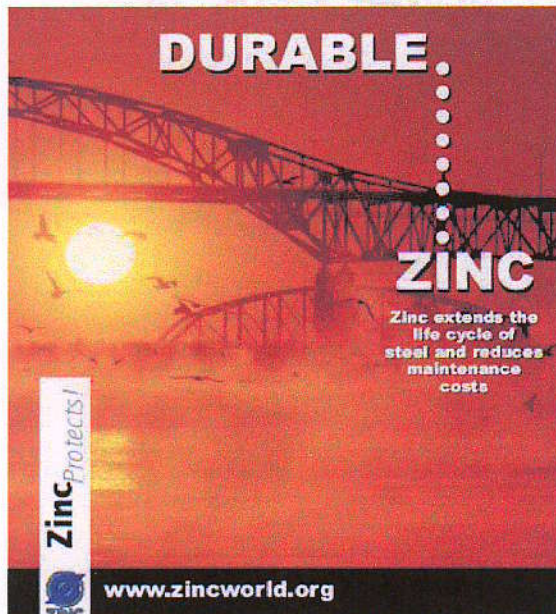


Protecting Steel - Zinc's Major Contribution



- Galvanizing - the protection of steel against corrosion by metallurgically bonding zinc to steel - is the most important application of zinc, both in terms of volume and economic benefit to society.

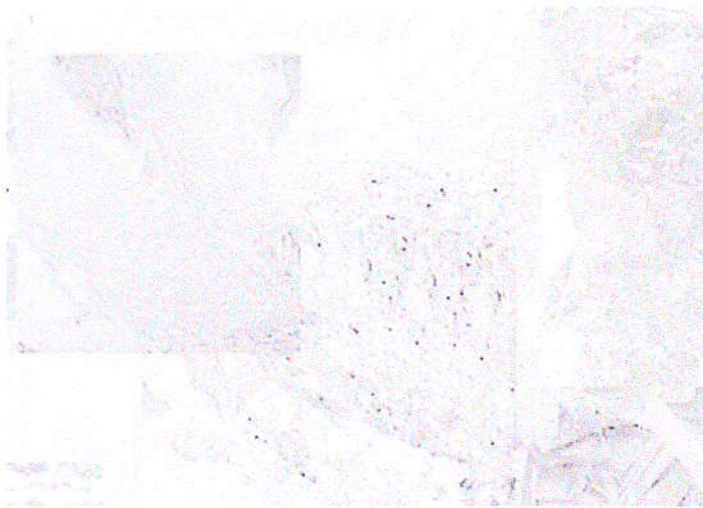
Corrosion is a significant drain on the economy and is estimated to cost over 4% of GNP each year. By protecting steel, zinc reduces this loss. Moreover, new technology is making it possible to improve zinc's performance while at the same time reducing the amount of zinc needed.

- Steel is one of the most widely used materials on the planet and thanks to zinc, steel's durability can be prolonged. Improved air quality in many industrialized countries, with diminishing levels of SO₂, means that today, zinc coatings provide even longer protection for steel.

- Zinc-coated steel has many benefits: long service life, low maintenance costs and minimal service interruption. In the case of public infrastructure, these benefits contribute to lower maintenance budgets, thereby freeing up public funds for other priorities, without compromising safety or aesthetics. Increased attention to whole-life costing is causing designers, specifiers and investors to opt for zinc-coated steel in many traditional and new applications, from construction to automobiles, from electricity distribution poles to safety barriers.

- "No substitute for galvanizing exists for protecting large tonnage iron and steel products from corrosion." (U.S. Congress, Office of Technology Assessment)

- "The atmosphere at Cape Canaveral is documented as one of the most corrosive natural environments in the United States, if not the world... zinc materials have continued to provide complete protection of the steel substrate for over 20 years ...the performance provided by zinc coatings has helped to reduce the maintenance



Sources:

T Shibata, Corrosion Management, March/April 2001, pp.16-20 • Zinc in the Environment. Second edition. IZA, 1997 • www.hdg.org.uk • G Thompson. A Tribute to Zinc - Australia's first international telegraph line. IZA, 1997.

costs on many steel structures at the Cape to an acceptable level ..." (U.S. National Aeronautics and Space Administration - NASA).

- The life of zinc-containing products is variable and can range from 10-15 years for cars or household appliances, to over 100 years for zinc sheet used for roofing. Street lighting columns made of zinc-coated steel can remain in service for 40 years or much longer, and transmission towers for over 70 years. All these products tend to be replaced due to obsolescence, not because the zinc has ceased to protect the underlying steel. For example, zinc coated steel poles placed in the Australian outback a hundred years ago are still in excellent condition.