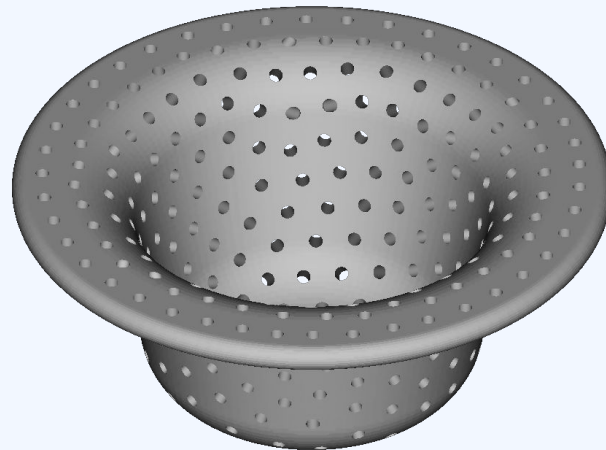


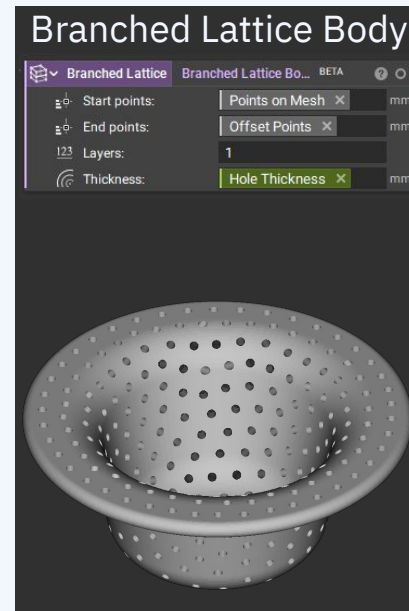
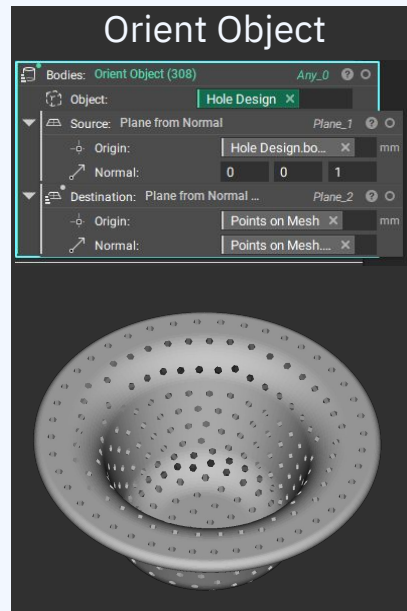
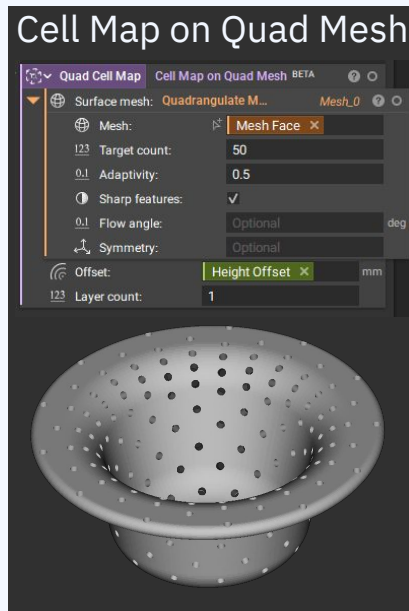
nTopology

Customer Success
onboarding@ntopology.com

Perforations



Perforation Workflow Options



Perforations: Cell Map on CAD Face

Uses the Periodic Lattice Body and the Cell Map on CAD Face to add perforations to one CAD Face.

