



# ZWCAD 2022 SP2

PRODUCT RELEASE NOTES

THE ZWSOFT TEAM

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## Welcome to ZWCAD 2022 SP2!

Dear friends,

We are glad to tell you that ZWCAD 2022 SP2 is available now! Thanks to your valuable feedback for the previous version, ZWCAD 2022 SP2 now comes with significant new feature and improvements. Now, let's take a look at this SP2 version.

This Release Notes mainly introduce the new features and improvements in ZWCAD 2022 SP2.

Yours sincerely,

The ZWSOFT Team

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# ZWCAD 2022 SP2 Release Notes

## Overview

ZWCAD 2022 SP2 has the following new features and improvements:

New Features	Description
<a href="#">Enhanced Smart Plot</a>	The output file name can be customized and different paper sizes can be plotted at the same time.
<a href="#">Smart Voice—Convert to Text</a>	Voice messages created by Smart Voice can be converted to texts.
<a href="#">New Data Types for Tables</a>	More data types of table cells are available and related functions are optimized.
<a href="#">Transparent Command</a>	Under dynamic input, a transparent command can be executed within a running command.

Improvements	Description
<a href="#">Spline Explosion</a>	Joint splines can be exploded using the EXPLODE command.
<a href="#">Optimized Display and Plot Effects for Hidden Objects</a>	The object display effects of Shade Plot and Hidden visual styles are optimized.
<a href="#">Optimized Hover Highlight</a>	The speed of cursor movement when hovering over complex objects is optimized.

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## **Efficiency**

The following section describes the efficiency tests in this release.

The efficiency of cursor moving and geometric hidden shade plotting has been greatly improved in the ZWCAD 2022 SP2 version.

In the SP2 version, the cursor hovers over the entities so smoothly that you will not experience unexpected pauses while designing.

The whole process of geometric hidden shade plotting costs less time than other CAD software. On average, it costs 87% of the time needed for geometric hidden shade plotting in other CAD software. At its best, it only costs 38% of the time other CAD programs need, while guaranteeing high-quality output.

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## Stability

The following section delivers updates on stability in this release.

With several typical crash issues fixed since the release of ZWCAD 2022 SP1, ZWCAD 2022 SP2 is more stable when you:

- ✧ Zoom in a drawing;
- ✧ Switch between layouts;
- ✧ In-place edit external references;
- ✧ Select and copy all entities;
- ✧ Invoke the ZWPLLOT command;
- ✧ Export DWF files in the Windows® 7 OS;
- ✧ Open the drawings lastly saved in other CAD software and previous ZWCAD versions.

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## New Features

This section expounds the new features in this release.

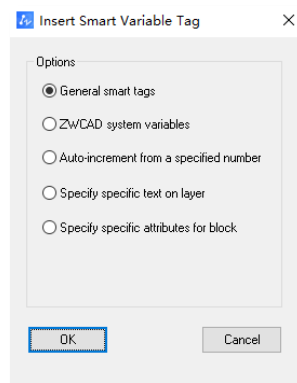
### Enhanced Smart Plot

Smart Plot allows users to plot multiple drawings at once, saving them a large amount of time for plotting. In ZWCAD 2022 SP2, two new features were added:

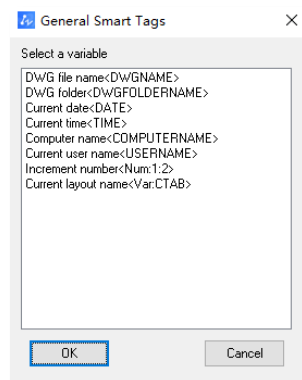
- Customizable output file name

You can now use one or multiple variables of a specified field to name output files. The variables can be a DWG file name, the name of a folder where the DWG file is stored, or an attribute block variable.

In other words, instead of manually changing file names one by one after plotting, you can efficiently set up all file names before plotting.



