AMERICAN CONCRETE INSTITUTE

Aesthetics in Concrete Competition

sponsored by Committee 124

In Collaboration with the Mortar Workability Competition

Atlanta 2026

Theme: "James and The Giant Peach"

This document presents the official rules for the ACI Aesthetics in Concrete Competition in a code and commentary format. The left column (**Code**) contains the binding rules. The right column (*Commentary*) provides guidance, rationale, and interpretation to assist competitors.

Section 1 — Scope & Eligibility	Commentary
1.1 This competition is open to all registered teams participating in the Mortar Workability competition at the ACI Convention in Atlanta.	*Teams must be registered for the Mortar Workability competition. A team may not enter the Aesthetics competition independently of the Mortar Workability competition.* *There is no separate registration for the Aesthetics in Concrete competition (for participation procedure see Section 2).*
1.2 This competition shall not affect the scoring or the application of rules from the Mortar Workability competition.	*This competition is an optional competition that eligible teams can compete in. Any deductions, standings, or rules from this aesthetics competition have no impact on the Mortar Workability competition and vice versa. For example, a team could place 27th in the Mortar Workability competition and place 1st in the Aesthetics in Concrete competition.*
1.3 Each team shall submit one (1) entry to the Aesthetics in Concrete competition.	*Teams wishing to cast multiple exploratory pieces for practice may do so, but only one piece shall be submitted for judging.*

Section 2 — Competition Procedure	Commentary
2.1 Teams who want to participate in the Aesthetics in Concrete competition shall provide the following to the competition's check-in table: • Piece being entered. • Formwork and/or mold used for construction of the piece including any accessory components such as alignment pins, keys, etc. (see Section 4.1). • Material/Technical datasheet for form release agent, if used.	*A separate check-in table for the Aesthetics in Concrete competition will be set up adjacent to the Mortar Workability competition area.* *The judges will evaluate the entire formwork/mold system, including any auxiliary components such as alignment pins, keys, etc.* *Failure to provide all items in this list will result in deductions as outlined in Sections 2.3 and 2.4*
2.2 Teams shall submit all items listed in Section 2.1 by 9:00 am (local time) on the day of the Mortar Workability competition.	*The intent is that all submissions will be on display for all convention attendees to view during the Mortar Workability competition.*
2.3 Teams failing to provide a complete formwork and/or mold (including any necessary alignment pins, keys, etc) will receive a 75% deduction in the Novel Formwork Design category.	*This is intentionally strict as it is difficult to assess the degree of design that went into the formwork/mold without the complete system available for review.*
2.4 Teams failing to provide material/technical datasheets for any form release agent used will receive a 75% deduction in the Finish Quality category.	*This is intentionally strict as it is used for assessing teams ability to understand and utilize proper construction and fabrication techniques to achieve a desired finish.*

Section 3 — Materials	Commentary
3.1 The mortar used for the aesthetics piece shall be the same mortar designed for the Mortar Workability competition.	*This is the central constraint tying the two competitions together. Teams cannot use different materials. Teams cannot add additional materials such as pigments, acid stains, different aggregates, etc. In past aesthetic competitions these materials were permitted but the intent of this aesthetic competition is to highlight the natural aesthetic of the material without alteration. It is up to teams to focus on finishing and formwork/mold techniques to achieve an aesthetic that accomplishes the goal of highlighting the natural beauty of cementitious materials.*
3.2 Fiber reinforcement, wire mesh, or embedded structural elements are not permitted within the casting.	*The piece must stand on the merits of the mortar alone. One challenge of any aesthetic design is following the constraints of the overall structure. Teams should consider and test their designs to ensure that the shrinkage behavior of their mortar is well understood and they demold/release their formwork at an appropriate time.*

3.3 Surface treatments applied after demolding (paint, stain, polish, acid etch, etc.) are prohibited.	*Post-processing obscures the as-cast finish, which is a primary judging criterion. The beauty must come from the formwork/mold and the mortar itself. This is the hardest component of the competition and ties directly to the mortar workability component: a workable and non-segregating mixture will be able to achieve an excellent finish if well designed.*
3.4 Form release agents are permitted with appropriate documentation.	*A light application of release agent is standard practice and will not be considered a surface treatment under Section 3.3. Teams using a release agent must bring the material/technical datasheet for the form release agent they use (see Section 2.1).*

