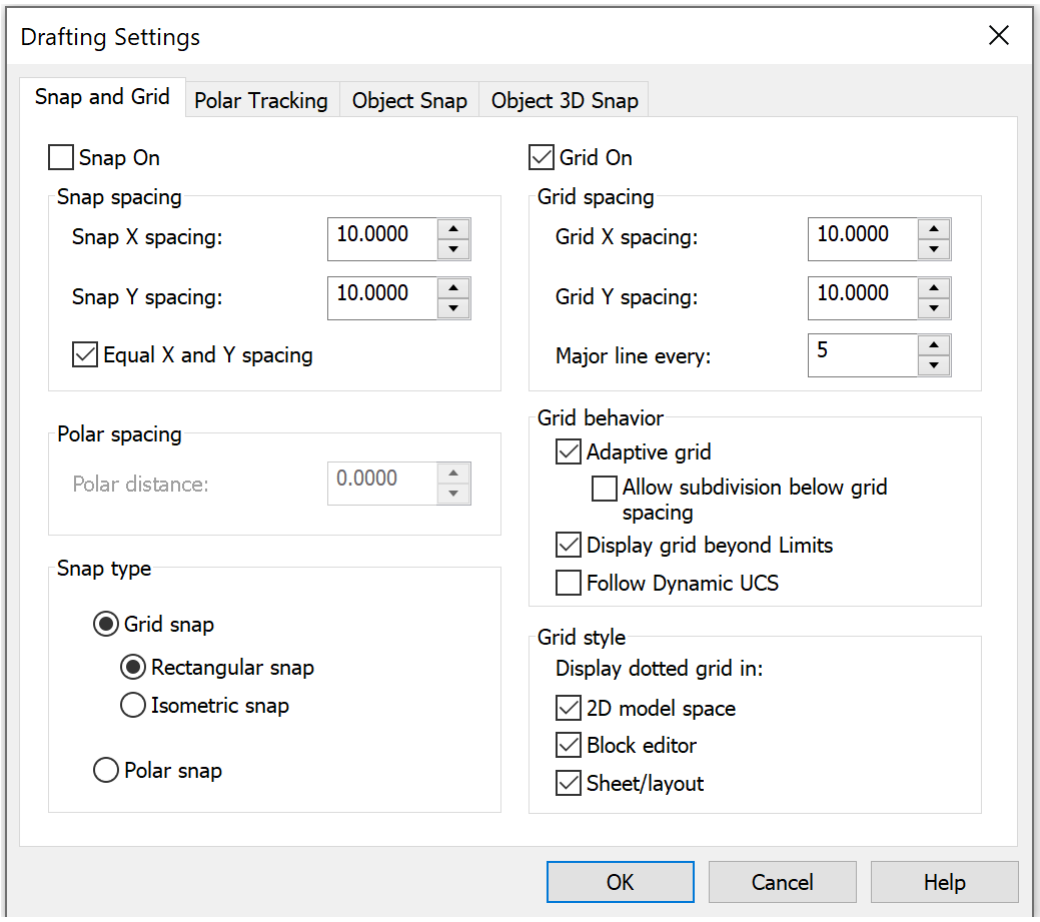
The grid display style in form of points (GRIDSTYLE variable) has been added.



Default GRIDSTYLE = 0 – the grid is displayed as lines in model space, block editor, layouts, and paper space layouts. The following variable values are also available:

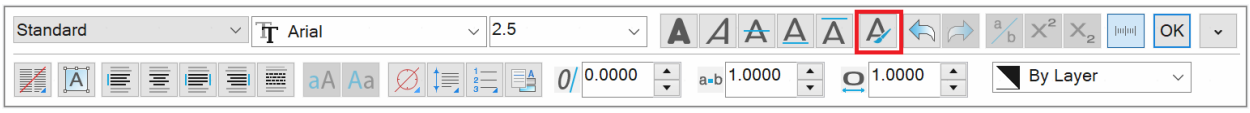
- GRIDSTYLE = 1 – display of grid as dots in 2D model space.
- GRIDSTYLE = 2 – display of grid as dots in the block editor.
- GRIDSTYLE = 4 – display of grid as dots in layouts and paper space layouts.

You can also set up the **Grid style** in the **Drafting settings** (command line: DDRMODES, DSETTINGS, SE).



Copying the Text Format in Multiline Texts

The **Copy text format** function has been added to the **Tax format** bar (command line: MT, MTEXT, MTEXTCREATE, T).



