**4.9 開口圓筒殼**

var Debug = Core.Debug;

var Mesh3D = Core.Mesh3D;

var Path2D = Core.Path2D;

var Plugin = Core.Plugin;

var Tess = Core.Tess;

var Solid = Core.Solid;

// -------------------------------------------

// Original Shape Script:

// -------------------------------------------

params = [

{ "id": "ID", "displayName": "Inner Diameter", "type": "length", "rangeMin": 1, "rangeMax": 100, "default": 10.0 },

{ "id": "OD", "displayName": "Outer Diameter", "type": "length", "rangeMin": 1, "rangeMax": 100, "default": 20.0 },

{"id": "ANGLE", "displayName": "Angle", "type": "angle", "rangeMin": 1, "rangeMax": 360, "default": 120.0 },

{ "id": "x\_pos","displayName": "x position","type": "float","rangeMin": -100,"rangeMax": 100,"default": 0},

{ "id": "y\_pos","displayName": "y position","type": "float","rangeMin": -100,"rangeMax": 100,"default": 0 },

{ "id": "z\_pos","displayName": "z position","type": "length","rangeMin": 10,"rangeMax": 100,"default": 20}

];

function process(params) {

var x\_pos = params.x\_pos;

var y\_pos = params.y\_pos;

var z\_pos = params.z\_pos;

var path = new Path2D();

var twopi = 2.0 \* Math.PI;

var r1 = params["ID"]/2.0;

var r2 = params["OD"]/2.0;

var ang = params["ANGLE"]\*twopi/360.0;

var lod1 = Tess.circleDivisions(r1);

var lod2 = Tess.circleDivisions(r2);

var step1 = twopi / lod1;

var step2 = twopi / lod2;

path.moveTo(x\_pos+r2,y\_pos+0);

for(var a = 0.0; a < ang; a += step2) {

path.lineTo(x\_pos+Math.cos(a)\*r2, y\_pos+Math.sin(a)\*r2);

}

path.lineTo(x\_pos+Math.cos(ang)\*r2,y\_pos+Math.sin(ang)\*r2);

path.lineTo(x\_pos+Math.cos(ang)\*r1,y\_pos+Math.sin(ang)\*r1);

for( a = ang; a > 0; a -= step1) {

path.lineTo(x\_pos+Math.cos(a)\*r1, y\_pos+Math.sin(a)\*r1);

}

path.lineTo(x\_pos+r1,y\_pos+0);

path.close();

return Solid.extrude([path], z\_pos);

}

// -------------------------------------------

// Added Automatically During Library Upgrade.

// Original Shape Color. Changing Effects The

// Default Color In All Documents Where Used.

// -------------------------------------------

presets = [

{ 'color': [211, 191, 229] }

];