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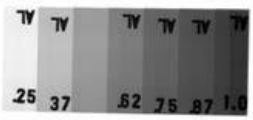
AMERICAN METALCASTING CONSORTIUM

Digital Radiographic Inspection for Aluminum Castings

Digital radiography technology is becoming increasingly available as an in-house inspection tool for metalcasting quality assessment. However, the absence of industry recognized digital standards limits the application of the technology in many critical military parts. The American Metalcasting Consortium team consisting of University of Alabama Birmingham, the Defense Logistics Agency, and the American Foundry Society are working together with ASTM and suppliers to create the required standards for digitized reference radiographs. The digital standards are being developed to create reference images that replicate current universally recognized radiographic film standards.

The University of Alabama Birmingham has previously worked with ASTM and Boeing to develop digital radiographic standards for aluminum castings. The current effort is in the development of digital reference images for investment steel castings. Once the master prints are digitized, a new digital reference standard will be developed and submitted to the ASTM governing board for approval and acceptance.

The potential time and cost savings for digital radiographic technology are far-reaching. For example, a single aerospace qualified foundry consumes more radiographic film than a very large metropolitan hospital. Radiographic inspection time could be reduced as much as 75% with real-time three dimensional imaging techniques to capture indications with the inspection volume. The development and application of this Radiographic Standard will ultimately permit metalcasters to reap the benefits of time, cost and accuracy that digital technology provides.



"This opens the door for inspecting production hardware, which was not allowed in many industries before this standard was developed."
Michael Horky, Boeing Commercial Airplanes

ATI Advanced Technology International

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