

HASTELLOY[®] HYBRID-BC1[®] alloy

Selected Corrosion Data

Hydrobromic Acid

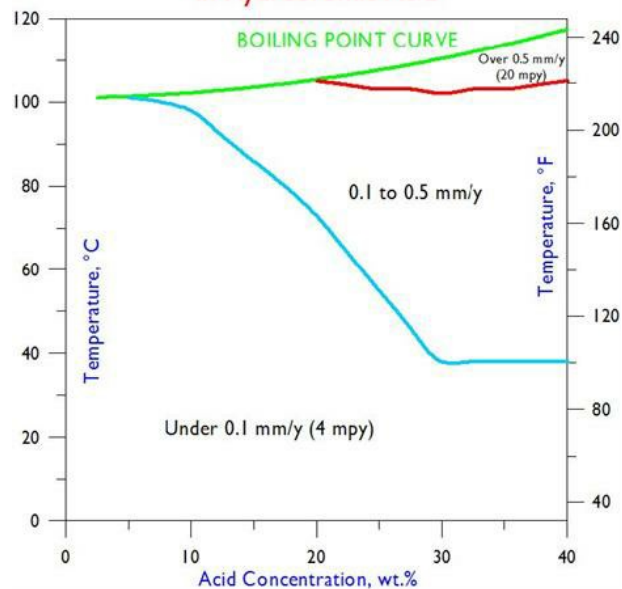
Conc. Wt.%	50°F	75°F	100°F	125°F	150°F	175°F	200°F	225°F	Boiling
	10°C	24°C	38°C	52°C	66°C	79°C	93°C	107°C	
2.5	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	0.08
7.5	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	0.01	0.05	-	0.21
15	-	-	-	-	-	-	-	-	-
20	-	-	-	-	0.04	0.31	0.37	-	0.47
25	-	-	-	-	-	-	-	-	-
30	-	-	0.11	0.17	0.24	0.31	0.37	-	0.68
40	-	-	0.09	0.14	0.20	0.28	0.34	-	0.85

All corrosion rates are in millimeters per year (mm/y); to convert to mils (thousandths of an inch) per year, divide by 0.0254.

Data are from Corrosion Laboratory Jobs 23-07 and 5-08.

All tests were performed in reagent grade acids under laboratory conditions; field tests are encouraged prior to industrial use.

Iso-Corrosion Diagram for HYBRID-BC1 Alloy
in Hydrobromic Acid



Hydrochloric Acid

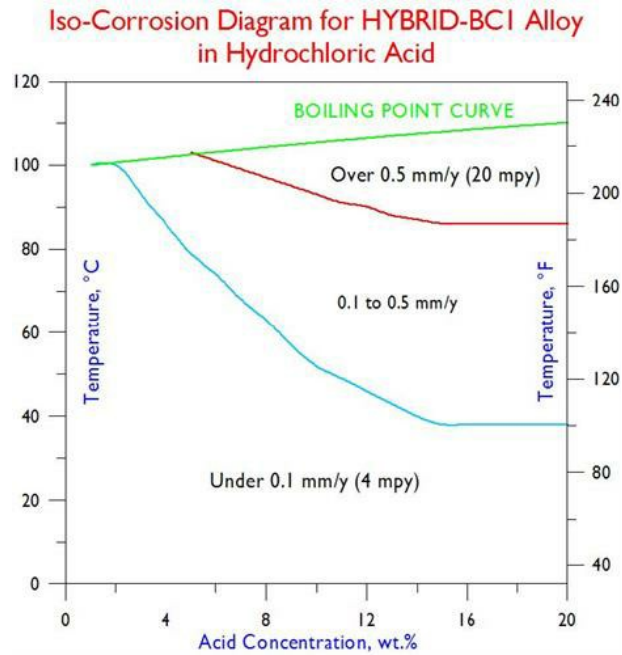
Conc. Wt.%	50°F	75°F	100°F	125°F	150°F	175°F	200°F	225°F	Boiling
	10°C	24°C	38°C	52°C	66°C	79°C	93°C	107°C	
1	-	-	-	-	-	-	0.01	-	0.01
1.5	-	-	-	-	-	-	0.01	-	0.06

2	-	-	-	-	-	-	0.02	-	0.10
2.5	-	-	-	-	-	-	0.04	-	0.15
3	-	-	-	-	-	-	0.08	-	0.21
3.5	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-
4.5	-	-	-	-	-	-	-	-	-
5	-	-	-	<0.01	0.02	0.08	0.31	-	0.45
7.5	-	-	-	-	-	-	-	-	-
10	-	-	0.02	0.13	0.27	0.38	0.53	-	-
15	-	-	0.12	0.21	0.28	0.44	0.57	-	-
20	-	-	0.12	0.18	0.29	0.45	0.68	-	-

All corrosion rates are in millimeters per year (mm/y); to convert to mils (thousandths of an inch) per year, divide by 0.0254.

Data are from Corrosion Laboratory Jobs 23-07 and 3-08.

All tests were performed in reagent grade acids under laboratory conditions; field tests are encouraged prior to industrial use.