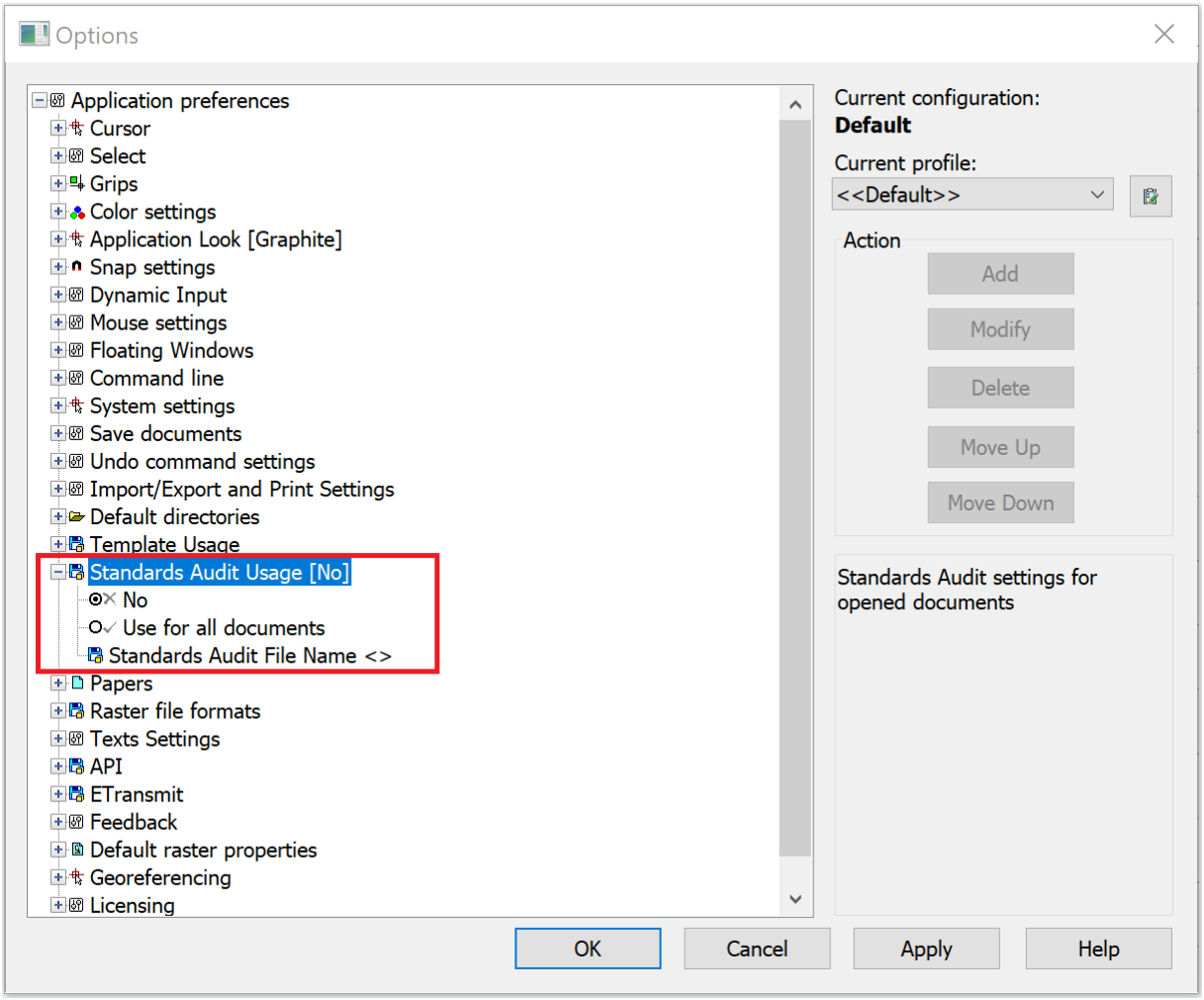
The function allows you to copy the following properties within one multiline text: font, height, style (bold, italic, strikethrough, underline, overline), skew, tracking (character spacing), aspect ratio, text color, text alignment (left, center, justify, right, distributed), line spacing, bulleted and numbered list options, paragraph options (indents, tab stops).

To use the function, you need to select a part of the text or place the cursor on the text whose formatting you want to copy. On the **Text format** bar, click the **Copy Text Format** button. Select the text to be formatted. To complete formatting, press ESC or uncheck the **Copy text format** button.

Attachment of Standard File in the Profile Settings

Attachment of the standard file (*.dws) in the profile settings to all created and opened drawings has been implemented.

You can configure the settings in the **Options** dialog box (Command line: OPTIONS, PREF; hotkeys: Ctrl+9) in the **Standard Audit Usage** section.



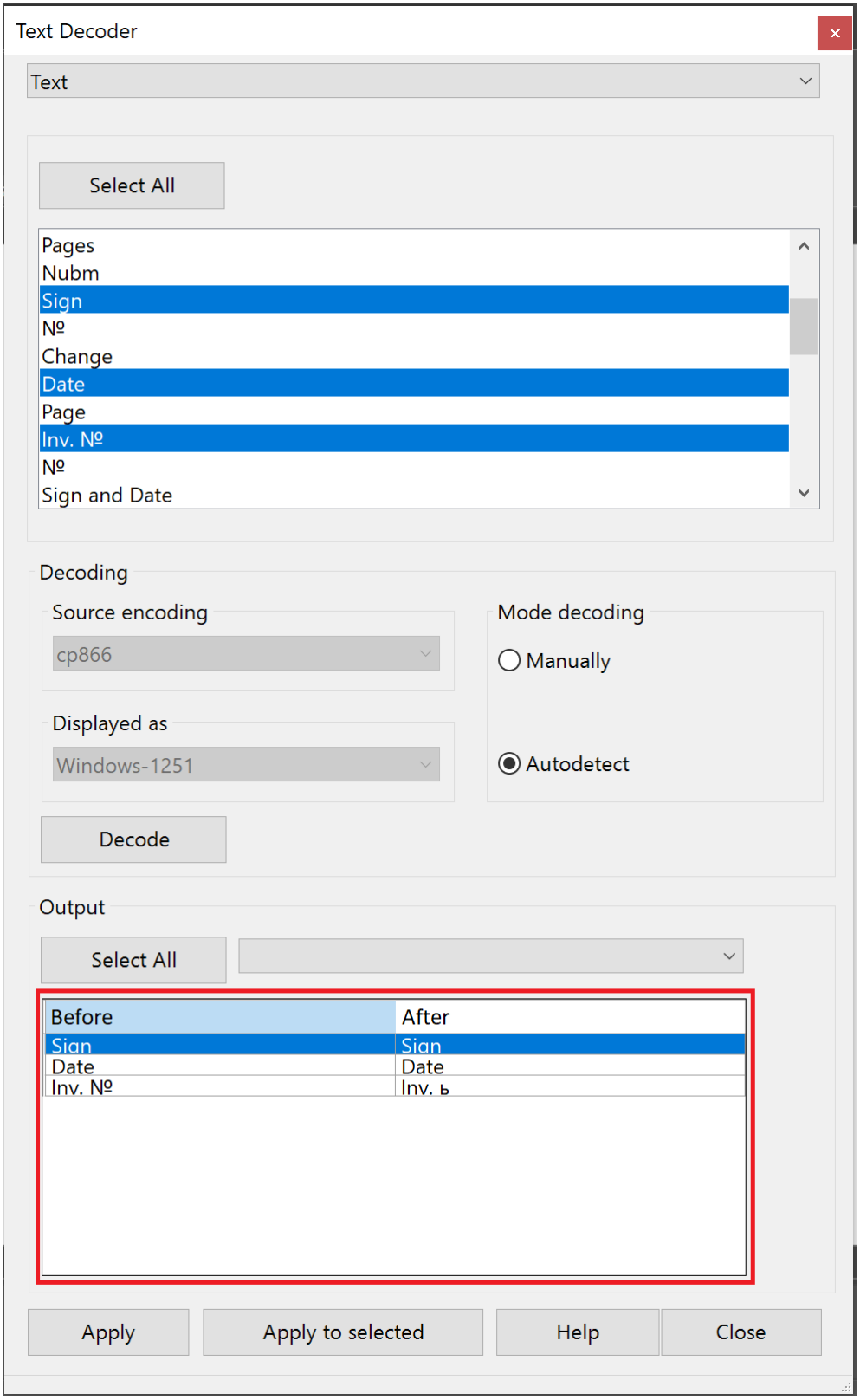
Options in the **Standard Audit Usage** section:

