

IGX.Model.Solid 1.4

IG.Model.Processor (2025-11-21)

Intelligentgraphics CAD Services

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The 3D Company®

Version Requirement: IG.Model.Processor $\geq$ 1.4.0.100

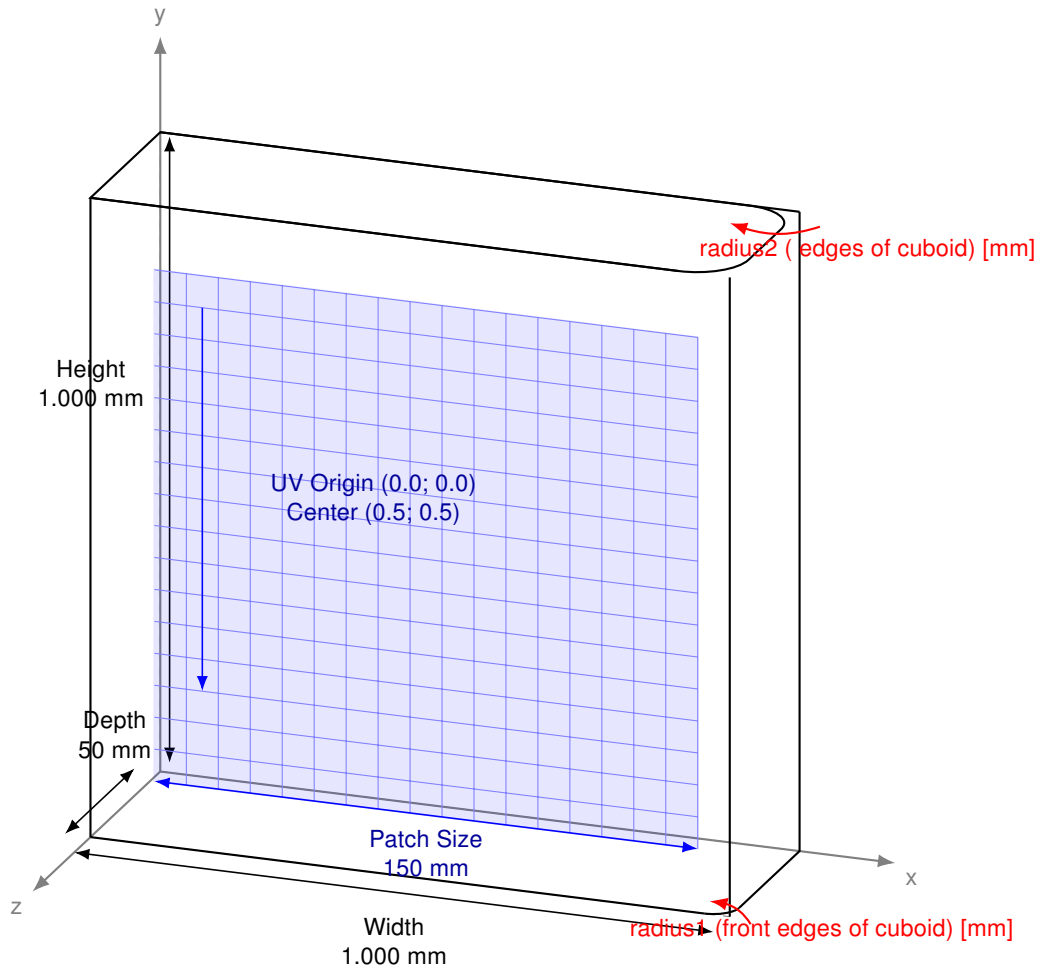


Figure 1: 3D illustration of the SOLID1_1 model, showing dimensions, radii, and UV mapping.

