TechnoBiz Training Program

Plastics Injection Molded Parts Design & Failure Analysis

TECHNOBIZ * EVENT

13-14 June 2018, Bangkok, Thailand

Venue : Century Park Hotel

WWW.PLASTICS-INDUSTRY.ORG

COURSE OVERVIEW :

Many failures of plastic parts can be traced back to the design in CAD. Not being aware of those failures in the CAD file allows escapees into the downstream stages, and become show-stoppers. Or worse than that, those failures are discovered by the end-customers, whence the repercussions are magnified many fold in the form of redesign (with the associated domino effect), scrap, rework, repairs, loss of reputation, returns, legal action, warranty claims, and no useable replacement parts. This two-day course looks into the kinds of failures that ought to have been designed out of the CAD stage if the engineer knew what to look for. If properly done the downstream stages are unlikely to face interruptions to schedule, cost, nor quality. Since plastics are also used in many structural applications, FEA simulation is introduced in this course, which emphasizes the unique considerations required for plastic parts. Essentially, FEA simulation results drive the dimensions of the CAD features. Then, once conversant with how a plastic part ought to have been designed for tooling, molding assembly, and structural applications, an engineer can zoom in on the correct root-cause if failure analysis is required in the design work inherited from others. Real case studies will be presented to demonstrate how problems could have been avoided if the FEA and CAD had been conducted with due diligence. Spot questions, plus 'before-and-after' questionnaires will be used to enhance knowledge absorption.

PROGRAMME CONTENT :

- Types of plastics failures, detection, causes, repercussions, elimination during design.
- Mechanical, thermal, structural properties of plastics versus metals.
- Good and bad design features; both take the same amount of time to create.
- DFM by toolmaker, what is detected, what escapes? Too late because any redesign has a domino effect. The toolmaker/molder does not know the application environment of the molded part.
- Mass production or mess production.
- The long term failure modes of plastics that are the most damaging.
- What is FEA and why use it for plastics?
- What is linear FEA and what is nonlinear FEA?
- When do you use FEA, before or after the CAD?
- Designers use FEA but got wrong results. Examples of FEA done wrong.
- Transpose actual loading into Boundary Conditions.
- Analyze a single part, or an assembly of parts.
- Other engineering considerations for a successful FEA.
- Questions to ask before committing to tool steel.

HOW TO REGISTER ?

Please download registration form at www.plastics-industry.org and send filled registration form by email to cs2@technobiz-asia.com

TRAINER : ALEX LAU

Alex excels in FEA simulation to accurately predict the performance of plastic parts, as such is an acknowledged subject - matter - expert for failure analysis, with 30 years' global experience. He had worked in R&D product development for multinationals like NORTEL, Motorola, Agilent, and Seagate. Apart from those four companies he had also trained engineers from Honeywell, Bristol, Brady, Entegris, Escatec, Teleflex, Daikin, and Top Thermo. Alex holds a B.Sc. in Mechanical Engineering from University of Manchester.

ORGANIZER : TECHNOBIZ

Established in 2005 based in Bangkok, TechnoBiz is an International Resource Center for Plastics Processing Industries. It offers specialized training courses, conferences, exhibitions, technical consulting and publications. TechnoBiz Experts are well-experienced and internationally recognized in plastics processing. It offers training courses globally. More information about services to Plastics Industries is available www.plastics-industry.org / www.technobiz-group.com

REGISTRATION FEE :

Thailand Delegates	:	15,000	Baht / Person
Overseas Delegates	:	750	US$ / Person

REMARKS :

- Registration fee includes training documentation, lunch & refreshments
- Early Bird Discount: 10% Discount for Registrations before 5 April 2018
- Group Discount: 10% Discount for 3 or more registrations from the same company.
- 100% Payment is required with Registration.

To register, please contact

Organizer

TECHNOBIZ

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