

Reinforcement corrosion in the Arabian Gulf and its prevention– a review

Shamsad Ahmad, Omar S. Baghabra Al-Amoudi, and Mohammad Maslehuddin

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Abstract:

Concrete deterioration due to reinforcement corrosion is a widely recognized problem faced by the construction industry. In the temperate climatic conditions, reinforcement corrosion is basically attributed to the use of deicer salts in the highway structures. Exposure to the other chloride and/or carbon dioxide environments in marine and industrial structures, respectively, has also contributed to reinforcement corrosion. In the Arabian Gulf, the problem of concrete durability, particularly that due to reinforcement corrosion, is mainly attributed to the environmental conditions, and poor quality of the construction materials, especially the aggregates. The environmental factors, such as temperature, and relative humidity accelerate the process of reinforcement corrosion. This paper provides a review of factors affecting reinforcement corrosion. Also, a summary of the preventive measures that should be adopted to minimize reinforcement corrosion is provided with the context of the research conducted in this area.