

# HASTELLOY<sup>®</sup> HYBRID-BC1<sup>®</sup> alloy

## Iso-Corrosion Diagrams

Each of these iso-corrosion diagrams was constructed using numerous corrosion rate values, generated at different acid concentrations and temperatures. The blue line represents those combinations of acid concentration and temperature at which a corrosion rate of 0.1 mm/y (4 mils per year) is expected, based on laboratory results. Below the line, rates under 0.1 mm/y are expected. Similarly, the red line indicates the combinations of acid concentration and temperature at which a corrosion rate of 0.5 mm/y (20 mils per year) is expected. Above the red line, rates of over 0.5 mm/y are expected. Between the blue and red lines, corrosion rates are expected to fall between 0.1 and 0.5 mm/y. The iso-corrosion diagram for hydrofluoric acid should be used with caution. Internal attack of nickel alloys is common in this acid; thus field tests prior to industrial use are even more important. Also, while HYBRID-BC1 alloy possesses useful resistance to nitric acid, stainless steels are generally preferred to nickel alloys in pure nitric.

