

Architectural Strategies for Designing Durable Steel Structural Systems

Authors : Alireza Taghdiri, Sara Ghanbarzade Ghomi

Abstract : Nowadays, steel structures are used for not only common buildings but also high-rise construction and wide span covering. The advanced methods of construction as well as the advanced structural connections have a great effect on architecture. However a better use of steel structural systems will be achieved with the deep understanding of steel structures specifications and their substantial advantages. On the other hand, the steel structures face to the different environmental factors such as air flow which cause erosion and corrosion. With the time passing, the amount of these steel mass damages and also the imposed stress will be increased. In other words, the position of erosion in steel structures related to existing stresses indicates that effective environmental conditions will gradually decrease the structural resistance of steel components and result in decreasing the durability of steel components. In this paper, the durability of different steel structural components is evaluated and on the basis of these stress, architectural strategies for designing the system and the components of steel structures is recognized in order to achieve an optimum life cycle.

Keywords : durability, bending stress, erosion in steel structure, life cycle

Conference Title : ICABE 2015 : International Conference on Architectural and Building Engineering

Conference Location : Venice, Italy

Conference Dates : April 13-14, 2015