*Figure 1. Set different variables as the file names*



*Figure 2. Some of the default variables*

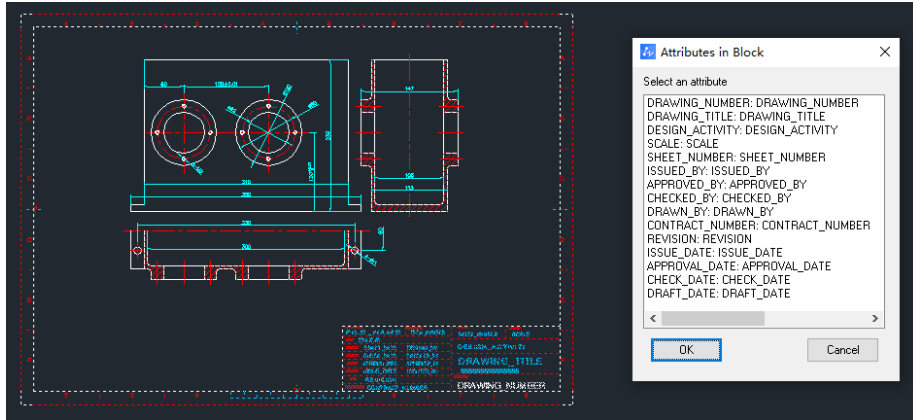


Figure 3. Choose an attribute block variable as the file name

- Automatic paper size recognition

By matching the block name with the paper size setting, the correct size of the paper will be selected for printing. The paper size can be recognized by both virtual and physical printers.

