

AGS TECHNOLOGY CASE STUDY: RACK OPINION-SPECIFY GLASS BEAD

PRODUCT PROFILE

Industry: Industrial Equipment
Applications: Gear Rack Systems
Material Description: 40% Glass Bead (Acetal, Nylon, Polypropylene)
Requirements: • Dimensional Stability • Stiffness • Chemical Resistance • Wear Resistance

CUSTOMER ISSUE

Gear and rack transmission systems convert rotary motion to linear motion. Combinations with different numbers of teeth change speed and torque in assemblies. As a result, it is critical to minimize any dimensional variations of the gears and racks when they are made from plastic materials such as acetal, nylon, and polypropylene.

AGS INJECTION MOLDING SOLUTION

Glass fiber and glass bead both enhance mechanical properties, making gear racks stronger, harder, and more rigid. They also increase chemical resistance and absorption. However, glass beads provide a smoother surface finish and are much more dimensionally stable since glass fiber shrinks greater in the direction of flow increasing the risk warp and deformation. For this reason, AGS Technology recommends glass bead for precision applications such as gear racks. Need plastic material selection support? Contact AGS Technology with questions about your plastic parts.

