form.Z features Comparison Chart

Modeling

Feature	Z pro	Z jr	Z free
Accurate robust internal representation of data including 3D solids, surfaces, trimmed surfaces, NURBS and parametric representations.	●	●	●
ACIS modeling engine provides advanced smooth modeling capabilities and reliable internal data representation.	●	●	
Interactive drawing tools that allow for the direct creation of any shape including lines, splines, NURBS curves, arcs, circles ellipses, and polygons	●	●	●
Interactive 3D primitive creation (Cone, Cylinder, Sphere, Torus).	●	●	●
Advanced 3D primitives. Interactively create Paraboloid, Hyperboloids and Hyperbolic Paraboloids.	●		
Sculpting tools use realtime Booleans to interactively Reshape (push/pull), Offset Segment, Offset Outline, Imprint	●	●	●
Deformations alter the shape of an object with the Bend, Bulge, Taper or Twist methods while keeping them a solid accurate object.	●	●	
Advanced Deformations include Bend Along Path and 3D Morph operations.	●		
The Billboard tool enables the quick placement of an image as a texture in 3d.	●	●	●
Basic Rounding allows for the rounding or beveling an edge of an object.	●	●	
Advanced Rounding and Blending give much more control over rounding operations and offers blending between faces of objects (fillets).	●		
The Cap tool constructs surfaces across opening in a model. The Cover and Uncover tools convert a wire object to a surface or vise versa.	●		
Lofting tools include ruled, guided, path and branched lofting.	●		
The Derivative tools allow for the construction of an extrusion, convergence or a wall object from (all or a part of) an existing object.	●	●	●
Advanced Derivative tools include point clouds, derivative from parts of objects. The frame tool derives a structure such as a truss or space frame from the edges of an object.	●		
Unfold enables a model to be unfolded (flattened) with tabs and labels for fabrication and easy assembly. The projection tool flattens an object onto a plane.	●	●	
Revolve is used to derive a revolved or lathed object from a profile (source shape) and an axis.	●	●	●
Helix and Sweep are powerful modeling operations that derive a new shape from the volume that a source object creates as it follows a path.	●	●	
Advanced Sweep tools (Two Source Sweep, Two Path Sweep, Boundary Sweep, Draft Sweep) offer more flexibility and power the sweep capabilities.	●		
Offset Surface makes a new surface parallel to the original surface. Thicken (shelling) converts a surface into a solid of a desired thickness.	●	●	●
Skinning is a powerful method to create surface or solid objects from a set of source shapes and a set of paths. There are tools for Smooth Skin, Meshed Skin, and Cross Skin.	●		
Booleans allow for the creation of new forms through the Union, Intersection, or Difference of 3D solid objects.The Split, Slice, Line of intersection offer similar capabilities for surfaces.	●	●	●
Stitching enables the joining of surfaces and the creation of solids for a closed set of surfaces.	●	●	●

Feature	Blue	Red	Green
The Section tools allow for the creation of 2D and 3D sections of models.	●	●	●
Advanced Meshing tools give real control over facets of a model. These include the 3D Mesh, Polygion Mesh, Reduce Mesh and Polygonize tools.	●		
Displacement creates a 3D object by added relief to a meshed surface based on an image creating the effect of the image being pushed through the surface.	●		
Architectural specialty tools include: Stairs, Spiral Stairs, Roofs and Terrain Models.	●	●	
Architectural specialty tools include: Switchback Stairs.	●		
Engineering specialty tool include; Gears, Screws and Bolts.	●		
Advanced creative design tools to enhance form generation. These tools include Point Scatter, Surface Scatter, Volume Scatter, Voronoi Diagram, Delaunay Triangulation, Wrap Objects and Parametric Map.	●		
Components make it easy to place commonly used items in a model from a library of objects. A set of libraries is provided and users can create and share their own library of objects that they create. Tools are included for placing, creating, exploding, replacing and creating components.	●	●	●
Doors and Windows are special components that make an opening in a wall when placed in the model.	●	●	●
Basic line editing tools: Close, Trim, Join, Fillet.	●	●	
Advanced line editing tools: Extend, Connect, Remove Point, Insert Segment, Tangent Line, Perpendicular Line.	●		
Measure tools for distances and angles within and between parts of the model. Calculations of surface area and volume of objects.	●	●	●
Mass Properties calculations include weight, principal axis and moments of inertia.	●		
NURBS Loft and Reconstruct.	●	●	●
NURBS curve tools: Curve Create, Reconstruct, Blend, Merge, Extend.	●	●	
Advanced NURBS curve tools : Curve Convert, Attach, Split, Insert Knot, Edit Curve, Blend Curve to Point, Convert to Arcs NURBS by Formula.	●		
NURBS surface tools: Surface Lofting, Boundary, UV Curves Convert, Nurbs by Cross Sections, Reconstrcut, Curve Extract, Blend, Merge, Extend.	●	●	
Advanced NURBS surface tools: NURBS by Formula, Split, Edit Surface, Insert Knot.	●		
Surface analysis allows you to inspect smooth surfaces in order to detect any imperfections or discontinuities in the surface. The following analysis types are offered: Zebra Stripes, Environment Map, Draft Angle, Curvature Map Normal Map, Porcupine Plot	●		
3D Text Creation, Editing and Search and Replace.	●	●	
Advanced 3D Text tools: Text Along Path, Parallel Text, and Text Between Two Paths.	●		
Dimensions (Linear, Angular, Radial Leader Line and Notes.)	●	●	●
The transformation suite of tools includes Move, Rotate, Uniform Scale, Independent Scale, and Mirror. These can be applied to objects, ligts, cameras and guides as well as object parts.	●	●	●
The Extend tool allows you to expand an object to an adjacent object.	●	●	
Advanced transformations such as transformation macros that allow for a set of transformations to be defined and then re-applied to any object in the project.	●		
The Align/Distribute tool aligns them or distributes a set of objects based on a variety of optional criteria.	●		