Section 4 — Formwork & Mold Design	**Commentary**
4.1 Teams shall design and fabricate their own formwork and/or mold.	*Formwork/mold design is a key creative element. Teams are encouraged to begin design early. The novelty of formwork/mold design is a component of the judging process. Simply repurposing an existing object or formwork/mold will not earn points in the Novel Formwork Design category.* *A small caveat to this is if a team wishes to create a formwork/mold from a piece. For example, if there is a toy peach and a team wants to recreate it in mortar, they could work through how to create a casting of the existing object and create a formwork/mold from that casting to make their entry. What is not encouraged is simply cutting a hole in the existing toy peach and filling it with mortar. In this instance, there was no design component to the formwork/mold portion of the competition.*
4.2 Acceptable formwork/mold fabrication methods include, but are not limited to: (a) 3D printing (FDM, SLA, SLS) (b) CNC machining or laser cutting (c) Traditional formwork (wood, acrylic, silicone) (d) Hybrid methods combining any of the above	*3D printing is encouraged given its relatively easy access but not required. The judging criteria rewards novel formwork/mold approaches regardless of fabrication method. A beautifully crafted wooden form can score just as well as a printed one.* *Teams using 3D printing should verify their mold can withstand the hydrostatic pressure of fresh mortar without excessive deflection.* *Teams can use purchased items for their formwork/mold, but those entries will be ineligible for the judge's choice awards. The intent is for teams to go through the process of thinking how formwork and/or molds need to be designed for reuse and aggressive application.*

4.3 The finished piece shall fit within a bounding box of 5 in. x 5 in. x 5 in. (127 mm x 127 mm x 127 mm).	*This size constraint keeps pieces transportable and ensures all teams work within the same spatial limitations. The piece does not need to be a cube; it simply must fit within one. Penalties will be assessed if the piece is too big in any dimension. A physical box with inner dimensions equal to those stated for the bound box will be used by the judges to confirm compliance with this rule. The submitted piece must fit completely within the box. See also Section 7.2.*
4.4 The finished piece shall weigh no more than 5.0 lbs (2.26 kgs).	*This weight ensures that the entire volume is not filled with mortar. The intent is to use both negative and positive space to create an aesthetic that aligns with the theme.*

Section 5 — Theme: "James and The Giant Peach"	**Commentary**
5.1 All entries shall incorporate the theme of "James and The Giant Peach" by Roald Dahl. The connection to the theme shall be evident to the judges without requiring explanation.	*The theme was selected in recognition of the competition being held in Atlanta, Georgia—the Peach State. Teams should think broadly: the peach itself, characters, scenes, or abstract interpretations of the story are all fair game.*
5.2 Each team shall submit a brief written description (maximum 80 words) of their design intent and connection to the theme.	*While the theme connection should be visually evident (Section 5.1), the written description gives teams an opportunity to convey conceptual depth that may not be immediately obvious. Judges will read these during evaluation. In past aesthetics competitions, the written description significantly influenced judge's opinions as it provided missing context that may not be immediately obvious.*
5.3 Entries that do not demonstrate a discernible connection to the theme shall receive zero (0) points in the Theme category.	*This is intentionally strict. The theme is a core part of the competition, not an afterthought. A technically excellent piece with no thematic connection will not score well overall.*

Section 6 — Judging Criteria	Commentary
6.1 Entries shall be evaluated on a 100-point scale across four categories: (a) Intricacy of Design — 25 points (b) Finish Quality — 25 points (c) Novel Formwork Design — 25 points (d) Theme Adherence — 25 points	*Equal weighting across categories is intentional. A winning piece must excel across all dimensions. It is not enough to have a complex design with poor finish, or a beautiful surface with a generic form.*
6.2 Intricacy of Design: Judges shall evaluate the geometric complexity, level of detail, and ambition of the piece relative to the constraints of mortar casting.	*Thin sections, undercuts, sharp edges, and fine surface textures all demonstrate intricacy. Judges will consider what is achievable given the material and scale.*
6.3 Finish Quality: Judges shall evaluate the smoothness, uniformity, absence of defects (honeycombing, bug holes, cracking), and overall visual quality of the as-cast surface.	*A high finish score reflects both good mix design (from the workability competition) and good casting technique. This is where the two competitions most directly intersect.*
6.4 Novel Formwork Design: Judges shall evaluate creativity and innovation in mold design, fabrication method, and demolding strategy.	*A team that develops a clever collapsible core, a dissolvable internal form, or a novel multi-part assembly will score well here. The method of fabrication (i.e. 3D printing, CNC, etc.) is not really the novel portion of this category. The novel aspect is how the team handled challenges with overhangs/underhangs, collisions, alignments, etc.*
6.5 Theme Adherence: Judges shall evaluate how effectively and creatively the piece interprets the competition theme.	*Literal interpretations (a peach shape) and abstract interpretations (evoking a journey or transformation) are both valid. Judges will reward creativity and depth of engagement with the source material.*
6.6 A panel of no less than three (3) judges and no more than five (5) judges shall independently score each entry. The final score shall be the ranked-choice result of the judges' scores.	*Judges will be selected from ACI members with experience in concrete aesthetics, architectural concrete, or related fields. Judges may not be affiliated with any competing team.*
6.7 In the event of a tie, the entry with the highest Finish Quality score shall be declared the winner. If still tied, the highest Novel Formwork Design score shall break the tie.	*Finish quality is the tiebreaker because it most directly reflects the quality of the mortar and the skill of the team in working with it—the core theme of the combined competitions.*

