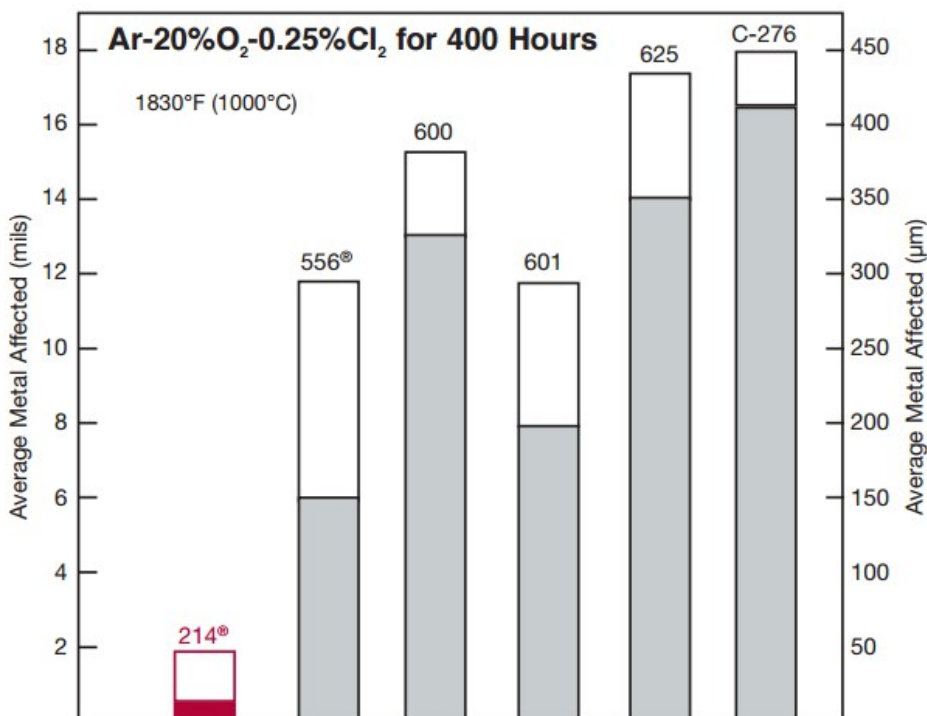
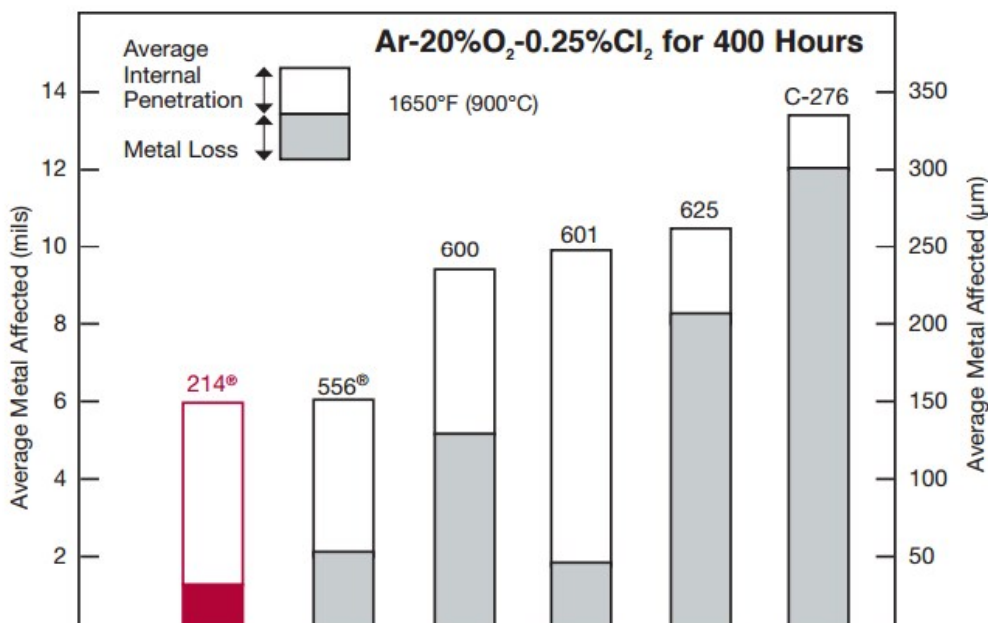


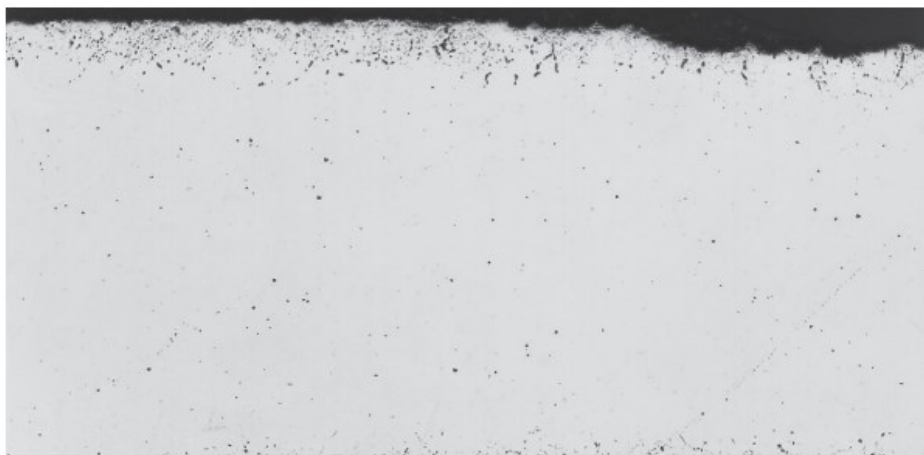
# HAYNES<sup>®</sup> 214<sup>®</sup> alloy

## Resistance to Chlorine-Bearing Environments

HAYNES<sup>®</sup> 214<sup>®</sup> alloy provides outstanding resistance to corrosion in high-temperature, chlorinecontaminated oxidizing environments. This is particularly evident for exposures at temperatures at or above 1800°F (980°C), where the formation of the Al<sub>2</sub>O<sub>3</sub>-rich protective oxide scale is favored. Test results are shown for 400 hour exposures in a flowing gas mixture of Ar + 20% O<sub>2</sub> + 0.25% Cl<sub>2</sub>. Note that the metal loss exhibited by 214 alloy is very low compared to other alloys tested.



HAYNES® 214® alloy has also been tested in environments with higher levels of chlorine contamination. The photomicrographs to the right are for samples exposed to a mixture of air and 2% chlorine for 50 hours at 1830°F (1000°C). Once again, the black area at the top of each photograph represents actual metal loss experience. Alloy 601 exhibited 2.0 Mils (51 µm) of metal loss, and an average internal penetration of 6.0 Mils (152 µm), for a total average metal affected of 8.0 Mils (203 µm). Results for 214® alloy, by contrast, were 1.0 Mils (25 µm) of metal loss, 1.0 Mils (25 µm) of average internal penetration, for a total average metal affected of only 2.0 Mils (51 µm). These results are consistent with the results for lower chlorine level, longer-term tests given on the previous page.



**Alloy 601**

