

HASTELLOY[®] C-22[®] alloy

Resistance to Seawater Crevice Corrosion

Seawater is probably the most common aqueous salt solution. Not only is it encountered in marine transportation and offshore oil rigs, but it is also used as a coolant in coastal facilities. Listed are data generated as part of a U.S. Navy study at the LaQue Laboratories in Wrightsville Beach, North Carolina (and published by D.M. Aylor et al, Paper No. 329, CORROSION 99, NACE International, 1999). Crevice tests were performed in both still (quiescent) and flowing seawater, at 29°C, plus or minus 3°C. Two samples (A & B) of each alloy were tested in still water for 180 days, and likewise in flowing water. Each sample contained two possible crevice sites. The results indicate that C-22[®] alloy is very resistant to crevice corrosion in seawater.

Alloy	Quiescent		Flowing	
	No. of Sites Attacked	Maximum Depth	No. of Sites Attacked	Maximum Depth
316L	A:2, B:2	A:1.33, B:2.27	A:2, B:2	A:0.48, B:0.15
254SMO	A:2, B:2	A:0.76, B:1.73	A:2, B:2	A:0.01, B:<0.01
625	A:1, B:2	A:0.18, B:0.04	A:2, B:2	A:<0.01, B:<0.01
C-276	A:1, B:1	A:0.10, B:0.13	A:0, B:0	A:0, B:0
C-22[®]	A:0, B:0	A:0, B:0	A:0, B:0	A:0, B:0