

# National Conference on Contemporary Cast Iron Art & Practices

## *Iron Works: Work Smarter, Not Harder*

Sloss Furnaces National Historic Landmark

Birmingham, Alabama

April 7 - April 10, 2027



## STUDENT CUPOLA CONTEST

**Deadline for registration: October 31, 2026**

Google Form: [Registration Form](#)

Contact: [studentcupola@gmail.com](mailto:studentcupola@gmail.com)

The Student Cupola Competition started in 2005 during a conference at Sloss Furnaces. It is a chance for students to test and showcase their skills alongside teams from universities, colleges, and programs worldwide. The student teams design, build, and run their furnaces, make patterns, ram molds, and run a pour floor.

### GUIDELINES:

#### Student Teams -

- Each team must choose a Captain as the primary point of contact.
- There must be at least three people on a team. There is no limit to the number of students who can be on a team.
- If a team has more than six members, only six team members can be on the pouring floor at a time.
  - Teams that have additional members can rotate them in during the event.
- Teams will design a chainlink to cast during the competition and to the Sloss link displayed in the park. (*More below*)
- Each team must have a faculty sponsor who will be present during the event. We encourage the sponsor to be present from the start of the conference on Wednesday through clean up.
- All teams must be at Sloss for a meeting with the competition coordinators at **9 a.m. on Monday, April 5th, 2027**, to start preparing for the Student Cupola Contest.
  - At a minimum, the team captain must be present, but we recommend the entire team arrive for the Monday meeting.
  - Teams will be ramming and preparing the molds for the contest. (*Outlined below.*)
  - Teams will be breaking their own coke and iron for their furnaces.
  - The faculty sponsor is not required to arrive on Monday morning.

#### Student Furnaces -

- Cupolas, cupolettes, intermittent, and continuous furnaces are all acceptable.
- The furnace must have an **inside diameter (ID) of 10 inches**. Furnaces are measured at the tuyeres. Those who do not meet the guidelines will be disqualified.
- Furnaces must be built completely by students—no outsourced fabrication allowed.
- Furnaces that have run at previous conferences are not eligible to compete again.
- Teams provide their own tools, PPE, equipment, and supplies for furnace operation and competition preparation.
- Sloss Metal Arts will provide coke and iron for competition molds only. Do not bring coke and iron from home. (See specifics below)
- All equipment must run on 110-volt power.

## Student Cupola Contest Rules -

- All team members must be present for the Safety Meeting before the competition lights off.
- All participants on the pour field must always wear appropriate personal protective equipment (PPE). Teams that do not abide by this rule will be disqualified.
- **Sloss Metal Arts provides:**
  - Coke - to be broken by teams. As much as necessary.
  - 400 lbs of iron - to be broken by teams. Bring your own hammers.
  - 100 lbs of propane - bring your own torches, hoses, and regulators.
  - O2 lance - to open frozen tap holes or other furnace problems. Lance is operated by conference personnel.
- Furnace burn-in can begin no earlier than two hours before going on blast.
- All groups will be instructed to go on blast simultaneously.
- Teams will run their furnaces and pour competition molds (outlined below) in whichever order they want.
- **The faculty sponsor** must be present during the pour but MAY NOT:
  - Coach, prompt, advise, or be on the pour field.
  - This competition is meant to test the students' abilities and allow them to demonstrate their skills safely. Faculty sponsors or any other affiliated collegiate member found breaking these rules will disqualify their team.
- Anyone, at any time, may assist a contestant on their pour floor if it is in the interest of safety.
- All furnace sites must be cleaned and furnaces removed by 12:00 pm the day following the contest. Conference personnel must approve that the site is sufficiently cleaned. Heavy lift crew will not be able to assist until the site is thoroughly cleaned. If the site is left uncleaned, the team will be disqualified.

