



Program Overview and Objectives: This AMC research project managed by the American Foundry Society (AFS) is updating existing and developing new reference platforms with improved digital accessibility using mobile-friendly formats. Previously, invaluable reference research reports, procedures, and technical papers contained only rudimentary search capabilities. A primary objective of this project was to enhance search functions and improve accessibility of the AFS digital library for improved responsiveness.

SUCCESS STORY

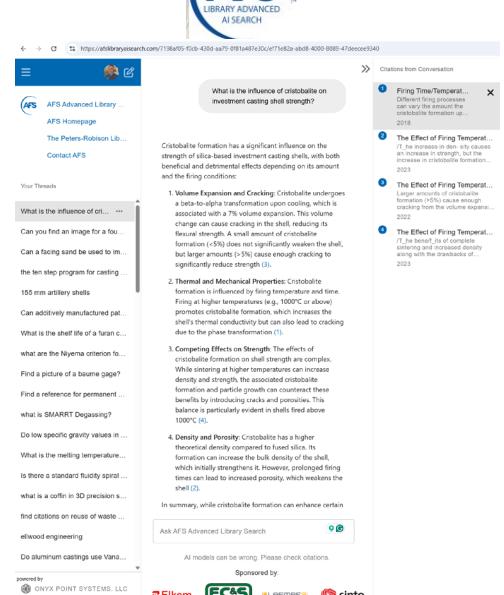
Problem: The AFS digital library contains more than 18,000 critical technical reports, reference images, data tables, citations, links, etc., but those items only had a limited search capability, e.g. by name, title, publication, etc. A more comprehensive and flexible search capability using advanced Artificial intelligence (AI) was needed to rapidly scan library references and navigate to listings that can answer user questions.

Solution: In April of 2025, a mobile-friendly, AFS library search tool was launched at <https://afslibraryaisearch.com>. This new tool uses the latest AI techniques to answer metalcasting questions with the AFS library as its source. Answers include links to citations in the AFS library used to generate those answers. The AFS library is the most comprehensive library of peer-reviewed and proprietary papers around. The tool is multi-lingual and threads can be easily forwarded to others for their own reference. As of Dec. 31, 2025, the tool has experienced 836 threads by 231 individuals with 2,653 of the 15,809 citations being generated, having been accessed by users.

Benefits: The new user-friendly AFS Advanced Library AI Search tool is finding both answers and citations to critical reference materials that are assisting troubleshooting, training, and response in the metalcasting community supplying critical warfighter components to the DLA and DoD. This capability is combined with previous project deliverables to markedly improve the accessibility of critical industry knowledge.

"Initial thoughts – I was amazed at the publications that the search found when I searched for flowability of green sands. I had recently done some searching on this same topic using the standard AFS search and only found a couple articles that were related to what I wanted – and more articles that were not what I was looking for. This search found eight that were all related to the topic I was searching for. I'm impressed."

– Brian Rachwitz (ei) Project Support Manager



AFS Advanced Library AI Search Screenshot



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ATI Advanced Technology International

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