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ZWSOFT

ZWCAD 2011 vs AUTOCAD 2011

ZWCAD 2011

ZWCAD Technical Support Team

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1. Overview

Generally speaking, ZWCAD is still not as strong as AutoCAD, mainly reflected in following 3 aspects:

- 1) User interface
- 2) Advanced management features
- 3) 3D modeling functions

The first two points are always AutoCAD's advantages. But in recent 2 versions of AutoCAD, they starts to focus more on 3D functions and make a lot of new features and improvements. Such as point clouds, solid history, NURBS surface, and surface analysis, etc. All these features were only available in some professional 3D CAD software. But in AutoCAD, they are kind of simpler than in professional 3D software, and only providing basic functions.

But ZWCAD has its own advantages. Talking about interface, ZWCAD always keeps clear and simple with classical Windows style interface. This may not look so "pretty" like ribbon, but it fits most of the old users' need in design since they have already been familiar with this style, and also much easier for new users to learn to use it. Another advantage of this interface is that it doesn't cost too much system resources, thus need lower configuration of user's computer, result in lower costs.

Secondly, as a 2D CAD platform, ZWCAD is always focusing on 2D drawing functions, as well as basic 3D features. It has little differences on 2D area compared with AutoCAD and can meet users' demand perfectly. What's more, in ZWCAD 2011, Table, Field, Mleader, together with the new Parametric Drawing tools, are all available to make your 2D drawing more efficient and precise.

Besides, as powerful and professional CAD software, ZWCAD always keeps itself "fit". The size of ZWCAD installation package is only about 140MB. Even after full installed, the program is just around 300MB. Compared to AutoCAD's large body over 4.5GB, it's rather small. But ZWCAD provides almost 90% of AutoCAD's functions, especially those frequently used ones. This advantage again can save the hardware and software resource for users to cut the cost.

At the same time, ZWCAD never gives up its best advantage, which is cost-efficiency. You can buy ZWCAD with a relatively lower and affordable price with almost the same function as AutoCAD. It meets the designers' demand as well as saves budget for the company. ZWCAD also provides wide service and support channels. Users can get local services from local partners and resellers, or contact ZWSOFT directly for further support via website, forum, online chat and email. All the support is free to every licensed or even trial version users.

2. Version

ZWCAD 2011: 2010.11.25 (16241)

AutoCAD 2011: E.49.0.0

3. General Introduction of Autodesk

Autodesk Autodesk, Inc., Headquartered in San Rafael, CA, US, is the world leading design software and digital creation company, employed in architecture, mechanical, manufacture, civil, telecommunication, media and entertainment. Founded in 1982, Autodesk provide design software, Internet service, wireless development platform and application, help 9 million users in over 180 countries to push their business and keep competitiveness.

Autodesk has branches and offices in 111 countries and regions over the world, 16 R&D centers with more than 3000 R&D engineers. Autodesk's investment in R&D every year is about 20% of total global income.

As one of the biggest design software company, Autodesk has the longest product line and widest coverage of industries. It has 18 language versions, 1,700 channel partners in the world, over 2,000 training center, 3,300 members in Autodesk Developer Network.

4. Comparison Table

LEGEND

- ✓ Feature Supported
- X Feature Not Supported
- ☆ Feature Partial Supported

	ZWCAD™ 2011	AutoCAD®2011	AutoCAD®2011 LT
COMPATIBILITY			
DWG & DXF Support	✓	✓	✓
AutoCAD® Command	✓	✓	✓
AutoCAD® Menu and Alias Support	✓	✓	✓
TTF & SHX Font Support	✓	✓	✓
Resource File Support (LIN,PAT,SLD,UNT)	✓	✓	✓
Windows® Operating System Support	✓	✓	✓
Mac® Operating System Support	X	✓	✓
USER INTERFACE			
Graphical User Interface	✓	✓	✓
Ribbon	X	✓	✓
SteeringWheels® and ViewCube®	X	✓	X
Initial Setup	✓	✓	✓
DRAFTING & DETAILING			
2D Geometric Entities	✓	✓	✓
Basic Editing Tools	✓	✓	✓
Hatch and Gradient	✓	✓	✓
Dimensioning	✓	✓	✓
Associated Dimension	X	✓	✓
Raster Images	✓	✓	✓
External References	✓	✓	✓
Pline and Spline Editing	✓	✓	✓
Multiline and Multiline Editing	✓	✓	X
Multiple Grips Editing	✓	✓	✓
Blocks and Attributes	✓	✓	✓
Dynamic Blocks	X	✓	✓
OLE Support	✓	✓	✓
In-Place Mtext Editor	✓	✓	✓

