

# ACI Cylinder competition

Mohamed Abdelsalam

# Content:

- 1) Team information.
- 2) Introduction about the competition.
- 3) Introduction about the importance of this competition for students.
- 4) Brief description of the procedure.
- 5) Brief description about the results.
- 6) Ending.

# Team Information:

The team consisted of two students



Rabeh Almashhadani

Mohamed Abdelsalam

## Introduction about the competition:

- The competition is developed by ACI.
- The objective of the competition is creating a cylinder with average compressive strength of 48.3 Mpa, surface dry density of 2.39 Kg/m<sup>3</sup>, highest cementitious efficiency and lowest price.
- Three specimens had to be prepared and tested.
- A report had to be generated.
- The specifications for the materials used were specified by ACI.

## Introduction about the importance of the competition:

- An eye opening experience.
- A way to challenge yourself and use critical thinking, “self recognition”.
- A way to utilize previous experiences.
- Opens new opportunities for those who participated in this competition.

## Brief description about the procedure:

- The experiment was carried out in Qatar university's laboratories.
- Calculations for large scaled materials were carried out, only to be brought into smaller ones for the experiment to be practically feasible..
- Materials were collected, maximum aggregate size is 19 mm.
- silica fume was selected as an admixture.
- Water cement ratio : 31% .
- Slump test :35 mm , Air content : 1.7%.
- The mixing went on for three minutes, then it was casted in a cylindrical shape.
- The mixture was cured in water for 28 days.



## Brief description about the results:

- Predicted compressive strength was 50 Mpa.
- Average compressive strength for the 3 specimens was 48 Mpa.
- Total cost per ton was calculated to be \$116.69.

## Ending:

- Unforgettable experience.
- Honored to have participated and won such a competition.
- Grateful for being able to attend this conference.
- The willing to go places with this competition.





**Thank You..**