- **No** – prohibition to attach the standard file to drawings being opened. The option is selected by default;
- **Use for all documents** – use the standard file for all documents being opened;
- **Standard Audit File Name <>** – setting the *.dws standard file.

When a standard file is assigned in the **STANDARDS** command dialog box, the file will be displayed first in the list.

Additions in the Text Decoder Dialog Box

The dialog box of the **Text decoder** (TEXTDECODER) command has been supplemented with viewing the results in the form of “Before After” table, as well as the ability to sort columns in an alphabetical order has been added.



Non-dialog Version of -SCALELISTEDIT Command

The non-dialog version of the scale list edit command -SCALELISTEDIT to be used in scripts has been implemented.

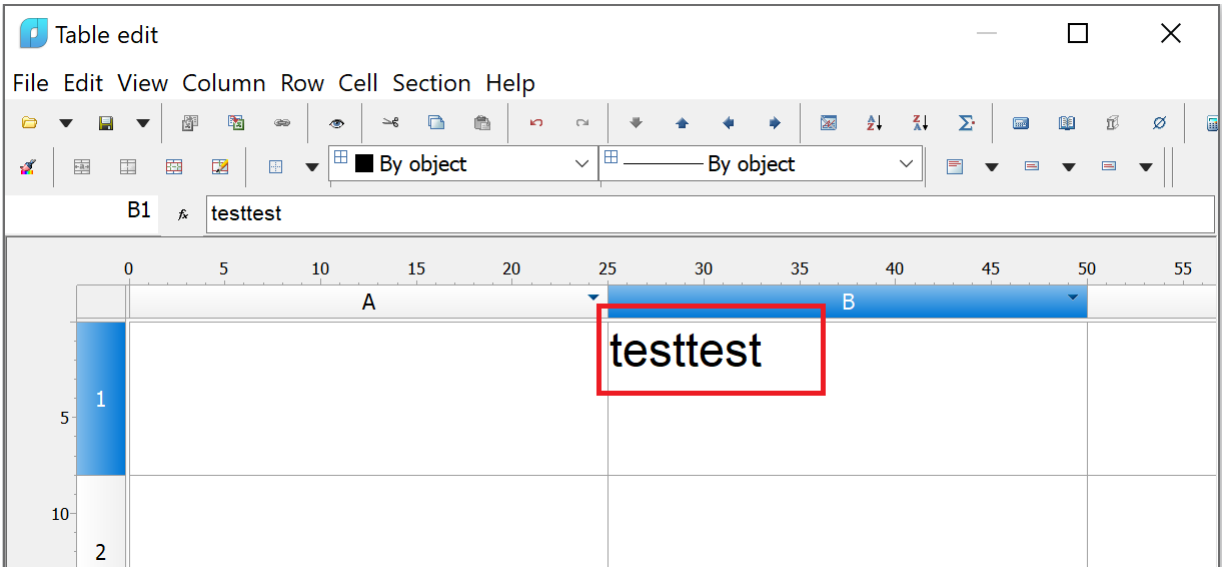
```
Command: -SCALELISTEDIT

-ScaleListEdit - -ScaleListEdit
Enter option [Add/Delete/Reset/Exit] <Add>:
```

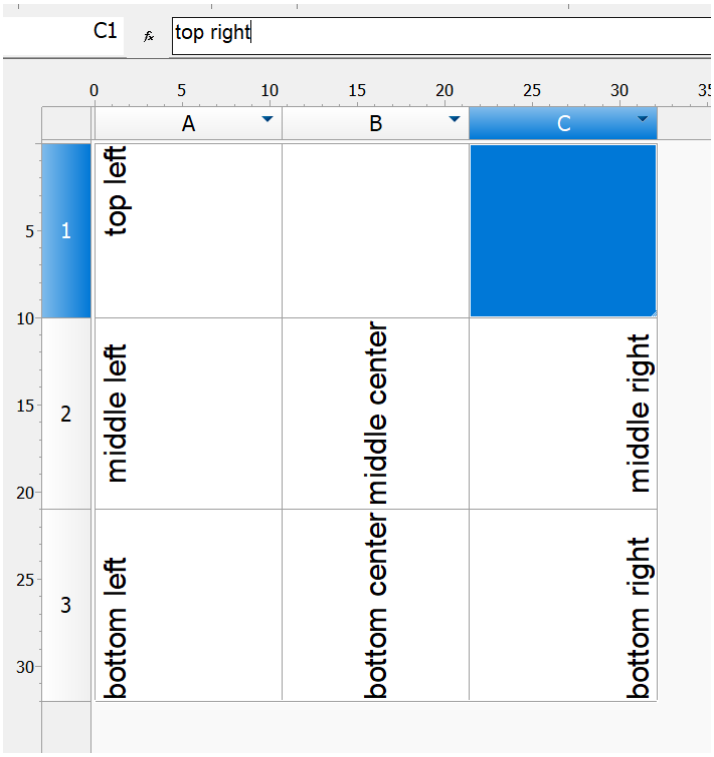
WHAT HAS BEEN FIXED

Tables

The bug due to which text scaling in a cell did not work in the edit mode in the table editor has been fixed.



The bug due to which text was not displayed in table cells with vertical text direction when **top center** and **top right** alignment was selected in the preview window of the **Edit table** menu has been fixed.



