

Product Name

B-spline control polygon and interpolated contour lines, AutoLisp source

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Description

It creates the control polygon and interpolates a POLYLINE with cubic B-Spline, so that an interpolated curve that passes through the initial points results.

The initial polyline can be closed, the function ensuring the continuity of the tangent between the first and the last point.

You can see the control polygon by setting the AutoCAD SPLFRAME variable to 1 and then typing the REGEN command.

Loading in AutoCAD is done with the APPLOAD command and then selecting the "bspline.lsp" file.

Function call

(spline polyline_entity segment_length percent delete_entity)

- polyline_entity is a POLYLINE entity, created with the PLINETYPE variable previously set to 0
- segment_length is the length of the line segment in POLYLINE interpolation; it is used for the automatic setting of SPLINESEGS; if it is 0 SPLINESEGS remains unchanged
- percent is a percentage with values between 1 and 99, representing the curvature of the interpolated curve; the smaller the "percentage", the greater the flattening (closer to the initial line segment of the POLYLINE).
- delete_entity, if it is T, POLYLINE will be deleted, and if it is nil, it will not be deleted.

You also have a test function by typing BSPLINE, after opening a test DWG (such as "bspline example.dwg"). Then you can select a POLYLINE (created with PLINETYPE set to 0) and the B-Spline control polygon and the interpolated curve are generated.

If you also bought "Intersect 2 3DFACE AutoLisp source" and loaded the corresponding function "sitt.LSP" into AutoCAD, you can also launch the new CLINEI command. This calls the spline function and generates the interpolated contour lines on a triangulation. After typing CLINEI, you must enter the step on the Z axis of the contour lines. You thus have the simplest and cheapest method of generating interpolated contour lines, on any number of computers, with this license.

Limitations

3DFACE entities are considered triangular.

Design Details

Settings in Visual Lisp (Tools, Window Attributes, Configure Current):

- Tab width 3
- Left margin 0

Logical View

It's not necessary.

Process View

Is not the case.

External Sources

Can be used in AutoCAD or programs based on IntelliCAD (such as BricsCAD, ProgeCAD, ActCAD, ZWCAD, etc.).

Deployment

Loading in AutoCAD is done with the APPLOAD command and then selecting the " bspline.lsp " file.

Server installation

Is not the case.