

CASE STUDY



2026 Grand Prize winner in the Hardware/Appliances category for metal AM components

Acoustic Mesh

Process:

Metal Binder Jetting Additive
Manufacturing (AM)

Material:

SS-316L stainless steel

Density:

7.65 g/cm³

Build quantity:

72 components

End Use and Function

The acoustic mesh attenuates sound in compact, space-constrained applications, including safety-related communication, equipment-noise control, and soundproofing environments where safety operations are managed.

Fabrication

The component uses a gyroid lattice with inclined thin walls. Binder jetting supports high-volume production and a favorable as-built finish. Tight control of powder recoating, binder saturation, spacing, and semi-automated depowdering protects the low-strength green parts. Controlled heating and cooling limit non-uniform shrinkage and ovality during sintering. Dimensional variation limited to approximately 0.1 mm per side.

Results

The process produces complex internal acoustic architecture at production scale, with 72 components per build. Flowability testing verifies that internal channels remain open, while the corrosion-resistant stainless steel construction supports demanding environments.



PickPM is a resource created by the Metal Powder Industries Federation, a trade association for the metal powder industry, for the benefit of the metal powder industry. To learn more about powder metallurgy, or to find a part fabricator, visit us at [PickPM.com](https://www.PickPM.com)