CATALOGUE

OF CUSTOM AUTOLISP PROGRAMS

Tools for automating design, drafting and processing of AutoCAD drawings

Dmitry Zhimirikin

2026

Contents

Workflow and project documentation
Text annotations and leaders
Dimensioning
Blocks, attributes and labelling
Geometry and graphical-object editing
Façade design and production documentation
Analysis and data export
8. Thematic toolsets

Workflow and project documentation

1. DZ_LOADER — Loader for custom applications

Category: Workflow automation

Centralised loading and management of a library of custom AutoLISP applications in AutoCAD. Loads a set of tools automatically and provides a command menu for launching their main functions.

Main functions:

- Loads groups of LISP files from a defined folder structure.
- Checks that files exist before loading.
- Handles errors in individual applications.
- Prevents the library from being loaded repeatedly during the same session.
- Organises tools into functional groups.
- Launches main commands through the unified DZ menu.

2. OPENTXTLIST — Open the text-document library

Category: Project documentation management

Provides quick access to a library of standard text documents and reference materials from AutoCAD. The user selects a document from a predefined list and opens it in a text editor.

Main functions:

- Menu for selecting a text document.
- Access to seven categories: sheet names, general information, production instructions, installation instructions, brackets, electrical cables and glass orders.
- Automatically determines the corresponding file name.
- Checks whether the selected document exists.
- Opens the document in the standard Windows text editor.
- Displays a message if the required file is missing.

Special feature: *Provides centralised access to external text resources without manually searching the file system.*

3. QSAVEPATH — Manage drawing open and save paths

Category: Workflow automation

Organises quick opening and saving of AutoCAD drawings in predefined folders. Uses an external text file containing working paths and lets the user select a folder from the AutoCAD command line.

Main functions:

- Stores working folders in paths.txt.
- Selects one of the predefined folders.
- Provides two main modes: open and save.
- Opens an existing DWG from the selected folder.
- Saves the current drawing using SAVEAS.
- Provides a separate command for configuring the location of paths.txt.
- Stores settings in the Windows registry.
- Remembers the last mode and selected folder.
- Displays the available paths.

Special feature: *Provides a unified way to access project folders without repeatedly navigating a complex folder structure.*

4. SAVEVIEW — Save and restore the drawing view

Category: Workflow automation

Temporarily saves the current position and zoom level of the AutoCAD drawing view and restores the saved view when required.

Main functions:

- Saves the current view centre.
- Saves the current display scale through VIEWSIZE.
- Restores the saved view centre.
- Restores the original display scale.
- Uses the separate SAVEVIEW and RESTOREVIEW commands.
- Checks whether view parameters have been saved.

Special feature: *Allows the user to move temporarily to another drawing area and then return to the saved position and scale.*

Text annotations and leaders

5. CUTML — Remove leading characters from multileader text

Category: Text annotation editing

Edits the text content of AutoCAD multileaders (MLEADER). The user specifies how many characters to remove from the beginning of the text, then processes the selected leaders.

Main functions:

- Sets the number of leading characters to remove.
- Selects multileaders sequentially.
- Removes the specified number of characters from the start of each text.
- Preserves the remaining text.
- Updates the object's text data and graphical display.
- Processing can be cancelled at any time with ESC.

6. DZTXT — Automatic classification and formatting of text annotations

Category: Drawing annotation automation

Automatically classifies and formats text annotations in engineering drawings. Identifies the annotation type by its first letter and applies the corresponding text style, layer, colour and height.

Main functions:

- Recognises annotations beginning with V, H and G.
- Assigns the corresponding text styles and layers.
- Sets a specific colour for V-type annotations.
- Applies a dedicated layer and text style to G-type annotations.
- Converts recognised annotations to MTEXT.
- Scales text height using the selected factor.
- Sets the rotation angle of created text objects to zero.
- Processes selected text objects in batches.

