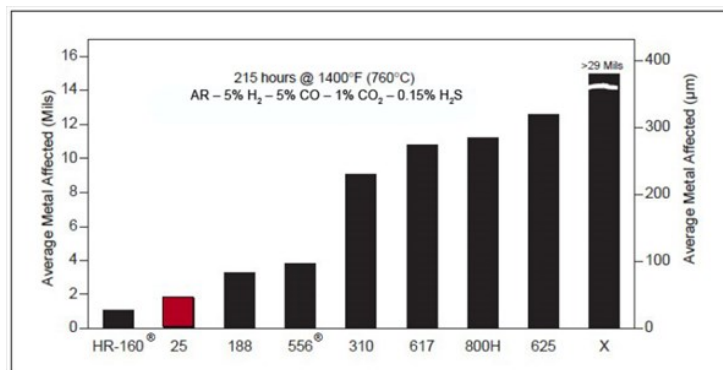


# HAYNES<sup>®</sup> 25 alloy

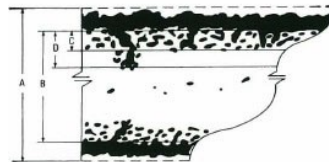
## Sulfidation Resistance

### Sulfidation Resistance at 1400°F (760°C)

HAYNES<sup>®</sup> 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% H<sub>2</sub> – 5% CO – 1% CO<sub>2</sub> – 0.15% H<sub>2</sub>S, balance Ar. Coupons were exposed for 215 hours. This is a severe test, with equilibrium sulfur partial pressure of 10<sup>-6</sup> to 10<sup>-7</sup> 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 =  $((A - B)/2) + D$