



TAURUS

ENGINEERING SOLUTIONS

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CORROSION RESISTANCE DATA

The following table gives the theoretical corrosion resistance of stainless steel types AISI 304, 404L, 316, 316L, 321 and 347; nickel, Monel and Inconel to the most frequently used chemical solutions. These data sheets are compiled from laboratory tests based on commercially pure chemicals under ideal conditions. The symbols A, B, C, D and E represent approximate corrosion ranges as defined in the table shown.

It must be noted that under actual operating conditions there are often present in the system other chemicals which may either inhibit or accelerate the rate of attack. This information is only intended to serve as a general guide; for more specific details the advice of the basic metal producers should be sought.

A	Fully resistant	→	Less than .00035" penetration per month
B	Satisfactorily resistant	→	.00035-.0035" penetration per month
C	Fairly resistant	→	.0035-.010" penetration per month
D	Slightly resistant	→	.010-.035" penetration per month
E	Non resistant	→	Over .035" penetration per month
-	Insufficient data to warrant rating		

Product and condition	Temp.	304 304ELC	321 347	316 316L	Nickel	Monel	Inconel
(°F.)							
Acetic Acid							
5% and 10%	70°	A		A	A	A	A
20%	70°	A		A	A	A	A
50%	70°	A		A	B	A	A
50%	Boiling	C		B	B	A	B
80%	70°	A		A	B	A	A
80%	Boiling	D		B	B	A	B
100%	70°	A		A	A	A	A
100%	Boiling	C		B	C	B	B
100%-50 lb. Pressure	400°	E		C	-	-	-
Acetic Anhydride	Boiling	A		A	A	A	A
	70°	A		A	A	A	A
Acetic Vapours							
100%	Hot	E		C	C	B	B
30%	Hot	C		B	-	-	-
Acetone	Boiling	A		A	A	A	A
	70°	A		A	A	A	A
Alcohol Ethyl	70°	A		A	A	A	A
	Boiling	A		A	A	A	A
Alcohol Methyl	70°	A		A	A	A	A
	150°	C		B	A	A	A
Aluminium Acetate - saturated		A		A	-	-	-
Aluminium Chloride	70°	D		C	B	B	C
Alum (Chrome) 5%	70°	A		A	C	C	A
Aluminium Fluoride ...	70°	D		C	A	A	B
Aluminium Hydroxide - saturated		A		A	A	A	A
Aluminium	Molten	E		E	E	E	E
Aluminium Potassium Sulphate							
2% (alum.)	70°	A		A	A	A	A
10%	70°	A		A	A	A	A
10%	Boiling	B		A	B	A	B
Saturated	Boiling	C		B	C	B	B
Aluminium Sulphate							
10%	70°	A		A	A	A	A
10%	Boiling	B		A	B	A	B
Saturated 70°	70°	A		A	A	A	A
Saturated	Boiling	B		A	B	A	B
Ammonia							
All concentrations ...	70°	A		A	-	-	A
Gas	Hot	D		-	-	-	-

Product and condition	Temp.	304 304ELC	321 347	316 316L	Nickel	Monel	Inconel
(°F.)							
Ammonia Liquor	70°	A		A	C	C	A
	Boiling	A		A	C	C	A
Ammonium Bicarbonate	70°	A		A	A	A	A
	Hot	A		A	A	A	A
Ammonium Carbonate							
1% and 5%	70°	A		A	A	A	A
Ammonium Chloride							
1%	70°	A		A	A	A	A
10% solution	Boiling	A		A	A	A	B
28% solution	Boiling	B		A	A	A	B
50% solution	Boiling	B		A	A	A	B
Ammonium Nitrate							
All con. agitated	70°	A		A	C	C	A
All con. aerated	70°	A		A	C	C	A
Saturated	Boiling	A		A	E	E	B
Ammonium Oxalate - 5%	70°	A		A	A	A	A
Ammonium Persulphate							
-5%	70°	A		A	E	E	A
Ammonium Phosphate							
-5%	70°	A		A	A	A	A
Ammonium Sulphate							
1% and 5% agitated	70°	A		A	A	A	A
1% and 5% agitated ...	70°	A		A	A	A	A
10%	Boiling	B		A	B	A	B
Saturated	Boiling	B		A	B	A	B
Ammonium Sulphite							
Cold	A			A	C	B	B
Boiling	A			A	E	C	C
Aniline - 3%	70°	A		A	A	A	A
Conc. Crude	70°	A		A	A	A	A
Aniline Hydrochloride	70°	E		D	B	B	C
Antimony Trichloride	70°	E		D	A	A	A
Barium Carbonate	70°	A		A	A	A	A
Barium Chloride							
5%	70°	A		A	A	A	A
Saturated	70°	A		A	A	A	A
Aqueous solution ...	Hot	B		A	A	A	B
Barium Nitrate-aqueous solution	Hot	A		A	C	C	B
Barium Sulphate Barytes							
=- Blanc Fixe	70°	A		A	A	A	A
Benzene	70°	A		A	A	A	A