

Hitachi Metals Group to Exhibit Advanced Product Lineup at Automotive Engineering Exposition 2014

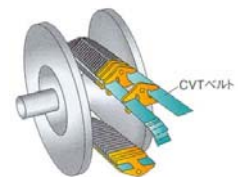
TOKYO, Japan (May 15, 2014)—Hitachi Metals, Ltd. announced today that the Hitachi Metals Group would be a key exhibitor at Automotive Engineering Exposition 2014, an automobile technology exhibition scheduled to begin on May 21, 2014. We will introduce advanced technology and products that answer a wide variety of needs—such as for hybrid and next-generation engine vehicles—categorized under the following three themes: “Pursuit of Environmental Performance,” “Pursuit of Safety and Security” and “Pursuit of Lightweight Design, Strength and Elegance.”

1. Major Products to Be Exhibited (Listed by Theme)

(1) Pursuit of Environmental Performance

a. CVT Belt Materials

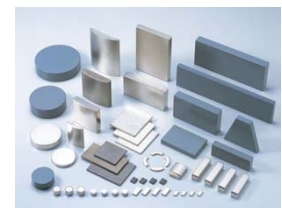
These metal belt materials Hitachi Metals developed for use in continuous variable transmissions (CVT) have excellent durability. Created using melting and cold-rolling technologies to control nonmetallic inclusions—which can cause breakage and other damage—these materials are a major factor in elevating transmission performance and reliability. Compared to traditional automatic transmissions, they are also expected to boost fuel efficiency.



CVT belt materials

b. Neodymium Magnets

The **NEOMAX[®]** series of high-performance Nd-Fe-B sintered magnets radically boosts the efficiency and reduces the size of motors used in hybrid and electric vehicles. Hitachi Metals leads this industry on strengths such as high-performance technology with stable quality, minimal use of rare elements (DDMagic[™] Dy vapor deposition and diffusion technology), and surface treatment technology that excels in various uses.



NEOMAX[®]

c. Ferrite Magnets

The **NMF[™]** series of ferrite magnets is produced using iron oxide as the base material, and these magnets deliver outstanding cost performance. This series manifests the highest magnetic properties of any ferrite magnet in the world. Designed for exceptional thermal stability, they are widely used in motor applications.



NMF[™]

d. HERCUNITE[®] S Series of Heat-Resistant Cast Components

HERCUNITE[®] is a series of heat-resistant cast-iron and steel materials designed for manufacturing turbine housings, exhaust manifolds and other vital exhaust system components. This extensive product line is headed by the HERCUNITE[®] S Series, which can be used in temperatures up to approximately 1,050°C. Applications of these castings continue to expand against the backdrop of a shift to turbocharged engines—a trend accompanying the downsizing of engines in the quest for greater eco-friendly performance.



HERCUNITE[®]
S Series

e. Enameled Wire for High-Efficiency Motors

This wire product supports the compact design and higher outputs that electric and hybrid vehicles require while reducing environmental impact and saving energy, leading to the development of higher-performance electric and hybrid vehicles.



Enameled wire for high efficiency motors

(2) Pursuit of Safety and Security

a. FINEMET® Common Mode Choke Coils

Common mode choke coils made from **FINEMET®**—a nanocrystalline soft magnetic material—are compact in size, light in weight and offer high noise damping performance because of FINEMET’s high saturation flux density and magnetic permeability. FINEMET also has excellent temporal stability. We contribute to solutions to electromagnetic interference and noise with a wide range of products that caters to various needs.



Common mode choke coils

b. Electric Parking Brake Harnesses

We developed harnesses for use in electric parking brakes (EPB) that excel in flexural resistance and durability. This helps conserve space inside the cabin and elevates vehicle safety and convenience.



EPB Harnesses

(3) Pursuit of Lightweight Design, Strength and Elegance

a. Mold Steel

• Cold Work Tool Steel

SLD-MAGIC™ is suited to high-tensile plates widely used to make lighter cars with safer designs. Its characteristics include high machinability and fewer dimensional deformities following heat treatment. It contributes to overall die cost reductions because its superior quality means that dies last longer.



SLD-MAGIC™

• Hot Work Tool Steel

DAC-MAGIC™ is used to quickly manufacture highly precise castings in large volumes. It combines the ability to withstand high temperatures during heating and quenching in the heat treatment cycle with toughness, and minimal cracking in cooling channels contributes to improvements that mean longer-lasting dies.



DAC-MAGIC™

b. High-Toughness Ductile Iron Castings

NMS™ castings—engineered for outstanding low-temperature toughness and to precision specifications—play a key role in raising the quality of suspension and knuckle components, differential gears and other automotive parts. The casting engineering know-how and evaluation techniques we have accumulated over the years make it possible to deliver these castings to customers in a near-net-shape state, and contribute to the production of lighter, thinner-walled automobile components.



NMS™

c. Light and High-Quality Aluminum Wheels

We created **SCUBA™** aluminum wheels by employing high-precision CAE technology. These wheels are very strong, rigid and light (15 percent lighter than our previous products), and help save fuel and reduce CO₂ emissions. Sophisticated, complex designs are possible thanks to the advanced aluminum casting techniques we employ, as well as the high-grade surface treatment we utilize.



SCUBA™

2. Hands-on Experience Corner

(1) Magnetic Force Experience Corner

You can experience the magnetic force of the NEOMAX[®] series of Nd-Fe-B sintered magnets.

(2) Aluminum Weightlifting Corner

You can lift the weight equivalent to the aluminum that the SCUBA[™] wheel was able to eliminate.

2. Exposition Profile

(1) Name: Automotive Engineering Exposition 2014

(2) Period: May 21 (Wed.) to 23(Fri.), 2014

(3) Hours: 10:00 a.m. to 6:00 p.m. (10:00 a.m. to 5:00 p.m. only on May 23)

(4) Venue: Pacifico Yokohama

(5) Sponsor: Society of Automotive Engineers of Japan, Inc.

(6) Our booth number: 176



Display booth image of Hitachi Metals