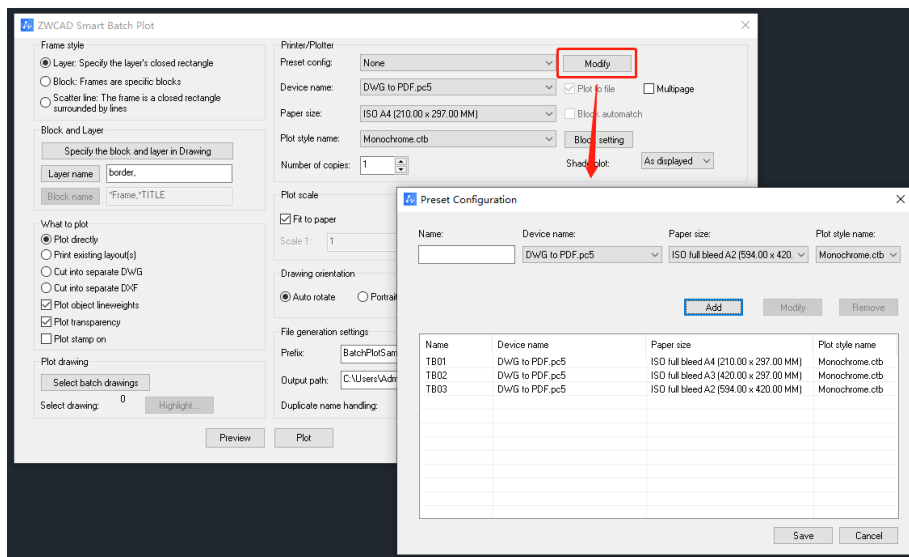


Figure 4. Match the block name with the paper size



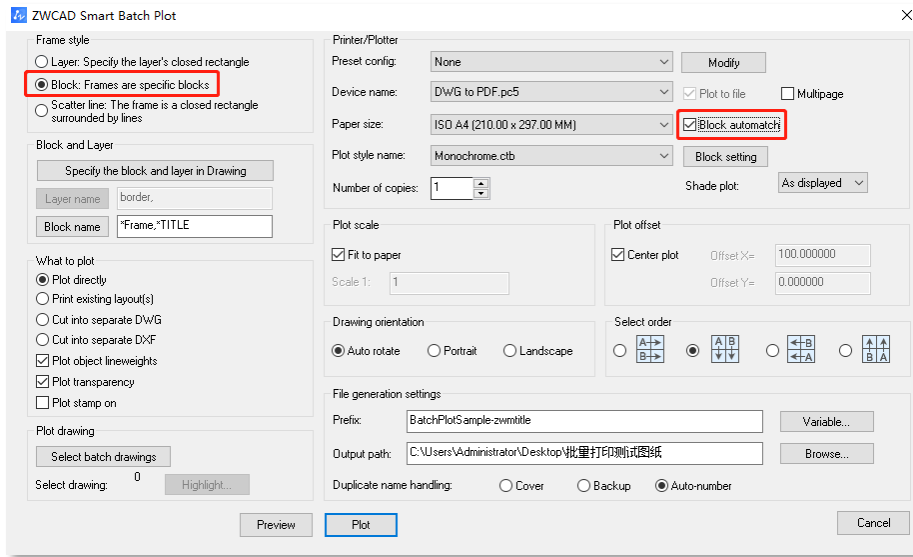


Figure 5. Make sure the “Block” frame style is chosen and the “Block automatch” option is checked

## Smart Voice—Convert to Text

Voice messages in Chinese and English created by the Smart Voice function can be converted to texts now. Such texts can be extracted by copying and pasting as well. This allows users to read voice messages even on computers that cannot play audio.

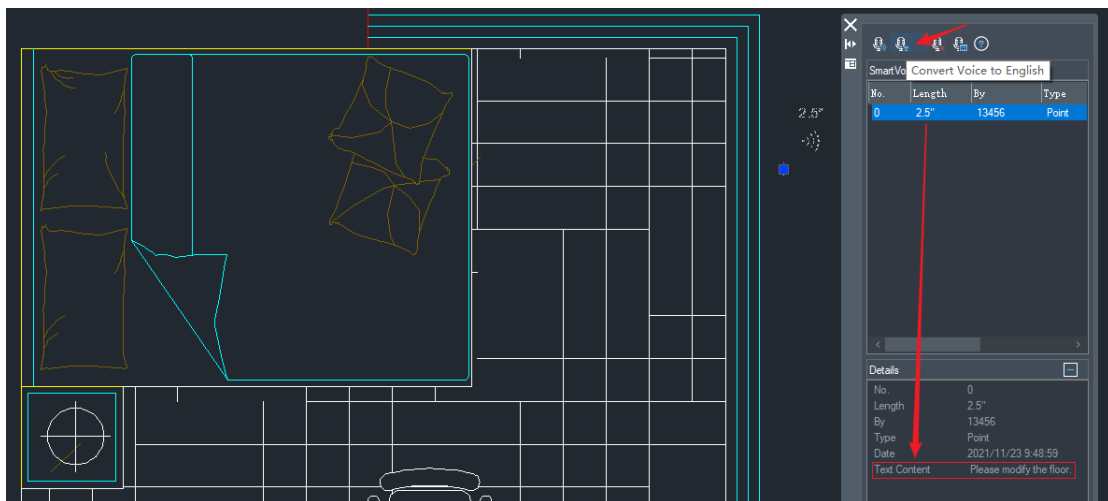


Figure 6. The converted content is displayed at the bottom of the panel

## New Data Types for Tables

4 new data types for tables have been added. They are “Currency”, “Date”,

“Percentage”, and “Point”. Just as before, you can set the table cell format via the toolbar, Properties panel, right-click menu, etc.

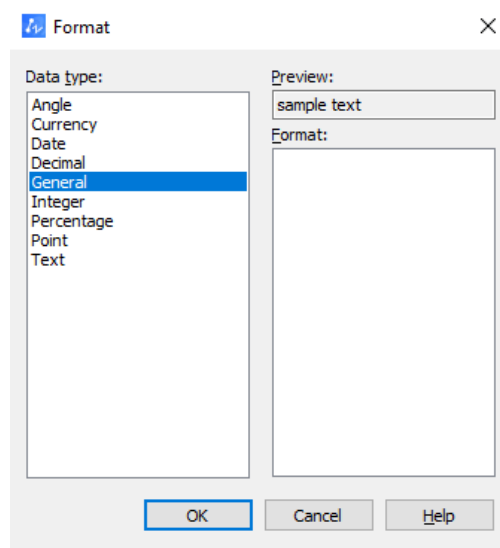


Figure 7. More data types can be used in the table cell

Apart from this, automatic format recognition and data format conversion are feasible for tables, including those created by DATALINK or DATAEXTRACTION.

