
Technical Bulletin 31
Military Applications - Corrosion Inhibition

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**Developed by Lucent Bell Labs to fight the dual problem of
Corrosion and Static Electricity**

**Designed to Save you Money from expensive losses due to ESD or
Corrosion**

Static Intercept is a revolutionary technology which uses semiconductor technology to transform standard plastics into semiconductor devices capable of protecting even the most sensitive electronic device. Static Intercept is the *'State of the Art'* technology for the protection of static and corrosion sensitive materials. Intercept was developed by Lucent Technologies Bell Labs to solve the problems the electronics industry was experiencing with static and corrosion damage. Intercept is available in a wide variety of packaging, storage and material handling products.

Corrosion Inhibition:

Corrosion on military equipment can be divided up into mainly three main factors - atmospheric corrosion of the metals, galvanic corrosion, and fungus attack. We will handle each in turn.

Atmospheric corrosion is one of the most prevalent and most easily recognized and understood forms of corrosion. Atmospheric corrosion occurs whenever atmospheric gases attack a metal surface. Metals corrode (tarnish) by reaction with common gases in the atmosphere. These corrosive gases react with both Ferrous (Iron based) and Non-Ferrous metals, however these gases are the primary cause for Non-Ferrous metal (such as Silver, Tin, Copper, Brass, etc.) corrosion, though they are still extremely significant in Ferrous corrosion as well.

The common corrosive gases and examples of how they are produced:

Hydrogen sulfide (H_2S) produced as affluent from pulp mills, oil refineries, heavy industry and from decaying vegetation.

Carbonyl sulfide (COS) produced from fossil fuel combustion (such as burning coal, gasoline or petrol, oil, etc.), wood fires and ocean surfaces.