

# Engineering

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The San Francisco Public Utilities Commission Building al Affiliation Set at 13-storey high, San Francisco Public UtilitiesCommission (SFPUC) building is the newest and arguably the most appealing of California city`s office buildings dating way back to July 2012. The building serves as the headquarters, and in inclusion, it is a LEED satisfied platinum award-winning project. This paper seeks to explore the building as an innovative concrete structure while giving a description of why it is considered unique.

Experts in design adopted a flexible reinforcing concrete structure design thereby earning the building some of its unique advantages. The design goals included; employment of a set of special green concrete mixes that set forth at most seventy percent cement substituting materials while meeting the recommendable requirements. At the same time, the concrete`s delaying set-time is not compromised. It was thus necessary for the associated carbon emissions from the concrete per cubic yard to be reduced, a requirement the concrete supplier had to fulfill.

The building`s uniqueness is also drawn from the test to which the mix designs for the concrete were put at commencement of the construction. Concrete, estimated at five thousand cubic yards was utilized in placing the mat foundation, employing a mix in which seventy percent is cement substituted material with the recommended strength being eight thousand psi. These specifications were the same requirements adopted for the columns of the building as well as shear walls. The experts came up with a unique mix design for elevated slabs in order to meet certain light reflectance capacity.

It is imperative to note that, also uniqueness is achieved by the reduced height of the concrete floor-to-floor which allowed for the addition of an extra  
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floor to the initial set twelve floors. The sun blocking beams were as well eliminated by the structure. The latter designs culminated in half of carbon dioxide reductions.

In conclusion, it is noteworthy to say that adoption of the flexible reinforcing concrete design for the structure achieved cost, environmental and structural advantages. The cost was tremendously cut down and the carbon footprint significantly reduced making the structure a high-performance green solutions project.

#### Work Cited

Wally Johnson. (2012, Jul 24). Concrete Green Building. Retrieved from <http://www.concrete-greenbuilding.com/articles/74816/a-new-certified-lead-platinum-building-in-san-fran/>