Special feature: *Warning: non-empty text objects in the selection that do not begin with V, H or G are deleted. Select objects carefully.*

7. GETBLOCKAT — Extract labels from block attributes

Category: Dynamic blocks and text annotations

Extracts the BNAME attribute from a selected dynamic block and places the retrieved label in the drawing. It searches both visible nested blocks and the selected block itself.

Main functions:

- Selects a dynamic block.
- Searches visible nested blocks for BNAME.
- If not found, searches the selected block itself.
- Outputs the label as MTEXT or as an MLeader.

- Can reuse the geometry of the first created leader.
- Places text and leaders on a dedicated layer.
- Processes multiple blocks sequentially.

8. GETBLOCKN — Get the block name

Category: Drawing annotation automation

Extracts the effective name of a selected AutoCAD block and places it as text or a multileader. For dynamic blocks, it uses the effective name rather than the internal anonymous name.

Main functions:

- Selects blocks sequentially.
- Extracts each block's effective name.
- Outputs the name as MTEXT or MLeader.
- Can reuse the geometry of the first created leader.
- Places created objects on a dedicated layer.
- Temporarily disables object snaps when placing leaders.
- Processes multiple blocks in one run.

9. GLASSN — Format glass and profile annotations

Category: Drawing annotation formatting

Standardises text annotations for glass, insulating glass units and profiles in engineering drawings. Offers processing modes, text scaling and batch application of formatting settings.

Main functions:

- Three modes: text-size adjustment, glass labelling and profile labelling.
- Batch processing of TEXT and MTEXT objects.
- Assigns predefined text styles and layers.
- Scales text height according to the selected style.
- Preserves text content and rotation angle.
- Sets colour by layer properties.
- Enables annotative mode for created text objects.

10. KLF_EXTRACT — Count and extract text annotations

Category: Drawing documentation analysis

Counts repeated text annotations in a drawing and creates a summary list. Supports MTEXT objects and multileader text, groups identical content and counts its occurrences.

Main functions:

- Selects MTEXT or MLEADER as the object type.
- Selects the group of objects to analyse.
- Extracts the text content.
- Groups identical annotations.
- Counts occurrences of each annotation.
- Creates a summary list with counts.
- Creates a separate list suitable for transfer to Excel.

11. MLTXTPICK — Library of text annotations and leaders

Category: Project documentation formatting

Provides quick selection and placement of standard text annotations using multileaders. The library contains templates grouped by function, including insulation, panels, fasteners, small components and general technical notes.

Main functions:

- Built-in library of standard text annotations.
- Groups entries by functional category.
- Searches annotations by keywords.
- Offers insertion as text or as the entry number.
- Creates MLeader objects automatically.
- Allows custom geometry for the first leader and reuses it for subsequent insertions.
- Places leaders on a dedicated layer.
- Supports multiline annotations.

12. MT2ML — Combine text objects into a multileader

Category: Text annotation editing

Combines several multiline text objects into one multileader. Extracts and joins the selected text in sequence, then creates a single text block with a leader.

Main functions:

- Selects multiple MTEXT objects.
- Extracts their text content.
- Joins the texts with line breaks.
- Creates one MLEADER object.
- Places the result on a dedicated layer.
- SAVE mode keeps the source texts; DEL mode allows their deletion.
- Remembers the last selected mode.

13. PROFN — Add letter prefixes to profile labels

Category: Text annotation editing

Adds a selected letter prefix to the beginning of profile annotations in bulk.

Main functions:

- Selects one of six prefixes: R, V, L, T, H or B.
- Processes TEXT and MTEXT objects.
- Adds the selected letter to the beginning of each label.
- Preserves the original text after adding the prefix.
- Processes multiple annotations in one operation.

14. REPLACEP — Bulk replacement of text annotations

Category: Text data processing

Replaces text annotations in AutoCAD drawings using an external table of substitutions loaded from a TXT file.