The bug due to which the selection of objects in the report filter was reset if previously added objects did not match the filter conditions has been fixed.

The bug due to which it was impossible to insert a block into a table cell has been fixed.

Improving IFC Import

The bug due to which the filter for specific IFC objects (by the IfcId property) did not work when importing an information model has been fixed.

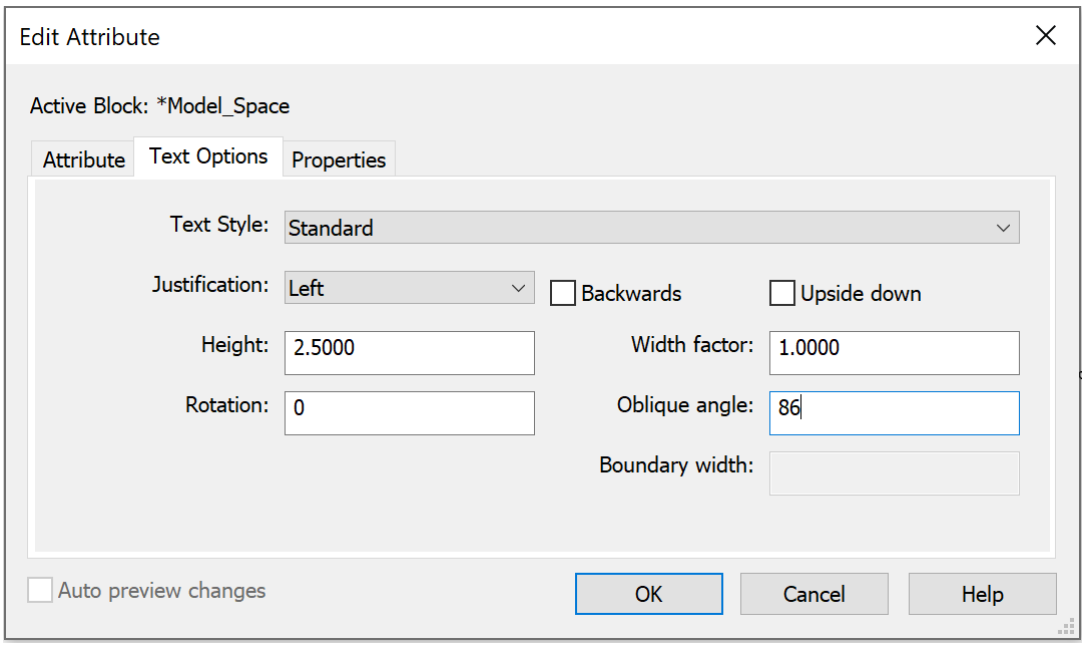
The bug due to which the contents of the IFC tab were not loaded immediately when starting a new session has been fixed.

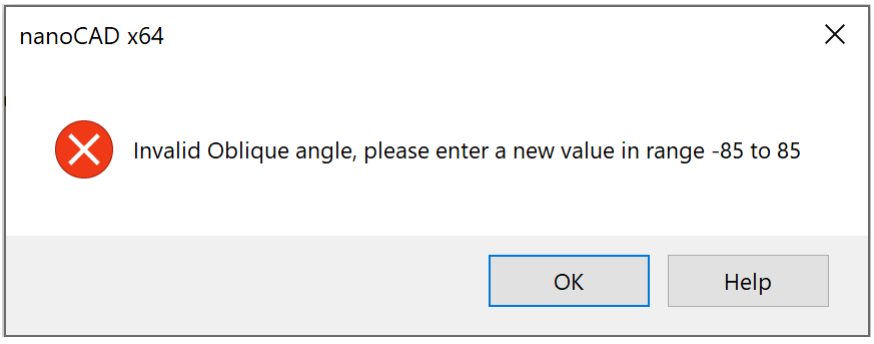
Other Corrections

The bug that caused the program to stop working when a circle was selected with a block as a tangent has been fixed. The command line now displays the warning “The specified point does not match the current snap mode. Wrong point.”

The bug in the **Multiline text** command, due to which, when the cursor was in the **Height**, **Skew**, **Tracking**, **Compression ratio** fields, all other panel buttons became inaccessible for editing has been fixed.

The bug that caused the program to stop working when entering invalid text angle values in the **Block Attribute Manager** (EATTEDIT) and **Edit Attribute** (BATTMAN) dialog boxes. Now, when entering an invalid value, a warning is displayed “Invalid value oblique angle, enter a new value in the -85 to 85”





The bug that caused visual styles to display incorrectly when assigning the following face options: **Face properties**: **Realistic** and **Lighting quality**: **No lighting**, has been fixed.

The **Insert Layout(s)** dialog box of the LAYOUTFROMTEMPLATE command has been improved. If there is one layout in the list, it is selected by default, pressing Enter (or OK) will immediately load it into the drawing. If greater, then the first sheet in the list will be selected.

The bug that caused the program to stop working when inserting a dynamic block using the **Create Block** command of the context menu in the **File Explorer** bar has been fixed.

The bug that occurred when creating a region (REG, REGION) from a closed contour that includes an arc has been fixed.

The bug for printers HP Designjet 500ps plus, HP Designjet 500PS, due to which the preview and printing of a file containing multi-colored objects was displayed in black and white has been fixed.

The bug has been fixed, due to which the filling of grips for leaders, tables and Construction objects disappeared when the FILLMODE = 0 parameter was set.

The bug due to which printing an OLE object using Print as PDF would cause the image to invert has been fixed.

The bugs in the Drawing Explorer (DRAWINGEXPLORER) associated with the display of existing objects when the Show created objects button is turned off and the display of deleted objects when the Show resident objects button is turned off have been fixed.

The bug that occurred in particular drawings when copying or repositioning non-associative dimensions has been fixed.

The break of the batch plot command (PUBLISH) has been improved. Now, when the Multi-sheet job box is unchecked, plot can be interrupted by Cancel on printing any layout.

The bug that caused the program to stop working when trying to change the **Conversion options** of raster in the Conversion tab has been fixed.

