**SEISMIC RESILIENCE IN CONCRETE HIGH RISE BUILDING DESIGN: THE CHILEAN PERSPECTIVE**

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**Abstract**

Chile is known to be one of the most seismic countries in the world. On the last 100 years, 13 earthquakes of magnitude 8.0 or higher have occurred in the country with an average of one every 8 years.

This short interval between large earthquakes has led the Chilean practice to assume that every building will experience at least one large magnitude earthquake during its life time. Also, the general good structural behavior observed, has conditioned the Chilean society to expect for their buildings immediate occupancy performance level under these extreme events, despite the fact that the Chilean Code declares a scope of life safety performance level.

The presentation will review the concepts and strategies behind the Chilean practice of seismic design of reinforced concrete buildings in order to limit damage, including conventional type structural systems and the use of seismic protection systems which have proven to be effective to provide near resilient structural performance under extreme seismic events. It will also present an overview of the future challenges and the possible strategies to fully achieve this objective.

The conclusion based on statistical evidence from recent strong earthquakes in Chile, indicate that resilience is a consequence of limiting damage, understanding that operational performance and life safety are different challenges that require different strategies to be solved and that both strategies must be met simultaneously and not alternatively in order to provide society with resilient and safe buildings.

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