Main functions:

- Loads substitution pairs from a TXT file.
- Uses source-label and replacement-label pairs.
- Processes TEXT, MTEXT and MLEADER content.
- Can perform several substitutions within one text object.
- Counts processed objects.
- Can be launched with the short command RP.

15. SCALEHEADER5X — Create scalable text headings

Category: Drawing annotation automation

Combines several single-line TEXT objects into one MTEXT block. Sorts source texts from top to bottom, accounts for the current annotative scale and creates a heading using a scale factor.

Main functions:

- Selects multiple TEXT objects.
- Sorts texts by vertical position, top to bottom.
- Cleans text content of control characters.
- Combines the texts and inserts line breaks.
- Prompts for the placement point.
- Sets the scale factor, with 1:5 as the base value.
- Accounts for the current annotative scale.
- Uses text style _DZ_4 and layer Defpoints.
- Deletes the source text objects after creating the new block.

16. TRIMML — Trim multileader text content

Category: Text annotation editing

Shortens the text content of AutoCAD multileaders (MLEADER) to a specified number of characters.

Main functions:

- Sets the number of characters to retain.
- Selects multileaders sequentially.
- Reads text content from data group 304.
- Trims text to the specified length.
- Updates the object's text content and graphical display.
- Can be stopped with ESC.

Dimensioning

17. CLEARDIMTXT — Clean dimension annotations

Category: Dimension drawing formatting

Removes custom text overrides from AutoCAD dimensions, restores automatic display of measured values and moves selected dimensions to a specified layer with ByLayer colour.

Main functions:

- Processes DIMENSION objects in bulk.
- Removes custom text overrides.
- Restores automatic measured-value display.
- Creates the target layer if it does not exist.
- Moves selected dimensions to the target layer.
- Sets colour to ByLayer.

18. GDIM — Automatically dimension block extents

Category: Dimensioning automation

Automatically adds horizontal and vertical overall dimensions to selected AutoCAD blocks. Determines the block extents and places dimension lines at a defined offset.

Main functions:

- Selects blocks sequentially.
- Determines each block's overall dimensions.
- Creates horizontal and vertical dimensions.
- Offers both-dimensions, horizontal-only and vertical-only modes.
- Creates a dimension layer automatically.
- Places dimension lines at a fixed offset of 100 units.

19. TDIMCUSTOM — Custom text additions to dimensions

Category: Dimension annotation automation

Adds custom explanatory text before or after a measured dimension value. Supports manual entry and a reusable library of text templates.

Main functions:

- Adds text before or after the dimension value.
- Allows free text entry.
- Maintains templates in DimText.txt.
- Selects prepared additions from a list.
- Stores the library in the current drawing folder.
- Processes selected DIMENSION objects in bulk.
- Preserves the original measured value.

20. TDIMDOOR — Create door-opening dimension labels

Category: Construction drawing formatting

Automatically formats dimension labels for door openings, supporting horizontal and vertical dimensions with the required letter and numeric notation and units.

Main functions:

- Selects horizontal or vertical notation.
- For horizontal dimensions, selects a 90° or 180° label angle.
- Adds the VA prefix automatically.
- Formats horizontal labels with the selected angle.
- Adds the unit mm.
- Processes selected DIMENSION objects in bulk.
- Can process several dimension groups in one run.

21. TDIMDREN — Create drainage-hole dimension labels

Category: Façade drawing formatting

Creates special dimension labels for drainage-hole dimensions by adding a letter prefix and a diameter parameter to the measured value.

Main functions:

- Processes DIMENSION objects in bulk.
- Adds the TN prefix.
- Adds the diameter notation D20.
- Preserves the measured value.
- Formats the label using the pattern TN:[dimension], D20.

22. TDIMGAP — Label gaps and clearances

Category: Façade drawing formatting

Adds a gap notation to selected dimension lines, appending “(Vahe)” to the measured value and moving the dimensions to a dedicated layer with ByLayer colour.