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In-Place Reference and Attribute Editing	✓	✓	✓
Entity Snap and Tracking	✓	✓	✓
Layer Properties and Layer States	✓	✓	✓
Table	☆	✓	✓
Field	✓	✓	✓
Multileaders	✓	✓	✓
Geometric Constraint	✓	✓	X
Dimensional Constraint	✓	✓	X
Parametric Management	✓	✓	X
Inferred Constraint	X	✓	X

MODELING & SURFACING

Solid Modeling	✓	✓	X
Solid Editing	☆	✓	X
Sweeps and Lofts	✓	✓	X
Extrudes and Revolves	✓	✓	X
Surface Modeling	✓	✓	X
Surface Editing	☆	✓	X
Mesh Modeling	✓	✓	X
Mesh Editing	X	✓	X
Solid Profiling	✓	✓	X
Point Cloud Support	X	✓	X

MANAGEMENT

Design Center	✓	✓	✓
Tool Palette	✓	✓	✓
Sheet Set Manager	X	✓	X
Aerial View	✓	✓	✓
Dynamic Prompt	✓	☆	☆
Multiple Redo and Undo Facility	✓	✓	✓
Multiple Documents	✓	✓	✓
Tab Environment	✓	X	X
Express Tools	✓	✓	X
Quick Tools	✓	✓	✓

COMMUNICATION

Plot with Plot Style and Plot Stamp	✓	✓	✓
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Shade Plot	X	✓	✓
Layered PDF Plotting	✓	✓	✓
Integrated JPEG and PNG Plotter	✓	✓	✓
Publish and Export	✓	✓	✓
PDF / DWF / DGN Underlay	X	✓	✓
DGN Import and Export	X	✓	✓
eTransmit	✓	✓	✓
Materials	☆	✓	X
Lights	✓	✓	X
Photorealistic Rendering	✓	✓	X
Visual Styles	✓	✓	X
3D Printing	X	✓	X

CUSTOMIZATION

LISP	✓	✓	X
Object ARX	ZRX	✓	X
AutoCAD® Development System(ADS)	SDS	✓	X
VBA	✓	✓	X
Interface Customization	✓	✓	✓
CUI Support	X	✓	✓

UNIQUE

DWG File Compare	✓	X	X
Batch Plot (PLT Plot)	✓	X	X
Block Extraction	✓	X	X
Image with TFW coordinate file	✓	X	X

5. Features Comparison

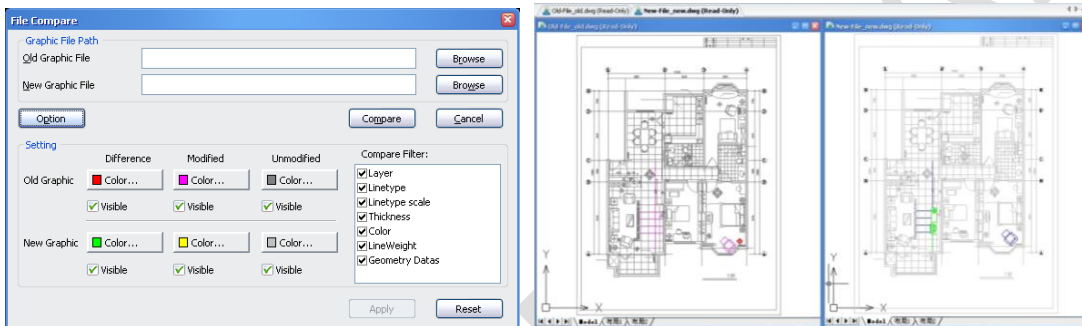
I. ZWCAD's Advantages

- ZWCAD's Unique Features
 - **File Compare**

ZWCAD: support

AutoCAD: not support

This feature is used for comparing two similar looking drawings, and displays the differences between them in different colors. It's mostly used when we need to compare the new version and old version of the same drawing, in order to know what have been modified. It's the unique feature supported in ZWCAD, which is not included in AutoCAD.



