

## Continuous Galvanized Rebar for Corrosion control in RCC structures

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### Abstract

Post liberalization, India has witnessed massive infrastructure growth. One of the reasons for this magnificent growth was easy availability of foreign technology, which is required for building massive infrastructure. Being the second fastest growing economy, at an average GDP of 7-8 % for past ten years, the loss due to corrosion is to the tune of USD 40 billion every year, which is about 4 percent of the GDP. Steel corrosion is the most common problem faced by most of the countries. There is a need to find ways and means to plug leakages on maintenance costs due to corrosion and offer the right solutions to enhance the life of civil structures by using suitable cost effective coating on steel. Scientists and engineers are focusing on developing corrosion free material, which has not become reality because of economies of scale. However many new protective coatings have been developed to prolong the life of steel.

The reliability of the built environment, both general construction and infrastructure, is paramount to minimize the ever increasing costs of maintenance. And avoiding the serious costs to society of disrupted transportation routes, failed communication networks, inadequate energy supply, or deficient water control systems, when infrastructure must be repaired or replaced, has become more critical. There is an acute demand for investments that provide long service life buildings and infrastructure. Globally, more than \$1.5 trillion will be spent annually over the coming years on new construction, or on repair or replacement of existing infrastructure. Whether for residential or commercial buildings, for energy, water, communications or transportation systems, construction projects will rely heavily on reinforced concrete as a principal building material. Protecting the reinforcing steel (rebar) from corrosion is a critical investment to prolong the life and improve reliability of the built Structure and environment.

Coatings are well established as a means to protect rebar from corrosion. Hot-dip galvanized rebar (HDG) has been used successfully for over 50 years although it is sometimes perceived as a niche product. With the advancement of technology, low cost continuous grade Galvanized Rebar is a recent development. Furthermore, by using a small aluminum-containing zinc bath, it will produce a galvanized reinforcing product with 40-60 microns of pure zinc coating that can not only