## Contest Molds -

**All of the following molds will be rammed and gated on-site under staff supervision.**

- Fluidity Test:
  - Evaluated by how far the metal travels in the mold.
  - Pattern provided by Sloss Metal Arts.
- Production Stack Molds:
  - Stack molds consist of Sloss trinkets and products.
  - Patterns are provided by Sloss Metal Arts.
- Mold Weights:
  - Large open-face molds.
  - Patterns are provided by Sloss Metal Arts.
- Sloss Chain Link:
  - This casting links all the student team chain links over the past 8 conferences.
  - Pattern provided by Sloss Metal Arts.
- Student Team Chain Link:
  - Each team will design and build a chain link, which will be joined to a Sloss chain link to create a tangible connection between the competitors and Sloss Furnaces.
  - The pattern must fit within a 12" x 16" x 3" box.
  - The pattern must be draftable. It will be rammed in sand, which cannot accommodate undercuts.
  - It cannot be a burnout or vaporized pattern.
  - It must represent your school, institution, or team and have the date (April 2027).
  - The pattern must have a 5" diameter hole that will allow it to connect to the Sloss Link.  
*(Cont. on next page)*
  - Finished castings will become part of the Sloss Student Cupola Competition Chain that is installed in the park.

- Staff will approve each pattern before it is rammed.
- Teams with patterns that do not follow the requirements listed will be disqualified from the competition.
- The Student Chain Link Pattern is part of the contest. Teams without a chain link pattern will be disqualified from the competition.
- Contestants must complete the pattern and be ready to ram on Tuesday, April 6th, 2027.

## FAQ -

- *Can we bring our own molds?*
  - Yes, but they can only be poured once all the competition molds are finished. Reaction molds are not allowed.
  - All personal molds poured during the student cupola competition need to be registered with Mold Registration and paid for by the end of the conference.
- *What is the story behind the student chain link project?*
  - The original intent was Mr. Meredith (Butch) Jack's call for a "Chain for America" was to have links made all over the country at different casting events. Those links would travel from place to place and be connected as they were made. Noah Kirby, the longtime student competition overlord, saw how this would naturally fit into the student cupola contest.
- *What do we make the student chain link pattern from?*
  - Wood or another rigid material is best. Wax can melt in the southern heat before you get the chance to mold it. Water clay will ruin the sand mold. (The resin is sensitive to water.) Oil clay (plasticine) is soft, so you'll need to be super careful when handling it. It can also easily melt and deform in the heat.
  - If you 3D print your pattern, be sure to remove any print lines and seal it, or else it will get stuck in the mold.
- *Is there funding to help with furnace building, conference, and travel costs?*
  - While the NCCCIAP does not offer funding for the teams, check with your institution. Look for research grants, professional or career development grants, and travel grants. Ask your faculty if the department can chip in for materials or transportation. Check with a Student Government Association or a Student Club Association; they may have funds they can allocate for club travel. Ask early! Most programs already have budgets planned for the academic year, but if they know early enough, they might reallocate some funds.
- *I'm unable to assemble a team or secure a sponsor. What should I do?*
  - Reach out to us at [studentcupola@gmail.com](mailto:studentcupola@gmail.com). We might be able to connect you with another group in your area or create a team made up of interested individuals from across the country!
- *What does outside fabrication mean?*
  - Using a professional shop to weld or create the entire furnace for you. Students should have a hand in the process, from design and fabrication to assembly.
- *Does Sloss have flasks for chain link?*
  - Yes, but it is limited. We recommend you bring your own custom flask!
- *How's the weather?*
  - Usually hot, sometimes stormy. It can get really bad during the event with 8-12 furnaces under the viaduct and all that heat radiating back down on us. Prepare, eat well, hydrate, and take breaks.
- *If we are arriving on the Sunday before the conference, can we set up camp and our site?*
  - If you are arriving before Monday, reach out to [nccciap@gmail.com](mailto:nccciap@gmail.com) and [Studentcupola@gmail.com](mailto:Studentcupola@gmail.com) so we can let security know. If you need to drop off furnace and equipment at the competition site on Sunday night, again, shoot us an email so we can help coordinate! Forklifts may not be available on Sunday.

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**Sloss Furnaces** | 20 32nd Street N | Birmingham, Alabama 35222 | 205-254-2025 | [www.NCCCIAP.com](http://www.NCCCIAP.com)