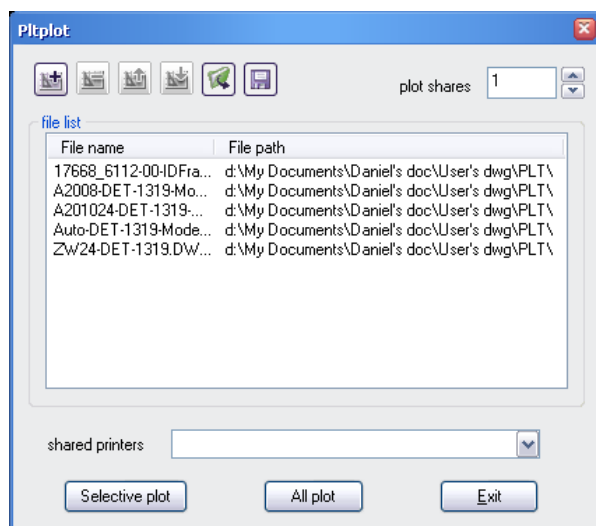
- **Batch Plot (PLT Plot)**

ZWCAD: support

AutoCAD: not support

Using this function enables you to batch plot PLT\PRN files. Import a series of PLT or PRN files that has been plotted, and batch plot them on papers. You can set the number of copies, and choose Selective Plot. At the same time, you can even save the file list as a TXT file, and reusing it at another time by simply importing this TXT file.

The advantage of this PLT batch plot feature is that, different designers can firstly plot their DWG files to PLT files, and then all the PLT files can be collected together for printing so that company can manage the printing issue better and save cost. And PLT file has two advantages: 1. it's encrypted means it can't be edited. 2. Its size is much smaller than DWG file. So it can be better managed.



- **Block Extraction**

ZWCAD: support

AutoCAD: not support

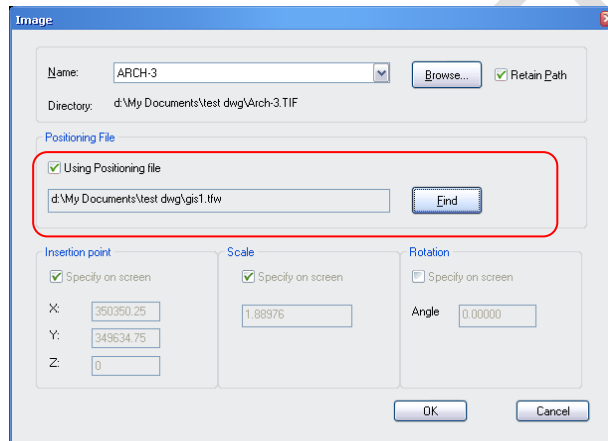
Use Block Extraction feature to extract selected blocks in current drawing to different DWG files, in order to create and manage block library for better reusing.

▫ Image with TFW coordinate file

ZWCAD: support

AutoCAD: not support

When inserting image as references, a positioning file in TFW format is available to be attached to set the position of the image in current coordinate system, without manual control. This is very helpful when you need to precisely control the position of the image. It's also a unique feature provided in ZWCAD.