The bug has been fixed that caused an offset of a multi-line attribute when it was updated in the **Block Attribute Manager**.

The bug due to which custom linetypes containing shapes were not saved in xrefs has been fixed.

The bug due to which multileader text height was not applied when text height was assigned in a text style has been fixed.

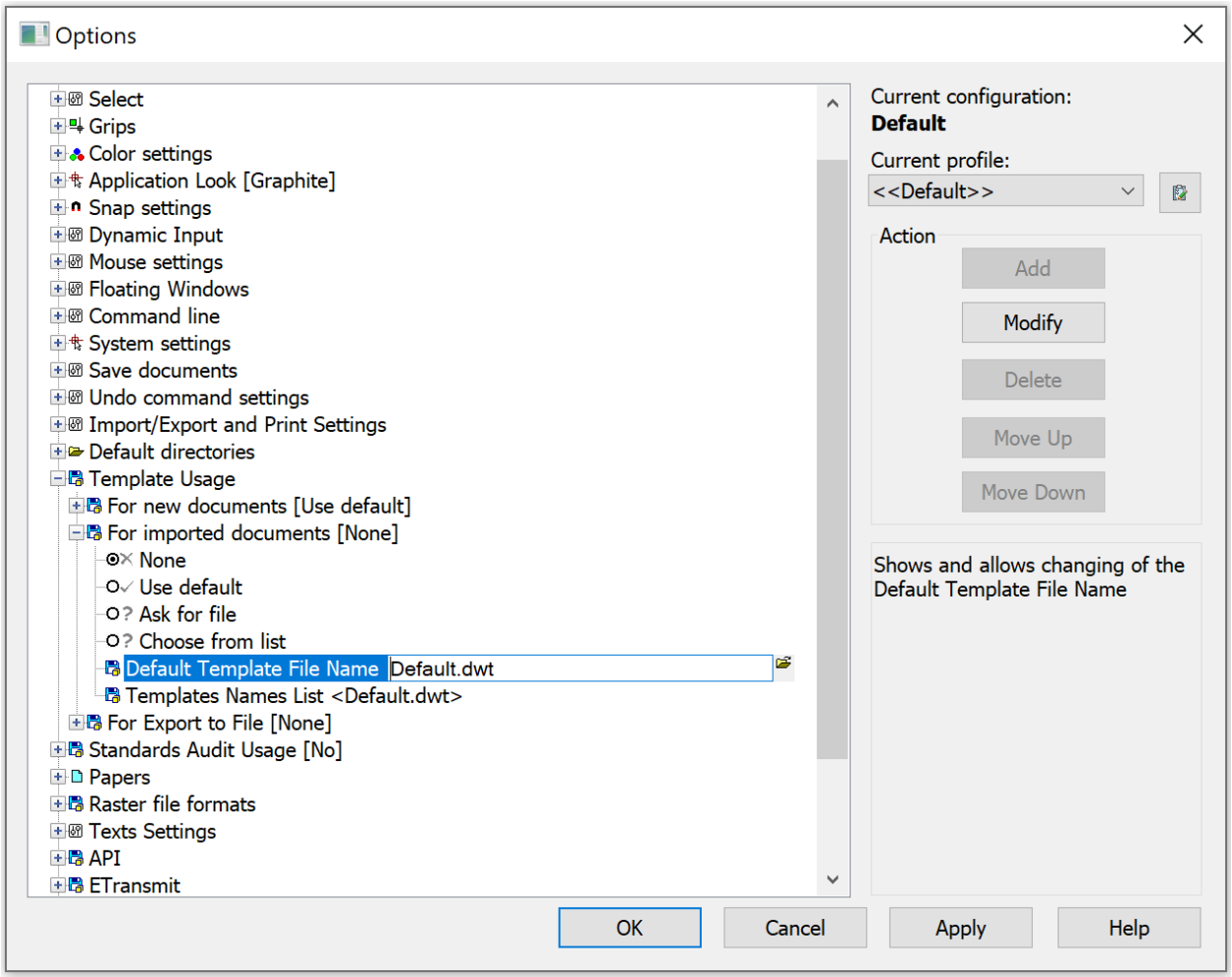
The bug due to which the Merge constraint in the sketch did not work has been fixed.

The bug has been fixed due to which the #### signs were displayed in the attribute with the formula in the case when the formula performed arithmetic operations with fields – properties of objects.

The defect in the display of grid in the paper space, due to which the grid boundaries did not coincide with the layout boundaries has been fixed.

The bug has been fixed, as a result of which the text pasted from the clipboard did not replace the selected text in the command line, but was added to the existing one.

The possibility to use templates when importing documents has been returned. In the **Options** dialog, you can set the default template for imported documents. General settings (type and accuracy of units representation, drawing limits, settings for the SNAP and GRID modes; layer organization; dimensional and text styles; linetypes and lineweights, etc.), graphic objects (title blocks, frames and logos), attached dws standards are taken from the template.



Errors have been fixed that in some cases led to the termination of the program work when trying to copy-paste/edit/convert tables in user files.

The program crash when opening or switching model-layout space in some custom drawings caused by overriding layers in viewports has been fixed.

A particular bug of incorrect plot by the Internal PDF Plotter in user files, which caused some segments not to be printed has been fixed.

The bug that in some cases caused the program to stop working when opening user files, related to calculations using formulas in tables with a large number of rows has been fixed.

The "Code page not supported" error that occurred in a particular case when transcoding (TEXTDECODER) texts and attributes in a custom file has been fixed.

