**NEWS ARTICLE**

The benefits of hot dip galvanized for steel rebar in concrete

**16 January 2025:** In construction, ensuring the longevity and structural integrity of concrete is paramount. Hot dip galvanizing, a process that immerses steel in molten zinc to form a protective coating, provides superior corrosion resistance but also enhances its overall performance in demanding environments such as concrete, according to **Simon Norton**, Director of the [International Zinc Association](http://www.zinc.org) (Africa).

The galvanizing process involves cleaning steel to remove contaminants, applying a flux to prevent oxidation, and immersing it in molten zinc at about 450°C. The result is a tightly bonded zinc coating that acts as a shield against corrosion within concrete structures.

This barrier is more than just a physical protector; it also provides sacrificial protection. Zinc, being more reactive than steel, corrodes preferentially when exposed to harsh conditions, preserving the steel underneath. In particular, if concrete structures suffer carbonation or ingress of chlorides from a marine atmosphere if the reinforcing steel is hot dip galvanized, the steel is protected.

Galvanized rebar steel in concrete demonstrates exceptional resilience against environmental factors like oxygen, moisture and chlorides, which typically accelerate corrosion. Research shows galvanized rebar has a stronger bond with concrete, contributing to superior structural integrity.

Even when scratched or damaged, the zinc coating can form a protective layer, ensuring continued protection. Galvanized rebar reduces the frequency of maintenance and replacement, lowering the environmental footprint of construction projects.

As Norton highlights, hot dip galvanizing transforms steel rebar into a robust, durable material ready to withstand the test of time and nature. This innovative process ensures that infrastructure remains reliable and cost-effective over decades. Hot dip galvanized steel reinforcing offers a reliable and effective solution for protecting concrete structures against premature corrosion, spalling and ultimate failure.

The zinc coating provides a combination of barrier and sacrificial protection (galvanic protection), while the synergistic interaction with concrete enhances the overall durability of the structure. By incorporating galvanized rebar into construction projects, civil engineers and contractors can ensure the long-term performance and safety of their structures.

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**Notes to the Editor**To download hi-res images for this news article, please visit [http://media.ngage.co.za](http://media.ngage.co.za/) and click the International Zinc Association link to view the company’s press office.

**About the International Zinc Association (IZA)**

The IZA is the only global industry association dedicated exclusively to the interests of zinc and its users. Operating internationally and locally in Africa through the IZA Africa Desk, the IZA helps sustain the long-term global demand for zinc and its markets by promoting such key end uses as corrosion protection for steel and zinc as essential in human health and crop nutrition. IZA’s main programmes are Zinc Use Research, Sustainability & Environment, Technology & Market Development and technical Communications.

In South Africa, the IZA plays a vital role in establishing the basis for the successful growth of the zinc industry by increasing awareness of zinc and its applications and benefits in key sectors and markets.

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