

AMC

AMERICAN METALCASTING CONSORTIUM

Casting Alloy Data Search (CADS) Tool



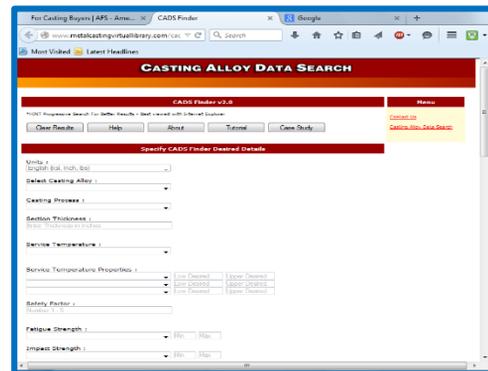
Program Overview and Objectives As part of the American Metalcasting Consortium (AMC), the American Foundry Society (AFS), the CADS (Casting Alloy Data Search) Tool has been developed and is being maintained by PDA as an online casting material database to assist DoD, OEMs, and metal casters with easy accessibility to all critical design properties. This database has been designed so that the material properties can be imported into CAE design and FEA programs. CADS assists the casting design engineer with the latest data sets for engineering properties including strain life fatigue determined using the latest test methods available. This database continues to grow with the addition of several alloys each year and as to-date contains over 300 data sets for various irons including ADI, & HiSiMo; various grades of common cast steels, aluminum and magnesium alloys imported from USCAR/USAMP research projects.

SUCCESS STORY

Problem: Current handbooks contain material properties which are either inadequate, printed format, generated with outdated test methods or lacks the pedigree information such as process, chemistry, etc. Due to a continuous decrease in the number of metal casters and to critical design properties being difficult to find or not available, there are times when substantial delays occur in the procurement of castings.

Solution: Over the past several years, a user-friendly web-based tool and database has been developed to provide critical design properties for many alloys. Each year alloys are tested and added to this database, with the latest alloys being A206 & E357 aluminum, solid solution strengthened ferritic ductile iron (SSF Iron), CA40 and CF8M stainless steels.

Benefits: A one-stop shop for potential sources, for critical material properties, and for selecting an alloy and casting process can greatly reduce the time required to design and procure new or replacement parts.



To use CADS go to:
AFS website under Technical & Management section or directly to metalcastingvirtuallibrary.com

“In today’s design & manufacturing optimization quest by OEMs demands accurate and comprehensive cast alloy material properties with complete pedigree of information such as casting process, chemistry, microstructure and section thickness used for the test bars, are available to the design engineers digitally for their design validations using FEA and process simulation” Jiten Shah, President, PDA LLC

A casting design and manufacturing solution provider to OEMs and metal casters, including US Military



FOR MORE INFORMATION ABOUT AMC GO TO: AMC.ATI.ORG OR CALL 843-760-3483

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