

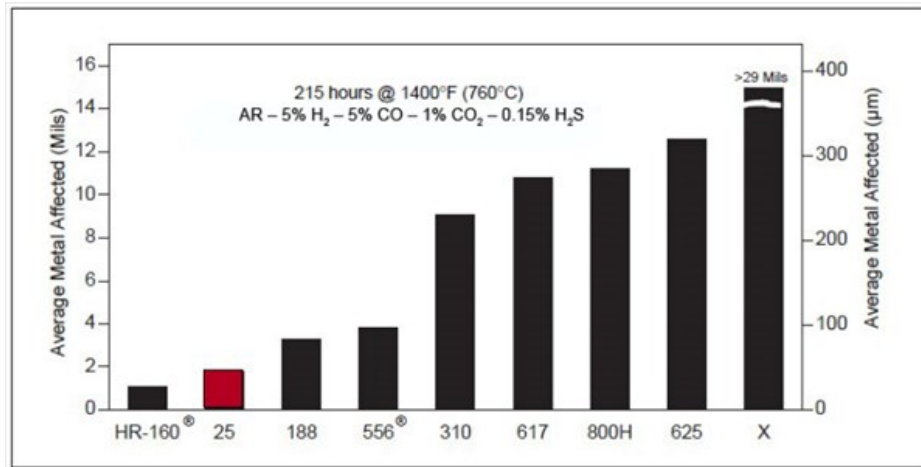
HAYNES[®] 25 alloy

Sulfidation Resistance

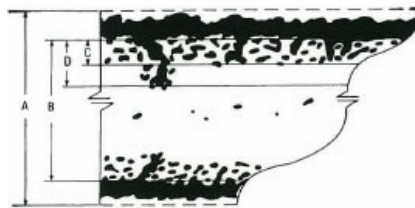
Sulfidation Resistance at 1400°F (760°C)

HAYNES[®] 25 alloy has very good resistance to gaseous sulfidation environments encountered in various industrial applications. Tests were conducted at 1400°F (760°C) in a gas mixture consisting of AR – 5% H₂ – 5% CO – 1% CO₂ – 0.15% H₂S, balance Ar.

Coupons were exposed for 215 hours. This is a severe test, with equilibrium sulfur partial pressure of 10⁻⁶ to 10⁻⁷ and oxygen partial pressures less than that needed to produce protective chromium oxide scales.



Schematic Representation of Metallographic Technique Used for Evaluating Environmental Tests



1. Metal Loss = $(A - B)/2$
2. Average Internal Penetration = C
3. Maximum Internal Penetration = D
4. Average Metal Affected = $((A - B)/2) + C$
5. Maximum Metal Affected = $((A - B)/2) + D$