## Transparent Command

With dynamic input turned on, you can execute a transparent command within a running command. Commands that support a transparent command are as specified below.

The transparent command is mainly used for quick queries, drawing settings, variable settings, etc.

'COLOR	'LAYER
'LINETYPE	'TIME
'LWEIGHT	'TEXTSCR
'DSETTINGS	'ATTDISP
'OSNAP	'ZOOM
'FILTER	'PAN
'SCRIPT	'CAL
'HELP/ ?	'THICKNESS
'BASE	'MATCHPROP
'LIMITS	'AREA
'GRID	'DIST
'SNAP	

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*Figure 6. Commands that support a transparent command*

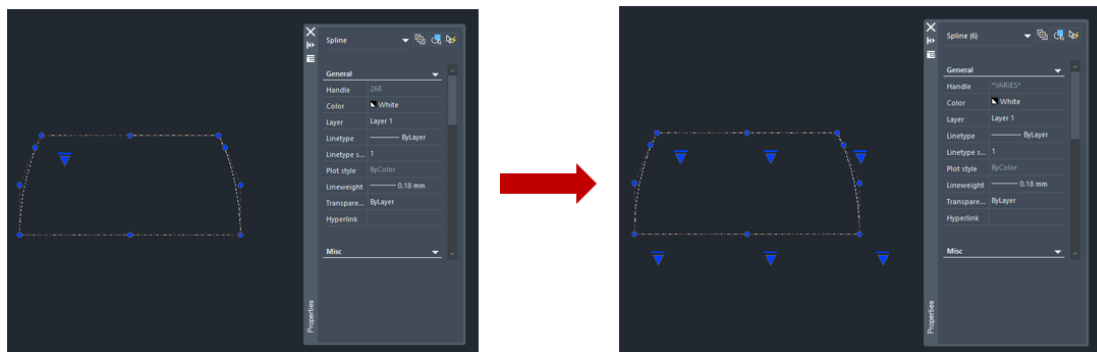
As shown above, to use this, simply type ' in front of a command name (e.g., 'ZOOM) when the dynamic input box is active.

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## Improvements

### Spline Explosion

Now, by using the EXPLODE command, a spline consisting of multiple splines can be exploded into separate splines.



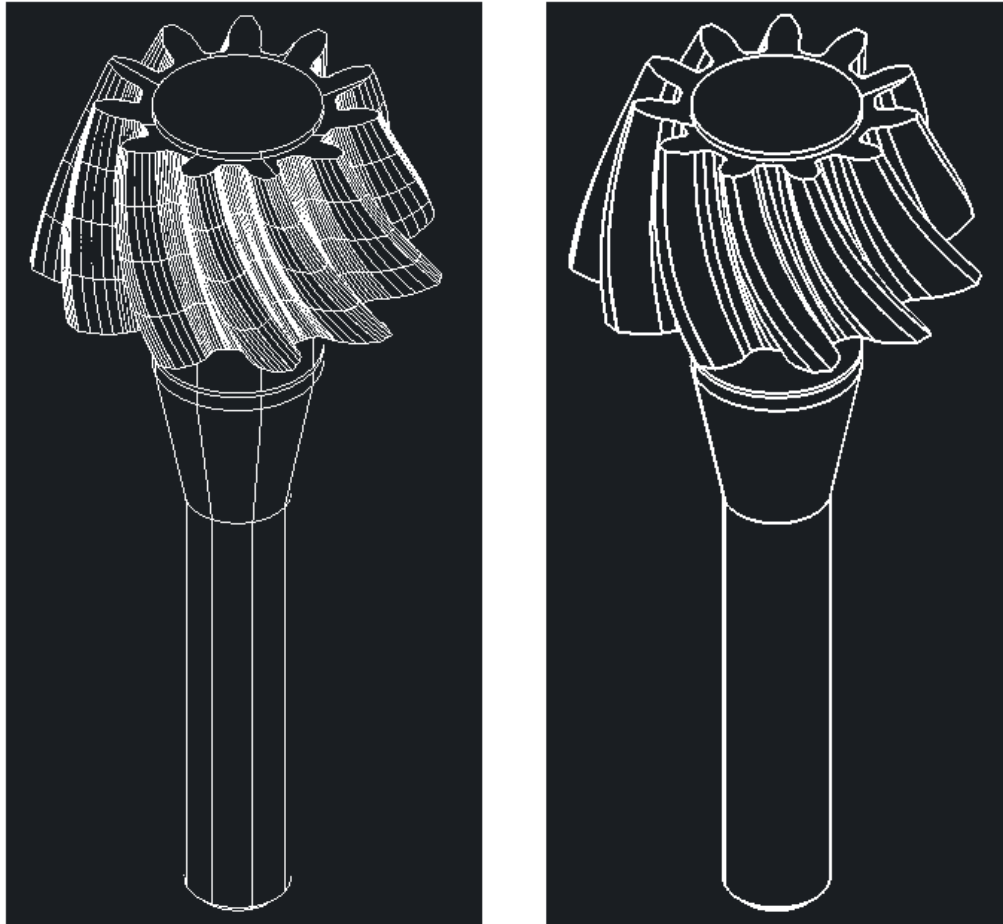
*Figure 7. Before and after exploding a spline*