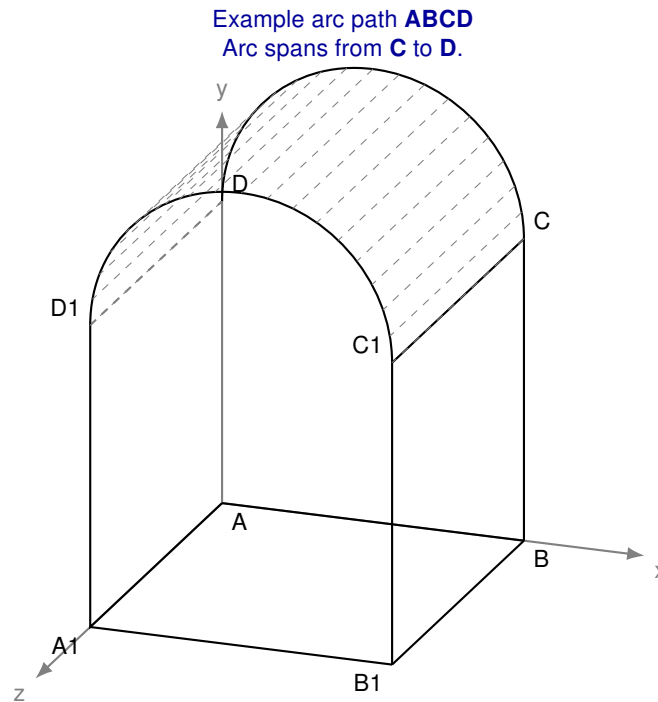


Figure 2: Isometric view of a SOLID1_3 with arched panel example **path** with base rectangle ABCD and curved top. ABCD describes frameWire path points. A1, B1, C1, D1 are generated points from extrusion depth taken from profile path.

1 width

Type: number **Unit:** mm **Required:** Yes

Defines the overall width of the solid block along the X-axis.

2 height

Type: number **Unit:** mm **Required:** Yes

Defines the overall height of the solid block along the Y-axis.

3 depth

Type: number **Unit:** mm **Required:** Yes, if **profile** id and **path** are not provided.

Defines the overall depth of the solid block along the Z-axis.

4 radius1

Type: number **Unit:** mm **Default:** 0 **Required:** No

A general bevel applied to all 12 edges of the solid block.

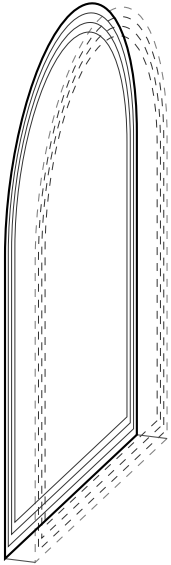
5 radius2

Type: number **Unit:** mm **Default:** 0 **Required:** No

A specific bevel applied only to the 4 front-facing edges. If this value is set, it overrides **radius1** for these edges.

6 path

Type: string **Required:** Yes, if **width** or **height** are not provided. An alternative to basic width and height. Specifies the 'id' of a path from the 'paths' array to be used as the cross-section for overall solid geometry shape. When 'path' is used, the depth, width and height parameters are ignored. As shown in Figure 2, the arched panel uses the path defined by ABCD, and the points A1, B1, C1, and D1 are derived from the required profile height.



7 profile

Type: string **Required:** Yes, if **depth** not provided. An alternative to basic radiuses. Specifies the 'id' of a path from the 'paths' array to be used as the cross-section for assigning edges of SOLID. When 'profile' is used, the radiuses and depth parameters are ignored.

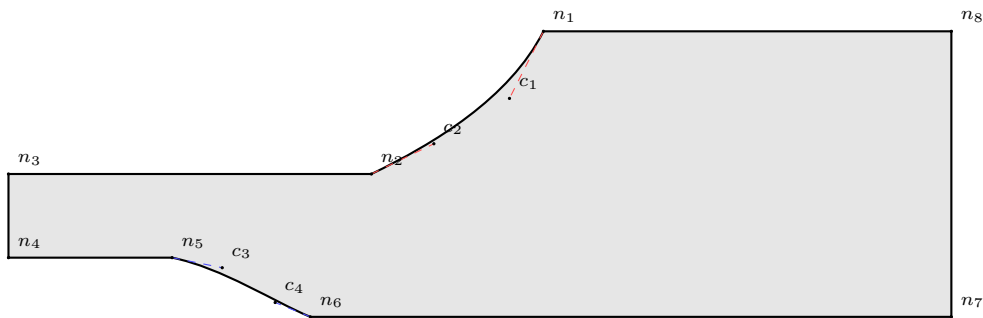


Figure 3: Panel profile with mirrored Y-axis, Bézier handles, and labeled points using math notation.

8 paths

Type: array of #/definitions/path

Each entry defines a named 2D sketch using an "id" label. This allows for the creation of complex profiles for the profile of SOLID shape using similar to svg file type parsing.

- **quality**

Type: integer **Range:** 1–100 **Default:** Same as the global quality parameter, if not set; overwrites the global parameter if set. Defines the subdivision of path.

