

PM Community

GATHERS FOR ANNUAL EVENT



The automotive engine Award of Distinction went to these V6 engine crankshaft sprockets.

The metal powder industry gathered in force this past June for PowderMet2010, the 2010 International Conference on Powder Metallurgy and Particulate Materials. The economic forecast was very positive for PM, as reported by Michael E. Lutheran, president of the Metal Powder Industries Federation (MPIF). Several gear and power transmission parts were honored in the PM Design Excellence Awards while a special nod went to the variable valve timing (VVT) technology for its role improving efficiency in the auto industry, and the industry released a sustainability report to highlight PM part forming as a green technology.

A strong rebound in the fourth quarter of 2009 continued to the first quarter of 2010 with iron powder ship-

ments up 64 percent from the same period in 2009. First quarter 2010 copper and copper-base powder shipments rose 36 percent.

The light-vehicle market is the most prevalent force supporting PM industry growth and is expected to consume an estimated 230,000 short tons of PM parts in 2010, according to Lutheran. "There is more good news about the automotive market," he said. "The new six-speed transmissions introduced by GM and Ford have a high PM content, in the 30-pound range. Several of Ward's 2010 Best Engine choices have high PM contents as well. Ford's 3.5L EcoBoost Turbocharged V-6 engine has 81 PM parts weighing a total of 21 pounds. The engine contains PM valve guides and valve seat inserts, connecting rods,

oil pump, sensor ring, cam caps, VVT assemblies, camshaft sprocket and crankshaft sprocket and hub."

Metal Injection Molding and hot isostatic pressing (HIP) are newer areas of the industry that are expected to perform well in the future. The VVT was recognized at PowderMet2010 as a PM Industry Landmark technology for its use of PM parts to help automakers meet environmental and fuel efficiency standards by advancing or retarding the timing of the intake or exhaust valves. Most current VVT systems contain three PM parts: a vane rotor, sprocket and thrust plate.

"Let us view 2010 as a transition year leading us to a new era of opportunity in the global marketplace," Lutheran said. "The industry has been

continued



In the hand tools/recreation category, this motorcycle drive sprocket won an Award of Distinction.



In the hardware/appliances category, this transfix gear and sector was given an Award of Distinction.

challenged and shaken, yet the future is still positive. Again, never underestimate the creative resiliency of this industry to overcome and rise again to new heights. Competitive technologies that do, do so at their peril.”

The PM Design Excellence Awards’ winning parts are examples of PM’s precision, performance, complexity, economy and innovative design advantages. They compete against manufacturing processes that include hobbing cast iron, die casting, weldments, machining and investment casting. Grand Prize Awards and Awards of Distinction were doled out.


Capstan Atlantic won an Award of Distinction for a high-density transfix pinion gear and sector used in a high-volume printing application. The pinion gear meets the AGMA Q9 precision level, is selectively roll-densified and crowned for bending-fatigue resistance and rolling contact fatigue resistance.

PMG Füssen GmbH won the Award of Distinction in the automotive engine category for a PM steel crankshaft sprocket used in a V-6 engine made for iwis motorsysteme GmbH in Germany. It features an inner ring diameter that is pressed and machined

after sintering for high-precision tolerances, secondary operations and significant cost saving.

Burgess/Norton Manufacturing Co. won an Award of Distinction in the hand tools/recreation category for a final belt-drive sprocket, which transmits torque from the transmission to the rear wheel on a motorcycle. It replaced a hobbed cast iron sprocket.

Other news from PowderMet2010 is the release of “Powder Metallurgy—Intrinsically Sustainable,” a report that details the contributions PM makes to sustainable manufacturing. And APMI International, the professional society for the PM industry, named Herbert Danninger, a professor at the Vienna University of Technology in Austria; and Myron I. Jaffe, a consultant for Brewer Hill Designs LLC in Mill River, MA; to the 2010 Class of Fellows.

According to James Dale, vice president of member and industry relations at MPIF, “Our members are very involved with gears.” 

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