

HASTELLOY[®] C-22HS[®] alloy

Resistance to Acids

Corrosion Rates of Cold-worked (40%) Sheet in Aqueous Solutions of Common Acids

Acid	Concentration	Temperature		Corrosion Rate	
	wt%	°F	°C	mpy	mm/y
Hydrochloric	1	Boiling		0.4	0.01
	5	175	79	30.0	0.76
	10	100	38	<0.1	<0.01
	20	100	38	7.2	0.18
Hydrobromic	5	200	93	1.7	0.04
Nitric	20	Boiling		1.7	0.04
	40	175	79	2.1	0.05
	60	175	79	4.7	0.12
Hydrofluoric	5	125	52	0.48	0.48
Phosphoric	60	Boiling		4.7	0.12
Chromic	10	150	66	5.1	0.13
Sulfuric	10	200	93	3.8	0.10
	20	200	93	2.8	0.07
	30	200	93	6.8	0.17
	40	175	79	1.1	1.1
	50	175	79	13.1	0.03
	60	150	66	0.3	0.33
	70	150	66	3.1	0.01
	80	150	66	4.8	0.12
	90	150	66	1.3	0.03
ASTM G-28A*	-	Boiling		42.4	1.08
ASTM G-28B**	-	Boiling		9.8	0.25

*ASTM G-28A = 50% H₂SO₄ + 42 g/l Fe₂(SO₄)₃

**ASTM G-28B = 23% H₂SO₄ + 1.2% HCl + 1% Fe₃Cl + 1% CuCl₂