Main functions:

- Processes DIMENSION objects in bulk.
- Adds “(Vahe)” after the measured value.
- Preserves the measured value.
- Creates the target layer if necessary.
- Moves selected dimensions to the dedicated layer.
- Sets colour to ByLayer.

23. TDIMOPEN — Label window-opening dimensions

Category: Construction drawing formatting

Creates text labels for window-opening width and height dimensions, adding the appropriate explanatory text before the measured value.

Main functions:

- Selects opening width or height.
- Adds “Laius, ava” for width or “Korgus, ava” for height.
- Processes DIMENSION objects in bulk.
- Preserves the measured value.
- Creates the target layer if necessary.
- Moves selected dimensions to a dedicated layer and sets ByLayer colour.

Blocks, attributes and labelling

24. BNAME — Export and import block attributes

Category: Drawing data management

Saves and restores BNAME attribute values of AutoCAD blocks. Exports the values to an external text file and imports them back into the drawing.

Main functions:

- Exports BNAME values to a text file.
- Stores object Handle, block name and attribute value.
- Imports previously saved attribute values.
- Restores data using unique object Handles.
- Can process preselected blocks.
- Creates the BNAME attribute definition in a block if missing.
- Creates a data folder automatically.
- Offers export and import modes.

Special feature: *Preserves and restores attribute data independently of the current AutoCAD session.*

25. BREPLACEAREA — Bulk block replacement in a selected area

Category: Graphical object management

Replaces one block type with another within a selected drawing area while preserving the main placement parameters.

Main functions:

- Selects the source block and replacement block.
- Selects the area to process.
- Finds all source-block instances in the area.
- Replaces the matching blocks in bulk.
- Preserves insertion coordinates, X/Y/Z scales, rotation angle and layer.
- Reports the number of replaced blocks.

Special feature: *Replacement deletes the original block and inserts the new one. Attribute values are not transferred automatically.*

26. CountBlocks — Count blocks by name

Category: Graphical object analysis

Counts instances of a specified block type within a selected group of drawing objects.

Main functions:

- Enters the block name to search for.
- Selects an area or group of drawing objects.
- Filters selected objects by INSERT type.
- Compares block names without case sensitivity.

- Counts matching instances and reports the result on the AutoCAD command line.

27. DWAXB — Create dynamic-block labels from parameters

Category: Structural element labelling automation

Automatically creates labels for dynamic blocks from their parameter values and writes the resulting designation to the BNAME attribute.

Main functions:

- Processes selected dynamic blocks in bulk.
- Extracts values of two specified dynamic parameters.
- Allows parameter names to be configured.
- Builds a label using [prefix]-[size 1]x[size 2].
- Writes the result to BNAME.
- Remembers the last prefix and parameter names.
- Allows the prefix to be cleared.

Special feature: *Creates labels from the actual parameters of dynamic blocks, avoiding manual transfer of dimensions into annotations.*

28. MARKLEN — Label dynamic blocks by parameters

Category: Structural element labelling automation

Creates text labels for dynamic blocks using parameter values and places them as multileaders. Existing labels can also be edited and updated from current block parameters.

Main functions:

- Creation and editing modes.
- Extracts specified dynamic-block parameters.
- Allows the parameter name to be set by the user.
- Builds a label using the “Mark-Size” pattern.
- Creates MLEADER objects.
- Can reuse the geometry of a selected or first-created leader.
- Places leaders on a dedicated layer.
- Updates existing labels from current block parameters.
- Remembers the last mark and parameter name.

Special feature: *Keeps drawing annotations synchronised with the current parameters of dynamic blocks.*

29. RENAMEBLOCKDLG — Rename blocks

Category: Block library management

Renames block definitions in an AutoCAD drawing. Uses the effective name of a dynamic block as the source name.

