ATTACHMENT

The Process of Coral Reef Preparation

■ The dead coral reefs were taken from the shore of Kampung Lobuk, the dead coral reefs taken were approximately ± 37.5 mm in size, then cleaned of trash. The prepared dead coral reefs were then transported and brought to the Civil Engineering Laboratory of Universitas 17 August Surabaya.



• After which it is screened using a 37.5 mm sieve to ensure that the size of the coral is no larger than 37.55 mm. If the coral is stuck on the 37.5 mm sieve, it is broken down into several pieces.





The Process of Weighing Material

Weigh the gravel according to the requirement



Weigh the cement according to the requirement



Weigh the dead coral reef according to the requirement



• Weigh the sand according to the requirement



• Weigh the water according to the requirement

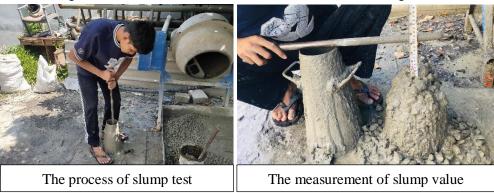


The Process of Casting Concrete, Slump Test, and Fresh Unit Weight

Prepare the necessary equipment and materials, filling the mixer with a little water aims to just wet the mixer. Put all the coarse aggregate and enter 3/4 of the amount of water, add cement after all the coarse aggregate is wet evenly. Finally put the sand into the mixer, and let the mixer spin until the mixture is evenly distributed.



- After the concrete mixture is evenly distributed, it is then removed from the mixer and subjected to Slump testing.
- Incorporate fresh concrete into the cone gradually, 1/3-part I, II, and III every part pounded 25 times. Leveling the surface of the concrete cone after the cone is full. Slowly lift the cone vertically then hold it for 30 seconds. Finally Measure the height of the concrete after the cone is lifted as the final height.



 Incorporate fresh concrete into the mold gradually, 1/3-part I, II, and III every part pounded 25 times, then leveling the surface of the concrete cone after the mold is full







Tutting concrete into the mold

• After the concrete surface is evenly distributed, then weigh the concrete in the mold to determine the specific gravity of the concrete.



Stabbing concrete in the mold



Unit weight test of fresh concrete

• After the concrete is dry, remove it from the mold and then put it in a water tub.



Compressive Strength Test and Unit Weight of Hard Concrete

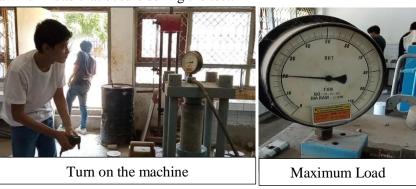
The test specimen is removed from the water tub and then allowed to stand for 24 hours to dry. After the concrete is dry, it is then placed in a compressive testing machine





Putting the specimen to the compressive strength machine

 Turn on the compressive strength machine in order that the test object gets the load. The test was stopped after the test object was destroyed. Then record the maximum load that occurs during the test.



Water Absorption Test

- Soaking the test object in clean water for 24 hours, remove the test object after 24 hours, then leave it for ± 1 minute and then wipe the surface using a dry cloth in order that it reaches a dry surface. Then weigh the test object after soaking and then record it.
- Put the test object into the oven for 24 hours with an oven temperature of 110
 °C. After the oven then weigh the test object and record the weight.



Weighing SSD concrete



Than putting the concrete into the oven



Weighing the specimen that has been backed

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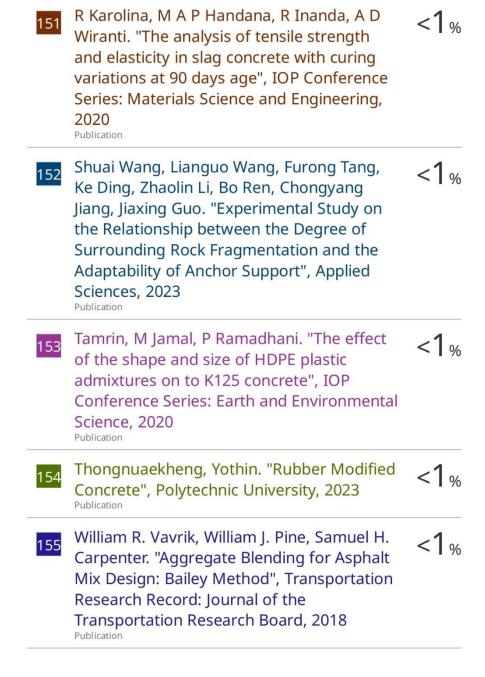
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