### Optimized Display and Plot Effects for Hidden Objects

The main improvements are as follows:

1. The display effect of the “Hidden” visual style is optimized.

No matter what the visual style of the object is (even “Non-Hidden”), using the HIDE command will enable the “Hidden” display effect.

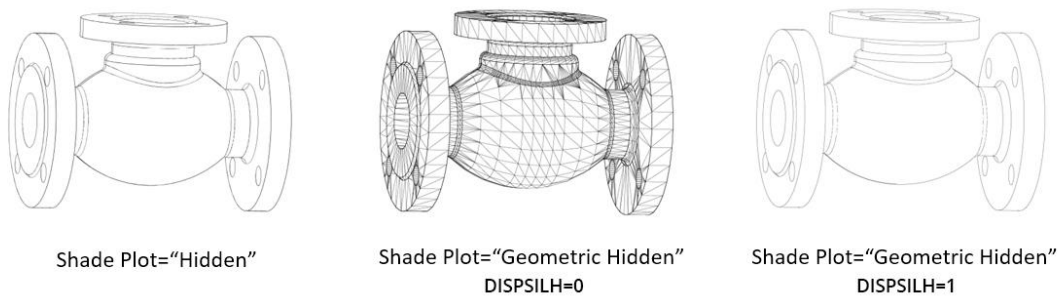


ZWCAD 2022 SP1

ZWCAD 2022 SP2

*Figure 8. ZWCAD 2022 SP1 and SP2 display effect comparison*

2. The plot effects with different values of the DISPSILH variety are optimized (Only for 2D and 3D wireframes).



Shade Plot="Hidden"

Shade Plot="Geometric Hidden"  
DISPSILH=0

Shade Plot="Geometric Hidden"  
DISPSILH=1

*Figure 9. Different plot effects with different values of the DISPSILH variety*

## Optimized Hover Highlight

In the previous version, when the cursor hovers over a complex object, it will

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occasionally be stuck. In ZWCAD 2022 SP2, the speed of cursor movement is optimized even in complex drawings, improving your design efficiency.

The main improvements are as follows:

1. The entities will not be highlighted when the cursor hovers over without a pause.
2. The entities will be highlighted when the cursor hovers over and makes a pause; the speed of highlighting and cursor movement is also improved.

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## New Command

New Command	Description
VOICEMANCLOSE	Close the Smart Voice panel.

## APIs

The following section describes the condition of APIs in this release.

### ZRX

ZRX programs that run correctly from ZWCAD 2021 Official to ZWCAD 2022 SP1 can be loaded in ZWCAD 2022 SP2 directly.