Main functions:

- Selects blocks sequentially.
- Determines the effective block name.
- Enters a new name at the command line.
- Changes the block definition name in the AutoCAD block table.
- Can rename multiple blocks in sequence.
- Displays the renaming results.
- ESC ends the operation.

Special feature: *Renaming the block definition updates the name for all its instances in the drawing.*

30. SELSAMEBLOCK — Select identical blocks

Category: Graphical object management

Finds and selects all instances of a block type within a selected drawing area, using the effective name to identify dynamic blocks.

Main functions:

- Selects a source block.
- Determines its effective name.
- Selects the search area.
- Finds blocks with the matching name.
- Supports dynamic blocks.
- Selects all matching instances and reports their count.

Special feature: *Finds identical block types even when dynamic blocks have different states or parameter values.*

31. SETBNAME — Assign the BNAME attribute to a block

Category: Block data management

Creates a new version of a selected block with an additional hidden BNAME attribute and a user-defined value.

Main functions:

- Selects the source block and reads its name and insertion point.
- Prompts for the BNAME value.
- Creates a new block definition with the suffix _WITH_BNAME.
- Copies the source block geometry into the new definition.
- Adds a constant invisible BNAME attribute.
- Inserts the new block at the original point and deletes the original instance.

Special feature: *Adds hidden information to existing blocks for use by other custom applications.*

32. STAMPALUMION — Save and restore block attributes

Category: Project documentation data management

Saves and restores attribute values of selected AutoCAD blocks. Supports multiple independent data sets that can be applied to attributes of other blocks.

Main functions:

- Reads attribute values from a selected block.
- Saves data to external text files.
- Restores attribute values from a saved set.
- Creates and switches between independent data sets.
- Matches attributes by TAG identifiers.
- Excludes SHEET, SHEET_TOTAL, TITLE and attributes with the SS_ prefix.
- Stores data in a dedicated user-profile folder.

Special feature: *Transfers attribute data sets between blocks while retaining independent variants, particularly useful for repeated drawing title blocks.*

33. SYNCBLOCKAT — Synchronise block attributes in a selected area

Category: Block attribute management

Synchronises attributes of block instances within a rectangular drawing area. Determines effective block names and runs the standard ATTSYNC command for each type.

Main functions:

- Selects a rectangular area.
- Finds blocks inside the area.
- Determines effective names of dynamic blocks.
- Synchronises attributes for each block type in sequence.
- Uses AutoCAD's standard ATTSYNC command.

- Processes multiple blocks in one run.

Geometry and graphical-object editing

34. BOFF — Create block bounding outlines with dimensions

Category: Drawing construction automation

Automatically creates rectangular bounding outlines around AutoCAD blocks with independent offsets on each side. It can also create four dimensions describing the outline and its position relative to the source block.

Main functions:

- Selects a block and determines its extents.
- Sets independent left, top, right and bottom offsets.
- Creates a closed rectangular polyline.
- Uses the OGLT1 linetype.
- Creates required layers automatically.
- Can enable or disable dimensions.
- Creates left, right, top and bottom dimensions.
- Allows interactive placement of horizontal and vertical dimension lines.
- Processes multiple blocks sequentially.

35. CMALL — Automatically mark circle centres

Category: Geometric tools

Creates centre marks for selected circles. Instead of running the standard AutoCAD command separately for each circle, it processes the selected group.

Main functions:

- Selects several circles at once.
- Determines the centre and radius of each circle.
- Runs CENTERMARK for the selected circles.
- Automates the creation of centre marks.

36. GLASS_MOVE — Offset insulating-glass outlines

Category: Façade geometry editing

Offsets lines forming insulating-glass outlines relative to a specified reference line while maintaining the relationships between connected contour segments.

Main functions:

- Selects the drawing area containing the glass units.
- Selects a reference line that defines the offset direction.
- Sets the offset distance in millimetres.
- Determines the normal to the reference line.
- Identifies lines by layer _0_001_Профили and colour 4.
- Determines vertices to be moved.
- Preserves points close to the reference line and moves coincident vertices together.

