



CASE STUDY

Volumetric mixer case study

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WEBSITE:

vmmb.org



A VMMB certified Volumetric Mixer in Maryland was recently called upon to produce a Lightweight Concrete for the rehabilitation of a structure on a federal building.

Since the building was an existing structure, the Mix Design called for a 4000 PSI Concrete with a maximum unit weight of 110 lbs per cubic foot. This was to minimize the load on the rest of the building.

In addition to the maximum unit weight, the Mix Design also called out the following:

Cement Content	705 lbs
Water / Cementitious Ratio	0.40
Air Content	6%
Slump	2" - 4"

The owner of the mixer had to meet all of the requirements of the specification, including a calibration of the unit with the designated materials, production of the mix design, and testing of the concrete produced, prior to being approved.

Each of the requirements were met, and the cylinders that were prepared broke above the required strength of 4000 PSI at 28 days.

The project called for the placement of the Lightweight Concrete to be done at an upper

floor, and conveyors were selected for the project as pumping would have an effect on the slump as well as the air content.

The delivery was to be placed in small sections requiring several hours. These conditions are perfectly suited for a Volumetric Mixer, since the materials are only mixed when called for, and maintaining Slump, Air Content, Temperature, and Water / Cementitious Ratio throughout a lengthy placement is never a concern.



Slump Test



Roll-Meter Being Used for Air Test of Lightweight Concrete

The material being produced was tested prior to the delivery being started, and several times during the placement. Each test met the parameters called for.

In addition to the Mixer and the Materials being certified, the Operator of the unit is also an NRMCA Certified Volumetric Mixer Operator and was able to make any adjustments needed during the production as well as answer any questions that the Site Engineer, Project Manager, and Test Technicians had regarding the Mixer.

The project was successfully completed, verifying once again the ability of a Volumetric Mixer to meet the most exacting requirements of the Specification as well as the conditions called for at the job site.



VMMB MEMBERS



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