

## Workshop on Aluminium Die-Casting

A Workshop on Aluminium Die-Casting was organized at our Chapter on 28.3.2015.

At the outset Shri S C Suri, Chairman, welcomed Shri K S Thakur, GM, Hero MotoCorp, was the Chief Guest of the programme. He was honoured with bouquet.

Shri K L Mehrotra, Vice Chairman informed the participants about the activities of IIM Delhi Chapter.

Thereafter Shri Rahul Khanna, CEO, Mahavir Die-Casting Ltd. introduced the Chief Guest and made opening remarks about organizing the Aluminium Die-Casting Workshop and set the tone for the Workshop.

Shri K S Thakur delivered the inaugural address of the Workshop. He mentioned about the increasing usage of Aluminium in the Auto Industry. Shri Thakur traced the various developments in the Die-Casting Industry. In this context he talked about the role of Innovation, R&D and Technology Transfer in the development process.

Thereafter three presentations were given by different organizations covering the various facets of Aluminium Die-Casting.

Mr. Linal Amalraj of Chemtrend made a presentation on Foundry Chemicals and Die Release Agents in the Aluminium Industry. The presentation covered the evolution in Die-Lubricant Technology. He also spoke about the global industry trends in aluminium industry covering the following:



- Complex & dimensionally demanding parts, New structural alloys, Increased focused on productivity & reduction of wastages.

The presentation also covered:

- Die lubricant functionality, principles of physics behind the die lube properties like Leidenfrost point & Nukiyama point.
- Characteristics of die lube like die cooling, die adhesion, wetting temperature, wetting time and flow diameter.

Thereafter Mr. Laxman Ram Sharma of Future Design Engineering made a presentation on automation aspects in the Die Casting Sector.

The topics covered by him were the following:

- Benefits of Automation
- Areas of Automation
- Tools of Automation
- Robots in Industry Automation
- Working of Industrial Robots
- Advantages of Industrial Robots
- Disadvantages of Industrial Robots
- Infrared in Industry Automation
- Areas of Infrared Application
- Laser in industry automation
- Areas of Laser Application
- Barcoding in industry automation
- Areas of Application of Barcoding in Aluminium Industry



Mr. Mohd. Shahanwaj of Spectro Labs made a presentation on Aluminium Alloying Elements and their Effects. The areas covered by him included the following:



- Introduction to Casting Defects
- Introduction to Forging Defects
- Effects of Alloy Elements in Aluminium alloy
- Most Common defects in Casting viz:
  - Sand Burning
  - Sand Inclusion
  - Sand Hole defects in sand blasting in Aluminium Die-Casting
  - Misrun Defects
  - Shrinkage defects
  - Rough Surface Defects
  - Slag Inclusion
  - Crack defects reducing physical properties of metal castings
- Common Defects in Forging viz:
  - Unfilled Section Defects
  - Die Shift defects
  - Improper grain flow
- Influences of most common alloying elements on the Aluminium Alloys namely  
Copper, Magnesium, Manganese, Silicon, Tin and Zinc.

The presentation by the three speakers evinced a lot of interest amongst the participants. There were lively question-answer session after each presentation.

Shri M P Sharma, Hon. Jt. Secretary, who was the Workshop Coordinator, proposed vote of thanks. He stated that looking at the interest of the participants in the Workshop,



the Chapter is encouraged to look into possibility of organizing another Workshop in the area of Aluminium Metal Processing and types of Die-Casting Defects and their remedies in the near future.

The Workshop was attended by about 80 participants from different organizations.

After conclusion of the programme the participants were given the Certificates of Participation in the Workshop.

A brief write-up on the Workshop will appear in our March 2015 issue of Newsletter which is sent to various organizations in India and also to the members of the Delhi Chapter of IIM.

The Workshop was part sponsored by M/s Samyak Metals Pvt. Ltd, Gurgaon, M/s Lok Alloys Pvt. Ltd, Raipur and M/s Dhatukarm, Delhi.







The Workshop ended with a lunch

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