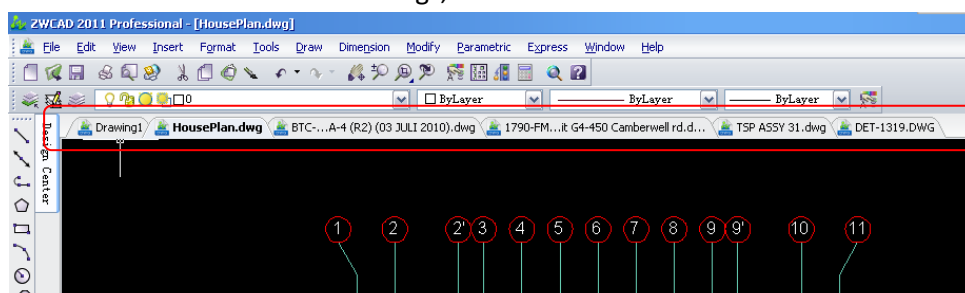
▫ Tab Environment

ZWCAD: support

AutoCAD: not support

ZWCAD support a multi document tab environment. After opening a file, there will be a corresponding tab indicating this file on tab bar. You can switch among drawings by clicking any tab, drag the tab to replace its order, or right-click on it to use New, Open, Save, Find Target functions and so on. It supports to open 255 drawings at the same time, and very convenient for users to operate.

AutoCAD support multi document though, but do not have such tab environment. You need to access Window menu to switch drawings, which is not so convenient as ZWCAD.



- ZWCAD's better features

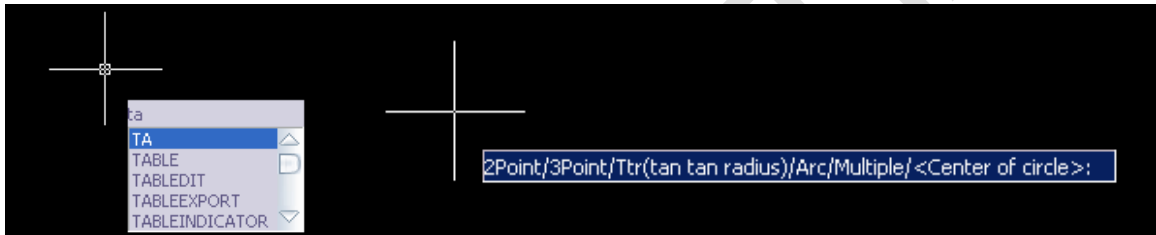
- **Dynamic Prompt**

ZWCAD: support

AutoCAD: partial support

ZWCAD has a powerful dynamic prompt function. It includes two aspects: one is when inputting commands, it can display all available commands that begin with your input; the other is when executing a command, it can prompt the available options to select. Since the prompt is right near the cursor, it is convenient for user to view and select. AutoCAD's prompt only support the second aspect.

The first point is very useful. For a new user, he can quickly find what he want and help him to learn and remember commands. For an experienced user, he can concentrate himself on designing, instead of taking lots of time on inputting complex command.