Pros:

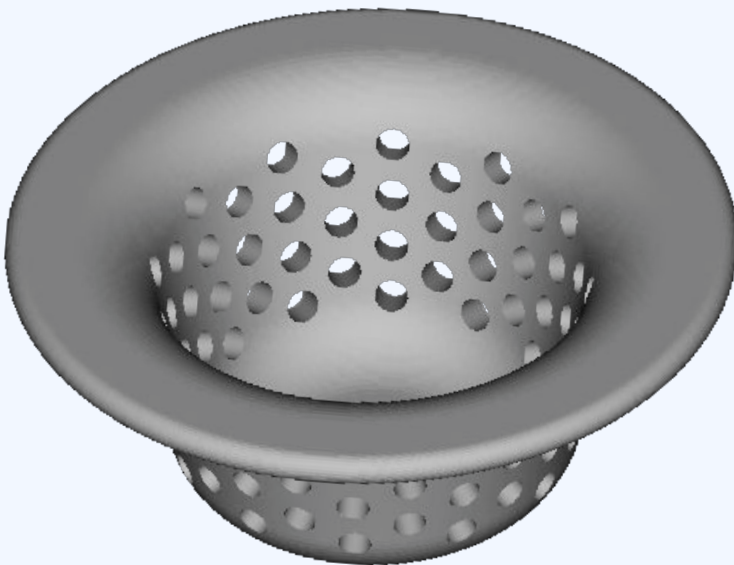
- Allows for varying hole thickness
- Low file size
- Holes normal to surface
- Simple process

Con:

- Can only add pattern to one face at a time
- Controls the number of cells, not the distance between the points

Use this option:

- If you are adding perforations to **one** face



Perforations: Cell Map on Quad Mesh

Uses the Periodic Lattice Body and the Cell Map on Quad Mesh to add perforations to one CAD Face.

Pros:

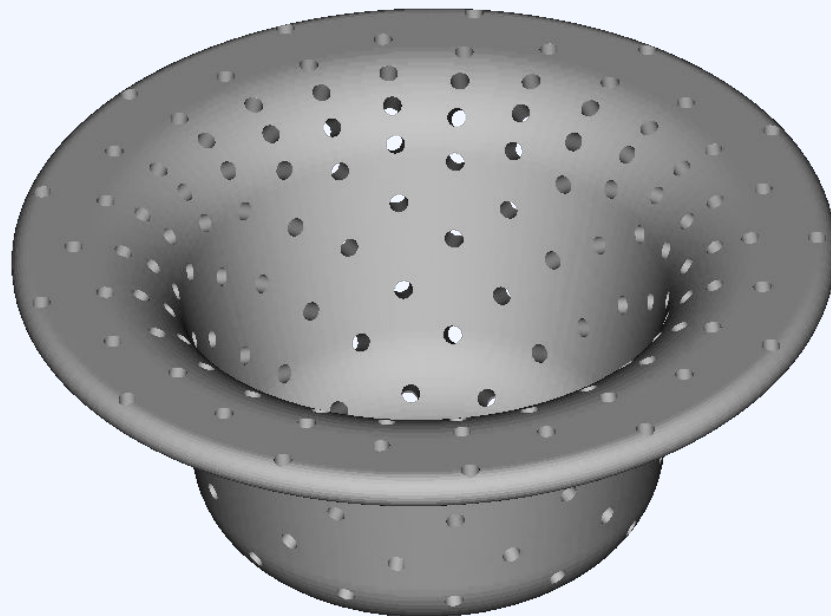
- Allows for varying hole thickness
- Low file size
- Holes normal to surface
- Can use on multiple faces or a mesh

Con:

- Uneven distribution of the columns

Use this option:

- If you are working with multiple CAD Faces or a Mesh and the design is relatively flat.



Perforations: Orient Object

Uses the Orient Object and Closest Points block to place cylinders different locations on the part.

