

HAYNES[®] 625 alloy

Selected Corrosion Data

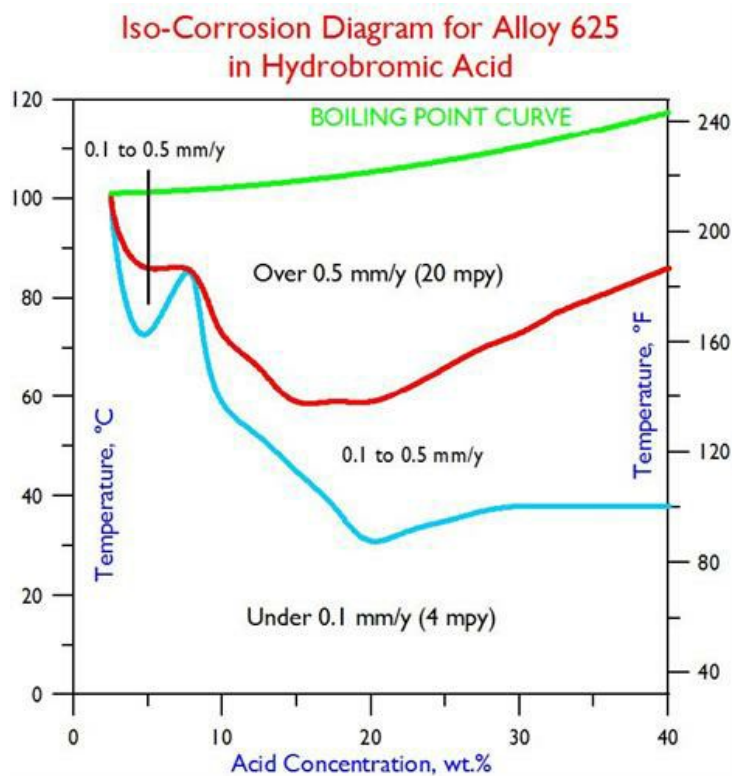
Hydrobromic Acid

| 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 | - | - | - | - | <0.01 | - | <0.01 | - | <0.01 |
| 5 | - | - | - | - | <0.01 | 0.13 | 0.60 | - | - |
| 7.5 | - | - | - | - | <0.01 | <0.01 | 0.93 | - | - |
| 10 | - | - | - | - | 0.15 | 0.82 | - | - | - |
| 15 | - | - | <0.01 | 0.30 | 0.64 | - | - | - | - |
| 20 | - | 0.01 | 0.16 | 0.33 | 0.65 | - | - | - | - |
| 25 | - | - | - | - | - | - | - | - | - |
| 30 | - | - | 0.11 | 0.21 | 0.34 | 0.72 | - | - | - |
| 40 | - | - | 0.08 | 0.15 | 0.25 | 0.42 | 0.79 | - | - |

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 17-04.

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



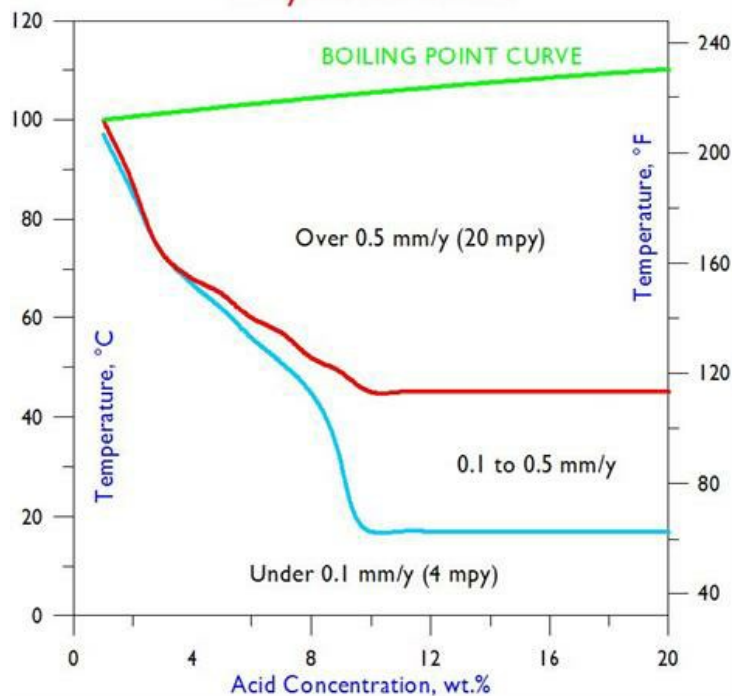
Hydrochloric Acid

| 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 | - | 0.23 |
| 1.5 | - | - | - | - | - | - | - | - | - |
| 2 | - | - | - | - | - | - | - | - | - |
| 2.5 | - | - | - | - | - | - | - | - | - |
| 3 | - | - | <0.01 | <0.01 | <0.01 | 2.07 | - | - | - |
| 3.5 | - | - | - | - | - | - | - | - | - |
| 4 | - | - | - | - | - | - | - | - | - |
| 4.5 | - | - | - | - | - | - | - | - | - |
| 5 | - | - | <0.01 | <0.01 | - | 4.65 | - | - | - |
| 7.5 | - | - | 0.07 | 0.49 | - | - | - | - | - |
| 10 | <0.01 | 0.15 | 0.30 | 1.16 | - | - | - | - | - |
| 15 | 0.06 | 0.19 | 0.40 | 1.06 | - | - | - | - | - |
| 20 | 0.06 | 0.16 | 0.36 | 0.82 | - | - | - | - | - |

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 56-97 and 3-98.

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

**Iso-Corrosion Diagram for Alloy 625
in Hydrochloric 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 | - | - | - | - | <0.01 | 0.06 | - | - | - | - | - | 0.40 |
| 10 | - | - | - | - | 0.01 | 0.24 | - | - | - | - | - | 1.05 |
| 20 | - | - | - | - | 0.02 | 0.58 | - | - | - | - | - | 2.84 |
| 30 | - | - | - | 0.01 | 0.03 | 0.68 | - | - | - | - | - | - |
| 40 | - | - | <0.01 | 0.02 | 0.58 | - | - | - | - | - | - | - |
| 50 | - | - | - | 0.01 | 0.89 | - | - | - | - | - | - | - |
| 60 | - | - | <0.01 | 0.48 | 0.92 | - | - | - | - | - | - | - |
| 70 | - | <0.01 | 0.23 | 0.63 | - | - | - | - | - | - | - | - |
| 80 | - | 0.05 | 0.31 | 0.91 | 2.54 | - | - | - | - | - | - | - |
| 90 | <0.01 | 0.17 | 1.26 | - | 6.97 | - | - | - | - | - | - | - |
| 96 | - | - | - | - | - | - | - | - | - | - | - | - |

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 57-97 and 4-98.

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

**Iso-Corrosion Diagram for Alloy 625
in Sulfuric Acid**