Feature	Pro	Jr	Free
The Place Along Path and Place On tools create copies of objects along a path or on the faces of an existing object.	●		
The Object Doctor tool analyzes objects for problems such as duplicate points and other hard to find problems commonly found in some models created in other applications.	●	●	
The Project Doctor analyzes the objects in a project and identifies potential problems such as duplicate objects.	●		
3D Print Prep tool identifies and fixes problems in a model that would prevent the model from being sent to a 3D printer.	●	●	
Hatch attributes for objects. A hatch is a graphic technique used to create effects on surfaces for illustration purposes.	●		
Line Weight and Line Style attributes for all objects.	●		
Subdivision Surface Modeling. (Basic editing, Conversion to NURBS)	●	●	●
Subdivision Surface Modeling. (Advanced editing and Conversion to NURBS)	●	●	
Sketchfab support	●	●	
Augment support	●	●	
3D Connection Support	●	●	
Copy Attributes	●		

Interface

Feature	Z pro	Z jr	Z free
Smart interface that senses what you intend to do and protects you from unwanted actions. This includes automatic picking and automatic guides that assist in accurate drawing.	●	●	●
Fully dynamic generation of parametric 2D and 3D forms that retain their personality allowing them to be manipulated at any time in the design process.	●	●	●
User defined guides allow for easy creation of 3d construction lines that do not interfere with the model.	●	●	●
Snapping allows for accurate alignment of objects to grids, guides and other critical features of a model.	●	●	●
Frequently used tools appear right at the cursor location in the favorites heads up display or can be accessed via key accelerators.(Fully customizable in Pro)	●	●	●
User definable key shortcuts for all tools and actions.	●	●	
Favorites for all tools and actions.	●	●	
Manuals and tutorial videos accessible directly from all tools.	●	●	●
Self-guided tutorials provided to get up and productive quickly.	●	●	●
Dynamic clipping planes allow for non-destructive cutting of models. This real-time dynamic interface allows for complete inspection of a design.	●	●	●
Sun Palette enables the quick evaluation of natural light in a building on any given day or time. Quickly create animation of the sun light through a day or an entire year.	●	●	●
Create web ready VR interactive panoramic and 360 VR presentations of your design.	●		
Workspaces group related tools and palettes together making it easy to switch between tasks. User defined workspaces allow for creation of custom workspaces.	●		

	Z_{pro}	Z_{jr}	Z_{free}
Interface customization. Icons can be completely rearranged into a user-designed layout	●		
Icon size and tinting can be changed to your own desires.	●	●	●
Custom attributes and information management your attributes, assign them to objects and generate reports based on the attributes in the model.	●		
Select by criteria makes it easy to select objects in a model based on characteristics or attributes. Selection sets make it easy to work with a set of objects repeatedly without needing to manually re-select each one.	●		

Layout

	Z_{pro}	Z_{jr}	Z_{free}
Includes separate form•Z Layout application.	●		
Pre-defined Title Block library with customizable Title Block dictionary.	●		
Layout sheets can be used to compose different views of a model and/or sections and/ or construction details together with notes and dimensions and have it printed to send to the construction site	●		

Animation

	Z_{pro}	Z_{jr}	Z_{free}
The **animation** palettes offer full control over the time line, animation hierarchy and animation controllers. These allow for full control of the animation of objects, lights and cameras including all of their inherent parameters.	●		
Animation Tools: Keyframe, Animate Along Path, Animate Entities, Animation Group, Reverse Animation, Replace Animation.	●		
Extract Animation is a unique way to create new objects by capturing the state of an object over time as the object is changed by an animation that is applied to it.	●		
Animated deformations change the shape of an object over time. The following methods are offered: Shear, Taper, Twist, Bulge, Radial Shear, Radial Bend, Linear Wave, Circular Wave, Disturb Points, Disturb Normals, Spread.	●		
Animation can be generated to movie files with effects such as super sampling, blur filters and motion blur.	●		

Rendering

	Z_{pro}	Z_{jr}	Z_{free}
Wireframe, shaded work, shaded full, hidden line	●		
RenderZone plugin Support	●		
Network Rendering	●		
Interactive light tools for placing lights of a variety of types in the scene.	●		
Imager batch rendering	●		
form•Z Lab Plugin	●		

3D File Formats

	Z pro	Z jr	Z free
FMZ (form•Z format)	●	●	●
3DS (3D Studio)	●	●	
ARTL (Artlantis 3.0)	●	●	
ARTL (Artlantis 4.0)	●	●	
FACT (Electric Image	●	●	
DXF	●	●	
DWG	●	●	
DAE (Collada) (32 Bit only)	●	●	●
FBX	●	●	
KMZ (Google Earth) (32 Bit only)	●	●	●
IGES	●		
LWO (Lightwave)	●	●	
OBJ	●	●	
3DM (Rhino)	●		
PLY	●	●	
SAT	●	●	
STEP	●		
SKP (Sketchup) (32 Bit only)	●	●	●
STL	●	●	●
VRML	●		
ZPR (Z Corp printers)	●	●	

2D File Formats

	Z pro	Z jr	Z free
AVI	●		
BMP	●	●	●
EPS	●	●	
ILS (Illustrator)	●	●	
JPEG	●	●	●
EXP (Piranesi)	●	●	
PNG	●	●	●
MOV (Quicktime)	●		
Targa	●	●	●
Tiff	●	●	●