

# Duplex Technology



**The Challenge:**

Develop a technology that enables different materials to be localized in a single component, in order to take advantage of each material's unique properties and benefits. In other words, place the properties where they're needed!

**The Solution:**



- Our Duplex Technology
- Localized material properties
  - Design flexibility
  - Lower cost
  - Weight reduction
  - Sound dampening

Until now, customized, engineered components made from the Powder Metal (P/M) process were limited to one type of material.

GKN Sinter Metals' patented Duplex Technology offers a new solution for

engineered components. By selectively utilizing dissimilar yet compatible P/M alloys, we are able to optimize properties where needed and lower component cost.



<b>Examples</b>		
<b>Component</b>	Power steering assist	Cam shaft timing sprocket
<b>Design/Materials</b>	Two ferro-magnetic poles, separated by non-magnetic stainless steel	Sinter hardened teeth, with phosphorous steel body
<b>Benefits</b>	<ul style="list-style-type: none"> <li>(1) Close dimensional control (One-piece design avoids joints)</li> <li>(2) Consistent magnetic performance</li> <li>(3) The only practical solution</li> </ul>	<ul style="list-style-type: none"> <li>(1) High-strength, wear-resistant teeth</li> <li>(2) Low-density, low-cost performance sound dampening body</li> <li>(3) Sprocket is lighter solution and saves cost</li> </ul>