Pros:

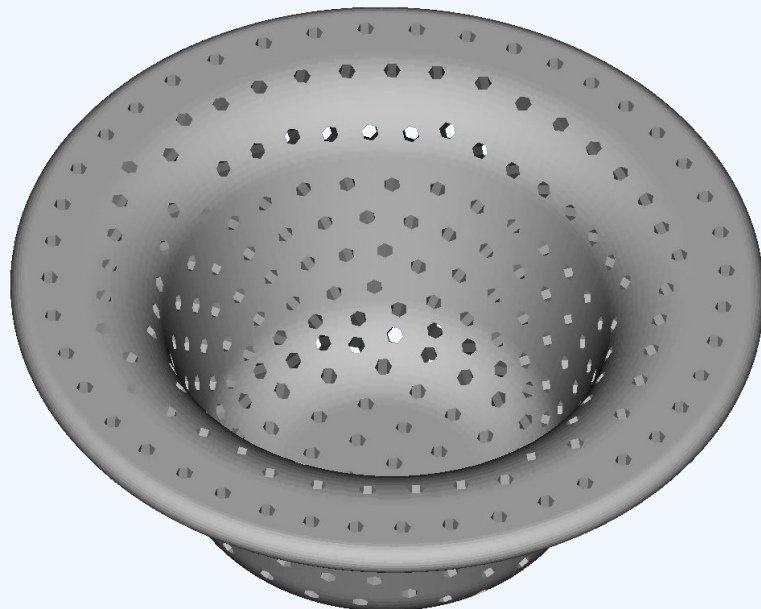
- Allows for Varying Hole Thickness
- Low file size
- Holes normal to surface
- Can use on multiple faces or a mesh
- Even distribution of holes across curved shapes
- Opportunity to control clustering of the holes

Con:

- Can take longer than using a lattice structure
- More complex workflow for FDD

Use this option:

- If you are creating different shaped holes (ex: hexagonal designs)
- Want to evenly distribute the perforation across multiple curved surfaces or control that spacing



Perforations: Branched Lattice Body

Uses the Branched Lattice Body and Closest Points block to place cylinders different locations on the part.

Pros:

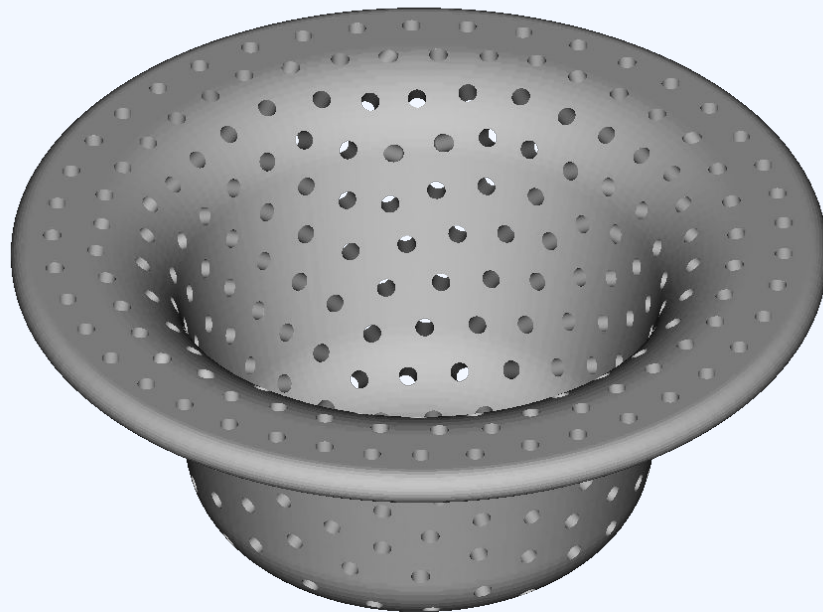
- Allows for Varying Hole Thickness
- Low file size
- Holes normal to surface
- Can use on multiple faces or a mesh
- Even distribution of holes across curved shapes
- Opportunity to control clustering of the holes

Con:

- Can only create cylindrical holes

Use this option:

- If you are working with cylindrical holes
- If you want to evenly distribute the perforation across multiple curved surfaces
- If you plan to easily drive spacing or hole thickness with fields



Additional Resources

Article: [How to create perforations on any part](#)

Video Tutorial: [Use fields to control a perforation pattern](#) (~5min)

Video Demo: [Automated Generation of Complex Hole & Perforation Patterns](#) (~7min)

Video Demo: [Custom Perforation Patterns with Field-Driven Design](#) (~12min)

Questions?