

Corrosion Tables, page 1 of 2

Corrosion Rates in Hydrochloric Acid (HCl) continued

Alloy	Notes	Concentration, %	Temperature		Time	Corrosion Rate		Ref
			C	F		mm/yr	mils/yr	
RA333	—	2	27	80	—	0.17	6.6	3
RA333	—	5	27	80	—	0.22	8.5	3
RA333	—	15	27	80	—	0.17	6.6	3
RA333	—	25	27	80	—	0.16	6.4	3
RA333	—	37	27	80	—	0.58	23	3
RA333	—	2	66	150	—	1.5	60	3
RA333	—	5	66	150	—	5.0	196	3
RA333	—	15	66	150	—	4.9	194	3
C-276	—	1		boiling	—	0.25	10	7
C-276	—	1		boiling	—	0.34	13.4	7
C-276	—	1.5		boiling	—	0.74	29	7
C-276	—	2	90	194	—	0.025	1	7
C-276	—	2		boiling	—	1.55	61	7
C-276	—	3		boiling	—	1.78	70	7
C-22	—	1		boiling	—	0.076	3	7
C-22	—	1.5		boiling	—	0.28	11	7
C-22	—	2	90	194	—	nil	nil	7
C-22	—	2		boiling	—	1.55	61	7
C-22	—	3	90	194	—	<1	<1	7
C-22	—	3		boiling	—	2.13	84	7
625	—	5	66	150	—	1.8	71	16
625	—	10	66	150	—	2.1	81	16
625	—	15	66	150	—	1.7	65	16
625	—	20	66	150	—	1.3	50	16
625	—	25	66	150	—	1.0	38	16
625	—	30	66	150	—	0.9	34	16
625	—	concentrated	66	150	—	0.4	15	16
400	no aeration	0.5		boiling	10days	0.74	29	15
400	no aeration	1		boiling	10days	1.07	42	15
400	no aeration	5		boiling	10days	1.12	44	15
B-2	—	1		boiling	120hr	0.02	0.8	11
B-2	—	2		boiling	120hr	0.08	3	11
B-2	—	5		boiling	120hr	0.13	5	11
B-2	—	10		boiling	120hr	0.18	7	11
B-2	—	15		boiling	120hr	0.28	11	11
B-2	—	20		boiling	120hr	0.38	15	11

Corrosion Rates in Hydrofluoric Acid (HF)

Alloy	Notes	Concentration, %	Temperature		Time	Corrosion Rate		Ref
			C	F		mm/yr	mils/yr	
316	—	3	21	70	—	1.25	49.1	1
316	—	5	21	70	—	2.33	91.8	1
316	—	5	40	104	—	7.8	306	1
316	—	1	50	122	—	1.82	71.8	1
316	—	2	50	122	—	5.3	209	1
316	—	5	50	122	—	15.9	626	1

Corrosion Tables, continued

Corrosion Rates in Hydrofluoric Acid (HF) continued

Alloy	Notes	Concentration, %	Temperature		Time	Corrosion Rate		Ref
			C	F		mm/yr	mils/yr	
904L	—	3	21	70	—	0.125	4.9	1
904L	—	5	21	70	—	0.18	7.2	1
904L	—	5	40	104	—	0.73	28.8	1
904L	—	1	50	122	—	0.23	9.2	1
904L	—	2	50	122	—	0.71	28	1
904L	—	3	50	122	—	0.85	33.5	1
904L	—	4	50	122	—	1.36	53.5	1
904L	—	5	50	122	—	1.82	71.6	1
904L	—	1	70	158	—	0.99	39	1
904L	—	2	70	158	—	2.0	80.2	1
904L	—	3	70	158	—	3.31	130	1
AL-6XN	—	3	21	70	—	0.08	3.2	1
AL-6XN	—	5	21	70	—	0.20	8.0	1
AL-6XN	—	5	40	104	—	0.82	32.4	1
AL-6XN	—	1	50	122	—	0.10	4.1	1
AL-6XN	—	2	50	122	—	0.43	16.9	1
AL-6XN	—	3	50	122	—	0.98	38.4	1
AL-6XN	—	4	50	122	—	1.42	55.9	1
AL-6XN	—	5	50	122	—	2.0	78.7	1
AL-6XN	—	1	70	158	—	0.54	21.1	1
AL-6XN	—	2	70	158	—	1.98	78	1
AL-6XN	—	3	70	158	—	3.05	120	1
C-276	—	2	70	158	—	0.23	9	7
C-276	—	5	70	158	—	0.25	10	7
C-22	—	2	70	158	—	0.23	9	7
C-22	—	5	70	158	—	0.36	14	7
625	—	2	70	158	—	0.51	20	7
625	—	5	70	158	—	0.41	16	7
400	saturated with air	25	30	86	24hr	1	37	17
400	saturated with air	25	80	176	24hr	0.28	11	17
400	saturated with air	50	30	86	24hr	0.2	8	17
400	saturated with air	50	80	176	24hr	1	39	17
400	purged with nitrogen	25	30	86	48hr	0.005	0.2	17
400	purged with nitrogen	25	80	176	48hr	0.061	2.4	17
400	purged with nitrogen	50	30	86	48hr	<0.003	<0.1	17
400	purged with nitrogen	50	80	176	48hr	0.01	0.5	17

Corrosion Rates in Nitric Acid (HNO₃)

Alloy	Notes	Concentration, %	Temperature		Time	Corrosion Rate		Ref
			C	F		mm/yr	mils/yr	
17-4PH	condition H 1075	25		boiling	5x48hr	0.18	7	13
17-4PH	condition H 1075	50		boiling	5x48hr	1.2	47	13
17-4PH	condition H 1075	65		boiling	5x48hr	2.72	107	13
17-4PH	H 1075 + 1%HF	10	35	95	5x48hr	38	1500	13