HAYNES® 242® alloy

Aqueous Corrosion Resisitance

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% H_3PO_4	Boiling		24	**3**	**0.08**	4	0.10	9	0.23	-	-
85% H_3PO_4	Boiling		24	**4**	**0.10**	4	0.10	120	3.05	-	-
10% H_2PO_4	Boiling		24	**2**	**0.05**	2	0.05	11	0.28	46	1.17
50% H_2PO_4	Boiling		24	**5**	**0.13**	1	0.03	390	9.91	-	-
99% ACETIC	Boiling		24	**<1**	**<0.03**	1	0.03	-	Nil	-	-