

Zinc and Sustainable Development

7 Facts You Should Know



Zinc is Everywhere



Zinc Sunblocks



Red Dog Mine



Kortright Centre for Sustainable Living

1 Zinc is Natural

Zinc is a gift of nature for the benefit of mankind. It exists naturally in air, water and soil. Zinc is present everywhere in the environment and is continuously mobilised and transported by natural processes such as erosion, forest fires, aerosol formation above the sea and volcanic eruptions.

2 Zinc is Essential in the Environment

All life on earth has evolved in the presence of zinc, which is used by nature for many biological processes. All living organisms - including man, animals, fish, plants and micro-organisms - need zinc for growth and development. Zinc intake is regulated by each organism's natural processes.

3 Zinc Protects Steel

One of zinc's most remarkable characteristics is its ability to protect steel against corrosion. Corrosion is a drain on the economy, estimated to cost at least 4% of GDP in industrialised countries. The life and durability of steel is greatly improved when coated with zinc. No other material known to man can provide such efficient and cost-effective protection for steel.

4 Zinc Helps Save Resources

By protecting steel against corrosion and prolonging its useful life, zinc helps save the energy that would otherwise be needed to frequently replace corroded steel structures and manufactured goods. It has been estimated, for example, that the use of zinc coated steel in Sweden saves the country the energy equivalent of one nuclear power plant each year. Thus, by contributing to lower energy consumption, the use of zinc to protect steel impacts positively on the problem of climate change. Life-cycle costing of public infrastructure shows how significant the savings are: longer service life, lower maintenance costs, longer payback on investment.

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5 Zinc is Recyclable

Today, over 30% of the global zinc supply comes from recycled zinc, recovered from both new and old scrap. 80% of all the zinc used today will be recycled sooner or later. Due to the long life span of many zinc products – over 100 years in some cases – much of the zinc used in the past is still in service. Zinc recycling technology is advancing and the supply of zinc available for recycling is growing too. Zinc can be recycled indefinitely, without loss of its physical or chemical properties, thus constituting a valuable and sustainable resource for future generations.



Hot Dip Galvanizing

6 Zinc Protects Human Health

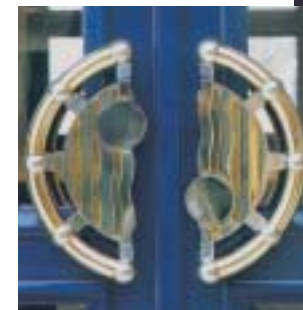
Recent advances in medical science are revealing the importance of zinc for the proper functioning of the immune system, the transfer of nervous signals, the expression of genes and many other vital functions. Zinc supplementation is proving successful in the fight against major causes of child mortality such as diarrhea, pneumonia and malaria. Zinc is known to be vital to the functioning of more than 300 enzymes in the human body. Research is also showing, however, that as much as half the world's population is at risk from zinc deficiency, with even greater numbers at risk in developing countries and among poor populations. Zinc supplementation is proving to be an effective and cheap intervention that can greatly improve the health status of groups at risk.



Zinc Coated Steel Frame Housing

7 Zinc Contributes to Society's Wellbeing

Zinc is used to purify water, thus contributing a small solution to one of the great environmental problems of the planet. Recyclable zinc-air batteries successfully power electric vehicles, offering another solution to the problem of urban air quality. Zinc is a major constituent of brass, a health protective metal due to its bacteriostatic qualities. Zinc is an important pharmaceutical ingredient, providing daily skin care and protection against the harmful rays of the sun. Zinc is needed in fertilizers that boost crop yields and so help feed the world's growing population. And zinc is present everyday, everywhere in our homes and household appliances, fittings, tools and toys, in our offices and computers, our cars, trains and planes.



Brass



Ultralight Steel Auto Body (ULSAB)