Required: No.

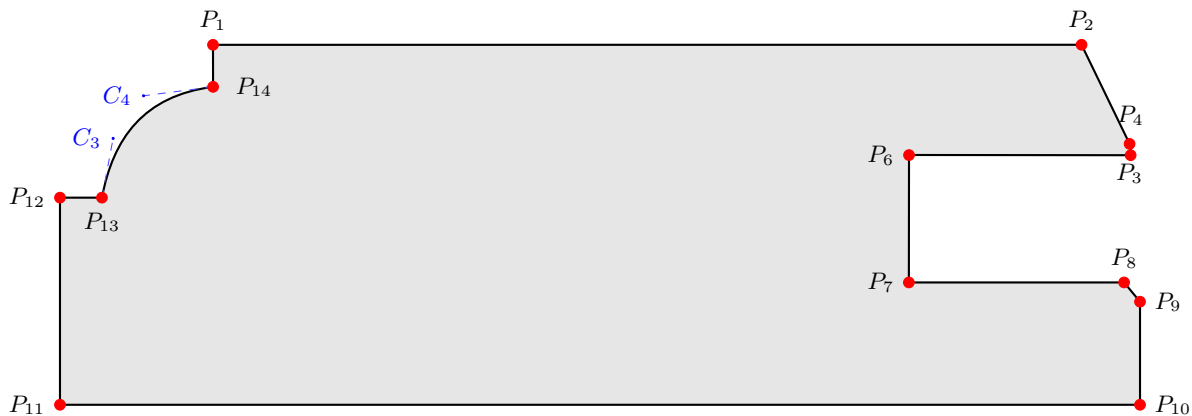
Defines the profile quality used for extrusion of the shape. The default value matches the global quality.

- **mirrorAxis**

Type: string **Enum:** X, Y **Required:** No.

Defines the optional axis along which the path is mirrored. When set to X, the path is mirrored across the vertical plane (YZ); when set to Y, the path is mirrored across the horizontal plane (XZ).

```
"paths": [
{
  "id": "panelProfile",
  "quality" : 40,
  "mirrorAxis" : "X",
  "path": [ { "type": "M", ... } ]
}
]
```



9 upvector

Type: string **Enum:** ["x", "y", "z"] **Default:** "z" **Required:** No

Defines the axis along Model.Processor will generate the 3D model.

10 uv

Type: object **Required:** No

Defines how a 2D texture is mapped onto the solid model. These parameters are available in version 1.1 and higher. All of these values can also be used as top-level parameters.

- **patchSize**

Type: number **Default:** 150

Size of each UV tile in mm.

- **uvOrigin**

Type: string **Enum:** CENTER, ORIGIN **Default:** CENTER

Anchor point for the UV map.

- **uOffset, vOffset**

Type: number **Default:** 0.0

Translates the UV grid along the U and V axes after the origin is applied.

- **rotation**

Type: number **Default:** 0

Rotation of the UV grid in degrees.

- **uvType**

Type: string **Enum:** CUBIC, AUTO **Default:** CUBIC

11 shading

Type: object **Required:** No

Defines the shading style applied to the model. Available in version 1.4 and higher.

- **mode**

Type: string **Enum:** AUTO, FLAT, SOFT **Default:** FLAT

Determines the shading mode of the surfaces.

- AUTO – automatic shading based on angle of vector normals.
- FLAT – flat shading for each polygon.
- SOFT – smooth shading across polygons.

- **angle**

Type: number **Default:** 30

Angle in degrees used for calculating smoothing boundaries in soft shading.

12 transformation

Type: object **Required:** No

Defines a global translation applied to the entire model. When used, all x, y, and z fields are required.

- **x, y, z**

Type: number

Translation values in millimeters applied along the X, Y, and Z axes.

13 rotations

Type: array of objects **Required:** No

Specifies one or more rotations applied sequentially to the model. Each rotation object must define both an axis and an angle.

- **axis**

Type: string **Enum:** X, Y, Z

Axis around which the rotation is performed.

- **angle**

Type: number

Angle in degrees used for the rotation around the specified axis.

14 quality

Type: integer **Range:** 1–100 **Default:** 25 **Required:** No

Specifies the overall detail level of the CAD model, particularly the triangulation of curved surfaces. Higher values yield a finer, smoother mesh. Available in version 1.1 and higher. Can be used in "path" [] as overwrite per path shape definition.