Special feature: *Corrects glass outlines relative to profiles without manually moving each line.*

37. HATCH2PL — Convert hatch boundaries to polylines

Category: Graphical object processing

Extracts the boundaries of selected AutoCAD hatches and converts them into polylines using AutoCAD's hatch-editing functionality.

Main functions:

- Selects hatches sequentially.
- Checks the selected object type.
- Switches to the source hatch layer.
- Creates a polyline along the hatch boundary.
- Uses AutoCAD to create an associative boundary.
- Restores the original current layer.
- Processes multiple hatches in one run.

38. MOVEBLALONGL — Move blocks along a curved path

Category: Geometric object positioning

Moves or copies blocks along a selected curve by a specified distance. Determines the nearest point on the path and can align the block with the curve tangent while retaining its original angular offset.

Main functions:

- Selects a block and a guiding curve.
- Finds the nearest point from the block to the curve.
- Sets the travel distance along the path.
- Offers move and copy modes.
- Can align the block with the curve.
- Determines the tangent direction at the new point.
- Accounts for the block's original rotation.
- Restricts movement to the length of the selected curve.

Special feature: *Positions repeated structural elements along complex curved outlines without manual coordinate and rotation calculations.*

39. NF — Standardise backgrounds and profiles

Category: Drawing structure standardisation

Standardises layers and graphical properties of objects and nested blocks. Supports architectural backgrounds and profile geometry, assigning appropriate external layers and setting internal block elements to layer 0 with BYBLOCK properties.

Main functions:

- ARCH and PROF processing modes.
- Assigns external objects to _0_000_Подоснова or _0_001_Профили.
- Creates the target layer if missing.
- Preserves block structure without exploding blocks.
- Processes nested blocks recursively.
- Moves internal block elements to layer 0 and assigns BYBLOCK colour, linetype and lineweight.
- Assigns BYLAYER properties to external objects.
- Skips external references.
- Regenerates the drawing after processing.

Special feature: *Standardises complex drawings with nested blocks while preserving block integrity and property inheritance.*

Façade design and production documentation

40. ADDPRODTXT — Create production notes

Category: Production documentation automation

Creates structured text blocks containing production and installation instructions for aluminium and glass façade systems. Dialogues collect component and fixing parameters, then assemble the selected sections into one MTEXT object.

Main functions:

- Creates the TOOTMINE production-section heading.
- Selects required sections from a predefined set of instructions.
- Provides descriptions for glazing retainers and ventilation elements.
- Describes transom-to-mullion connections.
- Creates specifications for gaskets, insulation components and glazing beads.
- Provides notes for insulating glass units and single glazing.
- Creates instructions for sandwich panels, window and door frames, transoms and mullions.
- Enters dimensions, article numbers and component properties through dialogue boxes.
- Combines selected sections into one MTEXT object and allows unwanted sections to be excluded.

Special feature: *Uses specialised DCL dialogue forms and external DCL files.*

41. CLEANFRAG — Clean and adapt LogiKal output drawings

Category: Production drawing preparation

Cleans and adapts drawings generated by LogiKal for use in a custom AutoCAD template. Removes auxiliary elements and adjusts linetypes, colours and layer assignments.

Main functions:

- Processes selected graphical objects in bulk.
- Removes auxiliary dimension annotations and selected green elements.
- Identifies and removes auxiliary lines by geometric criteria.
- Removes objects using linetype OGLT0.
- Converts OGLT1 to CONTINUOUS for specified objects.
- Moves geometry to layer _0_001_Профили.
- Reassigns object colours and applies ByLayer where required.
- Corrects text annotation colours and creates the target layer if missing.

Special feature: *Combines geometric filtering, graphical-property analysis and batch correction to prepare LogiKal drawings for further detailing.*

42. FOAM — Graphical representation of construction materials

Category: Construction drawing formatting

Creates graphical material representations on drawings. The user selects a material from a library, applies the corresponding hatch to a closed contour and can add a descriptive leader.