II. AutoCAD's Advantage

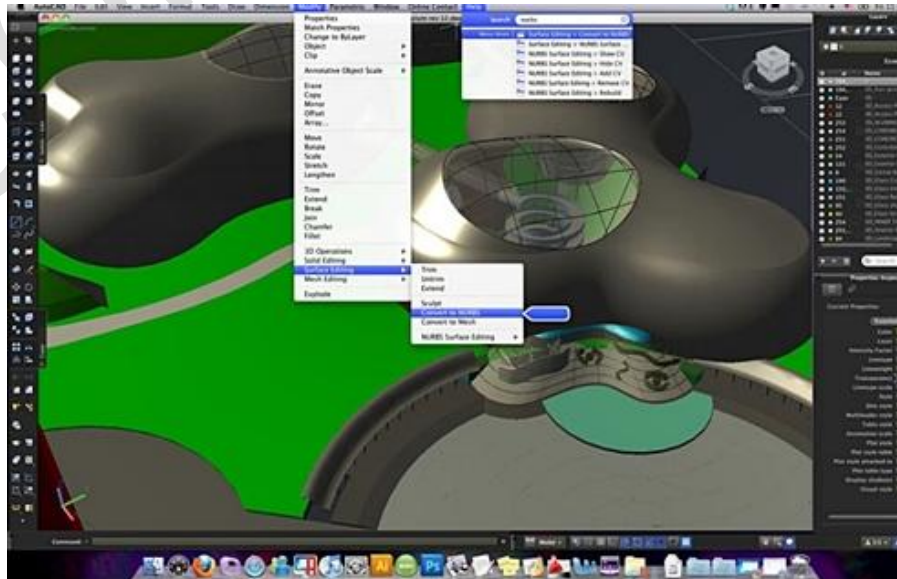
- AutoCAD's Unique Features

- **Mac OS Support**

ZWCAD: not support

AutoCAD: support

AutoCAD now has release its latest version which can be run on Mac OS, iPad, iPod Touch, iPhone. ZWCAD only support Windows systems.

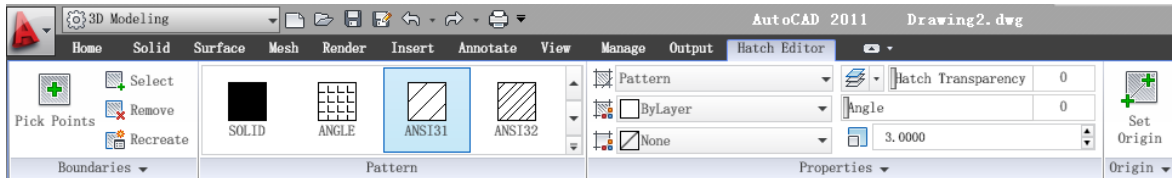


▫ **Ribbon Interface**

ZWCAD: not support

AutoCAD: support

AutoCAD starts to support the new Windows Ribbon style user interface, while keeping the traditional interface as optional. ZWCAD only support classic interface currently.

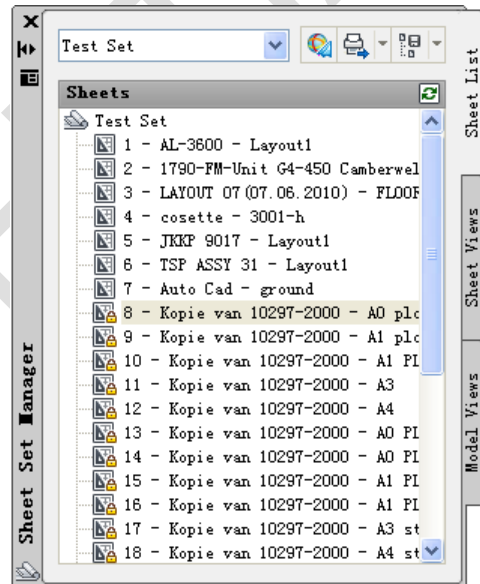


▫ **Sheet Set Management**

ZWCAD: not support

AutoCAD: support

AutoCAD 2011 has a sheet set manager, to put layouts in different drawings together in it which helps you easily manage, view, edit and output you drawings.



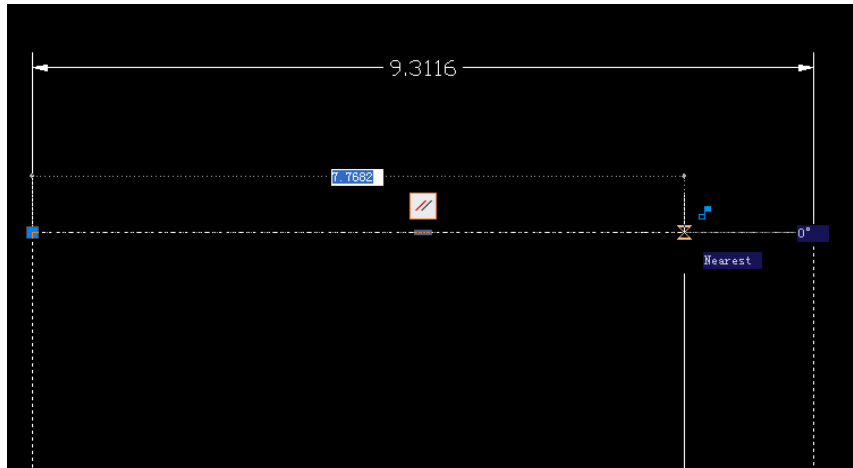
▫ **Associated Dimension**

ZWCAD: not support

AutoCAD: support

In AutoCAD, you can control the Associativity between dimensions and entities by system variable DIMASSOC. When its value is set to 2, they will be completely associated. It means that modifying objects will update the dimension together.

