



DIFFERENTIATING YOUR BUILDING WITH RESILIENCE

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BASED DESIGN

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## US Resiliency Council Offers Certified Rating



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Of the more than 1.8 million buildings listed in San Francisco's assessor's database, fewer than 15% were built to what engineers would consider "modern" building codes. After every earthquake, structural engineers learn more about how buildings behave in seismic events, and refine and improve our codes. For many structural systems, the most recent era of code design began in the mid 1990's. This doesn't mean that all buildings more than 20 years old will be unsafe during a large earthquake. However, newer buildings, or those that have been seismically retrofitted, are more likely to deliver a high level of confidence in their performance.

Since only 1% of a city's building stock is replaced each year, hundreds of thousands of buildings in cities nationwide constructed well before these modern codes will remain in service for years to come. Most cities do not require existing buildings be brought into compliance with the current building code. For a city like San Francisco, replacing all its buildings with modern structural designs would cost hundreds of billions of dollars and require decades.

The US Resiliency Council's "Certified" Rating identifies buildings that meet or exceed current building code standards, differentiating them from the large majority that do not. Certified buildings are expected to perform in a manner that will preserve life safety, limit damage to under 40% of replacement cost, and allow functional recovery within a year of a major seismic event.

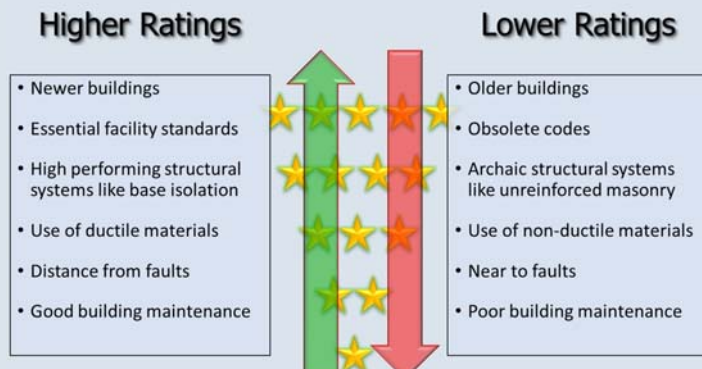
While most of us know that a '67 Corvette – despite its beauty - is not as safe as a 2017 Corolla, it is much more difficult to discern whether a building we want to purchase or lease meets current life safety standards. You cannot always tell a building from its façade, so to speak. The high-rise below recently underwent a \$35 million renovation. But behind the shining, new façade is a 60 year old structure, designed and built before the advent of modern building codes. The other building, while not as eye-catching, was completed just a few years ago and is a base isolated structure expected to be fully operational following a major seismic event and suffer virtually no damage. A building that posts the USRC Certified Rating lets occupants know that it is compliant with the performance expected from modern codes. Buildings that are designed to meet even higher performance objectives can receive USRC Silver, Gold or Platinum ratings.



All stakeholders benefit from understanding the performance of buildings in earthquakes and other natural disasters. USRC Ratings communicate the expected performance of the buildings in which we live, work or invest. Owners, tenants, lenders, insurers, governments and institutions use USRC ratings to provide confidence that their rated buildings meet or exceed modern code standards for safety, repair cost and recovery time.

Typically, a new building complying with current codes needs no further enhancement to achieve a USRC Certified Rating. However, achieving this designation can add considerable value to the building. According to Piet Eichholtz, in his article *Doing Well by Doing Good? Green Office Buildings*, LEED Certified buildings command about 7% higher rents and a 16% higher selling price than similar non-certified buildings. As the building design and construction market moves from a sustainability to a **resilience** mindset, buildings with USRC Certified, Silver, Gold or Platinum ratings that incorporate modern or high performance structural design features will similarly be more highly valued.

Obtaining a USRC Certified Rating for new, recently constructed, or seismically retrofitted buildings starts with contacting a USRC [Certified Rating Professional](#) who assesses the building for compliance with the USRC criteria. For buildings currently in design, the project engineer can become USRC certified and submit a rating request directly. Tenants and buyers should ask building owners for USRC Certification, and work with their property brokers to seek out USRC Certified buildings.



To learn more about the USRC Certified Rating contact the USRC at [info@usrc.org](mailto:info@usrc.org).

The U.S. Resiliency Council® (USRC) was formed as a 501(c)3 nonprofit organization and launched in November 2015 to establish and implement a rating system for the performance of buildings in earthquakes and other natural hazards. The system is currently applicable to earthquake performance but the vision is for it address other hazards including wind, flood and blast. The USRC issues ratings, certifies practitioners and best practices, and technically reviews ratings shared with the public so its ratings are both credible and consistent.

Improving local community and regional resilience in natural and manmade disasters is a national imperative. Key to the success of this challenge is the need to understand the performance of the nation's building stock in terms of safety, repair cost and recovery. The vision of the USRC is to make the public more aware of their potential risks in natural disasters, and provide them with information to make better-informed decisions on owning, renting, leasing and insuring properties, so that market forces will drive the building design, and procurement process toward more resilient building design.



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