Main functions:

- Selects from a library with nine predefined categories.
- Assigns hatch pattern, scale and angle automatically.
- Sets the working layer and colour.
- Creates a contour with a polyline or processes an existing polyline.
- Checks that the contour is closed before hatching.
- Supports CLASSIC, LEADER and POLYLINE modes.
- Creates material-description leaders from a structured library.
- Supports Russian menu labels and Estonian leader text.

Special feature: *Combines material hatching and explanatory leaders in one command.*

43. GLASS — Automate insulating-glass labelling and formatting

Category: Specialised façade design tools

Automates graphical and text formatting of insulating glass units in façade drawings. Uses an external glass database containing labels, glass build-ups and hatch parameters; can create glass graphics, legends and extract RAL colour references.

Main functions:

- Maintains the external glass database glass.txt.

- Stores glass labels, build-ups and hatch parameters.
- Adds records and can extract hatch parameters from existing samples.
- Determines the glass unit cell from a selected point relative to profile lines.
- Creates a rectangular glass boundary and applies the corresponding hatch.
- Builds a list of glass units from selected text labels and removes duplicate marks.
- Sorts labels by numeric value and creates an MTEXT legend.
- Inserts the legend in place of a marker in existing text.
- Extracts RAL references from glass build-ups.
- Uses CHSPACE to move graphical elements between model space and paper space.

Special feature: *Combines the glass database, graphical labelling, legend generation and colour-code extraction in one tool.*

44. HYDRO — Create and format waterproofing and sealing tapes

Category: Façade detail design

Creates graphical representations of sealing and insulation tapes used in façade systems. Builds rounded contours, parallel lines and automatically trims the outline to a selected material length, with a text leader.

Main functions:

- Creates the initial polyline using a standard AutoCAD command.
- Rounds corners with a specified radius and remembers the last radius.
- Calculates the total polyline length.
- Creates two parallel outlines offset by ±1 mm.
- Assigns linetype OGLT2 and constant polyline width of 2 mm.
- Offers classic construction and tape-formatting modes.
- Includes a library of vapour-barrier, windproof, EPDM, butyl and sealing tapes.
- Selects material width, trims the polyline to the specified length and creates a leader with material name and width.

Special feature: *Combines geometry creation, material selection from a library and annotation of façade details.*

45. METIZ — Library and automated insertion of fasteners

Category: Façade system assembly and detailing

Provides a specialised library of fasteners and installation components as AutoCAD blocks. Components are grouped by substrate and application, searchable and insertable with controlled positioning and orientation.

Main functions:

- Library categories include concrete, aerated concrete, metal, timber, brackets, profiles, ventilated façades, screws and bolts, rivets, caps, sandwich-panel fasteners, thermal fixings and EPDM components.
- Searches by name and category.
- Inserts standard or alternative blocks.
- Sets insertion position and rotation.
- Supports insertion by point and direction, along a line or polyline, and with an alternative block.
- Determines line or polyline direction and can invert it.
- Sets component colour and remembers recent settings.
- Calculates insertion position using offsets from reference geometry.

Special feature: *Combines a dedicated fastener library, search, selection and positioning in one façade-design tool.*

46. NASCH — Create cover strips, flashings and thresholds

Category: Façade system design

Creates graphical representations of cover strips, flashings and metal thresholds in façade details. Builds a closed contour from a user-defined path, with specified thickness, rounded corners and solid fill, and can add a descriptive leader.

Main functions:

- Creates the initial contour as a polyline.
- Sets and remembers the corner radius.
- Creates a parallel contour with the specified element thickness.
- Joins contours into one closed polyline.
- Creates SOLID fill.
- Places geometry on a dedicated profile layer.
- Offers standard and leader-based modes.
- Includes types for cover strips, coloured/thickness-defined cover strips and flashings, and stainless-steel sheet thresholds.
- Inserts thickness into the label and creates an MLeader description.

