

HAYNES[®] 214[®] alloy

Nitriding Resistance

While not the most resistant alloy for nitriding environments at traditional 1000°F to 1200°F (540°C to 650°C) temperatures, 214 alloy exhibits outstanding resistance at the higher temperatures where its protective Al₂O₃ scale can form, even in extremely low oxygen environments. Tests were performed in flowing ammonia at 1200, 1800 and 2000°F (650, 980 and 1095°C) for 168 hours. Nitrogen absorption was determined by technical analysis of samples before and after exposure, and knowledge of the exposed specimen area.

Alloy	Nitrogen Absorption (mg/cm ²)		
	1200°F (649°C)	1800°F (982°C)	2000°F (1093°C)
230 [®]	0.7	1.4	1.5
600	0.8	0.9	0.3
625	0.8	2.5	3.3
601	1.1	1.2	2.6
214 [®]	1.5	0.3	0.2
X	1.7	3.2	3.8
800H	4.3	4.0	5.5
310 SS	7.4	7.7	9.5