1 was added and 13 were fixed as below:

No.	Interface	Modification
1	virtual Adesk::Boolean image(const AcGImageBGRA32& imageSource, const AcGePoint3d& position, const AcGeVector3d& u, const AcGeVector3d& v, TransparencyMode transparencyMode = kTransparency8Bit) const = 0;	Added
2	Acad::ErrorStatus insert(const AcGeMatrix3d& xform, AcDbDatabase* pDb, bool preserveSourceDatabase = true);	Fixed
3	ACDBCORE2D_PORT ADESK_SEALED_VIRTUAL Acad::ErrorStatus setVisibility(AcDb::Visibility newVal, Adesk::Boolean doSubents = true);	Fixed
4	static Acad::ErrorStatus addOverrule(AcRxClass* pClass, AcRxOverrule* pOverrule, bool bAddAtLast = false);	Fixed
5	double distanceTo(const AcGeCurve3d& curve, const AcGeTol& tol = AcGeContext::gTol) const;	Fixed
6	int acedGrDraw(const ads_point from, const ads_point to, int color, int hl);	Fixed

7	virtual Acad::ErrorStatus getProjectedCurve(const AcGePlane&, const AcGeVector3d& projDir, AcDbCurve*& projCrv) const;	Fixed
8	ACCORE_PORT bool acedRegisterFilterWinMsg(const AcedFilterWinMsgFn pfn);	Fixed
9	virtual Acad::ErrorStatus registerPointFilter(AcEdInputPointFilter* pFilter) = 0;	Fixed
10	virtual Acad::ErrorStatus joinEntities(AcDbEntity* pPrimaryEntity, const AcArray<AcDbEntity*> & otherEntities, AcGeIntArray& joinedEntityIndices, const AcGeTol& tol = AcGeContext::gTol) const = 0;	Fixed
11	ACDBCORE2D_PORT Acad::ErrorStatus addReactor(AcDbDatabaseReactor* pReactor) const;	Fixed
12	void setFrontClipEnabled(bool enabled);	Fixed
13	int acedSSGet(const ACHAR * str, const void * pt1, const void * pt2, const struct resbuf * filter, ads_name ss);	Fixed
14	virtual void ssgetAddFilter(int ssgetFlags, AcEdSelectionSetService & service, const AcDbObjectIdArray& selectionSet, const AcDbObjectIdArray& subSelectionSet);	Fixed

## .NET

5 were fixed as below:

No.	Interface	Modification
1	GripData Methods	Fixed
2	Application.DocumentManager Property	Fixed
3	AcDbText::setTextString Method	Fixed
4	AcDbGripOverrule Methods	Fixed
5	GripOverrule.OnGripStatusChanged Method	Fixed



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## VBA

2 were fixed as below:

No.	Interface	Modification
1	GetEntity Methods	Fixed
2	AddMenuItem Methods	Fixed

## LISP

5 were fixed as below:

No.	Interface	Modification
1	Command	Fixed
2	Getpoint	Fixed
3	entmod	Fixed
4	ssget	Fixed
5	grvecs	Fixed

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## Bug Fixes

Below are some important bugs that have been fixed. For the complete list, please refer to:

<https://www.dropbox.com/s/cgqyxw3nb6wi3e/What%27s%20Fixed%20in%20ZWCAD%202022%20SP2.xlsx?dl=1>

Bug ID	Description
<b>Others</b>	
SUP-32280	ZWCAD 2021 could not recognize the formula field in some drawings correctly.
SUP-38474	The font display was incorrect when specific objects were exported to a PDF file.
SUP-38940	Table: the format setting in table style didn't work and ZWCAD didn't change existing table cell formats.
SUP-39004	The layer order went wrong when exporting a DWG file to a PDF file.
SUP-39359	Plot: ZWCAD 2022 didn't plot to PDF correctly for special characters in TEXT by the built-in PDF plotter.
SUP-39722	Transparency: the display transparency in the polygonal viewport was incorrect.
SUP-39882	The position was wrong when attaching a TIF image.