

WEB-BASED SPECIFICATION
HANDBOOK HELPS DLA
PROCUREMENT FOR
FLANGED ELBOW



Program Overview and Objectives: Steel Founders' Society of America is developing the Steel Castings Handbook Supplement 2 into a web-based tool under AMC's Innovative Casting Technologies (ICT) Program. Supplement 2 (available for download as a pdf file on SFSA's website) currently depends on the user to know what specification is of interest. Transforming Supplement 2 into an online database allows the user to easily search and cross reference steel casting alloys by any category such as chemistry, heat treatment, and mechanical properties (Figure 1 on reverse). This web-based tool will allow designers and purchasers of steel castings, who may not have any familiarity with this product form, to find the specification that best suits their needs based on wrought or forged steels that they have used.

SUCCESS STORY

<u>Problem:</u> DLA Land & Maritime procures and supplies steel 90° elbows per the military specification MS20762. The elbow has an internal hole that needs to be machined. This 90° elbow is an ideal part to make as a casting; however, the specification only allows for this elbow to be made as a forging. Current forgings are non-compliant due to machinability issues. Cast steel grades with chemistry and properties similar to the forging steel grade (ASTM A108 1137) needs to be identified in order to determine if converting this forging into a casting is feasible.

Solution: The web-based Supplement 2 identifies ASTM A732 Grade 6N as an opportunity based on similar chemistry. ASTM A732 is for pressure vessel applications made as investment castings, which would be ideal for this part given the size, quantity, and surface finish. The DLA is currently working on updating the spec sheet to include a casting option.

<u>Benefits</u>: Designers and purchasers of components that are currently forged, rolled, welded, or machined, but are best suited to be cast, will be empowered with this searchable tool to quickly and easily find the appropriate specification for their part. The result will be significant reductions in administrative lead time (ALT).

"The web-based Handbook Supplement 2 will be beneficial to foundries and our customers by providing the capability to conveniently search and compare cast steel grades by chemistry, alloy designation, and mechanical properties."

Bret Enslen

Metallurgical Engineer, Metaltek International - Wisconsin Centrifugal Division







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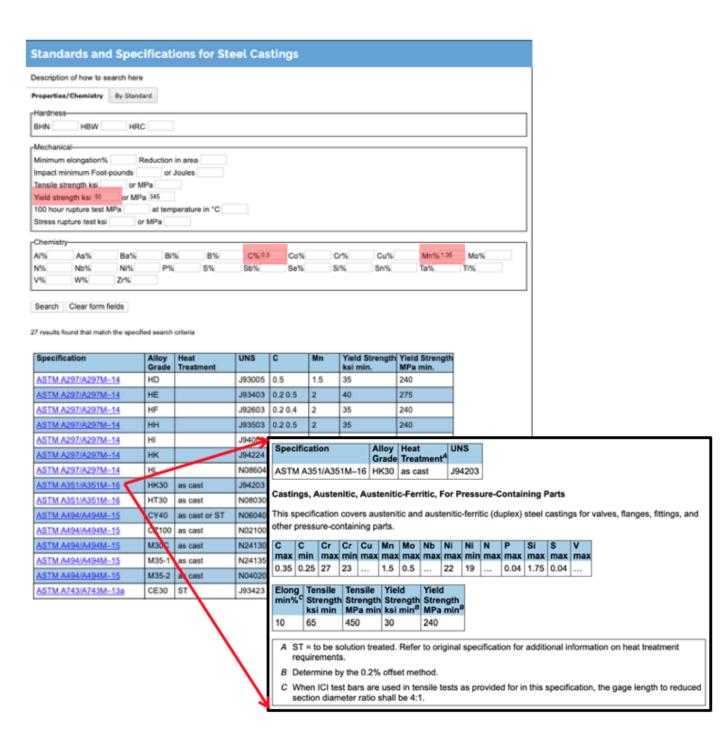


Figure 1: An example of a query. A list of specifications is outputted based on input parameters (highlighted in red). Each specification is hyperlinked.