

HAYNES[®] 242[®] alloy

Aqueous Corrosion Resistance

Although not specifically designed for use in applications which require resistance to aqueous corrosion, 242[®] alloy does exhibit resistance in some media which compares favorably with that exhibited by traditional corrosion-resistant alloys. Data shown for 242[®] alloy was generated for samples tested in the mill annealed condition.

Corrosive Media	Temperature		Exposure	Corrosion Rate, Mils/year (mm/year)							
				242 [®]		B-2		C-22 [®]		N	
-	°F	°C	h	mils	mm	mils	mm	mils	mm	mils	mm
5% HF	175	79	24	14	0.36	12	0.30	25	0.64	20	0.51
48% HF	175	79	24	32	0.81	25	0.64	27	0.69	31	0.79
70% HF	125	52	24	35	0.89	66	1.68	32	0.81	48	1.22
10% HCl	Boiling		24	22	0.56	7	0.18	400	10.16	204	5.18
20% HCl	Boiling		24	41	1.04	15	0.38	380	9.65	-	-
55% H₃PO₄	Boiling		24	3	0.08	4	0.10	9	0.23	-	-
85% H₃PO₄	Boiling		24	4	0.10	4	0.10	120	3.05	-	-
10% H₂PO₄	Boiling		24	2	0.05	2	0.05	11	0.28	46	1.17
50% H₂PO₄	Boiling		24	5	0.13	1	0.03	390	9.91	-	-
99% ACETIC	Boiling		24	<1	<0.03	1	0.03	-	Nil	-	-