



Request Quote »

Search:



Custom Capabilities

Powder Metal Services

Advantages of the PM Process

Materials

Tolerances

Industries served

Design considerations

RPM Product Examples

Powder Metal Manufacturing of an Adjusting Nut

Powder Metal Manufacturing of Hammer Drill Gears

Powder Metal Manufacturing of a Pulley Hub

Powder Metal Manufacturing of a Clutch Shoe

Like 0 Share Tweet 0 +1 0

PRINT THIS PAGE FOR REFERENCE Email This Page

Powder Metal Manufacturing of a Magnet Hub for a DC Motor Application



[click to enlarge]

At Ridgway Powdered Metals Inc., we specialize in developing powdered metal manufacturing solutions to needs that are poorly met by more traditional fabrication methods. This magnet hub is used on a DC motor, and is composed of FY-4500-20V, a powdered iron-phosphorous magnetic alloy specifically designed for DC applications. The hub has an outer diameter of 2.360" and a height of 1.740", and is held to dimensional tolerances of ±0.003. It also features a counter bore depth of 1.600". This type of feature is very difficult to achieve while maintaining such a uniform thin wall thickness using traditional manufacturing methods.

Our engineering department developed the tooling and processes required to produce this custom hub completely in-house. The powder is compressed on our 550 ton multilevel compacting press and sintered in our tightly controlled sintering furnace. Resin impregnation is used to further reduce porosity, the finished hub is then zinc plated. We produce approximately 1,000 of these hubs per month and maintain a Kanban system for our customer. Once a Kanban is released, the customer receives the parts in two days. For more information about this powdered metal manufacturing project, see the table below, or [contact us](#) directly.

Request Quote »

Highlights of this Powdered Metal Manufacturing Project

Product Description	Magnet Hub
Capabilities Applied/Processes	Primary: Engineering <ul style="list-style-type: none"> • Tool Making • Process Sourcing Compacting/Molding Sintering Secondary: Resin Impregnate Zinc Plate
Equipment Used to Manufacture Part	550 ton Multi-Level Press <ul style="list-style-type: none"> • Three Lower Punches and One Upper Punch.
Overall Part Dimensions	Outside Diameter: Ø 2.370" Depth/Height: 1.740", C'Bore Depth: 1.600" Internal Hub. Weight: 360 grams
Tightest Tolerances	± 0.003"
Material Used	FY-4500-20V
Material Finish	Zinc Plate, Clear Sealant
In process testing/ inspection performed	Dimensional Inspection, Gage Inspection Visual Inspection for Plating.
Industry for Use	DC Motors

Volume	12,000 +
Delivery/Turnaround Time	Up to 1,000 per Month, Kanban Releases, Two Day Delivery
Delivery Location	VA
Standards Met	Customer Specifications, 2D CAD Drawing
Product Name	Magnet Hub

[View Other Past Projects »](#)

[back to top](#)

Ridgway Powdered Metals Inc.

6931 Ridgway - St. Marys Road, Ridgway, PA 15853

Phone: 814.772.5551 • Fax: 814.772.1492



Ridgway Powdered Metals Inc.

Email: sales@ridgwaypm.com | [Privacy Policy](#) | [Site Map](#)

Site created by [Thomas Web Solutions](#) © 2013 Ridgway Powdered Metals Inc., All Rights Reserved