CASE STUDY

A 2021 Award of Distinction Winner in the Medical/Dental category for metal injection molded components

Pusher

Process:
Metal injection molding (MIM)

Material:
MIM-17-4 PH stainless steel

Density:
7.6 g/cm^3

End Use and Function

The pusher is used in the ratcheting assembly for the consistent placement of high viscosity adhesives in incisions. The system is used as an alternative to sutures or staples in surgical procedures.

Fabrication

The parts are produced using MIM-17-4PH stainless steel in a four-cavity mold. Strategic tool design, venting, and a 3-plate pin gate allow for complete material fill of the complex geometry. Distortion is held to a minimum, allowing tight profile and dimensional requirements to be maintained. No secondary coining or bending are required to maintain tolerances. The function of the part necessitates a distortion-free spring clearance slot and spring alignment notch.

Results

MIM is a very sustainable process. MIM allows for this part to be molded and sintered to net shape, resulting in the generation of zero machining scrap. Previously, this assembly required machining and grinding processes to meet required dimensions. The complex geometry, overall size, and intended end use make this an excellent MIM part.