



Stainless Steel Bars as Reinforcement

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Abstract

The paper describes various grades of stainless steel available in India with merits & demerits when used as a reinforcement in concrete structures.

Keywords: stainless steel; high yield strength deformed bars; grades of stainless steel; life cycle cost.

Introduction

It is a general practice to use High Strength Deformed (HYSD) Steel bars having yields strength of 500 N/mm², 550 N/mm² etc. as a reinforcement in concrete to resist the tensile stresses.

When exposed to extreme environmental conditions such as in marine or coastal regions, where the structures are exposed to chloride attacks, the HYSD bars are susceptible to corrosion leading to the overall reduction in the structural strength or load bearings capacity of the system.

The repairs to the corroded segments are both difficult and expensive which leads to increase in the Life Cycle Cost of the System. An alternative practice to use Stainless Steel rebars instead of

HYSD is adapted these days to overcome such situations.