Special feature: *Combines metal-element geometry creation and its text annotation in one command.*

47. REVN — Mark drawing revisions

Category: Drawing change control and formatting

Creates graphical revision markers on engineering drawings, including a rounded rectangular frame, a connecting line and a separate frame containing the revision number. Marker dimensions adapt to the current text style.

Main functions:

- Creates a rounded rectangular frame and sets its corner radius.
- Creates a connecting line without an arrow.
- Accepts a one- or two-digit revision number.
- Builds a frame around the revision number.
- Calculates frame dimensions from text height and digit count.
- Uses the current AutoCAD text style.
- Sets a 15° text obliquing angle and positions the revision number inside its frame.

Analysis and data export

48. CountObjects — Count graphical objects by type

Category: Graphical object analysis

Counts objects of a specified AutoCAD type within a selected group of drawing elements.

Main functions:

- Enters an object type such as LINE or CIRCLE.
- Selects a group of graphical objects.
- Checks the type of each selected object.
- Compares types without case sensitivity.
- Counts matching objects and displays the result on the command line.

49. ExportHatchToCSV — Export hatch extents to CSV

Category: Geometric data extraction

Extracts the overall dimensions of hatched areas in an AutoCAD drawing and exports the results to a CSV file for spreadsheet processing. For each hatch, it calculates the width and height of its bounding rectangle.

Main functions:

- Selects the output file.
- Selects multiple HATCH objects.

- Determines the bounding rectangle of each hatch.
- Calculates width along X and height along Y.
- Creates a table with Height and Width columns.
- Exports to CSV.
- Stores dimensions as integer values.

Special feature: *Calculates the bounding rectangle, not the actual filled area. Fractional parts of dimensions are discarded.*

8. Thematic toolsets

8.1. Creating a gradient pattern on glass

Category: Specialised tools for façade glazing design

This AutoLISP toolset automates the creation of decorative gradient patterns on glass using circles of different diameters. Circle size and spacing gradually change, producing the visual effect of a fading pattern.

The toolset combines initial pattern generation, linear arrays with variable spacing and changing circle radii, and graphical filling.

Included programmes:

- white_fading_circles — creates the pattern using overall dimensions, row count and a diameter range; gradually reduces circle diameters and increases row spacing; positions the pattern symmetrically around a centre axis.
- linear-array — copies selected graphical objects along a line segment, with a defined number of steps and a linear change in spacing.
- linear-array-radius — creates a sequence of circles with gradually changing radii and spacing; additional graphical objects can be included.
- circles-hatch — detects circles within a selected rectangular area and fills them with SOLID hatch.

Distinctive feature: Combines parametric geometry generation with automated graphical formatting for decorative glazing.

8.2. Creating gradient compositions from arbitrary geometric elements

Category: Parametric modelling and graphical automation

This toolset creates decorative gradient compositions from arbitrary geometric elements represented by AutoCAD blocks. Source elements may include circles, triangles, geometric shapes, aircraft outlines, logos and other vector objects.

Compositions are formed by gradually changing block scale, spacing and element density. Random selection from an initial matrix can be used to create irregular patterns.

Main capabilities:

- Creates linear arrays from arbitrary blocks.
- Sets initial and final spacing between elements.
- Gradually changes block scale along a specified direction.
- Changes element size and distribution density.
- Selects matrix elements by specified numbers and deletes the remaining elements.
- Renames and numbers blocks sequentially.
- Fills closed graphical contours with SOLID.

External tool: Randomus.ru — https://randomus.ru/

The random-number generator may be used to produce a sequence identifying the matrix elements to retain.

Applications: Decorative glazing, artistic images on glass, ornaments, geometric compositions, façade and interior panels.

Distinctive feature: Supports regular compositions with controlled size and spacing changes as well as irregular patterns with freely distributed elements.