

## ***CONCRETE BOWLING COMPETITION***

### **Objectives**

Design and construct a concrete bowling ball that is practical, durable, and aesthetically pleasing.

### **Participants**

- Each school may only enter one team.
- Each team must have at least two members, but no more than five.
- Each team member must be a registered participant of the Mid-Continent Regional

The event will consist of two parts: the bowling ball design and a bowling competition. Each team will bowl in five combined frames (a maximum of eleven bowls in the case of striking or sparing in the fifth frame). The bowling ball must be able to perform in all frames of the competition; if the ball cannot perform then the team will be disqualified from the bowling competition.

## ***GENERAL RULES***

### **Bowling Ball Design (60 points total)**

#### **1. Dimensions and Construction (failure to comply results in automatic DQ)**

- a. The ball's **circumference** must be between 26.5" and 30.0".
- b. The ball must be spherical (Judges discretion).
- c. The ball shall weigh no more than 16 pounds.

#### **2. Mix Design (30 points)**

- a. The mix design is at the discretion of the school
- b. A concrete mix table must be submitted by April 4<sup>th</sup>, 2014 to [asce.mcsc@gmail.com](mailto:asce.mcsc@gmail.com)
- c. Each team will be judged on creativity.
- d. No resins or epoxies may be used.
- e. The ball must be solid concrete.
- f. Reinforcement may be used; however, none shall be exposed prior to competition. Exposure due to breakage is allowable.

#### **3. Durability (30 points)**

- a. Bowling balls will be weighed before and after the bowling competition. For every 1% of total weight lost from each ball, ½ point will be deducted. If a ball loses more than 20% of its total weight, the team will be disqualified from the event.
- b. The ball must be able to perform in all frames of game play. A damaged ball may be used after the first roll, but it must roll to the pins (no throwing).

#### **4. Aesthetics (15 points)**

- a. Each team should establish a theme to be portrayed through the aesthetics of the ball.
- b. This will be judged at the beginning of the competition; the specifics of this scoring will be left to the discretion of each individual judge.
- c. Any theme of aesthetics found to be offensive will result in automatic disqualification.

### **Bowling Competition (40 points)**

1. Standard bowling rules will apply. Progress of Play and Scoring can be found at: <http://www.pba.com/Resources/Bowling101/>
2. Each team will have a combined 5 frames, for a maximum of eleven bowls (in case of a spare or strike in the fifth frame).
  - a. When a person starts a frame, they must finish that frame.
  - b. Each team member must bowl at least one frame.
3. Standard bowling pins will be used, and the alley will be grass. The lane will be 40' long from the foul line to the head pin. The approach will be 15' long and end at the foul line.