Nitric Acid

Conc. Wt.%	50°F	75°F	100°F	125°F	150°F	175°F	200°F	225°F	Boiling
	10°C	24°C	38°C	52°C	66°C	79°C	93°C	107°C	
10	-	-	-	-	-	0.04	0.07	-	0.13
20	-	-	-	0.05	0.15	-	-	-	-
30	-	-	0.07	0.13	0.28	0.74	4.72	-	-
40	-	-	0.10	0.20	-	-	-	-	-
50	-	-	0.11	0.29	0.98	4.45	17.40	-	-
60	-	-	0.14	0.40	-	-	-	-	-

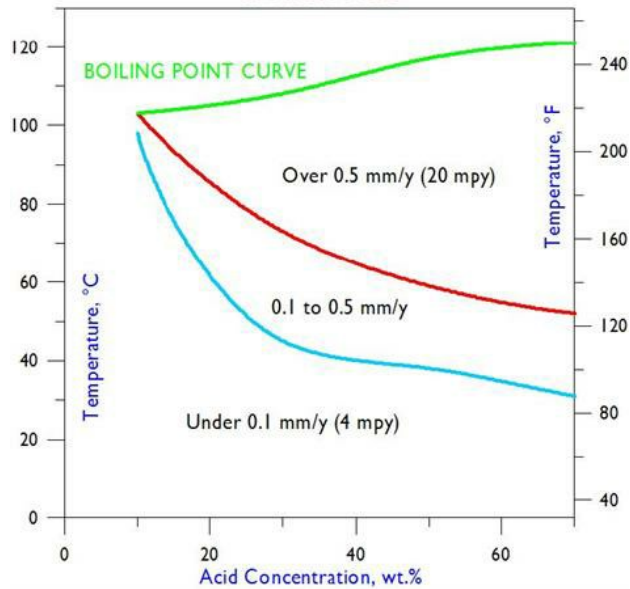
70	-	0.08	0.19	0.54	2.62	9.54	20.52	-	-
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All corrosion rates are in millimeters per year (mm/y); to convert to mils (thousandths of an inch) per year, divide by 0.0254.

Data are from Corrosion Laboratory Jobs 24-07, 7-08 and 17-12.

All tests were performed in reagent grade acids under laboratory conditions; field tests are encouraged prior to industrial use.

Iso-Corrosion Diagram for HYBRID-BCI Alloy in Nitric Acid



Phosphoric Acid

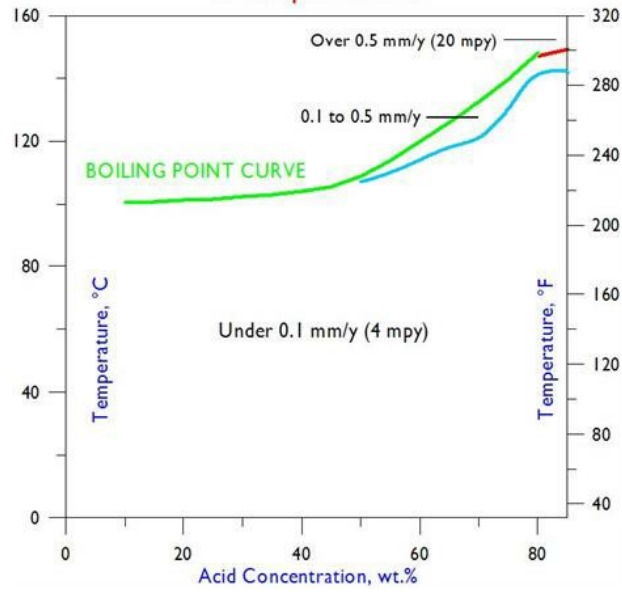
Conc. Wt.%	125°F	150°F	175°F	200°F	225°F	250°F	275°F	300°F	Boiling
	52°C	66°C	79°C	93°C	107°C	121°C	135°C	149°C	
50	-	-	-	-	-	-	-	-	0.12
60	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	-	-
70	-	-	-	-	-	0.11	-	-	0.19
75	-	-	-	-	-	0.02	-	-	0.20
80	-	-	-	-	-	0.02	0.02	-	0.33
85	-	-	-	-	-	0.01	0.02	0.46	0.67

All corrosion rates are in millimeters per year (mm/y); to convert to mils (thousandths of an inch) per year, divide by 0.0254.

Data are from Corrosion Laboratory Job 8-08.

All tests were performed in reagent grade acids under laboratory conditions; field tests are encouraged prior to industrial use.

**Iso-Corrosion Diagram for HYBRID-BCI Alloy
in Phosphoric Acid**



Sulfuric Acid

Conc. Wt.%	75°F	100°F	125°F	150°F	175°F	200°F	225°F	250°F	275°F	300°F	350°F	Boiling
	24°C	38°C	52°C	66°C	79°C	93°C	107°C	121°C	135°C	149°C	177°C	
1	-	-	-	-	-	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	-
3	-	-	-	-	-	-	-	-	-	-	-	-
4	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-
10	-	-	-	-	-	0.07	-	-	-	-	-	0.03
20	-	-	-	-	-	-	-	-	-	-	-	0.06
30	-	-	-	-	-	0.08	-	-	-	-	-	0.09
40	-	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	0.06	0.11	-	-	-	-	0.24
60	-	-	-	-	-	-	-	-	-	-	-	-
70	-	-	-	-	-	0.03	0.11	0.22	1.71	-	-	-
80	-	-	-	-	-	-	0.05	0.24	0.52	-	-	-
90	-	-	-	-	-	0.03	0.06	0.14	0.38	0.94	-	-
96	-	-	-	-	-	-	0.11	0.21	0.45	1.11	-	-

All corrosion rates are in millimeters per year (mm/y); to convert to mils (thousandths of an inch) per year, divide by 0.0254.

Data are from Corrosion Laboratory Jobs 24-07 and 4-08.

All tests were performed in reagent grade acids under laboratory conditions; field tests are encouraged prior to industrial use.

Iso-Corrosion Diagram for HYBRID-BCI Alloy
in Sulfuric Acid

