Seat Adjuster Outer Ring

Company: Schunk

Application Sector: Automotive

Requirements: Due to different patents, TIER 1 suppliers have to find new geometries for their seat adjuster systems. This leads to ever more new designs. At the same time new generations need to be improved, eg. To become lighter, more compact, display higher stiffness, and be quieter in operation. Thus the “Outer Ring” is a complex shaped high-strength part, however the biggest challenge was the tolerance of the inner radii being only 50μm.

Benefits: Sintering had minimum distortion compared to other heat-treatment methods and was instrumental in achieving the required accuracy. The processed material withstands the high-hertz’s pressure applied by three needle bearing pins via to the internal part. Requirements for Transport torque is about 20Nm, and misuse torque approx. 100Nm, without significant deformation both of which were achieved using PM.

Final density: > 7.1 g/cm³
Relative density: 90 %
Finishing: no further finishing required
Final weight: 0.079 kg