

Asuka Seminar opens on a large scale

The 52nd Asuka Seminar was grandly held on October 9 and 10 at the Kira Kanko Hotel in Mikawa Bay National Park. Eighty customers of Asuka's products were invited and the all attendants devoted themselves to the informative seminar, which was summarized as follows. The photo on page two is Mr. Suguru Takeda lecturing on a stage.

The ABC of diecast, from basis to new technology

Mr. Suguru Takeda, Engineering Senior Advisor
Ahrety Corporation

(1) Introduction

"Diecast" is one of the permanent mold casting processes, and its products are also called "diecast". Today, we can get various accurate and smooth surface products by diecast. The merits of diecast are,

accurate dimension	beautiful and smooth surface
thin and light weight	delicate metallurgic structure
reduction of machining	high productivity
high recycling performance	

Contrarily, the weak points of diecast are,

many casting defections	difficulties of welding & heat treatment
difficulty of undercut	hard option to choice various alloys
unfit for smaller quantity production	

(2) Influenced factors for products

There are many factors, the velocity of cooling, the metallurgic structure, the casting defects, the constitution of molten elements and the quality of molten metal. These give any affects against the physical or chemical quality.

The chill layer on the surface of cast has a good physical quality. When the machining process shave it insensitively, the elongation and tension get lower.

The temperature of mold is very delicate and important. The lower temperature, 100 degree under, invites shrinkage cavity and porosity, and on the contrarily, the higher temperature of mold invites soldering mark. The control of the fittest mold temperature for respective products is important.

(3) New process of diecasting

<A> Laminar flow diecasting

The molten metal is filled slowly, and solidified with high pressure quickly. The product has fewer gas and porosity, and its dimension is accurate.

 Squeeze diecasting

The molten metal is filled slowly with high pressure, which is kept till solidification. The product has fewer gas, and has excellent dimension.

<C> Vacuum diecasting

The cavity is decompressed or being vacuum, and the molten metal is casted. The gas faulty and misrun is few. However it is necessary to set up special mold and decompressing system.

<D> Semisolid diecasting

The molten metal is casted under semisolid condition. The product has fewer shrink marks and segregation, and high strength. The greatest problem of conventional product is gas porosity, but semisolid diecast can over this weak point.

Above these new diecasting systems need some special molds and apparatuses, and casting cycle is longer. Therefore, we have to study so many problems to improve various engineering.

(4) New alloys for diecast

Today, our ordinary diecasted product has an elongation of 1.5%, which restricts its large usage. To overcome this weak point and to increase its use, various alloys are under development today.

<A> High tension alloy Al-Si-Mg alloy for suspension
 Al-Mg-Mn ally for body frame

 Abbreviation of heat treatment process

<C> High thermal condition alloy for CPU case, motor and battery case of hybrid electric vehicle

(5) Our target

Today, we have so many tasks, to make larger size or processing less diecast. These many requests shows us a hopeful future of diecast industry, I think. Aiming the expansion of diecast market, we have to develop continuously for our users as follows,

Higher reliability Diversification of materials Higher function

Grand party opens generously

After Mr. Takeda's fruitful seminar, a grand party was held in traditional Japanese fashion as the photo on page three shows, where all attendants enjoyed themselves the autumn taste in Mijawa Bay.

Then they moved to Night Salon to have a very good time, singing Karaoke and tasting mellow drinks thoroughly until midnight. At night, an open-air bath was favorably reviewed, looking at whole Mikawa Bay.

Company news

Nagoya City executes the education program for the health committee through Ward Environmental Service Office. On 15 October, 20 members of the health committee from Minami Ward Environmental Service Office visited us to study aluminum recycling. They watched a video on aluminum can recycling, and then observed actual process of recycling. They were the second observation party from Minami Ward Environmental Service Office. The photo on page four is the observation group.

Next morning of the Seminar, a golf competition was held customarily. Winners are,

First prize Mr. Takashi Harada (Toyotsu Material Incorporated)
2nd. prize Mr. Hideichiro Maruyama (Mitsubishi Trading RtM Japan)
3rd. prize Mr. Ryoza Takiya (Kozakai Alloy Indudtry)
B.B.prize Mr. Koichi Arima (Asuka Industries Inc.)

Congratulations every one! Let us fight here next again.