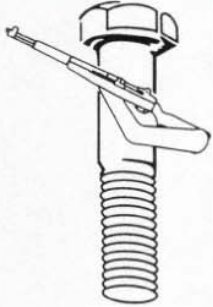


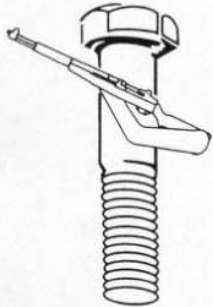
# WINK'S WORDS

NEWS & VIEWS ABOUT NUTS & BOLTS

## Fighting the endless battle against **CORROSION**



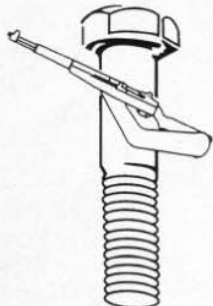
Corrosion is a chemical or electrochemical reaction between metals and their environment. It is a destructive force that causes billions of dollars worth of damage every year to industrial equipment. Fasteners are no exception!



We fight it valiantly two ways—1) by choosing the right fastener material to resist the particular environment or 2) by coating the fasteners with a protective or sacrificial material.

Let's tackle the fastener material selection problem.

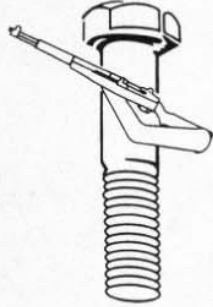
### Our Standard Line of Corrosion Fighters:



In the WINK catalog you'll find a brief description of the more popular line of corrosion resistant fastener materials: 18-8 stainless steels (302, 303, 304, 304L); 316 and 316L; martensitic stainless type 410; precipitation hardening 17-4PH and high nickel/chromium Alloy 20 stainless steel; Inconel; Monel 400, 405 and 500; Hastelloy C; Brass; Silicon Bronze 651; Aluminum Bronze 614; Titanium; and Aluminum 2024. These alloys probably account for 90% of corrosion resistant applications. The remaining "real tough" applications need something extra. Like the following:

### Some new corrosion resistant ammunition...

#### *Ferrallium Alloy 255*



This alloy is sometimes referred to as a "super stainless steel". It has high mechanical strength, ductility and hardness combined with outstanding corrosion resistance, particularly to stress corrosion cracking, crevice corrosion and pitting even in the presence of sodium chloride, sea water and other harmful environments. It also exhibits excellent resistance to sulfuric, phosphoric, nitric and other acids and salts—and to acetic, formic and other organic acids and compounds. Applications include chemical, marine, copper smelting, petrochemical, pollution control and pulp and paper industries.

#### *MP 159 Bolting Alloy*

The manufacturer of this alloy claims that it has the highest strength and creep resistance of any fastener material above 1100°F. And since it is composed primarily of cobalt, nickel, chromium and molybdenum its corrosion resistance is also excellent. It's an ideal fastener material for use in jet engines, rocket motors and other aerospace applications, as well as for high temperature applications in chemical, food, petroleum, paper and power generation industries.

#### *Carpenter MP35N Alloy*

This is another alloy with a high content of cobalt, nickel, chromium and molybdenum. It is a non-magnetic, high strength material with excellent corrosion resistance, as well as resistance to sulfidation, high temperature oxidation, hydrogen embrittlement and stress corrosion cracking. It is totally resistant to sea water environments. Recommended for fasteners in medical, marine, oil and gas well and chemical and food processing environments.

#### *Alloy 625*

Containing about 60% nickel and 20% chromium, plus molybdenum, columbium and titanium, this material also deserves "super alloy" status. It is a precipitation hardenable alloy with outstanding resistance to severely corrosive environments, such as sour gas wells and in a variety of refinery and chemical process industries. It can also be used in high temperature, high purity water environments such as found in the nuclear power industry.

In addition to the above we can also supply Nitronic 50 and 60; Hastelloy B-2, C-22, G-30 and zirconium alloys.

As long as the battle against corrosion continues we'll keep supplying you with fresh troops—and a few secret weapons.

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