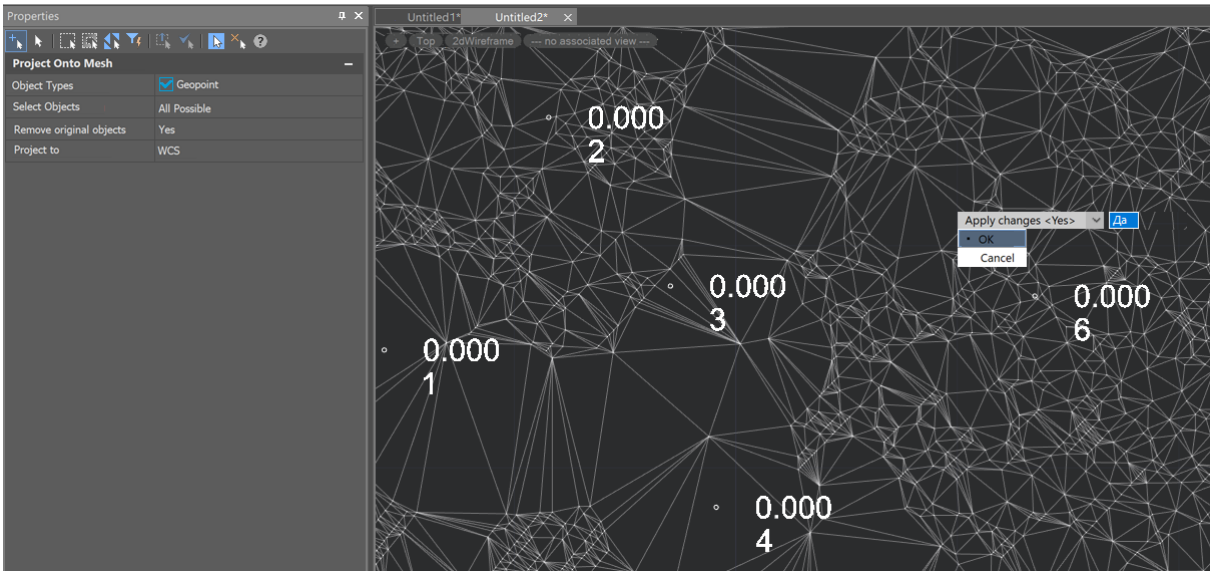
The bug due to which there was a “pixilation” of gradient hatch in a custom file on preview and after plotting in PDF format has been fixed.

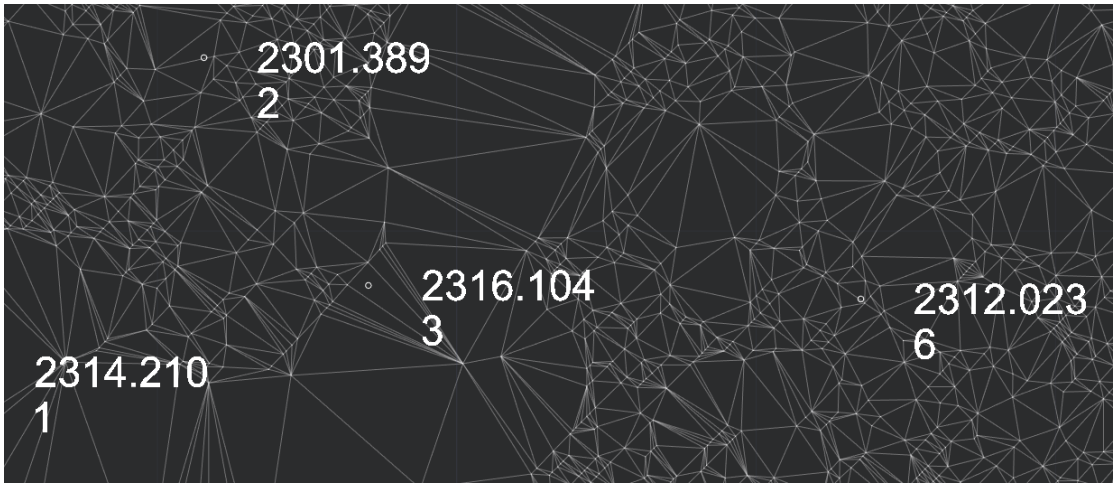
The bug due to which the fill of MPOLYGON objects was not printed when printing a custom file with Internal PDF or a physical plotter has been fixed.

TOPOPLAN MODULE

NEW COMMAND FOR PROJECTING OBJECTS ON A SURFACE

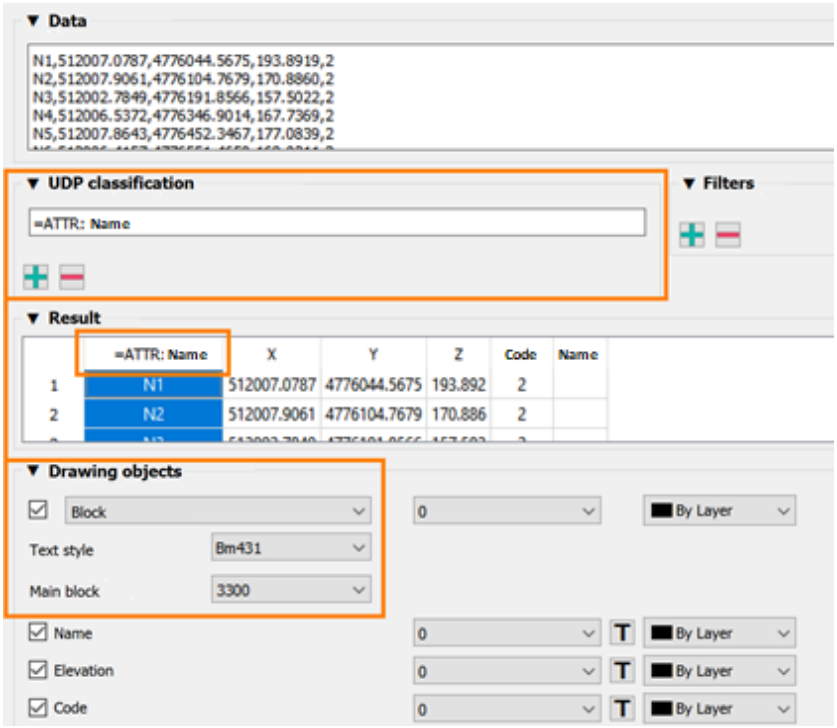
The NG_MESH_PROJECT_OBJECTS command projects objects – blocks, points, geopoints, texts, Mtexts - on a surface. The elevation (Z coordinate) of the listed objects is changed to the elevation of the surface.





