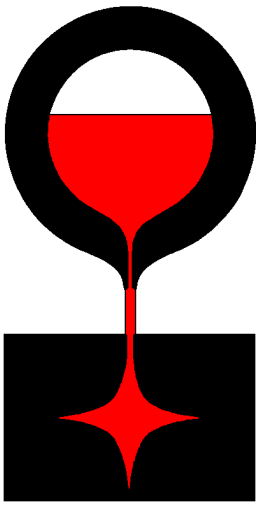
Cast in Steel



Steel casting is a newer technology than the traditional steel making technologies historically used to make tools. Casting steel did not become common or economic until the last hundred years. This restricted the design and performance of edged tools and weapons to shapes that could be forged by hand. Cast in Steel is a new competition sponsored by Steel Founders' Society of America to challenge students to creatively use the steel casting process to design and make a high performance tool.

Teams

Teams for competing in the Cast in Steel competition must include:

- At least two university students
- A Faculty advisor
- A commercial steel foundry (SFSA will recruit for interested teams)

Requirements

The project for this competition is a Viking Axe

- A functioning Viking Axe is to be provided for testing. At least 80% of the final axe head shape should be attributable to the casting process
- A description of the product features including the historical design that qualifies it as a Viking Axe
- A technical report describing the design and production which can include:
    - Rationale behind the design
    - Alloy and processing to get properties
    - Production processing used
    - Description of the manufacturing
    - Test results for the quality and properties
    - Modeling for process and performance
    - Video clips or presentation
- Successful testing of the submitted axe
    - Sharpness and edge durability in chopping
    - Robustness as weapon

Schedule

- Proposed teams and preliminary plan due June 1, 2018
- Submitted reports and Viking Axe due October 1, 2018

Evaluation

- Competition will be judged by panel of steel experts selected by SFSA
- Winners will be selected and announced no later than December 1, 2018

Prizes

- Grand Prize: $2,000
- 2nd place: $500
- Special recognition $200