

HAYNES[®] HR-160[®] alloy

Nitridation Resistance

HAYNES[®] HR-160[®] alloy is also very resistant to nitridation attack. Tests were performed in flowing ammonia or nitrogen at various temperatures for 168 hours. Nitrogen absorption was determined by chemical analysis of samples before and after exposure and knowledge of the exposed specimen area.

Ammonia (NH₃) 168 hours. Nitrogen Absorption (mg/cm²)

Alloy	1200°F (649°C)	1800°F (982°C)	2000°F (1093°C)
HR-160 [®]	0.9	2.2	3.0
601	1.1	1.2	2.6
RA330	4.7	3.9	3.1
800H	4.3	4.0	5.5
304 SS	9.8	7.3	3.5
316 SS	6.9	6.0	3.3
310 SS	7.4	7.7	9.5
446 SS	28.8	12.9	4.5
253 MA	-	3.3	6.3

Nitrogen (N₂) 2000°F (1093°C), 168 hours

Alloy	Nitrogen Absorption (mg/cm ²)
HR-160 [®]	3.9
601	7.2
RA330	6.6
RA85H	8.5
253 MA	10.0
800H	10.3
800HT	11.4
310 SS	12.3