

Concrete Frisbee

The Concrete Frisbee competition gives teams a chance to construct their own concrete Frisbees and then compete with them. The competition has two components: distance and accuracy. Frisbees will also be judged based on their aesthetic qualities and durability.

Participation:

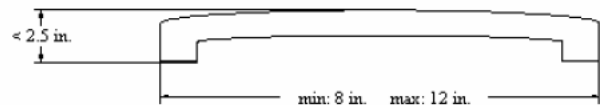
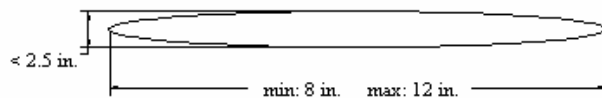
- Each team may consist of two to four participants
- All participants must be registered attendees of the conference.

Frisbee Rules:

- Each team will need to bring 5 fabricated Frisbees (of the same mix and design).
 - One will be selected at random for inspection
 - Four total will be thrown

Design:

- The Frisbee must have a diameter of greater than 8 in. but less than 12 in.
- The height of the Frisbee must not exceed 2.5 in. at its thickest point.
- The major constituent of the Frisbee (at least 60%) must be hydraulic (Portland) cement. No prepackaged or premixed concrete may be used.
- Reinforcements such as reinforcing mesh, metallic or non-metallic, may be used. Absolutely none of the reinforcement may be exposed in the original Frisbee. (Exposure during competition as a result of breakage is allowed.)
- The mix design is at the discretion of the school, but remember: this is an engineering competition, so get creative!



The Frisbee may be any shape vertically.

Presentation:

- Each team must submit a poster (24" x 36") at the competition
- The poster must identify
 - School name
 - Mix Design
 - Construction materials and techniques
- The aesthetics of the Frisbee and posters will be judged by professionals.

Scoring:

- Durability (20 points, 5 each)
 - If a Frisbee loses more than 20% of its total weight, it will be disqualified.
 - Each Frisbee may be thrown one time

Durability Measurement:
$$\left[\frac{(\text{Weight of largest remaining piece})}{(\text{Weight of disc before throwing})} \right] \times 5 \text{ points}$$

- Aesthetics (20 points)
 - Aesthetics of the ball will be judged at the beginning of competition and the specifics left to the discretion of each individual judge.
- Distance (30 points)
 - Two Frisbees will be thrown
 - The longest throw from each team will be scored.
 - In order for a throw to count, the Frisbee must land within the set boundaries and maintain at least 80% of its initial weight.
- Accuracy (30 points, 15 each)
 - Two Frisbees will be thrown
 - Participants will attempt to toss the concrete Frisbee into one of the marked circles on the course.
 - As long as a portion of the Frisbee (excluding damaged or broken-off pieces) is touching the circle, the team is awarded those points.
 - The final score is equal to the sum of the points earned from the two throws.
 - In order for a points to be earned, the Frisbee must maintain at least 80% of its initial weight.

Durability Measurement:
$$\left[\frac{(\text{Target Length})}{(\text{Target Length} + \text{Distance from target to disc})} \right] \times 15 \text{ points}$$

- In the case of a tie, the poster will be the determining factor.

Percentage	Category	Points
20%	Durability	20
20%	Aesthetics	20
30%	Distance	30
30%	Accuracy	30
100%	Total	100