

HAYNES[®] 188 alloy

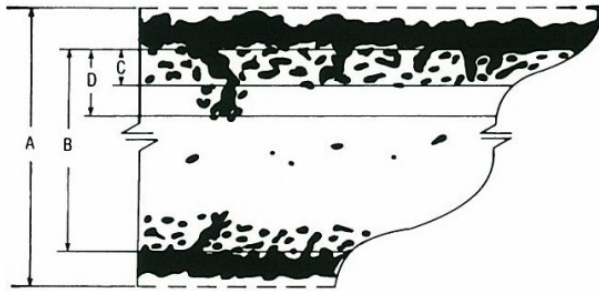
Hot Corrosion Resistance

HAYNES[®] 188 alloy exhibits excellent resistance to sulfate deposit type hot corrosion. Tests were conducted in a low velocity burner rig burning No. 2 Fuel oil with 0.4 percent sulfur. The air:fuel ratio was 30:1. Artificial sea water was injected at a rate equivalent to 5 ppm salt. Tests were run for 1000 hours, with samples cycled out of the gas stream once an hour and cooled to near ambient temperature. Gas velocity was 13 ft./ sec. (4 m/s).

Hot Corrosion Resistance at 1650°F (900°C)

Alloy	Metal Loss		Average Metal Affected	
	mils	µm	mils	µm
-				
188	0.8	20	2.7	69
230[®]	1.2	30	5.1	130
625	1.8	46	5.2	132
X	1.6	41	5.5	140

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 = $((A - B)/2) + D$