

# HASTELLOY<sup>®</sup> G-35<sup>®</sup> alloy

## Principal Features

### **A nickel alloy with exceptional resistance to “fertilizer-grade” phosphoric acid**

HASTELLOY<sup>®</sup> G-35<sup>®</sup> alloy (UNS N06035) was designed to resist “fertilizer-grade” phosphoric acid ( $P_2O_5$ ), which is used in the production of fertilizers. Tests in real-world solutions indicate that G-35<sup>®</sup> alloy is far superior to other metallic materials in this acid. It was also designed to resist localized attack in the presence of chlorides, since this can be a problem beneath deposits in evaporators used to concentrate “fertilizer-grade” phosphoric acid. Furthermore, G-35<sup>®</sup> alloy is much less susceptible to chloride-induced stress corrosion cracking than the stainless steels and nickel-chromium-iron alloys traditionally used in “fertilizer-grade” phosphoric acid.

As a result of its very high chromium content, G-35<sup>®</sup> alloy is extremely resistant to other oxidizing acids, such as nitric, and mixtures containing nitric acid. It possesses moderate resistance to reducing acids, as a result of its appreciable molybdenum content, and, unlike other nickel-chromium-molybdenum alloys, it is very resistant to “caustic de-alloying” in hot sodium hydroxide.

HASTELLOY<sup>®</sup> G-35<sup>®</sup> alloy is available in the form of plates, sheets, strips, billets, bars, wires, pipes, tubes, and covered electrodes. Applications include  $P_2O_5$  evaporator tubes.