ZWCAD also has the same variable, but it only supports the value 0 and 1. You can select both dimension and entity and do modifications to update the dimension dynamically.



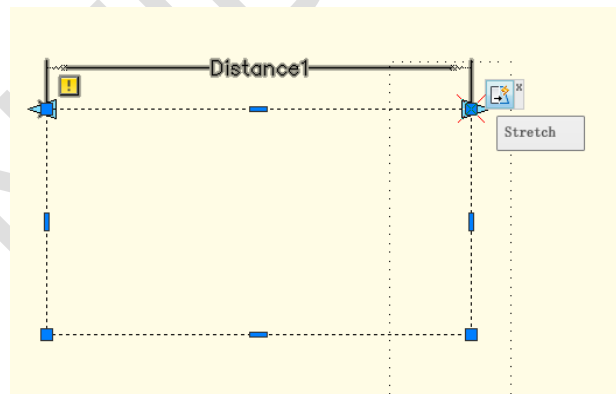
▫ **Dynamic Block**

ZWCAD: not support

AutoCAD: support

By using Dynamic Blocks in AutoCAD, you can create blocks with dynamic effects. Every time you use such block, you can give their parameters different values to make it looks different. The parameters include Constraint parameters and Action parameters.

ZWCAD doesn't support this feature currently. When opening drawings that containing dynamic blocks created by AutoCAD, they will be turned into normal blocks.

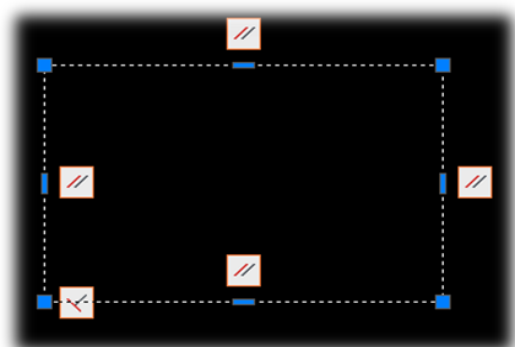


▫ **Inferred Constraint**

ZWCAD: not support

AutoCAD: support

AutoCAD has improved the Parametric Tools in 2011 version. The biggest improvement is the new invented Infer Constraint. When it is on, it can infer and add geometric constraints through the drawing tools, tracks or snaps you used to



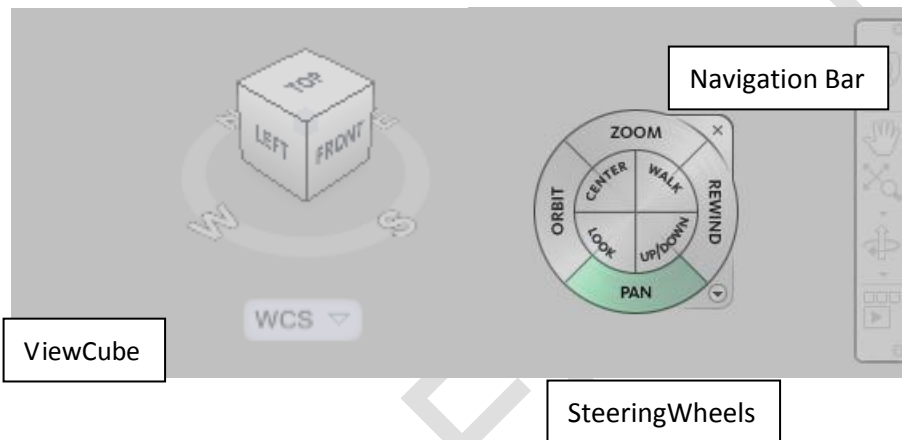
draw this objects, so everything you drew is with correct geometric constraints. It almost functions the same as Auto Constraint.