Section 7 — Deductions	Commentary
7.1 Use of mortar not originating from the team's own Mortar Workability competition mix design shall result in a 75% deduction of the final score.	*This is the fundamental rule linking the two competitions. Judges will have access to the submitted mixture designs during the judging process.*
7.2 Entries exceeding the 5 in. x 5 in. x 5 in. (127 mm x 127 mm x 127 mm) bounding box shall result in a 50% deduction of the final score.	*Measurement will be taken using a go/no-go box. Minor flash or burrs at mold seams will be given reasonable tolerance at the discretion of the officials. Teams will not be permitted to recover points by shaving their specimen after the measurement has been taken.*
7.3 Any entry deemed offensive, inappropriate, or not suitable for a professional setting shall be disqualified at the sole discretion of the judges.	*The competition is held in a professional and academic environment. Pieces should be appropriate for display at an ACI convention.*
7.4 Additional deductions as outlined in Sections 2.3, 2.4 and 5.3.	

Section 8 — Awards	Commentary
8.1 Judge's Choice awards shall be given for First Place, Second Place, and Third Place as determined by the panel of judges.	*These rankings are solely determined by the panel of judges (see Section 6.6).*
8.2 A People's Choice award shall be given for the first place choice, as determined by the general public, and not to duplicate the Judge's Choice award.	*A secure balloting system will be available to record the votes of the attendees at the convention. A judging rubric is not used for the People's Choice award. A team that wins first, second, or third in the Judge's Choice will not be eligible for the People's Choice award.*

ACI Aesthetics in Concrete Competition

Scoring Rubric

Theme: "James and The Giant Peach" | Atlanta 2026

Team Name: _____ Team #: _____ Judge Name: _____

Category	Exceptional 21 – 25	Proficient 16 – 20	Developing 11 – 15	Emerging 6 – 10	Insufficient 0 – 5
Intricacy of Design **(25 pts)**	Exceptional geometric complexity with fine detail throughout. Thin sections, undercuts, sharp edges, or intricate surface textures executed successfully. Design pushes the limits of what mortar casting can achieve at this scale.	Notable complexity with several detailed features. Some challenging geometry achieved with minor imperfections. Ambition is evident and mostly realized.	Moderate complexity; some detail beyond basic forms. Geometry is achievable but does not strongly challenge the medium. Design is competent but safe.	Simple geometry with limited detail. Few features that test the capabilities of mortar casting. Minimal ambition relative to the constraints.	Very basic or crude form with no meaningful detail. No evidence of design intent beyond a simple shape.
Finish Quality **(25 pts)**	Smooth, uniform surfaces with no visible defects. No honeycombing, bug holes, or cracking. As-cast finish rivals formed architectural concrete.	Generally smooth with minor surface imperfections. Isolated small bug holes or hairline cracks. Overall impression is clean and well-executed.	Noticeable surface defects but generally acceptable. Some honeycombing or moderate bug holes present. Finish suggests adequate but not refined technique.	Frequent defects across multiple surfaces. Visible honeycombing, large bug holes, or cracking. Consolidation or casting technique needs improvement.	Severe defects; surface is rough or heavily damaged. Major honeycombing, structural cracking, or incomplete fill.
Novel Formwork Design **(25 pts)**	Highly innovative mold design solving real casting challenges. Creative solutions for overhangs, undercuts, collisions, or alignment. Demolding strategy is elegant and well-engineered.	Inventive approach to at least one significant formwork challenge. Evidence of thoughtful problem-solving in mold geometry or assembly. Fabrication method supports the design intent well.	Some creative elements in mold design. Standard approaches to formwork challenges with minor innovations. Mold works but does not surprise.	Conventional mold with little innovation. No notable solutions to geometric or demolding challenges. Fabrication method is straightforward with no adaptation.	No discernible innovation in formwork. Mold is a basic open-top container or equivalent.
Theme Adherence **(25 pts)**	Theme is immediately recognizable and creatively interpreted. Deep engagement with the source material beyond surface-level imagery. Written description enriches an already evident connection.	Clear thematic connection with some creative interpretation. Goes beyond the most obvious imagery. Written description aligns with and supports the piece.	Theme is present but relies on literal or obvious imagery. Connection is identifiable but lacks depth or creativity. Written description is needed to clarify intent.	Weak thematic connection; requires significant explanation. Only loosely related to the theme. Written description does most of the thematic work.	No discernible connection to the theme. Piece could belong to any competition without modification. Zero points per Section 6.5.
SCORE	Score: **_____ / 25**	Score: **_____ / 25**	Score: **_____ / 25**	Score: **_____ / 25**	**TOTAL** **_____ / 100**