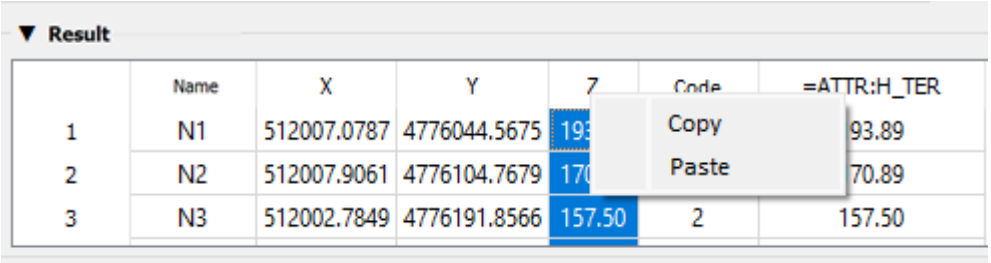
SETTING ATTRIBUTES WHEN IMPORTING GEOPOINTS

In the dialog box of the NG_IMPORT_POINTS command, it became possible, when importing measurement points into blocks, to select a block that exists in the drawing and set the correspondence of attributes to data from the imported file. The block selected for import is analyzed for attributes. Next, an attribute is selected, which will be filled with data from the point file during import.



COPYING COLUMN DATA

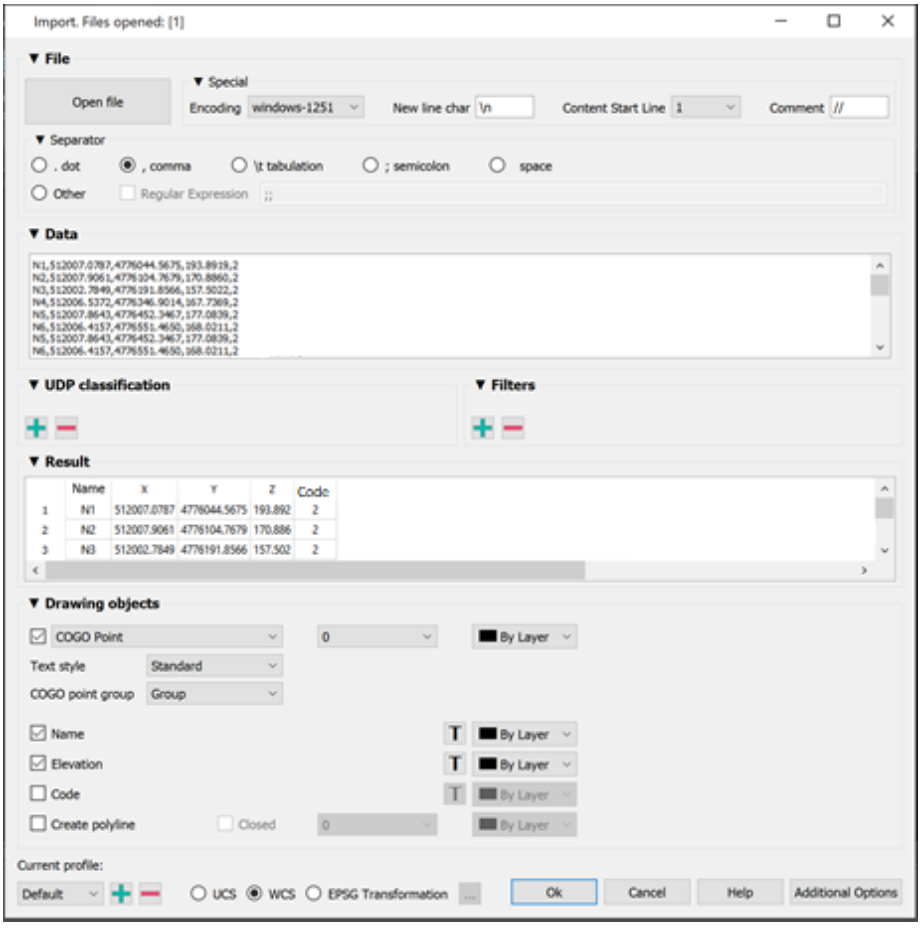
In the results table of the geopoints import dialog (NG_IMPORT_POINTS), it is now possible to copy the data of any columns in full.



UPDATED APPEARANCE OF DIALOGS FOR WORKING WITH GEOPOINTS

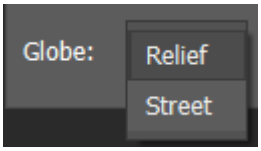
- Formatting has been improved;
- Symbols for collapsing groups of elements (arrows) have been added.

It concerns the dialogs for import, export, conversion of geopoints, as well as splitting a point cloud into geopoints.