▫ **ViewCube, SteeringWheels and Navigation Bar**

ZWCAD: not support

AutoCAD: support

These are all AutoCAD's unique 3D viewer. By clicking the edge, corner or face of ViewCube, you can easily orbit a 3D view. SteeringWheels and Navigation Bar integrate pan, zoom and many other viewing tools together.



▫ **Point Cloud**

ZWCAD: not support

AutoCAD: support

AutoCAD 2011 starts to support Point Cloud data. It can insert a PCG or ISD file and use it to rebuild the solid. But it is not like the professional 3D CAD software, which can directly restore these point clouds to solids. AutoCAD uses them more like an underlay. It means you can use these points for snap and track when creating solid, in order to rebuild them.



▫ **DGN Import and Export**

ZWCAD: not support

AutoCAD: support

DGN file format is used by MicroStation. AutoCAD can import and export this kind of file, which is not supported in ZWCAD.

▫ **Shade Plot**

ZWCAD: not support

AutoCAD: support

ZWCAD is not able to plot in shade mode, only Wireframe and Hidden mode are available.



- AutoCAD's better features.

- **Table**

ZWCAD: partial support

AutoCAD: support

Table is one of the new features in ZWCAD 2011, but it is still not as powerful as AutoCAD table.

There are several functions missing in ZWCAD table, like: insert block, insert formula, manage cell content, match cell, link data, and update from source file.

- **Solid Modeling**

ZWCAD: partial support

AutoCAD: support

ZWCAD do not support Polysolid, which can create 3D walls directly.

ZWCAD do not support Presspull method to create solid from any closed objects, faces or regions. It functions like Extrude.

ZWCAD do not support Extract Edges, which can gain the solid's 3D profile. It's not like Solprof function that can only be used in paper space, and generate profile as a whole block. Profile created by this function consists of lines, splines and arcs.

ZWCAD do not support 3D solid grips editing.

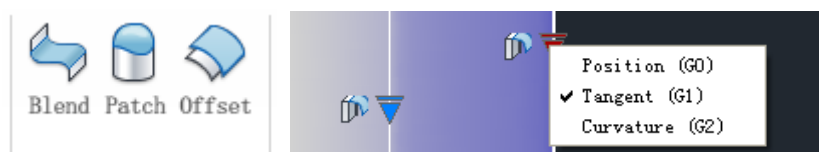


- **Surface Modeling**

ZWCAD: partial support

AutoCAD: support

ZWCAD do not support Blend, Patch and offset methods to create new surfaces from existing surfaces. And the surfaces' edge connection type can be adjusted, including Position, Tangent and Curvature.



ZWCAD do not support the creation and editing of NURBS surface.



ZWCAD do not support Surface Associativity, this function can keep associativity between neighbor surfaces, or surfaces and its profiles.

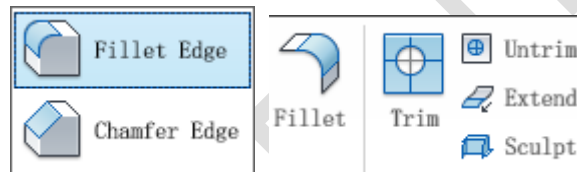
ZWCAD do not support Surface Analysis, which can use 3 methods to analyse the quality of surfaces, including Zebra, Curvature and Draft mode.

▫ **3D Operation**

ZWCAD: partial support

AutoCAD: support

Some new 3D operation tools is available in AutoCAD, including Fillet and Chamfer Edge(used for 3D solids only), 3D Trim and Extend(used for surfaces only), and Sculpt.



▫ **Material**

ZWCAD: partial support

AutoCAD: support

Both AutoCAD and ZWCAD support to use different materials to render 3D solids. But in AutoCAD 2011, it has an integrated Material Library, which contains hundreds of materials. All of them can be used onto solids easily.

