

Corrosion Tables

Corrosion Rates in Phosphoric Acid (H₃PO₄)

Alloy	Notes	Concentration, %	Temperature		Time	Corrosion Rate		Ref
			C	F		mm/yr	mils/yr	
17-4PH	condition H 1075	2.5		boiling	5x48hr	nil	nil	13
17-4PH	condition H 1075	20		boiling	5x48hr	0.025	1	13
17-4PH	condition H 1075	50		boiling	5x48hr	0.08	3	13
17-4PH	condition H 1075	70		boiling	5x48hr	1.5	60	13
2205	—	70	110	230	—	0.22	8.7	9
304	—	50		boiling	5x48hr	0.18	7	13
304	—	70		boiling	5x48hr	0.81	32	13
316	—	20		boiling	—	0.183	7.2	1
316	—	54		boiling	—	0.580	2.28	1
316	—	60		boiling	—	0.305	12	1
316L	—	70	110	230	—	3.9	154	9
317L	—	70	110	230	—	2.4	95	9
AL-6XN	—	10	120	248	120hr	0.021	0.81	1
AL-6XN	—	10	135	275	120hr	0.197	7.76	1
AL-6XN	—	10	150	302	120hr	0.400	15.75	1
AL-6XN	—	20		boiling	5x48hr	0.006	0.24	1
AL-6XN	—	54		boiling	—	0.015	0.059	1
AL-6XN	plus 800ppm Cl ⁻	70	100	212	168hr	1.22	48	1
AL-6XN	plus 1% HF	70	100	212	168hr	0.518	20.4	1
825	chemically pure	60		boiling	3x20hr	0.17	6.8	12
825	chemically pure	70		boiling	4x20hr	0.18	7.1	12
825	chemically pure	85		boiling	4x20hr	1.3	50	12
825	wet process acid +20%HF	20	21-29	70-85	624hr	0.036	1.4	12
G-30	% P ₂ O ₅	44	116	241	—	0.18	7.0	6
G-30	% P ₂ O ₅ + 2000ppm Cl ⁻	44	116	241	—	0.19	7.7	6
G-30	% P ₂ O ₅	52	149	300	—	0.70	28	6
G-30	% P ₂ O ₅ + 2000ppm Cl ⁻	54	116	241	—	0.18	7	6
625	plus 0.8% HF	55		boiling	48hr	0.42	16.5	16
B-2	chemically pure	10		boiling	120hr	0.05	2	11
B-2	chemically pure	30		boiling	120hr	0.08	3	11
B-2	chemically pure	50		boiling	120hr	0.15	6	11
B-2	chemically pure	85		boiling	120hr	0.63	25	11

Corrosion Rates in Sulphuric Acid (H₂SO₄)

Alloy	Notes	Concentration, %	Temperature		Time	Corrosion Rate		Ref
			C	F		mm/yr	mils/yr	
17-4PH	condition H 1075	2	35	95	5x48hr	nil	nil	13
17-4PH	condition H 1075	5	35	95	5x48hr	0.28	11	13
17-4PH	condition H 1075	1	80	176	5x48hr	0.025	1	13
17-4PH	condition H 1075	2	80	176	5x48hr	0.33	13	13
17-4PH	condition H 1075	98	35	95	5x48hr	nil	nil	13
17-4PH	condition H 1075	98	80	176	5x48hr	0.18	7	13
2205	nitrogen purge	10	55	131	96hr	0.06	2.3	10
2205	nitrogen purge	10	60	140	96hr	0.17	6.7	10
2205	nitrogen purge	10	70	158	96hr	0.32	13	10