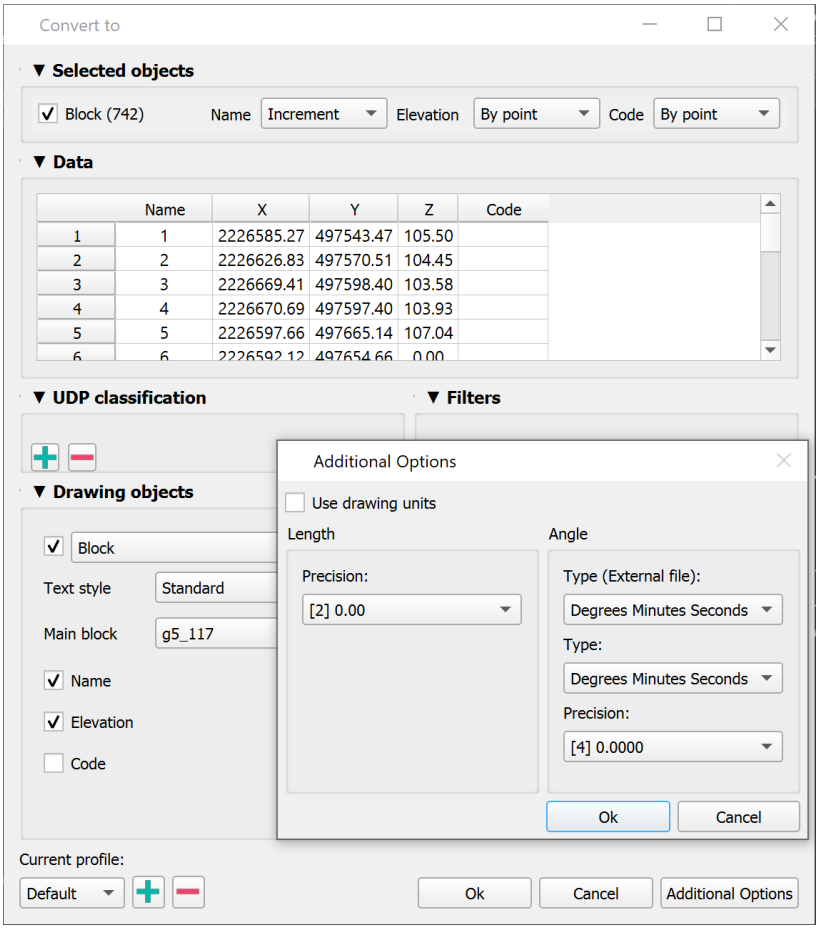
UNDERLAY TYPE STORAGE

Now, when recalling the KMLIMPORT command (importing KML/KMZ files), the underlay type selected the previous time is stored.



CONVERSION PRECISION ADJUSTMENT

In the NG_CONVERT_POINTS geopoints conversion command now there is a possibility to set the unit precision, which is different from the drawing precision.



3D MODULE

WHAT HAS BEEN CORRECTED

Direct Modeling

The bug due to which, when extruding several tangent primitives/contours at once, only one was extruded, and the rest were deleted, has been fixed.

The bug due to which, when building in primitive 3D solids, the directions of X and Y axes of the current UCS were not taken into account, has been fixed.

Parametric Modeling

The work of detail views on layouts has been improved.

The bug due to which the graphics of 3D constraints were not highlighted on standard objects has been fixed

The bud has been fixed, where3D Loft would highlight sketches that were not related to that Loft.

The bug has been fixed where auto constraints did not work when entering a sketch using CTRL+Z or CTRL+Y.

Now, when using the 3D Sweep command, the path being used is hidden by default.

The bug has been fixed where the extrusion did not occur on the contours of elements where infinite elements (RAY, XLINE) were used.

The bug that in some cases caused the program to freeze when using the extrude command has been fixed.

The description and tooltips of some 3D construction commands in the interface and on the 3D History bar have been corrected.

The bug in the 3D history that appeared when converting old versions of models has been fixed.

The program freezing when using the extrude command on some paths has been fixed.

The bug due to which, when canceling an action with CTRL + Z, auxiliary elements of constructions lost their connection with the object, has been fixed.

The bug due to which the selection of contours for extrusion was reset in some cases has been fixed.

The bug due to which extra parameters were displayed in the Parameter Manager when extruding by loft has been fixed.

The bug due to which in some complex cases elements were not added to the array has been fixed.

Sheet Solids

The bugs have been fixed due to which a bend was not created according to a sketch in the following cases:

- Bend along line with angle inside.
- Bend along edge in the sketch plane.
- Bend with more than two lines.

Construction of sweeps on solids with NURBs-surface has been corrected.

CONSTRUCTION MODULE

WHAT HAS BEEN CORRECTED

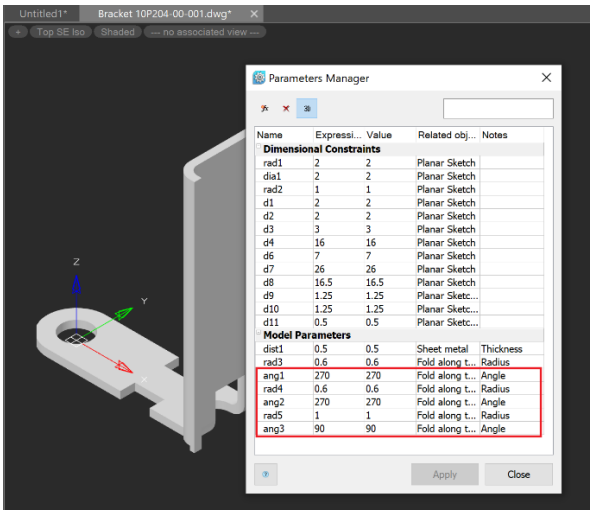
The bug has been fixed due to which zeros in the fractional part were cut off in room and area markers regardless of the **Number of decimal places** setting.

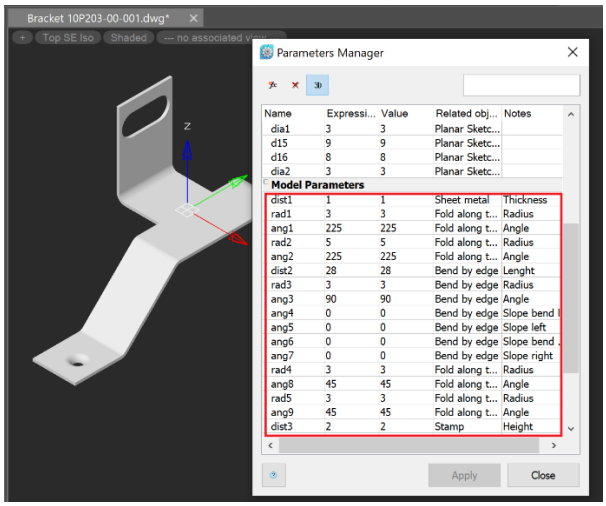
The bug in the Stamp Creation Wizard has been fixed. Due to it the thickness and color of the stamp lines could not be determined by the design settings.

MECHANICA MODULE

WHAT'S NEW

Now the parameters of a sheet solid are displayed in the Parameters Manager.





WHAT HAS BEEN CORRECTED

The bug due to which the 3D constraint graphics on standard objects were not highlighted.

The drawing of Tooth wheels has been corrected.

Sheet Solids

The bugs have been fixed, due to which a bend was not created according to a sketch: along line with angle inside, along edge in the sketch plane, with more than two lines.

Construction of sweeps on solids with NURBs-surface has been corrected.