Pattern and Foundry Tooling

Expanding Patternmaking Capabilities

The two panels hosted by the Pattern and Foundry Tooling Div. concentrated on expanding patternmaking capabilities—one in a physical sense and one in a marketing sense.

M. Welch, Brillion Iron Works, M. Tomovic, Purdue Univ., and J. Thiell, Express Pattern, Inc., presented the panel, "Dimensional Capabilities Based on Pattern Materials" (02-189). Thiell discussed rapid prototyping (RP) suppliers, methods and their uses. The three technologies currently available are laser, inkjet and fused deposition, he said.

Laser technology RP, which uses stereolithography or selective laser sintering, is the most accurate and widely used. A laser comes in contact with a liquid bath or layer of coated material to create a solid piece. Lasers create solid patterns used for plaster mold and sand casting and hollow patterns with an internal honeycomb structure for investment casting.

Inkjet technology RP builds a pattern with wax material in the same manner that a printer deposits ink on paper. This method is popular for investment casting. An alternative process uses starch infiltrated with wax. Fused deposition technology distributes filament layer by layer to create a pattern.

Thiell concluded by emphasizing that several different RP options can work for each application, and new technology is being developed constantly.

B. Dzugan, BuyCastings.com, took another approach to expanding patternmaking capabilities in a panel, "Industry Communication in the Millennium E-Commerce" (02-190). Through an explanation of web-based interactions between foundry and patternmaker, Dzugan emphasized the importance of an Internet presence, saying "websites are your online brochure."

Dzugan also detailed the benefits of locating patternshop customers and exchanging electronic casting files through the Internet.

B. Dzugan, BuyCastings.com, spoke on Internet quotation and procurement of casting tooling (02-190).

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