



CONCRETE COMPETITION 2024

Concrete Platform/Receptacle

American Concrete Institute Singapore Chapter – ACI SC has been playing a proactive role in developing concrete technology through education, training, conferences, and short seminars. Its annual concrete competition also seeks to facilitate the progress of the local concrete industry toward high-performance sustainable concrete technology. Each year, the competition also seeks to create some positive vibes among the industry players and academic researchers/students.

For the Concrete Competition 2024, each team should create a Concrete Platform/Receptacle with a maximum size of 500mm (length) x 500mm (width) x 300mm (depth) using cement as the binder. Cement Binder used must be listed in SS EN 197-1. Other components of the concrete mix namely filler, aggregate, admixture and fibers can be innovative and sustainable materials.

The competition is open to individuals, tertiary institutes, companies, and organizations.

Each team is allowed to submit only One entry with a Team Name and names of team members in each application. Each team member is allowed to join only one team. **Registration is Free.**

Rules and Regulations

1. The Concrete Competition 2024 will be judged by the following 2 criteria:
 - i. **Criterion 1** – The team's creativity in the design of the Concrete Platform/Receptacle. Participating teams may need to display their concrete platform/receptacle at the ACI SC conference for conference participants to view and vote on criterion 1 in Nov 2024.
 - ii. **Criterion 2** – The total weight loaded onto the concrete platform/receptacle stably without any hand-supporting before the platform is completely submerged (the heavier the load carried the better)
2. The weightages for scoring for each of the criteria are **1st criterion (10%), 2nd criterion (90%)**
3. See below for an example of a scoring system:

Team A achieved 1st for 1st criterion and scored 4th for 2nd criterion

Assumed 10 teams participated.

In this scenario, Team A would have a score of $(10/10 \times 10\%) + (7/10 \times 90\%) = 73\%$

The team with the highest score will be the winner.



4. Tie-breaker – In the case of a tie-in score, the submission with the higher weight loaded on the concrete platform/receptacle wins the tie.
5. In each entry, the contestant shall bring their concrete platform/receptacle to the appointed competition venue on the date specified.

The concrete platform /receptacle shall be weighed, and the weight recorded to the nearest 0.1kg.

The concrete platform/receptacle shall be placed into a water tank. The concrete platform/receptacle **must be able to float** on water.

Pre-measured weights shall be loaded approximately every 30 seconds onto the concrete platform/receptacle until the concrete platform/receptacle is submerged. The team members will place the weights onto the concrete platform/receptacle. ACI SC may provide a plastic pail or equivalent for the concrete platform/receptacle to contain the pre-measured weight. Initially, heavier pre-measured weights may be used. Nearing the submerged weight, lighter pre-measured weights may be used. Judges will be present to witness and record the final weight. Video footage may be taken.

The concrete platform/receptacle **should not break** during the test. Any team with a broken concrete platform/receptacle shall be disqualified.

The maximum size of the concrete platform/receptacle shall be **500mm (length) x 500mm (width) x 300mm (depth)**. Any dimensions measured by judges shall not exceed more than 10mm. Protrusions in any direction shall be included in the measurements. Any team that does not pass the dimension check shall be disqualified.

6. Each contestant shall provide the composition of the concrete mix used (see **sample form** provided below).

Contestants can use a plastic mold to cast the concrete. However, the **plastic mold cannot be part of the platform/receptacle during the test**.

Contestants are required to furnish additional details if requested by the panel of judges.

7. Prizes for winning teams will be as follows:
 - Gold Award (\$1000.00)
 - Silver Award (\$800.00)
 - Bronze Award (\$500.00)
 - Merit Award (\$300.00 each)
 - Commendation (\$200.00 each)



All winning and participating teams will be given a certificate of participation.

8. THE DECISION OF THE PANEL OF JUDGES SHALL BE FINAL.

Registration and Submission

1. All entries shall be emailed to:
Concrete Platform/Receptacle Competition Committee
ACI-Singapore Chapter (ACI-SC)
e-mail: desmond@rakmat.com.sg
2. **Closing date for registration: 16 Aug 2024 Fri**
3. **The following are to be submitted by 25 Oct 2024 Fri:**
 - a. **Concrete Composition**
 - b. **Total Dead weight that can be loaded onto the concrete platform/receptacle**
 - c. **Photos of the concrete platform/receptacle showing the length, width, and depth**
4. **The contestants will be required to bring their concrete platform/receptacle to the competition venue between 6 to 8 November 2024. Each team will be notified in advance of the date to bring the concrete platform/receptacle to the competition venue.**



CONCRETE COMPETITION 2024

OFFICIAL ENTRY FORM

(Due Date: 16 Aug 2024 Fri)

NAME OF TEAM: _____

INDIVIDUAL / TERTIARY INSTITUTE / COMPANY / ORGANIZATION

ADDRESS: _____

NATURE OF BUSINESS: _____

NAME OF TEAM MEMBERS:

1. _____

2. _____

3. _____

4. _____

5. _____

Team Leader : _____ Contact Tel No. : _____

Designation: _____ Email Address : _____

Date: _____ Signature : _____

PROGRESS THROUGH KNOWLEDGE



CONCRETE COMPETITION 2024
CONCRETE COMPOSITION
(Due Date: 25 Oct 2024 Fri)

- 01 Cement Type: _____
- 02 Additions / Supplementary Cementitious Materials SCM: _____
- 03 Coarse Aggregate Type & Size: _____
- 04 Fine Aggregate Type & Size: _____
- 05 Admixture/Additive/Others: _____
- 06 Fiber Type: _____
- 07 Water: _____
- 08 Date of Casting: _____
- 09 Method of Curing: _____

Note: Contestant can add to the above list (if necessary)

- 10 Total Dead weight that can be loaded onto the concrete platform/receptacle =
_____kg (to one decimal place)
- 11 Photos of the concrete platform/receptacle showing the length, width, and depth

Person-in-charge: _____ Contact Tel No. : _____

Designation: _____ Email Address : _____

Date: _____

Signature